



**COMPREHENSIVE PROJECT REPORT
FOR
THE PROPOSED SHALLOW WELLS**

PROJECT PROPONENT
THE MANAGING DIRECTOR,
MOMBASA WATER SUPPLY AND SANITATION COMPANY LTD
P. O. BOX 1100- 80100
MOMBASA

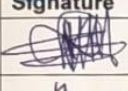
DOCUMENT CERTIFICATION

ESIA for Shallow Wells for MOWASSCO

DOCUMENT CERTIFICATION

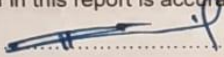
We, the undersigned experts; submit this Environmental and Social Impact Assessment Comprehensive Project Report for the proposed sinking and equipping of Seven shallow wells to newly constructed Mowassco Ablution Blocks Namely: County Court, Fort Jesus Two, Makadara Grounds, Public health Department (PHD), County Yard (Fire Station), Manyimbo and MOWASSCO Headquarters, all in Mombasa County. This ESIA project report has been carried out in accordance to the Environmental Management and Coordination Act 1999, and Environmental (Impact Assessment and Audit) Regulations, 2003. All the information contained in this report is accurate to the best of our knowledge and a truthful representation of all findings relating to this project.

Experts' Details

Name of NEMA Registered Experts	Registration Number	Signature	Stamp/ date
Mr. Cristom K. Mwalimu	Reg. No. 4067		06/07/2026
Mr. Emmanuel Baraka	Reg. No. 13594		06/07/2026

PROPONENT'S DECLARATION

I, **Habiba Ali Ag, Managing Director** on behalf of Mombasa Water Supply & Sanitation Company Limited, submit this Environmental and Social Impact Assessment Comprehensive project report for the proposed sinking and equipping of Seven shallow, in compliance with EMCA of 1999 and Environmental (Impact Assessment and Audit Regulations, 2025. To the best of my knowledge, the information contained in this report is accurate and a truthful representation of all findings as relating to the project.

Signed  Date 06/07/2026

PROPONENT DETAILS

The Managing Director,
Mombasa Water Supply & Sanitation Company Ltd.
P.O. Box 1100 -80100, Mombasa
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ACKNOWLEDGEMENT

We would like to acknowledge the Ag. Managing Director, Madam Habiba Ali, Mombasa Water Supply and Sanitation Company Limited for providing all the necessary support to facilitate the undertaking of this Environmental Impact Assessment, Comprehensive Project Report (CPR) for the proposed digging and equipping of seven shallow wells to newly constructed ablution blocks namely County Court, Fort Jesus, Makadara Grounds, Public Health Department (PHD), County Yard (Fire Station), Manyimbo, and MOWASSCO headquarters under negotiations, all in Mombasa County.

We express our gratitude to Mark Mwambota, The PCU Coordinator, who gave us all the data we required to undertake the Environmental and Social Impact Assessment and facilitated site visit.

We would be mean of gratitude if we fail to appreciate the project site neighbours for creating time to participate in the consultative meetings and providing comments and suggestions, which were included in this report.

PROJECT DETAILS

Proponent	The Managing Director, Mombasa Water Supply & Sanitation Company Ltd.				
Contact	P. O. Box 1100 -80100 Mombasa. Email: info@mombasawater.co.ke				
Project Description	ESIA for Proposed Sinking and equipping of Seven Shallow well sites of recently constructed Ablution Blocks in Mombasa County Through support from the World Bank.				
Project Objective	To supplement rationed water supply to enable continuity in usage of newly constructed MOWASSCO Ablution Blocks				
Project Location	S/No	SITE LOCATION	GPS Coordinates	Altitude	Rainfall
	1	County Court, Mvita Sub-County	S 4.063875 ⁰ E 039.672312 ⁰	18m	1100mm
	2	Fort Jesus Two (Inside)(Test pumping, cleaning already existing wells) Mvita Sub County	S04.0625300 E39.6795920	15m	1100mm
	3	Makadara Grounds, Mvita Sub-County	S 04.0624418 ⁰ E 39.672998 ⁰	20m	1100mm
	4	Public health Department (PHD), Mvita Sub-County	S04.059458 0 E 39.670635	30m	1100mm
	5	County Yard (Fire Station), Mvita Sub-County	S04.055632 ⁰ E39.670152 ⁰	20m	1100mm
	6	Tudor Manyimbo,	S04.038393 ⁰ E39.665898 ⁰	32m	1100mm
	7	MOWASSCO HQ Mvita Sub-County	S 04.063875 ⁰ E39.672313 ⁰	18m	1100mm
Project Budget:	Digging and Test Pumping of the above 7nr shallow wells in 7nr Ablution sites ; will cost Kenya Shillings Four million, eight hundred and nineteen thousand twenty two and eighty cents only (Kshs 4,819,022.80)				

ACRONYMS

ASL	Above Sea Level
CGM	County Government of Mombasa
CPR	Comprehensive Project Report
DOSHS	Directorate of Occupational Safety and Health Services
DTF	Decentralized Treatment Facilities
EMCA	Environmental Management and Coordination Act
ESIA	Environmental and Social Impact Assessment
IA	Implementing Agency
MOWASSCO	Mombasa Water Supply and Sanitation Company Ltd
NEMA	National Environment Management Authority
NMK	National Museums of Kenya
OPs	Operational Policies
OSHA	Occupational Safety and Health Act
PAPS	Project affected Persons
PC	Project Coordinator
PCR	Physical Cultural Resources
PCU	Project Coordination Unit
RAP	Resettlement Action Plan
SDG	Sustainable Development Goals
SEA	Sexual Exploitation and Abuse
SH	Sexual Harassment
UNESCO	United Nations Educational, Scientific and Cultural Organization
WASREB	Water Services Regulatory Board
WRA	Water Resources Authority
WRUAs	Water Resources Users Associations
WSDP	Water and Sanitation Development Project
WSPs	Water Services Providers
WWDAs	Water Works Development Agencies

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NON-TECHNICAL EXECUTIVE SUMMARY

ES1: Introduction

The County Government of Mombasa, with support from the World Bank, is implementing infrastructure enhancements for Water Supply and Sanitation facilities within its jurisdiction. Currently, twelve designated locations for ablution blocks have been cleared, and construction is progressing at various stages of completion. To operationalise these ablution blocks, a reliable source of water will be required. It is on this basis that the proposed wells project was conceptualised.

To mitigate water scarcity challenges, the project commissioned for hydrogeological studies to assess the feasibility of all the twelve shallow wells sites and later this proposed ESIA whereby the Consultation and Public Participation (CPP) was carried by the IA's staff. The findings of the hydrogeological report and this ESIA, proposes seven of the sites being viable for shallow wells, drilling and equipping. The sites are as follows; County Court, Fort Jesus site that may require cleaning, test pumping and equipping of the existing well, Makadara Grounds, Public health Department (PHD), County Yard (Fire Station), Manyimbo and MOWASSCO headquarters where the need exists, all in Mombasa County.

ES 2: Project Objectives

The key objective of the proposed shallow wells is to provide water for the recently constructed ablution blocks. This will improve access to sanitation services in the rapidly growing population of Mombasa City County especially within Mombasa Island. Other objectives include overall improvement in hygiene within Mombasa County and reduced disease burden both to the government and the community members.

This Comprehensive Project Report (CPR) has been done under requirements of Environmental Management and Coordination Act (EMCA), 1999 Act Cap. 387 of the Laws of Kenya and the Environmental Management and Co-ordination (Impact Assessment and Audit) (Amendment) Regulations 2019. The overall objective of the ESIA study was to evaluate the potential environmental and social impacts of the proposed shallow wells in relation to the general environmental aspects i.e. physical, biological, and social-economic environments. It aims at influencing the protection and co-existence of the development with the surroundings as well as the compatibility of the proposed development to the area; to ensure and enhance sustainable environmental management during implementation and operational phases.

ES 3: Proposed Project Details

The proposal consists of Seven (7) shallow to supply water to the newly constructed ablution blocks. The wells will have varying depths as guided by the hydrogeological surveys. All the wells will be drilled with a rig as guided by the hydrogeologist. They will have a diameter of 8-inch and fitted with a 6-inch UPVC Class D casing. The chosen sites include:

Project Location	S/No	SITE LOCATION	Recommended Depth (m)	GPS Coordinates	Altitude	Rainfall
	1	County Court, Mvita Sub-County	25	S 4.063875 ⁰ E 039.672312 ⁰	18m	1100mm
	2	Fort Jesus Two (Inside) Mvita Sub County	35	S04.0625300 E39.6795920	15m	1100mm
	3	Makadara Grounds, Mvita Sub-County	25	S 04.0624418 ⁰ E 39.672998 ⁰	20m	1100mm
	4	Public health Department (PHD), Mvita Sub-County	23	S04.059458 0 E 39.670635	30m	1100mm
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	7	MOWASSCO HQ Mvita Sub-County		S 04.063875 ⁰ E39.672313 ⁰	18m	1100mm
Project Budget:			Drilling and Test Pumping of the above 7nr shallow wells in 7nr Ablution sites; will cost Kenya Shillings Four million, eight hundred and nineteen thousand twenty-two and eighty cents only (Kshs 4,819,022.80)			

The foundation of a safe shallow well lies in careful siting and sound construction. The well lining, or casing, should be constructed from durable materials such as reinforced concrete or high-density polyethylene (HDPE) pipe, extending at least three metres below ground to prevent surface water from seeping in along the well wall. A raised concrete apron or headworks — elevated at least 300 mm above the surrounding ground — should surround the wellhead to divert runoff away from the opening. The well cover must be fitted securely and kept locked when not in use, and a drainage channel should direct spilled water away from the well to prevent reinfiltrating of used water into the aquifer.

ES4: Methodology

The study approach and methodology adopted included screening to determine the extent of the project and desktop data search and analysis for the baseline bio-physical and social environmental parameters of the project area. In addition, the consultants worked with representatives from MOWASSCO and was briefed on the project design and components which informed the requirements of the environmental reporting process and for which excerpts have been obtained on salient design information.

Public participation was conducted through interviews and Public barazas. There were public fora in which interested and affected stakeholders were invited to give their views concerning the project. Such public consultation was intended to identify issues of concern, propose mitigation measures and discuss project alternatives.

The consultation meetings were held in the various project locations as shown in the table below:

S.NO	MEETING DATE	VENUE	MEN	WOMEN
1.	10/12/2025	Mwembe Tayari area Chief's Office	14	10
2.	11/12/2025	Fort Jesus	8	3
3.	17/12/2025	Tudor Chief's office (Covering Tudor Manyimbo and Fire Station)	10	5

Key Informants interviews involved the following:

	NAME	DESIGNATION	INSTITUTION
1	Mohamed M. Musa	Area Senior Chief	Mwembe Tayari Location
2	Ms Mwaka S. Babu	Area Chief	Tudor
3	Fatma Twahir	Principal Curator	NMK (Fort Jesus)
4	Ali Mwarora	Administrative Officer	NMK (Fort Jesus)
5	Halleem Hassan	ICT Officer	NMK (Fort Jesus)
6	Philip Wanyama	Researcher	NMK (Fort Jesus)
7	Tedayson Loma	P.R.O	NMK (Fort Jesus)
8	Kipkosgey Daniel	I O W	NMK (Fort Jesus)
9	Cornelius Mulama	IOW	NMK (Fort Jesus)

ES5: Potential Impacts

The expected impacts emanate from the Pre-construction (Planning phase), the Construction Phase, the Operation phase and the decommissioning Phase of the project. In general, successful implementation of the project will have high environmental and socioeconomic benefits to the people and will contribute to their health and well-being. Overall, negative expected impacts are related to the planning and construction activities of the project. These impacts are localized and not considered significant and long-lasting and can be mitigated through appropriate mitigation measures. The severity and duration of these impacts can be minimized by ensuring that the construction and operation activities adhere to the proper construction and operation standards specified by the project designers and consultants.

The positive benefits of the project will include:

- i. Employment during construction
- ii. Increased access to sanitation services

- iii. Overall improvement in hygiene
- iv. Reduced disease burden both to the government and the community members

The major negative environmental and social impacts of the project will be felt during the planning, construction, operation and decommissioning of the project and include:

ES 6 Potential Negative Impacts

A summary of the potential negative impacts is presented in the table below:

Phase	Source of Impact	Impact	Severity
Preconstruction	Environmental baseline disturbance	Loss of vegetation, disruption of habitats	Low
	Community concerns	Social tension, opposition to project	Moderate
Construction	Excavation	Noise,	Minor
		Soil erosion	Minor
	Machinery & equipment use (Vibrators and compressors)	Air pollution,	Low
		Fuel spills	High
			High
		Community health and safety	Moderate
	Transport of construction materials	Traffic incidents	Moderate
	Workforce influx	Pressure on local services,	Moderate
		Conflict with community	Moderate
		Child labour	Low
		Sexual exploitation and Abuse and Harassment	Moderate
	Substructure and superstructure erection	Solid wastes	Moderate
	Well test pumping	Waste water	High
Operation Phase	Excessive pumping may lower the water table, affecting nearby wells and ecosystems	Over-abstraction	High
	Shallow wells may draw saline or mineral-rich water, considering that this is a coastal area.	Salinity and mineralization	High
	Poorly constructed wells may collapse	Structural failure	Moderate
	Ponding of water creating grounds for breeding of mosquitoes	Leakage of pipes	Minor
	Increase generation of sewage	Overflow of sewage into the streets	high

ES 7: Environmental and Social Management Plan (ESMP)

This was prepared to reduce, minimize or altogether eliminate the adverse impacts. Positive impacts are project enhancements and do not require mitigation. The ESMP is fully described in chapter 8 of this report, however the table below presents the identified environmental and social impacts, their mitigation measures and the party responsible for carrying out the mitigation measures, in summary.

Table 1: Summary of impacts and mitigation measures

Environmental / Social Impact	Mitigation Measure	Responsibility	Cost (KShs.)
Pre-Construction Phase			
Land disturbance	❖ Minimize clearing to only the required area, replant vegetation after drilling. ❖ Site preparation (e.g., levelling, transporting materials) generates dust and noise, affecting nearby communities.	Contractor	No additional cost
Waste Generation	❖ Provide designated waste bins, recycle where possible, and ensure proper disposal at licensed facilities.	Contractor	5000
Community disruption	❖ Engage the community early, set clear access routes, and enforce safety measures like signage and barriers.	MOWASSCO. Contractor	5000
Traffic incidents	❖ Provision road signs or notices to indicate ongoing works. ❖ Effecting traffic controls to avoid congestion and accidents on roads. deliver materials off-peak hours.	Contractor	20,000
Air pollution	❖ The contractor to provide protective clothing like, dust masks to construction crew. ❖ All waste must be transported off- site for processing, not burnt or stored for any longer than is absolutely necessary ❖ Install dust screens minimize dust nuisance to the immediate community surrounding the site	Contractor Project supervisor	50,000
Site Related Oil Spills	❖ The contractor will develop and implement spill control and cleanup procedures. ❖ The Contractor should ensure that the employees on site are aware of the company procedures for dealing with spills and leaks e.g. using dispersants or adding biological agents to speed up the oil breakdown for the construction machinery though induction and safety training (the contractor will propose a method of clean-up which will be subject to approval by the site supervision team); ❖ All vehicles and equipment should be kept in good working order, serviced regularly in accordance to the manufacturers specifications and stored in an area approved by the Resident Engineer/Supervising Consultant;	Contractor Project supervisor	50,000
Noise and vibrations	❖ Contractor to agree noise limits/noise control stations with NEMA and obtain a Construction Noise Permit prior to the commencement of construction work	Contractor Project supervisor	No additional Costs

	❖ Contractor to prepare for approval by the proponent a Health Management Plan (HMP) detailing means to protect site workers and community from excessive noise and vibrations ❖ Ensure that construction equipment is operating optimally and with operational noise mufflers where possible.		
Occupational Safety & Health	❖ Provision of appropriate PPE including: Dust masks, gloves, overalls, reflector jackets and safety boots. ❖ Ensure consistent use of PPE by workforce. ❖ The contractor should commit himself to strict implementation of OSHA regulations during construction and operations. ❖ Ensure the installation of barriers like fences around project site and to prevent access to facility by unauthorized persons. ❖ There should be adequate warning and directional signs. Ensuring that the prepared code of conduct for staff is followed to prevent accidents. ❖ Develop a site safety action plan detailing safety equipment to be used, emergency procedures, restriction on site, frequency and personnel responsible for safety inspections and controls. ❖ Cordon off unsafe the drilling and construction site to keep away unauthorised entry. ❖ Provide first Aid kit within the construction site	Contractor	30,000
Community Health and Safety	❖ Community sensitization of the ongoing works. ❖ Erection of information and warning signs in local language. ❖ Isolate the work sites through hoarding.	Proponent Contractor	10000
Liability for loss of life, injury or damage to private property	❖ Recording of all injuries that occur on site in the incident register, corrective actions for their prevention are instigated as appropriate. ❖ Contractor to ensure compliance with the Workmen's Compensation Act, ordinance regulations and union agreements. ❖ The Contractor to repair any damage done to private property.	Contractor Project supervisor	No additional Costs. Compensation to be determined when it happens. Contractor must have All Contractor Risk Insurance and WIBA
HIV & AIDS Impacts	❖ Sensitize workers and the surrounding communities on awareness, prevention and management of HIV/AIDS through staff training, awareness campaigns, multimedia and workshops or during community Barazas. ❖ Provide information, education and communication. ❖ Use of existing clinics to provide VCT services to construction crew and provision of ARVs for vulnerable community members	Contractor Project supervisor	20,000
Child labor and Protection	❖ Ensure no children are employed on site in accordance with the law ❖ Ensure that any child sexual relations offenses among contractors' workers are promptly reported to the police. ❖ Ask for identification documents while recruiting workers.	Contractor Project supervisor Local Administration	No additional Costs
Grievances	❖ Establishment and operationalization of Grievance Redress Mechanisms	Contractor Project supervisor Local Administration	No additional Costs

Gender Equity	❖ The works contractor should be required, to prepare and enforce a Non-Discrimination Policy, in accordance with national law where applicable. ❖ The contractor should prepare and implement a gender action plan ❖ Ensure equitable distribution of employment opportunities between men and women	Contractor Project supervisor Local Administration	No additional cost
Sexual Exploitation, Sexual Harassment and Abuse (SEA)/SH	❖ The works contractor should be required, under its contract, to prepare and enforce a No Sexual Harassment and Non-Discrimination Policy, in accordance with national law where applicable. ❖ The contractor should prepare and implement a gender action plan ❖ Develop and implement an SEA action plan with an Accountability and Response Framework as part of the EMP. ❖ The SEA action plan will follow guidance on the World Bank's Good Practice Note for Addressing Gender-based Violence in Investment Project Financing. ❖ Provide temporary toilets and bathrooms for both male and female workers on site ❖ The SEA action plan will include how the project will ensure necessary steps are in place for: i. Prevention of SEA: including CoCs and ongoing sensitization of staff on responsibilities related to the CoC and consequences of non-compliance; project level IEC materials; ii. Response to SEA: including survivor centered coordinated multi-sectoral referral and assistance to complainants according to standard operating procedures; staff reporting mechanisms; written procedures related to case oversight, investigation and disciplinary procedures at the project level, including confidential data management; iii. Engagement with the community: including development of confidential community-based complaints mechanisms discrete from the standard GRM; mainstreaming of PSEA awareness-raising in all community engagement activities; community-level IEC materials; regular community outreach to women and girls about social risks and their PSEA-related rights; iv. Management and Coordination: including integration of SEA in job descriptions, employments contracts, performance appraisal systems, etc.; development of contract policies related to SEA, including whistleblower protection and investigation and disciplinary procedures; training for all project management; management of coordination mechanism for case oversight, investigations and disciplinary procedures; supervision of dedicated PSEA focal points in the project and trained community liaison officers.	Contractor Project supervisor MOWASSCO Mombasa County Government GBV Expert Local NGO/CBO	20,000

Gender-based violence (GBV) at community level	The contractor will implement provisions that ensure that gender-based violence at the community level is not triggered by the Project, including: ❖ Effective and on-going community engagement and consultation, particularly with women and girls; ❖ Review of specific project components that are known to heighten GBV risk at the community level, e.g.; community level water management, representation or related economic activities etc. ❖ Specific plan for mitigating these known risks, e.g. sensitization around gender-equitable approaches to employment, representation, management etc. The contractor will ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.	Contractor Project supervisor MOWASSCO Mombasa County Government GBV Expert Local NGO/CBO	No additional cost
Crime Management	❖ Removing any employee who persists in any misconduct or lack of care, carries out duties incompetently or negligently, fails to conform to any provisions of the contract, or persists in any conduct which is prejudicial to safety, health, or the protection of the environment. ❖ Taking all reasonable precautions to prevent unlawful, riotous or disorderly conduct by or amongst the contractor's personnel, and to preserve peace and protection of persons and property on and near the site. ❖ Prohibiting alcohol, drugs, arms, and ammunition on the worksite among personnel. ❖ The contractor and Supervision Consultant should register in a log all events of a criminal nature that occur at the worksite. ❖ The contractor and Supervision Consultant should report all activities of a criminal nature on the worksite or by the contractor's employees (whether on or off the worksite) to the police and undertake the necessary follow-up. ❖ Crime reports should include nature of the offense, location, date, time, and all other pertinent details.	Contractor Project supervisor	No additional cost

The organizational structure elaborates on the role of various stakeholders in administering the ESMP. It further clarifies the role of PAPs and stakeholders and their responsibility in the exercise in relation to EIA. The table below shows the various institutions and their role in the implementation of the ESMP.

Table 2: Various institutions and their role in the EMP implementation

Name of Institution	Role of Institution
MOWASSCO	Responsible for contracting the works. Responsible for operation phase EMP
Supervising Consultant	supervising and managing the contractor under the project Responsible for day-to-day coordination and implementation of the project. Oversee the contractor's work Ensure the grievance committees are established and working. Monitor the Construction Phase ESMP implementation by the contractor.
NEMA	Review EIA report and provide EIA license for the project as per the Service Charter.
Site Office Committee	Ensure effective flow of information between the Contractor and public Coordinate activities between the various institutional stakeholders and the public. Conducting extensive public awareness and consultations with the aggrieved parties so that they can air their concerns, interests and grievances.
Grievance Redress Committee(s) (GRC)	❖ Conduct extensive public awareness and consultations. ❖ Help ensure that local concerns raised by stakeholders as regards environmental and social issues among others are promptly addressed by relevant authorities. ❖ Resolve manageable disputes that may arise. ❖ If it is unable to resolve, help refer such grievances to the Site Office Committee. ❖ Ensure that the concerns of vulnerable persons such as the disabled, widowed women, orphaned children affected by the project are addressed and included
Contractor's Human Resource Manager	The Contractor's human resource manager will be in charge of the entire work force within the Contractor's camp. As such he/she will oversee the employment procedures, misconduct, conformance to labour laws and overall staff wellbeing, which includes second level grievances.

The ESMP will be mainstreamed in the contract documents to make it enforceable. This will be achieved by including ESMP clauses in the technical specifications, bills of quantities, and conditions of contract, ensuring that environmental and social safeguards are treated as core deliverables rather than optional guidelines. Contractors are required to allocate resources for mitigation measures, monitoring, and reporting. The Supervising consultant may stop works if there is non-compliance with E&S requirements. The stoppage costs shall be borne by the contractor.,

1.PROJECT BACKGROUND INFORMATION

1.1 Introduction

The coastal region serves as a transport hub and an important tourist destination and is a vital economic region for Kenya and for the whole of East Africa. However, it faces serious challenges in providing water supply and sanitation services to her residents. Mombasa County, which is home to approximately 1 million people, faces challenges in wastewater management. The current sanitation infrastructure in Mombasa is insufficient to meet the sanitation needs of the growing population. The existing sanitation facilities are characterized by the presence of small/inadequate and/or poorly managed public facilities or lack of such facilities altogether. Moreover, the wastewater in Mombasa Island is often discharged through separate sewer system, Mombasa West Mainland through a combined sewer system whereas the Likoni area and North Mainland. Due to the inadequacies of the sewer facility the resultant wastewater spills into the environment, creating a health hazard for the residents and a threat to the coastal environment. The Government of Kenya through the Ministry of Water and Irrigation received funding from World Bank so as to implement the Water and Sanitation Development Program (WSDP). The funds were disbursed to the Coast Water Works Development Agency in conjunction with the County Government of Mombasa (CGM) and a Waste Water Master Plan for Mombasa and Selected Towns within the Coast Region was developed. The Waste Water Master Plan was completed in 2017, targeting the built-up areas of the town and aims to improve the quality of effluent discharging to rivers, Indian Ocean and groundwater and to safeguard the health of the residents of the coastal region. It further describes the development strategy for the long-term water-borne sanitation system comprising of wastewater collection / conveyance system and the treatment / proper disposal of treated effluents. However, this long-term sanitation strategy is not planned for immediate implementation hence immediate sanitation measures have been developed which includes rehabilitation of the existing sewerage system, construction of Ablution Blocks in public places and Sludge Handling Facilities.

Subsequently, the proponent, Mombasa Water Supply and Sanitation Company Limited – who manages the water supply and sanitation systems in Mombasa County contracted employees and volunteer Experts licensed by NEMA, to prepare a Comprehensive Environmental Impact Assessment Project Report (CPR) for the proposed shallow wells project located in the recently constructed Ablution blocks in Mombasa County. The CPR is prepared pursuant to Section 58 of the Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya and the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003. In addition to compliance with the law, the output of the EIA process will provide a baseline of the environmental and social conditions of the project area to enable future monitoring of the environmental performance of the proposed project.

1.2 About the proponent

Mombasa Water Supply & Sanitation Company Limited is a limited liability company that was established in March 2011. The company took over the operations of water and sewerage services provision in Mombasa County as from 1st September 2005. Under the Water Act 2016, the Company is now under the jurisdiction of the County Government of Mombasa. The company has the mandate to providing cost effective and affordable quality water and sanitation services to the residents of Mombasa County.

1.3 Project Location, Design and Description

The proposed shallow wells project will be located at various points within the City of Mombasa. The specific locations and recommended depths are highlighted below.

1.3.1 County Court Site

The County Court, site is located at GPS Coordinates S 4.063875° E 039.672312° Mvita Sub-County at an Altitude 18m, the site receives mean rainfall of 1100 mm. The site hydrogeological report recommended a depth of 25m.

1.3.2 Fort Jesus Two, (Existing Ablution Block Inside)

Fort Jesus Two is the site within the Fort. This site has an existing Ablution Block to be rehabilitated once Fort Jesus One is completed. The site is located at GPS Coordinates S 04.062530° E 39.679592° Mvita Sub-County at an Altitude 15m, the site receives mean rainfall of approximately 1100 mm. The site hydrogeological report recommended a depth of 35 m. The method of drilling proposed Diameter 8-inch installed with 6-inch upvc casing class D.

During the CPP process, a meeting held on 11th December, 2025 at Fort Jesus between NMK officials, MOWASSCO and Supervision consultant Batch recommended for improvement of the existing well through test pumping to determine the yield and equipping with appropriate pumping sets.

1.3.3 Makadara Grounds.

The site is located at GPS Coordinates S 04.0624418° E 39.672998° Mvita Sub-County at an Altitude 20 m, the site receives mean rainfall of approximately 1100 mm The site hydrogeological report recommended a depth of 25 m. The method of drilling will be rotary machine drilling 8-inch diameter hole and 6-inch upvc casing class D lining.

1.3.4 Public health Department (PHD),

The site is located at GPS Coordinates S 04.059458° E 39.670635° Mvita Sub-County at an altitude of 30m, the site receives mean rainfall of approximately 1100 mm. The site hydrogeological report recommended a depth of 23m. The method of drilling proposed, the shallow well should be 8 inches in diameter and installed with 6-inch upvc casings

1.3.5 County Yard (Fire Station),

The site is located at GPS Coordinates S04.055632⁰ E39.670152⁰, Mvita Sub-County at an Altitude 20 m, the site receives mean rainfall of approximately 1100 mm. The site hydrogeological report recommended a depth of 25m. The method of drilling proposed, that this site can be machine drilled or hand dug up to 25m

1.3.6 MOWASSCO HQ Mvita Sub-County

The site is located at GPS Coordinates S 04.063875⁰ E39.672313⁰, Mvita Sub-County at an Altitude 18m, the site receives mean rainfall of approximately 1100 mm. The site hydrogeological report recommended a depth of 22 m. Machine drilling can also be done up to 25meters deep using 8inch diameter and 6 inch pvc casings and screens. Proper gravel pack should be used and development is necessary. It is highly recommended that the borehole construction be supervised by a hydrogeologist

1.3.7 Tudor Manyimbo,

The site is located at GPS Coordinates S04. 038393⁰ E39.665898⁰, Mvita Sub-County at an Altitude 32 m, the site receives mean rainfall of approximately 1100mm. The site hydrogeological report recommended a depth of 35 m.

All the wells will be drilled by a machine due to the inherent advantages of machine drilling. The project will utilize light weight portable drilling system designed to access groundwater at depths of about 10–40 meters. It has the following features:

- i. Lightweight & Portable: Mounted on a small trailer or skid, easily transported into tight residential spaces.
- ii. Power Source: Operates with a small diesel engine, petrol motor, or even manual/hand-powered systems for very shallow depths.
- iii. Drilling Method:
Rotary Drilling: Uses a rotating drill bit with drilling fluid (mud) to cut through soil and stabilize the borehole.
- iv. Depth Capacity: Typically, 10–40 meters, depending on soil type and groundwater table.
- v. Water Pump Integration: Often paired with a hand pump or small submersible pump once the well is completed.
- vi. Safety & Sanitation: Includes casing (PVC or steel) and gravel packing to prevent contamination and collapse.

The typical components include:

- i. Drill Mast: Small vertical frame to support drill rods.
- ii. Drill Rods & Bits: Lightweight rods with cutting bits for soil penetration.
- iii. Mud Pump (optional): Circulates drilling fluid to cool the bit and carry cuttings out.
- iv. Winch/Hoist: Assists in raising and lowering rods.
- v. Casing & Screen: Installed to protect the borehole and allow clean water inflow.

It is suitable for the proposed project because of the following reasons:

- i. Compact size allows operation in courtyards, compounds, or small plots.
- ii. Low noise compared to large rigs.
- iii. Minimal environmental footprint.

Affordable for community water projects or small contractors.

The Fort Jesus site has an existing well which will be cleaned and equipped to provide water for the Fort Jesus ablution block.

The foundation of a safe shallow well lies in careful siting and sound construction. The well lining, or casing, should be constructed from durable materials such as reinforced concrete or high-density polyethylene (HDPE) pipe, extending at least three metres below ground to prevent surface water from seeping in along the well wall. A raised concrete apron or headworks — elevated at least 300 mm above the surrounding ground — should surround the wellhead to divert runoff away from the opening. The well cover must be fitted securely and kept locked when not in use, and a drainage channel should direct spilled water away from the well to prevent reinfiltrating of used water into the aquifer.

Table 3 Tabulated Hydro-Geological Shallow Wells Report

S/no	Borehole Location	Recommended Depth (m)	Geology			Method of excavation
			Depth (m)	Lithology	Water prospects	
1	Mombasa County Court	25	1.14	Top soil	poor	Machine drilling, (8-inch) installed with 6-inch upvc casing class D
			3.28	Weathered dry coral	fair	
			>3.28	Weathered moist coral	good	
			3.28	Weathered dry coral	fair	
			>3.28	Weathered moist coral	good	
2	Fort Jesus 2	35	1.45	Top soil	poor	Diameter 8-inch installed with 6-inch upvc casing class D
			2.15	Dry weathered coral rock	fair	
			>2.15	Weathered coral	good	
3	Makadara	25	1.14	Top soil	poor	Diameter 8-inch installed with 6-inch upvc casing class D
			3.28	Fresh coral	fair	
			>3.28	Weathered coral	good	
4	Public Health Department PHD	23	1.01	Top soil	poor	Diameter 8-inch installed with 6-inch upvc casing class D.
			16.77	Highly weathered moist coral rocks	fair	
			>16.77	Moist coral rocks with fresh water	good	
5	County Yard Fire	25	1.96	Top soil concrete remains	poor	Diameter 8-inch installed with 6-inch upvc casing class D
			33.06	Moist sand	good	
			=====	Clay and sand soil intercalating	poor	
6	Tudor Manyimbo	35	1.33	Top soil	poor	Diameter 8-inch installed with 6-inch upvc casing class D
			17.79	Pleistocene sands	poor	
			>18	Magarini sands	Fair to good	
7	MOWASSCO Hqs	22	0.970	Top Sands	poor	Diameter 8-inch installed with 6-inch upvc casing class D
			2.10	Dry Coral rock	dry	
			6.92	Dry weathered Coral rock	dry	
			=====	Moist weathered Coral rock	fair	
			5.40	Dry weathered shale	poor	
			===	Wet weathered shale	Poor to fair	
			17.79	Pleistocene sands	Poor	
			===	Magarini sands	Fair to good	

1.4 CPR Approach and Methodology

The methods adopted for preparing the Comprehensive Environmental Impact Assessment Project Report were guided by the Third Schedule of the Environmental

Management and Coordination (Impact Assessment and Audit) Regulations, 2003 and the World Bank Ops 4.01, Environmental Assessment and OP 4.11 Physical Cultural Resources were applied in the process for identification of social and environmental impacts including the formulation of the mitigation measures for negative impacts as outlined in the Environmental and Social Management Plan. Data collection methods included literature review, observations during site visits and photography. The data collected during the site visits by the experts was recorded using Questionnaires and photographs.

Site visit was undertaken in October 2025 for purposes of area reconnaissance, assessing the baseline environmental risks associated with the proposed project as well as the applicable environmental safeguards and standards. Environmental screening criteria was informed by the Second Schedule of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003. As per this schedule the issues considered by the experts included; ecological and socio-cultural considerations (stakeholder concerns), landscape changes, land use character and water as shown in table 1 below.

Table 4: Summary of results of the screening criteria.

Criteria	Results
Ecological impacts	– Excavations will occur – There is potential to impact negatively on the environment
Social considerations	– Contribution towards attaining the Sustainable Development Goal – Improving hygiene and sanitation within the area – Optimal use of land – Employment creation – No cultural or heritage issues at the site
Land use	– No impact on land use regime
Water	– The construction and subsequent operations of the proposed project will increase water demand and impact on water resources

1.5 Project Budget

The total estimated cost of the proposed project is Kenya Shillings Four million, eight hundred and nineteen thousand twenty-two and eighty cents only (Kshs 4,819,022.80). Details of BoQ in Appendices

2 BASELINE INFORMATION ON THE PROJECT SITE

2.1 Introduction

Baseline conditions of the proposed project site were assessed and documented for the purposes of determining the future impacts of the proposed project on the environment and the public. This section details on the findings of the survey which will form a basis for impact monitoring plans and improvement of the environmental and social performance of the project during implementation.

2.2 Demographics

According to 2019 Population and Housing Census, Mombasa County has a total population of 1,208,333 people and a population density of 5,495 people per squared kilometres. According to the KNBS, Mombasa County's population is expanding by roughly 2.2% to 2.5% annually. Under this trajectory, the population is expected to reach 1,504,530 by 2030 and rise further to 1,635,074 by 2035..

2.3 Topography and Climatic Conditions

The general topography of the proposed project sites is approximately between 2m upto 25m above sea level. The climate of the area is greatly influenced by the Migratory Inter-Tropical Convergence Zone (ITCZ) characterized by monsoon winds which create a bimodal rainfall pattern (Figure 6). The long rain season occurs from April to July and the short rains from October to December. The average annual rainfall for the area has been recorded as 940mm. Temperatures are fairly constant throughout the year ranging from 23°C to 28°C. The warmest temperatures are generally recorded during the months of November to April (mean daily temperature of 27°C) while slightly cooler temperatures are experienced from May to October (mean daily temperature of 24.5°C). The average annual evaporation rate within the project area is 2300mm and the climate is generally classified as semi to sub-humid as the ratio of rainfall to evaporation ranges from 57-68%.

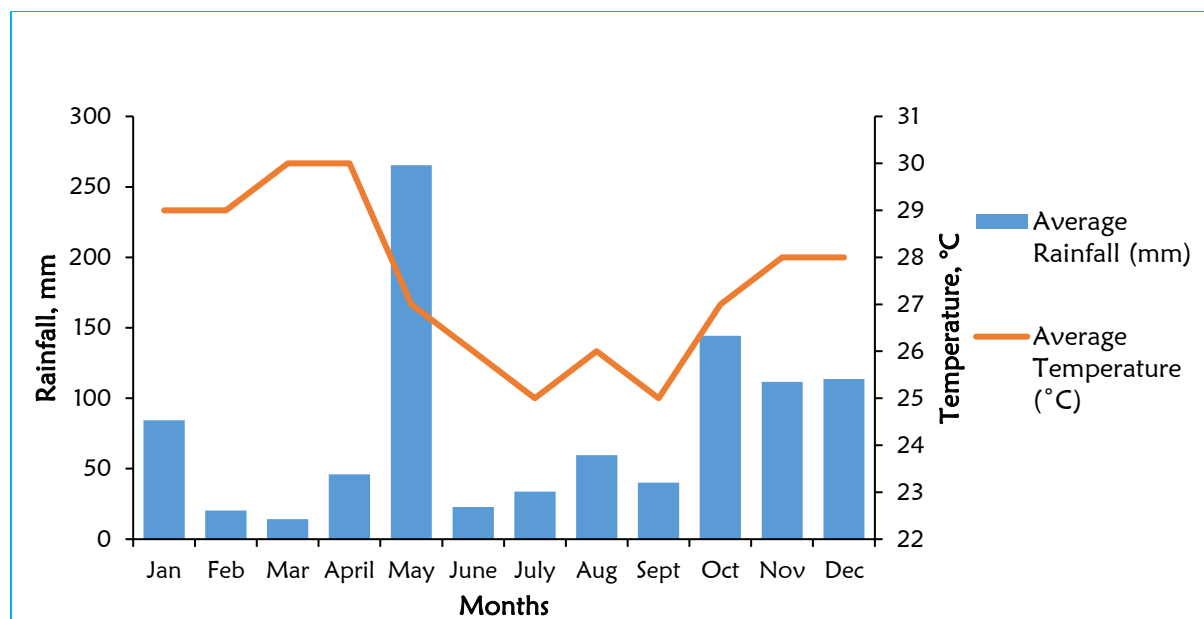


Figure 1: Average rainfall and temperature distribution of Mombasa County in 2019 (Data Source: World Weather Online).

2.4 Status of Sanitation in Mombasa County

A piped Sewerage Scheme was built on Mombasa Island to serve the densely populated area of the Old Town in the year 1962. This was the first phase of a strategy to provide sewers to the whole of Mombasa Island which only covered a small area of the Central Business District. Since then, minimal expansion has been undertaken on the sewerage system. Within the Sewerage system, four small pumping stations are located along the edge of the sewerage area adjacent to the sea, to lift wastewater from localized low areas into the Sewerage Collection System. A Tunnel links the sewer network with Kizingo Wastewater Treatment Plant, located in the South-East corner of the Island at Ras Serani. A short sea outfall of approximately 40m long discharges the partially treated effluent from the Treatment Plant into the Ocean.

Small Sewerage Schemes to serve individual Housing Estates on the Island, such as Tudor Estate, Buxton Estate, and Makande Estate were constructed in the 1960s. Each of the Housing Estates located at the opposite end of the Island to the Kizingo Treatment Plant was provided with its own communal septic tank and soak pit. Tudor Estate and Makande Estate were provided with pumping stations to pump the wastewater into the septic tanks. None of the sewerage schemes as well as pumping stations is operational. The CGM has recently initiated Storm water outlets improvement at Coast general Hospital, Mburukenge, Tudor Moroto, Kaa Chonjo and Mbaraka Outfalls are ongoing. There are also private initiatives to construct biodigesters and DTFs.

The Old Town Wastewater Collection System excluding the Main Outfall Tunnel, has a total sewer network length of approximately 20Km. No expansion of the Old Town

Sewerage System has taken place since its construction over fifty years ago. The Major Collection Tunnel that connects Old Town Sewerage Network to the Kizingo Treatment Plant has a cross-sectional area of 1.9m^2 . The estimated capacity of the tunnel is $3\text{m}^3/\text{s}$ and it was clearly designed to accept the future wastewater flows from a large part of the Island, not only the Old Town.

The Treatment Plant at Kizingo was designed to provide only preliminary treatment (screening and grit removal) and primary treatment (sedimentation). The Inlet Works was designed for a Dry Weather Flow of $32,500\text{m}^3/\text{day}$. Construction of the Sedimentation Tanks was phased and the initial installation has a settlement capacity for a Dry Weather Flow of only $3,000\text{m}^3/\text{day}$. The Treatment Plant has been out of operation for many years. All the mechanical and electrical equipment have been vandalized and missing and a by-pass arrangement directs discharge of sewage into the ocean through a 40m long outfall pipe at Ras Serani. The Outfall Pipe is broken at a point approximately 18m offshore and leakage at this point is visible. No treatment was provided to the sludge collected from the Sedimentation Tanks in the Kizingo Treatment Plant; instead, it was pumped directly into the ocean each day through the outfall pipe during periods when the tide was going out, so that it would be transported by the tide out to deep water for greater dilution.

2.5 Solid waste management

The main sources of solid waste in Mombasa County include domestic, commercial ventures, hotels, markets, industrial, institutional among others. The types of solid waste generated include biodegradable waste such as; food remnants, wooden debris, natural rubber, paper, biomedical waste and non-biodegradable waste such as; plastic products, metals, disposable diapers, rubber tires, among others.

The solid waste generated is estimated at 700 metric tons per day. Currently, collection of solid waste is approximately 68% of the generated waste and 32% ends up being burnt or thrown on the streets, in the drains, at the seashores and in open grounds hence detrimental to health of the environment and the population. This is a growing concern due to the rising population and having the gateway of Kenya's tourism industry drown under mountains of trash is not economically sound. All types of solid waste materials in the County are collected from point sources and/or County dustbins in a mixed state and transported to the Mwakirunge dumpsite which is approximately 13.6 Kilometres.

2.6 Health

Mombasa Island is the headquarters of the County being home to the Coast General Hospital, which is the second largest government hospital in Kenya and serves as the tertiary referral centre for the entire coast region. In addition, the County is also home to private hospitals including Aga Khan Hospital, Pandya Hospital and Mombasa Hospital which is less than 500m from the proposed project site. Being a coastal city and a hub for

tourism, the prevalence of HIV/AIDS is relatively high with the National Aids Control Council reporting that 54,670 people currently live with HIV/AIDS 6,870 of whom are women and children, however the prevalence rate within Mombasa Island is 3% which is lower than that of the other sub-counties within Mombasa.

2.7 Biodiversity

Mombasa Island is surrounded by the Indian Ocean by means of the Kilindini, Tudor, Makupa, and Old Port creeks. The Indian Ocean is home to a wide range of flora and fauna, including plankton, seaweed, various species of fish including parrot fish, snapper, white snapper, cod and zebra fish, molluscs including squid and octopus. The major vegetation located within the project areas are tree species common along the Kenyan coast, which include Indian Ashok, Palms and Coconut trees.

2.8 Water resources

Water supply in the Coastal area is based mostly on bulk water supply systems deriving their water from the Mzima and Marere springs and the Tiwi and Sabaki aquifers which are located outside of Mombasa County. These bulk water systems supply Mombasa, Kwale, Kilifi and Taita Taveta Counties. It is estimated that with the rise of the urban population, the extraction of water from the bulk systems will increase, thereby aggravating the already existing stress on bulk systems.

Reticulated water supply in Mombasa is supplied by the Mombasa Water Supply and Sanitation Company Limited (MOWASSCO). Boreholes and shallow wells are also used as a supplement source, for uses other than drinking. The proposed project proposes to drill at least nine shallow wells to supplement water usage to recently constructed ablution blocks.

2.9 Commerce and industry

Mombasa Island is a hub of tourism and commerce housing a large number of beach hotels and the major port at Kilindini. The area is a major tourist destination particularly during the summer and winter breaks from the European Countries. Mombasa Island houses Fort Jesus which is a world Heritage site, (this is the location of Ablution blocks namely Fort Jesus One and Two), the Mombasa Butterfly House (Next to the County Court Ablution Block) among other tourist sites. Care must be taken into account during the project implementation to ensure that the proposed project does not adversely affect any cultural sites. The debris that is currently making its way into the Indian Ocean currently affects tourist activities due to the unsightly floatables within the ocean along the beaches and within the ocean. In addition to the tourism, the Indian Ocean provides a fishing ground for the local fishermen, who supply fresh fish to the beach hotels in the area. With the increase in population within Mombasa Island pollution has increased which makes its way to the Indian Ocean as part of the storm water. The pollutants to the Indian Ocean include, plastics from the town, grit, which fish ingest and are negatively affected.

3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Introduction

Regulation 18 (1) (b) of the Environmental (Impact Assessment and Audit Regulations) 2003 requires an environmental assessment study report to, among others, include a concise description of the national environmental legislative and regulatory framework. This chapter presents a review of the current policy, legal, and regulatory framework applicable to the environmental management of the proposed project. It also reviews the applicable World Bank policies.

3.2 Policy framework and strategies

3.2.1 National Environment Policy, 2013

Kenya has a National Environment Policy prepared and approved in 2013 by the Ministry of Environment, Water and Natural Resources. Its overall goal is to provide better quality of life in Kenya for present and future generations through sustainable management and use of the environment and natural resources. The policy has nine chapters which provide information on how this goal will be achieved through promoting Environmental Quality Health whereby the most pressing problems include but not limited to water supply and sanitation. The relevant policy statements under this section are three; 1) Improve the management and conservation of water supply sources, 2) Promote technologies for efficient and safe water use, especially in respect to wastewater use and recycling and 3) Provide incentives for private sector investment and development of appropriate water and sanitation technologies and infrastructure for waste management.

Relevance: The proposed project will be implemented and operated in conformity with provisions of this policy.

3.2.2 National Water Policy, 2021 (Sessional Paper No. 1 of 2021)

The National Water Policy, 2021 (Sessional Paper No. 1 of 2021) provides a framework for sustainable water resource management in Kenya, emphasizing universal access, efficient use, and alignment with constitutional rights and the Sustainable Development Goals. It builds on past reforms to strengthen governance, improve water harvesting and storage, and ensure equitable distribution.

The policy promotes investment in water harvesting and storage infrastructure, prioritizes underserved communities, and supports decentralized solutions that align with county-level initiatives. Shallow wells directly advance the policy's goals by improving access to safe water in coastal areas facing scarcity, enhancing resilience against drought, and ensuring that marginalized populations benefit from affordable, community-based water sources. In this way, the wells embody the policy's vision of universal, inclusive, and sustainable water access.

Relevance: The proposed abstraction from shallow wells will conform to water regulations based on this policy.

3.2.3 National Land Policy, 2009

The National Land Policy has a vision to guide the country towards a sustainable and equitable use of land. The land policy calls for immediate actions to addressing environmental problems that affect land such as degradation, soil erosion and pollution. For instance, the policy stipulates the principle of conservation and management of land based natural resources, the principle of protection and management of fragile and critical ecosystems including wetlands and arid lands. The policy further calls for extensive overhauls to current policies and institutions in an attempt to address chronic land tenure insecurity and inequity. The National Land Policy designates all land in Kenya as public, private (freehold or leasehold tenure), or community/trust land, which is held, managed and used by a specific community. This land policy has thus been formulated to address the critical issues of land administration, access to land, land use planning, restitution of historical injustices, environmental degradation, conflicts, unplanned proliferation of informal urban settlements, outdated legal framework, institutional framework and information management.

Relevance: The proposed shallow wells will be on land belonging to the County Government of Mombasa.

3.2.4 National Policy on Gender and Development, 2019

The policy provides a framework for promoting gender equality and empowering women, men, and marginalized groups in Kenya by mainstreaming gender considerations across all sectors. It emphasizes equitable access to resources, participation in decision-making, and elimination of gender-based discrimination. In relation to the proposed shallow wells in Mombasa County, the policy is highly relevant because women and girls are often disproportionately affected by poor sanitation. By ensuring gender-sensitive planning and community involvement, the shallow wells project can reduce this burden, enhance women's economic and social participation, and promote inclusive development consistent with the policy's objectives.

Relevance: The policy will be important at the time of recruiting workers during the Project implementation.

3.2.5 Sustainable Waste Management Policy, 2021

The Sustainable Waste Management Policy, 2021 provides a framework for Kenya to transition towards a circular economy by promoting waste reduction, segregation at source, recycling, and environmentally sound disposal. It emphasizes shared responsibility among government, private sector, and communities to ensure cleaner, healthier environments while creating green jobs. In relation to the proposed shallow wells in Mombasa County, the policy is highly relevant because poor waste management can contaminate groundwater sources, posing health risks to communities relying on wells. By integrating proper waste management practices alongside the wells project, the

initiative can safeguard water quality, protect public health, and ensure that the wells remain a sustainable and safe source of water for local residents.

Relevance : The policy is a landmark in Kenya's environmental governance landscape. It spells out roles and functions of all actors in solid waste value chain. The proposed project will align to the noble imperatives of this policy. The contractor shall provide color-coded bins for handling different waste streams.

3.2.6 Kenya Environmental Sanitation and Hygiene Policy (KESHP) 2016–2030

The Policy provides a national framework for achieving universal access to improved sanitation and hygiene, aiming for a clean, healthy, and economically prosperous Kenya free from sanitation-related diseases. It emphasizes safe waste management, community participation, and alignment with Vision 2030 and the Sustainable Development Goals.

The shallow wells will provide water to the ablution blocks. This will enhance hygiene in the resort city of Mombasa.

Relevance: The contractor will receive a copy of the ESMP to create a Contractor-ESMP that ensures compliance throughout construction, which includes providing personal protective equipment, placing signage at key locations, securing the construction zone to prevent unauthorized access, and avoiding accidents.

3.2.7 Kenya Vision 2030

Kenya's Vision 2030 is a government development strategy that is aimed at steering Kenya to a middle-income country by the year 2030. It is based on the 3 pillars of political, social and economic advancement and it aims to transform the economy to newly industrialized status by 2030 and achieve sustainable growth. Environmental considerations of development are contained within the social and economic pillar. By upgrading the sanitation status of the proposed project area, and making the ablution blocks fully functional through constant availability of water from the proposed shallow wells. MOWASSCO will be assisting the country to provide better sanitation facilities for the public and therefore help attain the goals of Vision 2030.

Relevance: The Project will directly contribute towards the achievement of the objectives of the vision under the economic pillar to provide investment opportunities for national and international investors.

3.2.8 Mombasa County's Environmental Health and Sanitation Act, 2017

An Act of the County Assembly of Mombasa to provide for a regulatory and enforcement framework for environmental health and sanitation; to provide for the establishment of environmental health and sanitation standards; to provide for sanitation services development and investment plans; to provide for certain general powers of the County Executive Committee Member responsible for environmental health and sanitation; and for connected purposes.

It covers:

- i. Sanitation services, control of infectious diseases, food hygiene, pollution control, sewerage, and stormwater drainage.
- ii. Water Protection: Explicitly mandates safeguarding water supplies and sources from contamination.
- iii. Community Health: Provides legal backing for hygiene enforcement at household and community levels.

Relevance: The project will be critical in enabling Mombasa county to achieve its public health objectives.

3.2.9 Mombasa County Integrated Development Plan

The Constitution of Kenya 2010 and its attendant legislations on devolution identify County Integrated Development Plan (CIDP) as a key tool in ensuring effective co-ordination and accountability in the delivery of quality public services. The Public Finance and Management Act 2012 designate the mandate of developing a CIDP to the Department of Finance and Economic Planning which is well entrusted with the responsibility of managing county resources earmarked for development programs and projects. The Mombasa CIDP aims to provide a clean, safe and healthy environment and improve access to water and sanitation services through increasing water supply and sewerage coverage.

3.3 Legal framework

3.3.1 The Constitution of Kenya, 2010

The Constitution of Kenya 2010 is the supreme law of the land. Under Chapter IV, article 42 provides for the right to a clean and healthy environment for all. Further, Chapter V of the Constitution deals with Land and Environment. Specifically, Part 2 elaborates on the obligations of the proponent in respect to protection of the environment and enforcement of environmental rights.

Relevance to the proposed project

- ❖ The proponent should ensure that drilling of shallow wells / construction of related structures and operations of the ablution block do not infringe on the right to a clean and healthy environment for all.
- ❖ The proponent must ensure that the development is carried out in an ecologically, economically and socially sustainable manner.
- ❖ The Constitution encourages public participation in the management, protection and conservation of the environment i.e. it is a constitutional requirement that beneficiaries and members of the public living near the proposed project site be consulted to seek their views and opinions regarding the projects before it's implemented

- ❖ The proponent is entitled to a fair administrative decision-making process from NEMA and other State organs.

Relevance: Access to sanitation is a right enshrined in the constitution. The project is thus a move towards this constitutional guarantee.

3.3.2 The Environmental Management and Co-ordination Act (EMCA) Cap 387 of the Laws of Kenya

The Act is the framework environmental law and aims to improve the legal and administrative co-ordination of the diverse sectoral initiatives in the field of environment so as to enhance the national capacity for its effective management. The Act harmonizes the sector specific legislations touching on the environment in a manner designed to ensure greater protection of the environment in line with the National Environment Policy, 2013. The Act also provides for public participation during the EIA process and consultation with stakeholders as the most significant requirement aimed at providing the general public with the opportunity to take part in decision making. The proposed project is considered a medium risk project as indicated in the amended Second Schedule of Legal Notice No. 31 of EMCA. Thus the proposed project was subjected to the EIA process.

Relevance to the proposed project

Section 58 of the Act requires proponents of a development likely to have deleterious effects on the environment to prepare and submit an EIA report to NEMA for consideration for decision making. This report is prepared to comply with the provisions of this section. To operationalize EMCA, several Regulations have been gazetted since its enactment in 1999 and its amendment in 2015. These relevant ones are;

3.3.2.1 Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003

These Regulations guide the preparation of EIA including how experts should conduct the EIA process and guidelines and standards to be met by the reports. The Regulations were reviewed in 2016 to align them to the Kenya Constitution 2010. They were also recently amended (2019) to address challenges that have been reported since they were gazetted. This report complies with the provisions of these Regulations. Public and stakeholder participation is a requirement under regulation 17 of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003.

Relevance: The Project is classified under Moderate-risk project in the Second Schedule of EMCA 1999 and thus requires an ESIA Study. By conducting this ESIA, the project therefore complies with the Act. It will commence after an EIA license has been issued by NEMA.

3.3.2.2 The Environmental Management and Coordination (Water Quality) Regulations. Legal notice 177 of 2024

These Regulations address the challenges of pollution of water resources and conservation. It consists of VI parts and eleven schedules dealing with protection of sources of water for domestic use to miscellaneous provisions. For the proposed project,

the proponent and contractor will implement measures to prevent water pollution from construction activities, effluent discharge at operational phase and ensure that water used at the facility meets the standards in the First Schedule of the Regulations. Once the facility is operational, the proponent shall apply and obtain an Effluent Discharge License from NEMA.

Relevance: The proposed project will enhance public health in the City of Mombasa.

3.3.2.3 The Environmental Management and Co-ordination (Waste Management) Regulations, 2024.

The Regulations mandate strict waste segregation at the source into hazardous, organic, and non-organic fractions. Key requirements include using color-coded bins, mandatory licensing for waste transport/disposal, and Extended Producer Responsibility (EPR). In compliance with these regulations, the proponent will ensure proper waste disposal throughout the project cycle and procure the services of a NEMA licensed contractor for solid waste management.

Relevance: These will guide waste management during the excavation, construction and operation of the proposed wells.

3.3.2.4 Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009

These Regulations were gazetted to manage noise levels to levels that do not cause a disturbance to the public. The operations at the site especially heavy machinery and trucks delivering raw materials are likely to generate noise above the acceptable limits within the neighbourhood. The proponent will ensure that appropriate PPE are procured, and their use enforced during construction.

Relevance: The contractor will comply with these regulations by ensuring that machines such as vibrators do not exceed the permissible limits.

3.3.2.5 Environmental Management and Coordination (Air Quality) Regulations, 2024

These regulations were aimed at controlling, preventing and abating air pollution to ensure clean and healthy ambient air. Excavation and levelling activities will generate dust that will need to be monitored and management during the construction phase of the public toilets and associated amenities. Poor hygiene during operations will also lead to bad odour which is a nuisance to people. This will need to be managed appropriately. The proponent should provide dust masks to workers and undertake quarterly air quality monitoring to inform mitigation measures.

Relevance: The contractor will comply with air quality regulations by ensuring that delivery vehicles are maintained to ensure they do not release toxic gases.

3.3.2.6 The Environmental Management and Coordination (Management and Control of Plastic Packaging Materials) Regulations, 2024 (Legal Notice No. 181 of 2024)

They establish a framework for the management and control of the use of plastic packaging materials and promote the use of environmentally friendly packaging material. These Regulations specifically strengthen the gazette notices banning the use of plastics.

To preserve and promote a clean and healthy environment for sustainable development and promote the recycling of plastic packaging material.

Relevance: Packaging materials such as cement bags should be returned to the manufacturer appointed Extended Producer Responsibility Organization (EPRO).

3.3.3 Public Health Act, 2012

Part IX Section 8 & 9 of the Act prohibits activities that may be injurious to the general public. Any noxious matter or wastewater flowing or discharged into a water course is deemed as a nuisance. Part XII Section 136 states that all collections of water, sewage, rubbish, refuse and other fluids which permits or facilitates the breeding or multiplication of pests shall be deemed nuisances. Others include accumulation of materials or refuse which may harbour rats or vermin i.e. collections of water, rubbish or refuse and any disposable fluid which permits and facilitates breeding of pests. Section 116 of the Act requires that Local Authorities take all lawful, necessary, reasonable and practicable measures to maintain in their jurisdiction, clean and sanitary environment to prevent occurrence of nuisance or condition liable to be injurious or dangerous to health; these includes waste pipes, sewers, drains, refuse pits situated or constructed as in the opinion of a medical officer of health not to be offensive or injurious to health. Section 130 provides for making and imposing regulations by the County Governments and allows the duty of enforcing the rules in prohibiting use of water supply or erection of structures draining filth or noxious matter into a water supply.

Relevance to the proposed project

The proponent should ensure the safety of the public and its employees during drilling / construction and subsequent operation of the proposed project.

3.3.4 The Occupational Safety and Health Act 2007, OSHA

The OSHA 2007 commenced on 26th October 2007. It is an Act of Parliament to provide for the safety, health and welfare of workers and all persons lawfully present at workplaces. Although the OSHA 2007 repealed the Factories and Other Places of Work Act, Cap 514 Laws of Kenya, it inherited all the subsidiary legislation issued under Cap 514. Examples of subsidiary legislation inherited include:

- Docks Rules L.N. 306 of 1962
- Eyes Protection Rules L.N. 44 of 1978
- Building Operations and Works of Engineering Construction Rules L.N. 40 of 1984
- Electric Power Special Rules L.N. 340 of 1979
- First Aid Rules L.N. 87 Of 1964
- Cellulose Solutions Rule L.N. 87 of 1964
- Health and Safety Committee Rules L.N. 31 of 2004
- Medical Examination Rules L.N. 24 of 2005
- Noise Prevention and Control Rules L.N. 25 Of 2005
- Fire Risk Reduction Rules L.N. 59 Of 2007

- Hazardous Substances Rules L.N. 60 of 2007

Part VI addresses provisions concerning health. These provisions include cleanliness, overcrowding, ventilation, lighting, drainage of floors and sanitary conveniences.

Relevance to the proposed project

The proponent shall ensure that all workers involved in the project are provided and use appropriate Personnel Protective Equipment (PPE) such as helmets, safety shoes and gloves throughout the project cycle.

3.3.5 The Land Act, 2012

This Act applies to all land declared as public land in Article 62 of the Constitution and all private land as declared by Article 64 of the Constitution. The enactment of the Land Act, criminalizes encroachments on public land such as unlawful occupation of public land and wrongful obstruction of a public right of way.

Relevance to the proposed project

The proposed project will be carried out in public land that is owned by the County Government of Mombasa.

3.3.6 The Physical and Land Use Planning Act, 2019

The Act provides for the planning, use, regulation and development of land and for connected purposes. It was enacted to ensure that every person engaged in physical and land use planning shall promote sustainable use of land and liveable communities which integrates human needs in any locality. Section 36 of the Act allows the County Government to order for the project to comply with EMCA Regulations, that is, EIA reports if deems that the project has injurious impacts on the environment.

Relevance to the proposed project

The proponent will obtain pertinent approvals and requisite operational licenses from the County Government of Mombasa.

3.3.7 The Water Act, 2016

The Constitution acknowledges access to clean and safe water as a basic human right and assigns the responsibility for water supply and sanitation service provision to the 47 established counties. The purpose of the Water Act, 2016 is to align the water sector with the Constitution's primary objective of devolution. The Act establishes several organs to ensure development and sustainable use of water resources. These include the Water Resources Authority (WRA), the Water Sector Trust Fund (WSTF), Water Resources Users Associations (WRUAs) and Water Services Providers (WSPs) and Water Works Development Agencies among others (Table 4).

Table 5: Water Resources Management Institutions and their roles as established under the Water Act, 2016.

Institution	Role
WWDAs	Development and maintenance of regional water provision infrastructure
Water Service Providers (WSPs)	Provision of reticulated supply
Water Resources Authority (WRA)	The Authority is responsible, among other things, for the issuance of permits for boreholes
Water Services Regulatory Board (WASREB)	License all providers of water and sewerage services who supply water services to more than twenty households

Relevance to the proposed project

The Water Service Provider (Mombasa Water Supply and Sanitation Company Limited) has been given the mandate to construct and maintain drains, sewers and other works for intercepting, treating or disposing of any foul water arising or flowing upon land acquired or otherwise for preventing water belonging to the Water Service Provider from being polluted. The WSP documents the effluent composition, maximum quantity and rate of effluent discharged in a day and gives conditions to trade premises such as pretreating the waste before discharging it to the sewer network. Additionally, in the proposed project, groundwater will be used to supplement water from the reticulated supply whose abstraction must comply with the provisions and legal procedures in this Act. The Act will thus play a central role in guiding the exploitation of the ground water resource throughout the project cycle.

3.3.8 The National Construction Authority Act, 2014

The National Construction Authority (NCA) was established through an Act of Parliament with the role to oversee the construction industry and coordinate its development. The Authority accredits and registers contractors as well as certifies skilled construction workers and site supervisors and regulates their professional undertakings. The Authority promotes and ensures quality assurance in the construction industry through standardization and improvement techniques and materials.

Relevance to the proposed project

In this regard, the proponent will ensure compliance with the provisions of the Act throughout the drilling/ construction process.

3.3.9 Sexual Offences Act, 2006

This Act protects people and employees from any unwanted sexual attention or advances by staff members. This Act ensures the safety of women, children and men from any sexual offences which include: rape, defilement, indecent acts.

Relevance to the proposed project

This law will govern the code of conduct of the proponent's and contractor's staff and provide repercussions of any wrong doing. Additionally, has a bearing on the requirement for mitigation of SEA and SH by the contractor.

3.3.10 The Children's Act, 2022

This Act protects the welfare of children within the Country. The Act identifies Children as a person below the age of 18 years old and protects them from exploitation.

Relevance to the proposed project

Section 10 of this Act protects a child from economic exploitation, any work that interferes with the child's education, or is harmful to the child's health or physical, mental, spiritual, moral or social development.

3.3.11 The County Government Act, 2012

The new constitution grants County Governments the powers to grant or to renew business licenses or to refuse the same. To ensure implementation of the provisions of the new constitution, the County Governments are empowered to make laws in respect of all such matters as are necessary or desirable for the maintenance of health, safety and well-being of the general public.

The Act gives provision to public participation in the county planning processes as specified in Sections 87, 97 and 115 and right to access private property at all times by the County Government officers and servants for inspection purposes.

Relevance to the proposed project

The Act gives right to access private property at all times by the County Government officers and servants for inspection purposes. Further, the County Governments Act (No. 17 of 2012) makes public participation a legal requirement in Kenya, ensuring that citizens are directly involved in county decision-making, budgeting, and development planning. It operationalizes Article 10 and Chapter 11 of the Constitution, which emphasize transparency, accountability, and inclusivity. Stakeholder engagement and consultations have been undertaken in the ESIA study as part of the ESIA study.

3.4 World Bank Operational Policies

The World Bank Operational Policies to be triggered include; OP 4.01 Environmental Assessment, and OP 4.11 Physical Cultural Resources.

3.4.1 Operational Policy (OP) 4.01: Environmental Assessment, 2001

Environmental Assessment is used in the World Bank to identify, avoid, and mitigate the potential negative environmental impacts associated with Bank lending operations. The purpose of Environmental Assessment is to provide guidance for environmental assessment of the World Bank financed projects, improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted. The drilling of shallow wells to newly constructed ablution blocks, falls under Category B, as the project impacts are anticipated to be specific to the project site and reversible with implementation of the proposed mitigation measures.

3.4.2. Operational Policy (OP) 4.11 – Physical Cultural Resources

The objective of this policy is to assist countries in preserving Physical Cultural Resources (PCR) and avoiding their destruction or damage. PCR are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, or other cultural significance. PCR may be located in urban or rural settings, and may be above ground, underground, or under water. The cultural interest may be at the local, provincial or national level, or within the international community. This policy applies to all projects requiring a category A or B environmental assessment, project located in, or in the vicinity of recognized cultural heritage sites. Physical cultural resources are important as sources of valuable scientific and historical information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. For projects involving substantial civil works a set of "chance find" procedures is to be developed and included into the contracts to be used in case of accidental discovery of cultural objects during construction. Although the improvements will not affect any cultural site as there isn't any around, care must be taken to ensure construction methods do not affect any site as there may be "chance finds" within the area, during drilling for which measures will be provided. In case any discoveries are made /or likely to be made, the contractor to immediately stop works temporarily and report the same to the concerned parties at Fort Jesus or other respective sites

3.4.4 World Bank Policy on Access to Information

The World Bank policy on access to information sets out the policy of the World Bank on public access to information in its possession. This Policy supersedes the World Bank

Policy on Disclosure of Information, and took effect on July 1, 2010. This Policy is based on five principles:

- Maximizing access to information
- Setting out a clear list of exceptions
- Safeguarding the deliberative process
- Providing clear procedures for making information available
- Recognizing requesters' right to an appeals process

In disclosing information related to member countries in the case of documents prepared or commissioned by a member country; the bank takes the approach that the country provides such documents to the Bank with the understanding that the Bank will make them available to the public. Additionally, the Bank has put in place a set of Environmental, Social, Health and Safety (ESHS) Enhancements for Standard Procurement Documents (SPDs) and Standard Bidding Documents (SBDs) which shall be applicable for all new works contracts for which the relevant SBD/SPD are used.

Table 4: Summary of World Bank Safeguard and Sustainability policies.

Safeguard and sustainability policy	Focus
OP/BP 4.01 Environmental Assessment	The Bank requires environmental assessment of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus improve decision making
OP 4.11 Physical Cultural resources	Since the sites are near a recognized conservation area, provide for chance find procedure by implementing contractor.
OP 4.12 Involuntary Resettlement	The site is free from PAPs and therefore no RAP issues
World Bank Policy on Access to Information	MOWASSCO shall share the report with the Bank and may disclose the same in MOWASSCO Website.

3.5 Institutional arrangements relevant to the project

The Environmental Management and Coordination Act, Cap 387 of the Laws of Kenya requires the involvement of lead agencies in the process of decision making by NEMA. Table 5 below summarizes the key institutional arrangement of the above legal framework.

Key institutional arrangements for implementation of the proposed project.

Institution	Role in proposed project
NEMA	- Issuance of EIA and Effluent Discharge Licenses - Inspections and monitoring compliance with license and approvals conditions - Protect public interests
National Construction Authority	- Clearance of contractors
Directorate of Occupational Health and Safety	- Registration of the facility as a workplace - Enforce compliance with OSHA, 2007
County Government of Mombasa	- Issuing a permit for development and use of the ablution block
Public Health Department	- Ensure proper sanitation for the public
Water Resources Authority	- Issuance of drilling and water abstraction permits
MOWASSCO	- Project proponent - Providing cost effective and affordable quality water and sanitation services - Implementing the ESMP

4 ENVIRONMENTAL AND SOCIAL IMPACTS IDENTIFICATION, ANALYSIS AND PROPOSED MITIGATIONS

4.1 Overview

The proposed project will have both socio-economic benefits and attendant negative environmental and social impacts. The purpose of the EIA process is to therefore systematically assess the value of the benefits against the environmental concerns and provide measures to avoid, prevent or reduce the magnitude of the impacts. The following section provides details on these impacts and proposed mitigation measures to address the identified negative environmental and social impacts. The mitigation measures are based on the underlying principle of EIA that everyone is entitled to a clean and healthy environment and a duty to enhance and safeguard the environment.

4.2 Positive impacts of the proposed project

The following are the positive impacts of the proposed project:

1. The proposed project will contribute to the goals of Kenya's Vision 2030.
The Government aims to increase access to sanitation services in the major urban centers and their suburbs, expanding access to the poor in underserved areas, including informal settlements, and strengthening sector institutions. The current proposal therefore is applicable as it will ensure improved access to sanitation in the project area in line with Vision 2030.
2. The proposed project will improve the overall health and sanitation in line with the sixth Sustainable Development Goal; Clean water and sanitation.
3. The proposed project is aligned with the World Bank's Kenya Country Partnership Strategy by supporting the strategic results areas through increasing access to sanitation services and addressing the challenges with the discharge of untreated wastewater.
4. Reduce strain on the existing sanitation infrastructure
The increasing population in Mombasa has a direct effect on the few/inadequate existing sanitary facilities. The digging of shallow wells to the newly constructed ablution blocks will provide more attractive sanitation facilities to meet the demand for the growing population in the project area.
5. Reduced pollution
Proper disposal of waste as in the case of use the ablution block as opposed to open defecation will reduce pollution on water sources particularly shallow wells and the environment in general.
6. The proposed project will improve the local economy by creating employment opportunities.
7. Source of income to the proponent and the government.

4.3 Anticipated negative environmental and social impacts of the proposed project

Alongside the positive impacts, several environmental and social impacts will arise at digging / construction, operation and decommissioning phases of the project cycle. These impacts will have to be mitigated appropriately so as to ensure environmental sustainability and the health and safety of all stakeholders.

4.4 Negative impacts at construction phase of the proposed project

4.4.1 Hazardous Wastes

Accidental oil and diesel spills would be caused by leaking of drums holding the diesel and oil that are stored on the site. The machines being used at the site could also cause oil spill especially if they are not well maintained. However, the occurrence of these wastes is expected to be minimal. Seepage of hydrocarbon products such as oils, grease and fuel if not carefully handled will result into contamination of land and washed off during wet conditions leading contamination of surface and ground water.

Mitigation Measures

1. Ensure that the drilling crew is aware of the procedures to be followed for dealing with spills and leaks;
2. Ensure that spills are immediately removed along with all contaminated material and stored awaiting disposal through a NEMA registered hazardous waste handler
3. Ensure that all contaminated material is stored in a banded area before being disposed;
4. Ensure that a suitable spill kit is available on site, to be applied to all contaminated areas that will absorb / breakdown the spills. The quantity of such materials shall be able to handle the total volume of the hydrocarbon stored on site; and
5. Ensure that all diesel and oil drums are stored in a banded area with the respective tags like “Danger” or its pictorial representation.
6. Caution to be observed when transporting diesel and oil to, from and within the site.
7. Ensure that there is always a supply of absorbent material such as saw dust on site during construction, readily available to absorb/breakdown spill from machinery or oil storage.

4.4.2 Air pollution

There is possibility that generated dust may affect the workers and the surrounding community members' health. Additionally, vehicle exhaust fumes are known to contain

Sulphur dioxide, Carbon Monoxide and hydrocarbons and together with dust generated constitute major pollutants which can affect air quality. Nitrogen Oxides, Sulphur dioxide, carbon monoxide, hydrocarbons and particulate matter (in this case dust) are listed as priority pollutants in Part I of the Second Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014. These may present respiratory diseases and cause eye irritation to workers, visitors to the proposed project site and the neighbours if it is in excess of the standards prescribed in the First Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2014.

Recommended mitigation measures

1. Sprinkle water at the project site to suppress dust
2. Ensure that delivery and offloading of construction materials and all construction activities are undertaken during the day between 8am -5pm
3. Procure, provide and enforce the use of dust masks to workers and visitors to the project site
4. Use serviceable machinery/equipment and trucks
5. Comply with the Provisions of Environmental Management and Coordination (Air quality) Regulations, 2014

4.4.3 Noise pollution

The delivery of building materials by lorries may lead to high levels of noise and vibration within the construction site and the surrounding area. The materials include cement, metal bars, and the overhead tanks. The noise levels produced may be above the stipulated EMCA limits and may have auditory effects and lead to hearing impairments to both the workers, visitors to the site and the neighbours. Construction sites such as some of the proposed project site which are near health facilities and institutions can only emit noise levels of up to 60 dB(A) during the day and 35dB(A) during the night as per the Second Schedule of the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009.

Recommended mitigation measures

1. Procure and provide adequate Personnel Protective Equipment such as earplugs to workers and visitors to the site
2. Service machinery and equipment regularly to ensure that they are in good condition
3. Delivery of raw materials, excavation and construction work will be limited to daytime hours i.e. between 8am to 5pm
4. Sensitize truck drivers to avoid unnecessary hooting and running of vehicle engines

5. Comply with the provisions of the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009

4.4.4 Solid waste generation

The preparatory and digging / construction activities will generate substantial quantities of solid wastes in form of biomass, overburden, domestic wastes and construction materials such as wood and metal cuttings, wrappings among others. Poor disposal of solid waste is an eye sore and can create breeding ground for disease vectors and pathogens. Spoil soil could be an eye sore once mishandled.

Recommended mitigation measures

1. Install sizeable colour coded waste receptacles at the site with a capacity for waste segregation
2. Designate an area for disposal of solid wastes
3. Sensitize construction workers on the proper disposal and management of solid wastes.
4. Recycle and reuse the materials
5. Procure the services of a NEMA licensed waste handler to dispose off the solid wastes from the construction activities
6. Comply with the provisions of the Environmental Management and Coordination (Waste Management) Regulations, 2024
7. Manage spoil soil carefully by allowing it to dry and use as land fill materials to backfill areas of need or within the neighbourhood

4.4.5 Wastewater generation

At excavation and construction, water will be required by the drillers for drinking, cleaning, dust management and sanitation purposes resulting in an increased demand for water. Water for construction purposes will be sourced from the reticulated supply by Mombasa Water Supply and Sanitation Company Limited (MOWASSCO) and supplemented by the proposed boreholes. The proposed project is expected to use some litres of water daily for these activities, 70% of which will be disposed off as effluent. The workers at the site will also generate faecal wastes during their day to day operations. The generated waste needs proper handling to prevent diseases, such as cholera, typhoid and diarrhoea outbreak on the site. Poor disposal of the wastewater can prove to be an environmental/health hazard as it can also pollute underground aquifers.

Recommended mitigation measures

1. Procure and deliver mobile toilets to the project site for the workforce for men and women.
2. Sensitize the workforce on the need to conserve the available water resources

3. The proponent should obtain an EIA license for the proposed borehole prior to drilling commencement
4. The proponent should apply for and obtain a permit to drill and abstract water from Water Resources Authority
5. Ensure excavation of the toilets does not exceed the ground water level
6. Comply with the provisions of the Environmental Management and Coordination (Water Quality) Regulations, 2024.
7. Route the wastewater from test pumping via temporary flexible hoses directly into the nearest municipal concrete storm drain.
8. Ensure the drain is clear of debris beforehand to avoid causing localized flooding on public roads.

4.4.6 Occupational safety and health risks

During drilling / construction activities, it is expected that the construction workers may encounter Machinery operations from drilling equipment, construction activities and pollution are likely to expose the workforce, visitors and the general public to health and safety risks. These have a potential to cause injury, permanent disability or even death. Excessive heat stress has profound effects on physiological responses, which cause occupational injuries, fatalities and low productivity. Drillers, Construction workers are particularly affected by heat stress, because of the body heat production caused by physically demanding tasks, and hot and humid working conditions.

Recommended mitigation measures

1. Register the site as a workplace with the Directorate of Occupational Safety and Health Services (DOSHS)
2. Hoard the site to restrict access to unauthorized people.
3. Mandate safety helmets and harnesses for diggers; use heavy-duty, inspected ropes and pulleys for lifting soil.
4. Provide a fully equipped first aid box, first aid services and emergency vehicle at the site
5. Procure and install warning and safety signage along the access road to forewarn other road users of the impending construction works
6. Implement the provisions of the Occupational Safety and Health Act, 2007
7. A task Job Hazard Analyses should be carried out for the excavation works.

4.4.7 HIV / AIDS impacts

During the excavation / construction phase, there might be migration of people from different regions which will increase social risks such as increased illicit behaviour and crime, increased risk in the spread of diseases such as HIV/AIDS, sexually transmitted infection and communicable diseases.

Recommended mitigation measures

1. Sensitize workers and the community on awareness, prevention and management of HIV / AIDS through staff training, awareness campaigns, multimedia, and workshops or during Barazas
2. Use existing clinics to provide Voluntary Counselling and Testing services to drillers / construction crew and provision of Antiretroviral for vulnerable community members
3. Provide quality condoms to the personnel on site
4. Restrict access to the project site by outsiders
5. Enforce and maintain a code of conduct for the construction employees

4.4.8 Gender equality and sexual harassment

The construction industry is the most male-dominated sector and thus there is need to promote gender equality during the construction phase of the proposed project. Women roles in construction are mainly confined to supply of unskilled labour and vending of foodstuffs to the construction workers. Additionally, there are cases of unwanted physical contact, biased treatment and other forms of sexual harassment in a workplace. This leads to firing and/ threats after one has rebuffed the unwanted advances from the employer or fellow employees.

Recommended mitigation measures

1. Mainstream gender inclusivity in hiring of workers as required by the National Gender and Development Policy 2000 and the two-third gender rule
2. Prepare and implement a Gender Action Plan
3. Enforce a No Sexual Harassment and Non-Discrimination Policy, in accordance with national law as well as the World Bank Code of Conduct guidelines
4. Implement the provisions of the Sexual Offences Act, 2006 and prevent GBV completely

4.4.9 Child labour and protection

The Children's Act of Kenya prohibits contractors from employing children in a manner that is economically exploitative, hazardous, and detrimental to the child's education, harmful to the child's health or physical, mental, spiritual, moral, or social development. It also highlights the importance of being vigilant towards potential sexual exploitation of children, especially young girls.

Recommended mitigation measures

1. Ensure no children are employed on site in accordance with National Labour Laws

2. Ensure that any child sexual relations offenses among the workers are promptly reported to the police
3. Adopt a Child Protection Code of Conduct that all workers will sign, committing themselves towards protecting children.

4.4.10 Traffic congestion

The drilling rig and associated Heavy Commercial Vehicles delivering raw materials to the project site will interfere with the normal traffic flow along the access roads.

Recommended mitigation measures

1. Erect signage and warnings on the feeder roads to forewarn other road users on the use of the road by Heavy Commercial Vehicles.
2. Offload construction materials on the site and not on the road reserves
3. Sensitize drivers to observe the speed limit of 20 KPH along the access road.

4.5 Negative impacts at operational phase of the proposed project

4.5.1 Wastewater generation

During operation, water will be used for purposes of sanitation and general cleaning. The proposed source of water will be from the rationed reticulated supply from MOWASSCO and supplemented by the proposed boreholes. It is estimated that on average, a user spends 5 minutes in the facility. Thus, for a single facility with 6 toilets and 10 hours of operation in a day, a maximum number of 720 persons can be served in a day. The effluent to be generated therefore is approximately at about 10,780 litres which translates to 70% of the total amount of water to be consumed daily. To manage the effluent generated, the proponent proposes connect to the central sewerage system sites such as Makadara grounds, PHD and Fire station or to use a septic tanks/ bio-digestors in the rest of the areas. Poor disposal of wastewater has the potential to pollute surface and ground water and can harbor disease causing pathogens and vectors such as mosquitoes.

Recommended mitigation measures

1. The proponent should obtain an EIA license for the shallow wells from NEMA
2. Apply for and obtain a permit to abstract water from Water Resources Authority
3. Install water closets that use minimal amounts of water
4. Install a bio-digester to manage effluent from the facilities
5. Contract a NEMA licensed laboratory to undertake quarterly monitoring of the quality of wastewater discharging from the bio-digester to ascertain compliance with legal standards
6. Apply for and obtain an Effluent Discharge License from NEMA pursuant to the provisions of Environmental Management and Coordination (Water Quality) Regulations, 2024 after obtaining the EIA License

7. Comply with the Environmental Management and Coordination (Water Quality) Regulations, 2024.

5.5.2 Air pollution

The main source of air pollution during operations will emanate from odours from the sanitary facilities. These odours are caused by release of sewer gases such as Hydrogen Sulphide, Ammonia, Carbon Monoxide, Sulphur Dioxide and Nitrogen Oxides that are released from breakdown of waste material. These odours will be an irritant and affect the general public, causing temporary symptoms such as headache and nausea.

Recommended mitigation measures

1. Install the Asian type of toilets at the facility as they are easier to manage
2. Ensure that there is a constant supply of water in the ablution block for flushing
3. Schedule regular clean ups for the ablution block. The clean ups should intensify during the when the number of visitors is more
4. Conduct quarterly monitoring and analysis of air quality at the proposed site to ensure that the odour emissions comply with the ambient air quality limits set out in the First Schedule of the Environmental Management and Coordination (Air Quality) Regulations, 2024
5. Comply with the provisions of the Public Health Act, 2012

4.5.3 Potential health hazards

The sanitary facilities are highly dependent on a continuous supply of water to maintain proper hygiene conditions. Poor hygiene practices especially in the ablution block can lead to potential health hazards and outbreak of diseases such as cholera due to cross contamination among the cleaners and maintenance staff.

Recommended mitigation measures

1. Conduct regular medical surveillance and check-ups
2. Provide new PPE to the cleaners and operations and maintenance staff
3. Schedule regular and timely clean ups of the ablution block
4. Install soap dispensers and emphasize good personal hygiene habits such as hand washing
5. Display personal hygiene posters to create awareness on good hygiene practices

4.5.4 Over abstraction of ground water causing ground subsidence and salt water intrusion

- i. **Use monitoring boreholes around the wells.**
 - ❖ Controlled Pumping Rates
 - ❖ Set maximum daily abstraction limits based on aquifer recharge capacity.

- ❖ Rotate pumping schedules to allow natural replenishment.
- ❖ All the wells should be metred and fees paid to WRA as per Water Regulations.
- ii. **Community Management Structures**
 - ❖ Train communities on sustainable water use practices.
- iii. **Alternative Water Sources**
 - ❖ Promote rainwater harvesting and storage tanks to reduce reliance on shallow wells.
 - ❖ Encourage use of piped water where available.
- iv. **Policy & regulation Enforcement.**
 - ❖ County Government and Water Resources Authority (WRA) should enforce permits and abstraction quotas.
 - ❖ Penalize illegal or excessive pumping.
- v. **Water wastage minimisation**
 - ❖ Use of pour and flash mechanisms instead of flushing water.
 - ❖ Monitoring leaks and fixing leaky pipes promptly.
 - ❖ Install low flow water fixtures.

5.0 ANALYSIS OF PROJECT ALTERNATIVES

5.1 Introduction

The analysis of alternatives is a fundamental component of an Environmental and Social Impact Assessment (ESIA). It evaluates the range of feasible options available to achieve the project objectives and identifies the most environmentally sound, socially acceptable, and technically viable course of action. This chapter examines four alternatives in relation to the proposed development of shallow wells on Mombasa Island: the No Project Alternative, Alternative Sites, Alternative Sources of Water, and the Preferred Alternative. The evaluation is informed by hydrogeological, socio-economic, and environmental considerations specific to Mombasa Island's coastal urban context.

Mombasa Island faces persistent water stress driven by rapid urbanization, an overburdened piped water network, and limited groundwater exploitation at the community level. The proposed shallow wells are intended to supplement water supply for ablution blocks, and improve household hygiene and sanitation outcomes.

5.2 No Project Alternative

The No Project Alternative considers the scenario in which the proposed shallow wells are not developed and the current situation is maintained. Under this alternative, the newly constructed ablution blocks will not be commissioned. Consequently the city's population will miss the access to clean ablution blocks. The existing piped water network on Mombasa Island suffers from significant supply intermittency, ageing infrastructure, high non-revenue water losses, and unequal coverage across neighbourhoods.

The No Project Alternative is not recommended. The socioeconomic, public health, and environmental costs of inaction outweigh any benefit derived from avoiding project-related impacts, particularly given that the proposed shallow wells are designed with protective and management measures to minimise environmental risk.

5.3 Alternative Sites

The Alternative Sites analysis examines the possibility of developing shallow wells at locations other than those identified in the proposed project. This consideration is necessitated by the confined geographic and hydrogeological context of Mombasa Island, where not all areas offer favourable conditions for safe, sustainable groundwater abstraction.

Each shallow well is tied to a newly constructed ablution block for proximity and minimal reticulation costs. Thus alternative sites are not viable.

5.4 Alternative Sources of Water

This section evaluates alternative water supply technologies and sources that could serve the same communities targeted by the proposed shallow wells. The alternatives considered include extension of the piped municipal supply, rainwater harvesting, desalination of seawater or brackish groundwater, and deep borehole abstraction.

i. Extension of Piped Municipal Supply

Expanding the piped network to improve coverage and supply reliability in underserved areas is a technically straightforward option in principle. However, the existing network is already operating beyond its designed capacity, with persistent losses attributed to ageing pipes and illegal connections.

ii. Rainwater Harvesting

Rooftop rainwater harvesting is a viable supplementary water source in coastal Kenya, where seasonal rainfall is relatively predictable (long rains: March–May; short rains: October–December). However, Mombasa Island's average annual rainfall of approximately 1,000–1,200 mm is distributed unevenly across the year, creating prolonged dry periods during which harvested storage would be insufficient to meet ablution blocks demands. Storage tank infrastructure requirements are significant. Rainwater harvesting is best considered a household-scale supplement rather than a community water supply solution.

iii. Desalination

Seawater or brackish groundwater desalination using reverse osmosis (RO) technology is technically feasible on Mombasa Island given its coastal location. Desalination has been deployed at scale in parts of Mombasa County, including small-scale plants serving resort hotels and some industrial users. However, the capital and operational costs of desalination are considerably higher than shallow well development, energy consumption is intensive, and brine disposal in a sensitive coastal marine environment raises significant environmental concerns. The technology also requires trained operators and reliable electricity supply — conditions that cannot be consistently. Desalination is therefore not recommended as the primary water supply solution for the target communities at this stage.

iv. Deep Boreholes

Deep boreholes tapping confined aquifers below the freshwater-saltwater interface could yield higher-quality water with reduced contamination risk compared to shallow wells. However, deep drilling on Mombasa Island is geologically complex and expensive, and the yield of deep aquifers in this coral and limestone geology is not well characterised. Pumping costs are significantly higher, and the infrastructure requirements for a deep borehole scheme — including submersible pumps, elevated storage, and distribution networks — exceed the scope and budget.

None of the alternative water sources individually offers the combination of low cost, technical simplicity, community proximity, and implementation speed that shallow wells provide. Alternative sources may play a complementary role in a diversified water supply strategy for Mombasa Island but do not constitute feasible primary alternatives to the proposed project within the current scope and resource envelope.

5.5 Preferred Alternative

Following the systematic evaluation of the No Project Alternative, Alternative Sites, and Alternative Water Sources, the development of shallow wells at the proposed locations on Mombasa Island emerges as the preferred alternative. This conclusion is supported by the convergence of several favourable factors across technical, environmental, social, and economic dimensions.

i. Technical and Hydrogeological Justification

The proposed well sites have been selected on the basis of hydrogeological surveys confirming the presence of a viable freshwater lens at accessible depths. Shallow well technology is well established and has been successfully deployed in comparable coastal urban environments across East Africa. The technology is appropriate to the scale of the intervention, does not require complex operational expertise, and can be maintained by trained community water management committees with periodic support from county technical staff. Provided that abstraction rates are controlled within the safe yield of the aquifer and protective infrastructure is installed, the wells can deliver reliable water supply over a sustained period.

ii. Environmental Justification

The proposed shallow wells, when developed in accordance with the ESIA recommendations, carry manageable environmental impacts. The most significant risks — saltwater intrusion and groundwater contamination — are addressed through site-specific design measures including sanitary setbacks, sealed casings, wellhead protection zones, and ongoing water quality monitoring. The overall environmental footprint of shallow well development is considerably lower than that of desalination or large-scale piped infrastructure expansion.

iii. Social and Economic Justification

The development of shallow wells represents an appropriate and cost-effective intervention to meet the water requirements of ablution blocks on Mombasa Island. Their proximity to points of use ensures reliable access, significantly reducing the time and effort traditionally expended by women and children in water collection. Compared to alternatives such as piped extensions or desalination, shallow wells deliver water at a substantially lower cost per beneficiary, thereby maximizing equity in resource allocation. Furthermore, the integration of community participation in well management fosters local ownership, enhances maintenance outcomes, and strengthens resilience in water supply governance, making shallow wells a sustainable solution for improving public health and sanitation in vulnerable communities.

6 CONSULTATION AND PUBLIC PARTICIPATION

6.0 Stake Holder Engagement

Public consultations were undertaken in the form of public meetings held in various locations with minutes attached in Appendix V. Several meetings were held at the following locations within Mvita Sub County of Mombasa County:

The first meeting was held at Mwembe Tayari area Chief's Office and chaired by Mr. Musa Mohamed the area Senior Chief Mwembe Tayari covered three sites namely PHD, Makadara grounds and MOWASSCO headquarters. This meeting was held on 10th December 2025 and attended by 24 people of which 10 female and 14 male. The meeting noted that several environmental and social impacts will arise at different phases of the project cycle. At the construction phase, the main negative impacts will include environmental risks such as noise pollution, wastewater generation, occupational safety and health risks HIV/Aids, gender equality and sexual harassment, child labour and protection. In mitigation, the contractor to grease machines, adhere to the National Policy on Gender and Development 2019 and the two third gender rule, prepare and implement the gender action plan, enforce a No-Sexual harassment and non-discrimination policy to cater for youth and women

The second meeting was held at Fort Jesus and chaired by the Principal Curator, National Museums of Kenya Arch. Fatma Twahir on 11th December 2025 and attended by 11 people of which three ladies and eight men. This meeting covered two site namely Fort Jesus and County Court. The initial arrangement was to drill two shallow wells in Fort Jesus, however after the stakeholder engagement, members were informed that the sea wall area was on reclaimed land and that NMK are reluctant to make approval on the same. There is an existing shallow well on site that requires cleaning, test pumping to determine yield and equipping of the existing well with the appropriate electromechanical sets. No new shallow well will be drilled on site. Members concurred that no severe environmental impacts were envisaged. On the County Court site, drilling will be done, and members cautioned against excessive noise and vibrations. The meeting proposed that the contractor to grease his machines and firmly anchor vibrating equipment to minimise excessive noise and vibration.

Once any archaeological items are encountered the project will halt and necessary chance find procedures to be adhered to. The meeting agreed that County Court was also inside the conservation area. Hence similar procedures to be adhered to. Members agreed a joint working group involving all technical experts, engineers, and conservationist spear head the process. A WhatsApp group will accelerate communication. Nobody objected to the digging of the County court shallow well. The meeting adjourned at 3:00pm

The third meeting was held at Tudor Chief's office and covered Tudor Manyimbo and fire station site on 17th December 2025. The meeting was chaired by the area chief Ms. Mwaka S. Babu, and attended by 15 people of which 5 female and 10 male. Main concerns included environmental concerns like waste management, occupational safety and health risk, HIV / AIDS impacts, gender equality and sexual harassment, child labour and protection. To mitigate this, the contractor in charge of the proposed project is required to provide sanitary convenience for workers, implement recycling and reuse, and provide appropriate PPEs. The contractor to strictly adhere to the National gender and development policy 2000 and the two third gender rule, prepare and implement the gender action plan, enforce a no-sexual harassment and non. Discrimination policy to cater for youth and women.

There were also interviews with Key Informants from relevant Lead Agencies as shown in the table below:

	NAME	DESIGNATION	INSTITUTION
1	Mohamed M. Musa	Area Senior Chief	Mwembe Tayari Location
2	Ms Mwaka S. Babu	Area Chief	Tudor
3	Fatma Twahir	Principal Curator	NMK (Fort Jesus)
4	Ali Mwarora	Administrative Officer	NMK (Fort Jesus)
5	Halleem Hassan	ICT Officer	NMK (Fort Jesus)
6	Philip Wanyama	Researcher	NMK (Fort Jesus)
7	Tedayson Loma	P.R.O	NMK (Fort Jesus)
8	Kipkosgey Daniel	I O W	NMK (Fort Jesus)
9	Cornelius Mulama	IOW	NMK (Fort Jesus)

6.1 Grievance Redress Process

A grievance Redress Mechanism (GRM) is presented below to ensure the project's social and environmental safeguards are adhered to. The purpose of the GRM is to record and address any complaints that may arise during the implementation phase of the project. The GRM is designed to address concerns and complaints promptly and transparently

with no impacts (cost, discrimination) on project affected persons. The GRM works within existing legal and cultural frameworks, providing an additional opportunity to resolve grievances at the local, project level.

The key objectives of the grievance redress mechanism are:

- Record, categorize and prioritize the grievances;
- Settle the grievances via consultation with all stakeholders (and inform those stakeholders of the solutions)
- Forward any unresolved cases to the relevant authority.

As the GRM works within existing legal and cultural frameworks, the grievance redress mechanism will have community, project and judiciary level redress mechanisms.

6.2 Grievance Redress Mechanism

Local communities and stakeholders may raise a grievance at all times to the MOWASSCO or County representatives on site and to the area chiefs. The complainants should be informed about this possibility and contact information of the respective organizations at relevant levels should be made available. Many of the factors that may give rise to conflict between complainants and proposed project investments can be a source of conflict with non-complainants as well. These include:

- Inadequate engagement or decision-making processes
- Inequitable distribution of benefits
- Broken promises and unmet expectations of benefits
- Failing to generate opportunities for employment, training, supply or community development
- Environmental degradation
- Disruption to amenities and lifestyle
- Loss of livelihood
- Violation of human rights
- Social dislocation

In addition, however, there are some contextual factors that have particular salience for vulnerable and marginalized people and their relations with project investments. For example, a lack of respect (perceived or actual for indigenous customary rights or culture, history and spirituality), is likely to trigger a strong reaction. Similarly, issues around access to and control of land and the recognition of sovereignty are very important for many indigenous people and can lead to serious conflict if they are not handled sensitively and with due respect for the rights of affected groups.

6.3 Grievance Log

Documentation of complaints and grievances is important, including those that are communicated informally and orally. These should be logged, assessed, assigned to an individual for management, tracked and closed out when resolved. Records provide a way of understanding patterns and trends in complaints, disputes and grievances over time.

The log will contain a record of the person responsible for an individual complaint, and record dates for the following events:

- i. Date the complaint was reported;
- ii. Date the grievance log was uploaded onto the project database;
- iii. Date information on proposed corrective action sent to complainant (if appropriate);
- iv. The date the complaint was resolved

A sample grievance redress form is included in Appendix D of this report.

Once parties agree on a path forward – such as an apology, compensation or an adjustment to operations – an action plan should be formalized and implemented. Depending on the issue, responses may vary from a single task to a program of work that involves different parts of the operation. Effective responses will also include engagement with parties involved to ensure that the response continues to be appropriate and understood.

6.4 Organisation Structure for Conflict Resolution

It is recommended that the proposed GRM include members of the local administration, representatives of project affected persons from all locations affected by project activities as well as local and external professionals.

The GRM for the project has been divided into three levels. Level one involves local committee while level 2 involves county committee. Level three of grievance redress mechanism involves project committee as discussed below.

6.4.1 Level One: Local Committee

A committee consisting of the following members will be formed to address grievances at the local level

- i. Chairman: Area Chief
- ii. Secretary: Assistant Chief
- iii. Members: Three PAP representatives consisting of a man, a woman and a youth (18-30 years)

This committee will sit at the office of the Area Chief. The following procedure for registering grievances at this level is as follows:

- i. A PAP registers a grievance and within one working day, the committee members are alerted of the case
- ii. The affected person is immediately informed on the next date of the scheduled hearing. Depending on the case load, a maximum of seven working days will be given between the date that a case is recorded and the date when the hearing is held
- iii. The committee will meet once every seven calendar days to deal with emerging cases. At these meetings, hearings with the affected persons and related witnesses will be held
- iv. The committee will communicate its judgement to the affected person within three working days after conclusion of hearings
- v. If no resolution is met or the PAP is not satisfied with the judgement, the case is moved to the next level by the committee. This will be done within five days of the hearing
- vi. If the PAP is not satisfied with the judgement, he/ she will be allowed to move the case to the next level

6.4.2 Level Two: Sub-County Committee

Some grievances may require calls for witnesses, unbiased parties or technical evaluations prior to proposing solutions. Local mechanisms may not have the capacity to meet all these requirements and would therefore require some form of support. A county level committee constituted of the following members has therefore been proposed

- i. Respected opinion leader in the community such as a religious leader or community elder
- ii. Deputy County Commissioner
- iii. Members: Three PAP representatives consisting of a man, a woman and a youth

This committee will be chaired by the opinion leader but the proposed secretary is the representative from the PAPs. The committee will sit once a month at the County government office. The following procedure for committee deliberations has been proposed

- i. A grievance is forwarded from the local level committee and lodged at the County Government office. This includes cases forwarded from the local committee level;
- ii. Within five working days, a notice is sent out to all interested parties informing them of the date of the hearing;
- iii. Prior to the hearing, the chairman and the secretary will determine the need for an arbiter and invite them to the hearing;

- iv. A hearing will then be held within twenty days of the grievance being raised;
- v. In cases where an arbiter is required, the committee ruling is final. The complainant shall however be made aware of the fact early prior to commitment to the arbiter;
- vi. The ruling of the hearing shall be communicated within three working days.
- vii. Disputes that cannot be resolved at this level will be forwarded by the committee to the next level within five working days.

6.4.3 Level Three: Project Committee

Some grievances may also occur that are outside of the direct control of the county committee and would require intervention at national or county level. These include disputes that require policy interpretation or investigations prior to conclusive resolution. In such cases, the committee may require legal interpretation on certain aspects. A project level committee constituted of the following members has therefore been proposed.

- i. Chairman: Chief Executive, Lands Housing and Urban Development
- ii. Secretary: Deputy County Commissioner
- iii. A specially delegated representative from MOWASSCO
- iv. Members: Three PAP representatives consisting of a man, a woman and a youth.

This committee will sit once in three months at the County Government office. The following procedure is proposed for committee deliberations:

- i. A grievance is lodged at the County Government office and within five working days, a notice is sent out to all the interested parties informing them of the date of the hearing. This includes cases forwarded from the county committee level
- ii. A hearing will then be held within thirty days of the grievance being raised
- iii. In the event that the investigations and technical witnesses are required, a maximum of three calendar days will be taken prior to a hearing being held
- iv. The committee decision will be communicated in writing within five days of the date of hearing
- v. If the committee does not resolve an issue, the affected persons are free to go to the Environment and Land Court

Considering the various levels of decision making required at this stage, it is proposed that the final decision from this committee be communicated within three months. If unresolved within 3 months, the grievance can be escalated to higher authorities or external mechanisms (e.g., judicial systems or the World Bank's Grievance Redress Service). The aggrieved party can seek legal redress at his/her own cost if they are not satisfied with the outcomes.

7 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

7.1 Introduction

The preceding section has analysed and identified the potential environmental and social impacts of the proposed shallow wells to the new ablution blocks as well as the proposed mitigation measures to address the impacts. Under this section, we propose three Environmental and Social Management Plans (ESMPs) to guide the proponent in implementing the mitigation measures. These are ESMPs for the construction, operational and decommissioning phases of the project. Each of the ESMP is organized into five sections comprising of the environmental impact, the recommended mitigation measures, responsibility, timeframe and budget. The strategies for mitigation include preventing the impact from occurring in the first place, minimizing the impact and taking corrective action where impact occurs among others.

7.2 Environmental and Social Management Plan for construction phase

For the construction phase ESMP (Table 7), the main environmental issues include, air pollution, noise pollution, solid waste generation, water demand and wastewater generation, occupational safety and health risks, HIV/AIDS impacts, gender equality and sexual harassment, child labour and protection, traffic congestion and socio-economic impacts. The ESMP will be part of the bidding documents so that the contractor can budget for the compliance. Further the contractor will be required to prepare a Contractor Environmental and Social Management Plan (C-ESMP) .

7.3 Environmental and Social Management Plan for operational phase

At the operational phase of the project (Table 8), major environmental concerns will be wastewater generation, air pollution, potential health hazards, solid waste generation, fire risks and emergencies and dilapidated infrastructure. The timeframe for implementation is considered to be time the ablution block will be in operation.

7.4 Environmental and Social Management Plan for decommissioning phase

The decommissioning ESMP is important in the event the facility is shut down by government agencies and/or an order by a court of law due to non-compliance with the existing regulations and natural calamities. The key issues at this phase will be loss of livelihood for the service staff, solid waste generation, safety and health risks and loss of sanitation facility (Table 9).

Table 7: Environmental and Social Management plan for the construction phase of the proposed shallow wells to ablution blocks.

Environment al concerns	Recommended mitigation Measures	Implementi ng party	Timeframe	Cost (KES)
Environmental risks of sourcing raw materials	Source raw materials from sites that are EMCA compliant	Proponent/ Contractor	Prior to commencement	Nil
	Procure materials in line with the Bill of Quantities		Prior to commencement	In project costs
	Re-use and recycle construction materials where practical		Continuous	Nil
Destruction of the physical environment	Ensure proper demarcation and delineation of the project area	Proponent/ contractor	Prior to commencement	Nil
	Plant indigenous trees within the project site		During construction	500,000
	Retain vegetation cover in areas that will not be developed		During construction	Nil
Air pollution	Sprinkle water at the project site to suppress dust	Proponent/ contractor	During construction	In project costs
	Delivery of raw materials, excavation and construction work will be limited to daytime hours i.e. between 8am to 5pm		During construction	Nil
	Procure, provide and enforce the use of dust masks to workers and visitors to the project site		Throughout construction	In project costs
	Use serviceable machinery/equipment and trucks		During construction	Nil
	Comply with the Air quality Regulations, 2014		During construction	Nil
Noise pollution	Procure and provide adequate earplugs to workers and visitors to the site	Proponent/ contractor	During construction	In project costs
	Service machinery and equipment regularly to ensure that they are in good condition		At project commencement	Cost factored

Environment al concerns	Recommended mitigation Measures	Implementi ng party	Timeframe	Cost (KES)
	Delivery of raw materials, excavation and construction work will be limited to daytime hours		During construction	Nil
	Sensitize truck drivers to avoid unnecessary hooting and running of vehicle engines		During construction	Nil
	Comply with the Noise and Excessive Vibration Pollution (Control) Regulations, 2009		During construction	Nil
Spoil Soil	Allow spoil soil to dry/ dehydrate and use as landfill to nearby depressions	Contractor	During construction	Nil
Solid waste generation	Install waste receptacles with a capacity for waste segregation	Proponent/ contractor	During construction	20,000
	Designate an area for disposal of solid wastes		Prior to commencement	Nil
	Sensitize construction workers on the proper disposal and management of solid wastes		During construction	Nil
	Recycle and reuse the materials		During construction	Nil
	Procure the services of a NEMA licensed waste handler to dispose off the solid wastes		During construction	10,000
	Comply with the Waste Management Regulations, 2006		During construction	Nil
Water demand and wastewater generation	Procure and deliver mobile toilets for the workforce for all genders	Proponent/c ontractor	During construction	30,000
	Sensitize the workforce on the need to conserve the available water resources	Proponent/c ontractor	During construction	Nil
	Obtain an EIA license for the proposed borehole	Proponent	Prior to commencement	Tender

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
	Apply for and obtain a permit to drill and abstract water from WRA	Proponent	Prior to commencement	5,000 application
	Ensure excavations does not exceed the ground water level	Proponent/contractor	During construction	Cost factored
	Comply with the Water Quality Regulations, 2006	Proponent/contractor	During construction	Nil
Occupational safety and health risks	Register the site as a workplace with DOSHS	Proponent/contractor	During construction	5,000 application
	Hoard the site to restrict access to unauthorized people		Prior to commencement	30,000
	Provide clean safe drinking water for the workforce		During construction	1,000 daily
	Provide adequate and enforce the use of PPE made of cotton		During construction	Cost factored
	Provide employees with correct tools and equipment for the jobs assigned and trained on their use		During construction	100,000
	Secure moving parts of machines and sharp surfaces	Proponent/contractor	During construction	Cost factored
	Provide a fully equipped first aid box, first aid services and emergency vehicle at the site	Proponent	During construction	50,000
	Procure and install warning and safety signage along the access road to forewarn other road users	Proponent	During construction	30,000
	Comply with the Occupational Safety and Health Act, 2007	Proponent/contractor	Continuous	Nil

Environment al concerns	Recommended mitigation Measures	Implementi ng party	Timeframe	Cost (KES)
HIV/AIDS impacts	Sensitize workers and the community on awareness, prevention and management of HIV / AIDS through awareness campaigns etc.	Proponent/ Contractor	During construction	20,000
	Use existing clinics to provide VCT services to construction crew and provide ARVs for vulnerable community members	Local CBO	During construction	Nil
	Provide quality condoms to the personnel on site		During construction	10,000
	Restrict access to the project site by outsiders		During construction	Nil
	Enforce and maintain a code of conduct for the construction employees		During construction	Cost factored
Gender equality and sexuality harassment	Mainstream gender inclusivity in hiring of workers	Proponent/c ontractor	During construction	Cost factored
	Prepare and implement a Gender Action Plan		During construction	Cost factored
	Enforce a No Sexual Harassment and Non-Discrimination Policy		During construction	20,000
	Implement the provisions of the Sexual Offences Act, 2006		During construction	Nil
Child labour and protection	Ensure no children are employed on site	Proponent/c ontractor	During construction	Nil
	Ensure that any child sexual relations offenses among the workers are promptly reported to the police	Proponent/c ontractor	During construction	Nil
	Adopt a Child Protection Code of Conduct	Proponent/c ontractor	During construction	Cost factored
	Comply with the set National Government and County Government Directives and guidelines	Proponent/c ontractor	During construction	Nil

Environment al concerns	Recommended mitigation Measures	Implementi ng party	Timeframe	Cost (KES)
Traffic congestion	Erect signage and warnings on the road to forewarn other road users on the use of the road by Heavy Commercial Vehicles	Proponent	During construction	30,000
	Offload construction materials on the site	Proponent/c ontractor	During construction	Nil
	Sensitize drivers to observe the speed limit of 20 KPH along the access road	Proponent/c ontractor	During construction	Nil
Socio- economic impacts	There will be no loss of livelihoods	Proponent/c ontractor	During construction	Nil
Cultural impacts	Use chance find procedures	Proponent/c ontractor	During construction	TBD

Table 8: Environmental and Social Management plan for the operation phase of the proposed Shallow wells to ablution block.

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
Wastewater generation	Obtain an EIA license for the shallow well borehole from NEMA through payment via ecitizen	Proponent	Prior to commencement	Standard
	Apply for and obtain a permit to abstract water from WRA	Proponent	Prior to start of operations	5,000 application
	Install water closets that use minimal amounts of water	Proponent	Prior to start of operations	Cost factored
	Undertake monitoring of the quality of wastewater discharging from the bio-digester	Proponent	Quarterly	60,000

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
	Apply for and obtain an Effluent Discharge License	Proponent	Annually	5,000 application
	Comply with the Water Quality Regulations, 2006	Proponent	Continuous	Nil
Air pollution	Install the Asian type of toilets	Proponent	Prior to start of operations	Cost factored
	Ensure constant supply of water in the ablution block for flushing	Proponent	Prior to start of operations	Nil
	Schedule regular clean ups for the ablution block	Proponent	During operations	TBD
	Comply with the Air Quality Regulations, 2014	Proponent	Continuous	Nil
	Comply with the Public Health Act, 2012	Proponent	Continuous	Nil
Potential health hazards				
	Provide new PPE to the cleaners and operations and maintenance staff	Proponent	Continuous	Cost factored
	Schedule regular and timely clean ups of the ablution block	Proponent	Continuous	TBD
	Install soap dispensers and emphasize good personal hygiene habits	Proponent	During operations	50,000
	Display personal hygiene posters to create awareness on good hygiene practices	Proponent	During operations	50,000
Solid waste generation	Sensitize the public on proper solid waste management practices	Proponent	Continuous	Nil
	Utilize of the waste collection bins	General public	Continuous	Nil
	Contract a NEMA licensed waste handler to dispose the solid waste	Proponent	Continuous	Tender

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
	Comply with the provisions of Environmental Management and Coordination (Waste Management) Regulations, 2006	Proponent	Continuous	Nil
Fire risks and emergencies	Provide suitable and adequate fire-fighting equipment and train few individuals among the facility attendants on their use	Proponent	At start of operation	15,000
	Designate a fire assembly point	Proponent	At start of operation	Nil
	Create awareness on fire safety	Proponent	Continuous	10,000
	Undertake fire drills, inspections and maintenance of electrical installations	Proponent	Quarterly	10,000
Dilapidated infrastructure	Undertake scheduled and timely repairs and maintenance of the ablution block by qualified personnel	Proponent	Continuous	TBD

Table 9: Environmental and Social Management plan for the decommissioning phase of the proposed shallow wells to ablution block.

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
Loss of livelihood	Comply with labour laws by paying the employees their terminal dues	Proponent/ contractor	Prior to decommissioning	To be determined
Waste generation	Recover re-usable materials for sale	Proponent/ Contractor	During decommissioning	Nil
	Contract a NEMA licensed waste handler to handle and dispose solid waste	Proponent/ Contractor	Prior to decommissioning	Quotation

Environmental concerns	Recommended mitigation Measures	Implementing party	Timeframe	Cost (KES)
	Comply with the Waste Management Regulations, 2006 and the Water Quality Regulations, 2006	Proponent/contractor	Throughout demolition	Nil
	Comply with the Water Quality Regulations, 2006	Proponent/contractor	Throughout demolition	Nil
Safety and health risks	Install signage to forewarn people on the ongoing demolition activities	Proponent/Contractor	During decommissioning	30,000
	Provide and enforce the use of PPE throughout the demolition works		Throughout decommissioning	50,000
	Avail first aid kits on site throughout the entire period		Throughout decommissioning	25,000
	Comply with the Occupational Safety and Health Act, 2007		Throughout demolition	Nil
Loss of sanitation facility	Look for another suitable location within the area and construct another ablution block	Proponent	During decommissioning	Nil

8 ENVIRONMENTAL MONITORING PLAN

8.1 Introduction

An Environmental Monitoring Plan is proposed to assist the proponent in mitigating possible adverse impacts arising from the proposed project and enhance the positive benefits arising from the project through implementation of the recommended mitigation measures. The purpose of the monitoring plan is to ensure that the impacts do not exceed legal standards specified under the different legislations. Implementation of the monitoring plans will ensure that the negative impacts of the project are lessened throughout the project cycle. For the proposed project, five monitoring plans are proposed. These are;

1. Water quality monitoring plan
2. Air quality monitoring plan
3. Solid waste monitoring plan
4. Health and safety monitoring plan
5. Infrastructure monitoring plan

8.2 Water quality monitoring plan

8.2.1 Introduction

The proponent will put in place a consistent water quality monitoring plan targeting the quality of effluent discharging from the bio-digester. The potential sources of water quality degradation will be sediment loads from excavation and leveling activities and effluent generated from the bio-digester at operational phase. Poor water quality affects the ground and surface water. The objective of the water quality monitoring plan will therefore be to assess the variation of the physical and chemical parameters to comply with the standards prescribed by the Third Schedule of the Environmental Management and Coordination (Water Quality) Regulations, 2006.

The indicators of success for the water quality monitoring plan will include implementing measures to meet the legal standards and obtaining an Effluent Discharge License from NEMA.

8.2.2 Monitoring parameters

Water quality from the shallow wells will be monitored in house at MOWASSCO laboratories. Effluent from the bio-digester will be monitored pursuant to the parameters prescribed under the Third Schedule of Environmental Management and Coordination (Water Quality) Regulations, 2024. These include Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), E-Coli, oil/grease, Chemical Oxygen Demand (COD), Colour, total phosphorus, ammonia, copper and free available chlorine as shown in table 10 below.

Table 5: Water Quality Monitoring Parameters and the standards prescribed by the Environmental Management and Coordination (Water Quality) Regulations, 2024.

Parameter	Maximum levels permissible
Suspended solids (mg/L)	250
Total dissolved solids (mg/L)	2000
Temperature (°C)	20-35
pH	6-9
Oil and grease (mg/L)- where conventional treatment shall be used	10
Oil and grease (mg/L)- where pond is a final treatment method	5
Ammonia Nitrogen (mg/L)	20
Substances with obnoxious smell	Shall not be discharged into the sewers
BOD, days at 20°C (mg/L)	500
COD (mg/L)	1000
Arsenic (mg/L)	0.02
Mercury (mg/L)	0.05
Lead (mg/L)	1.0
Cadmium (mg/L)	0.5
Chromium VI (mg/L)	0.05
Chromium (Total) (mg/L)	2.0
Copper (mg/L)	1.0
Zinc (mg/L)	5.0
Selenium (mg/L)	0.2
Nickel (mg/L)	3.0
Nitrates (mg/L)	20
Phosphates (mg/L)	30
Cyanide Total (mg/L)	2
Sulphide (mg/L)	2
Phenols (mg/L)	10
Detergents (mg/L)	15
Colour	Less than 40 Hazen units
Alkyl Mercury	Not Detectable (nd)
Free and saline Ammonia as N (mg/L)	4.0
Calcium Carbide	Nil
Chloroform	Nil
Inflammable solvents	Nil
Radioactive residues	Nil
Degreasing solvents of mono-di-trichloroethylene type	Nil

8.2.3 Monitoring locations

Water quality sampling and analysis will target the source which is the shallow wells abstraction points for fresh water and discharge point of the bio-digester for effluent standards.

8.2.3 Monitoring frequency

Water quality analysis will be undertaken quarterly in collaboration with MOWASSO and NEMA designated laboratory.

9 CONCLUSION AND RECOMMENDATION

9.1 Conclusion

The proposed 7 No. shallow wells will ensure all the newly constructed 7 No. ablution blocks are put to efficient use. The project is considered important and beneficial as it will steer the Country towards realization of Vision 2030, reduce the strain on existing sanitation infrastructure, reduce the spread of waterborne diseases and parasites, improve the local economy by creating employment opportunities and ensure optimal use of public land. There are however environmental concerns expected to arise during all the phases of the project including sexual exploitation, sexual harassment, waste generation, pollution risks as well as health and safety issues. It was observed that the proposed project will not have an impact on land and resettlement as they will be set on public utility land. Hence the EIA team has recommended mitigation measures, environmental and social management plans for all phases of the project cycle and monitoring plans that will address the potential environmental and social impacts.

9.2 Recommendations

The main recommendation of the CPR is the need for concerted implementation of the ESMP and Monitoring Plans by the proponent. These include;

1. Applying and obtaining a drilling and water abstraction permit from the Water Resources Authority
2. Provide adequate and enforce the use of Personnel Protective Equipment
3. Procuring a sizeable central solid waste collection bin with chambers to accommodate separated wastes
4. Comply with Environmental Management and Coordination (Air Quality) Regulations, 2024
5. Comply with the provisions of the Occupational Safety and Health Act, 2007
6. Comply with the Environmental Management and Coordination (Water Quality) Regulations, 2024
7. Comply with the Environmental Management and Coordination (Waste Management) Regulations, 2024
8. Undertake timely and scheduled repairs and maintenance of the facilities

On the basis of a commitment by the proponent to implement the proposed mitigation measures and the Environmental and Social Management Plan, we recommend the issuance of an EIA License as per the Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya and Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003.

10 REFERENCES

1. Architectural drawings provided by proponent
2. Wastewater Master Plan for Mombasa and Selected Towns within the Coast Region (2017)
3. Water and Sanitation Development Program (WSDP)- Environment and Social Management Framework (EMSF) (February 2017)
4. Water and Sanitation Development Program (WSDP)- Resettlement Policy Framework (RPF) (February 2017)
5. World Bank Operational policies especially OP 4.01 and OP4.11
6. Government of Kenya Policies and strategies
 - National Environment Policy, 2013
 - National Policy on Water resources management and Development, 1999
 - National Land Policy, 2009
 - National Policy on Gender and Development, 2019.
 - Kenya Vision 2030
 - Mombasa County Integrated Development Plan
7. Government of Kenya Statutes;
 - Constitution of Kenya, 2010
 - Environmental Management and Coordination (Air Quality) Regulations, 2024
 - Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003
 - Environmental Management and Coordination (Noise and excessive vibration Pollution) (Control) Regulations, 2009
 - Environmental Management and Coordination (Waste Management) Regulations, 2024
 - Environmental Management and Coordination (Water Quality) Regulations, 2024
 - Environmental Management and Coordination Act, Cap 387 of the Laws of Kenya
 - Children’s Act, 2022
 - County Government Act, 2012
 - Land Act, 2012
 - National Construction Authority Act, 2014
 - Occupational Safety and Health Act, 2007
 - Physical and Land use Planning Act, 2019
 - Public Health Act, 2012
 - Sexual Offence Act, 2006
 - Water Act, 2016

LIST OF APPENDICES

- Copy of Experts Practicing License
- Copy of BoQ
- CPP Documents
- Hydrogeological reports

Appendix 1: Copy of Certificate of Incorporation for MOWASSCO



No. CPR/2011/43498

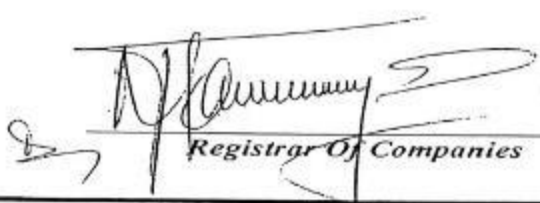
CERTIFICATE OF INCORPORATION

I hereby CERTIFY, that -

**MOMBASA WATER SUPPLY AND SANITATION COMPANY
LIMITED**

is this day Incorporated under the Companies Act (Cap. 486) and that
the Company is **LIMITED**.

GIVEN under my hand at Nairobi this **18 th** day of **March**
Two Thousand and Eleven


Registrar Of Companies

Appendix II: Copy of KRA PIN Certificate for MOWASSCO

 KENYA REVENUE AUTHORITY		Taxpayer Registration Certificate		Document Number: 4033937
General Data of the Taxpayer				
Name	MOMBASA WATER SUPPLY AND SANITATION COMPANY LIMITED			
Taxpayer PIN	P051366505A	TaxPayer Category	DOMESTIC	
Registration Date	Aug 29, 2011			
Activity	Water collection, treatment and supply			
Contact Information				
District	MOMBASA NORTH	City/Town	MOMBASA CITY (NORTH)	
Street / Road	MIKINDANI	Building	MOMBASA WATER	
Area Name	41	LR Number		
P.O. Box	80100 - 1100			
Main Email Address	mwater@mombasawater.co.ke			
Tax Obligation			Obligation Register Date	
INCOME TAX COMPANY (IT2C)			DEC 31, 2010	
VAT TAX (VAT 3)			JUL 31, 2011	
*This certificate is computer generated and therefore not signed. It is valid certificate issued under the authority of KRA.				

	
NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387 Experts License - Associate/Lead Experts	
License No.: NEMA/ENVIS/EL/1623	
Application Reference No: NEMA/ENVIS/ELA/07793	
M/S Cristom Kaviha Mwalimu of P.O.BOX 2657, 80100,Mombasa GPO is licensed to practice in the capacity of a Lead Expert registration number 4067 in accordance with the provision of the Environmental Management and Coordination Act cap 387. Issued Date: 8th May 2026 Expiry Date: 31st December 2026	
 David Ongare For DIRECTOR GENERAL National Environment Management Authority	
 ISO 9001 : 2015 Certified	



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

ENVIRONMENT MANAGEMENT AND COORDINATION ACT, Cap 387

Experts License - Associate/Lead Experts

License No.:

NEMA/ENVIS/EL/1937

Application Reference No:

NEMA/ENVIS/ELA/08726

M/S Emmanuel Baraka Kaviha

of P.O.BOX 2657, 80100, Mombasa GPO

is licensed to practice in the capacity of a **Associate Expert**

registration number **13594**

in accordance with the provision of the Environmental Management and Coordination Act cap 387.

Issued Date: **9th July 2026**

Expiry Date: **31st December 2026**

Robert Orina

For DIRECTOR GENERAL

National Environment Management Authority

P.T.O.



ISO 9001 : 2015 Certified

Appendix III: Copy of Land Ownership for MOWASSCO Headquarters

MOWASSCO HQ'S LAND OWNERSHIP DOCUMENTS


REPUBLIC OF KENYA
THE REGISTERED LAND ACT
(Chapter 300)

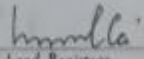
Certificate of Lease

TITLE No.	APPROXIMATE AREA
MOMBASA/BLOCK XXV/121	0.3860 Hectares
LESSOR THE GOVERNMENT OF KENYA	
RENT Kshs. 72/= p.a. (Rev)	
TERM 99 YEARS FROM 1/5/2000	

This is to certify that THE NATIONAL WATER
CONSERVATION AND PIPELINE CORPORATION, P.O. Box 30173 NAIROBI

is (are) now registered as the proprietor(s) of the leasehold interest above referred to, subject to the agreements and other matters contained in the registered lease, to the entries in the register relating to the lease and to such of the overriding interests set out in section 30 of the Registered Land Act as may for the time being subsist and affect the land comprised in the lease.

GIVEN under my hand and the seal of the
M O M B A S A District Land Registry
this 27th day of April, 2004



District Registrar
M. A. 047

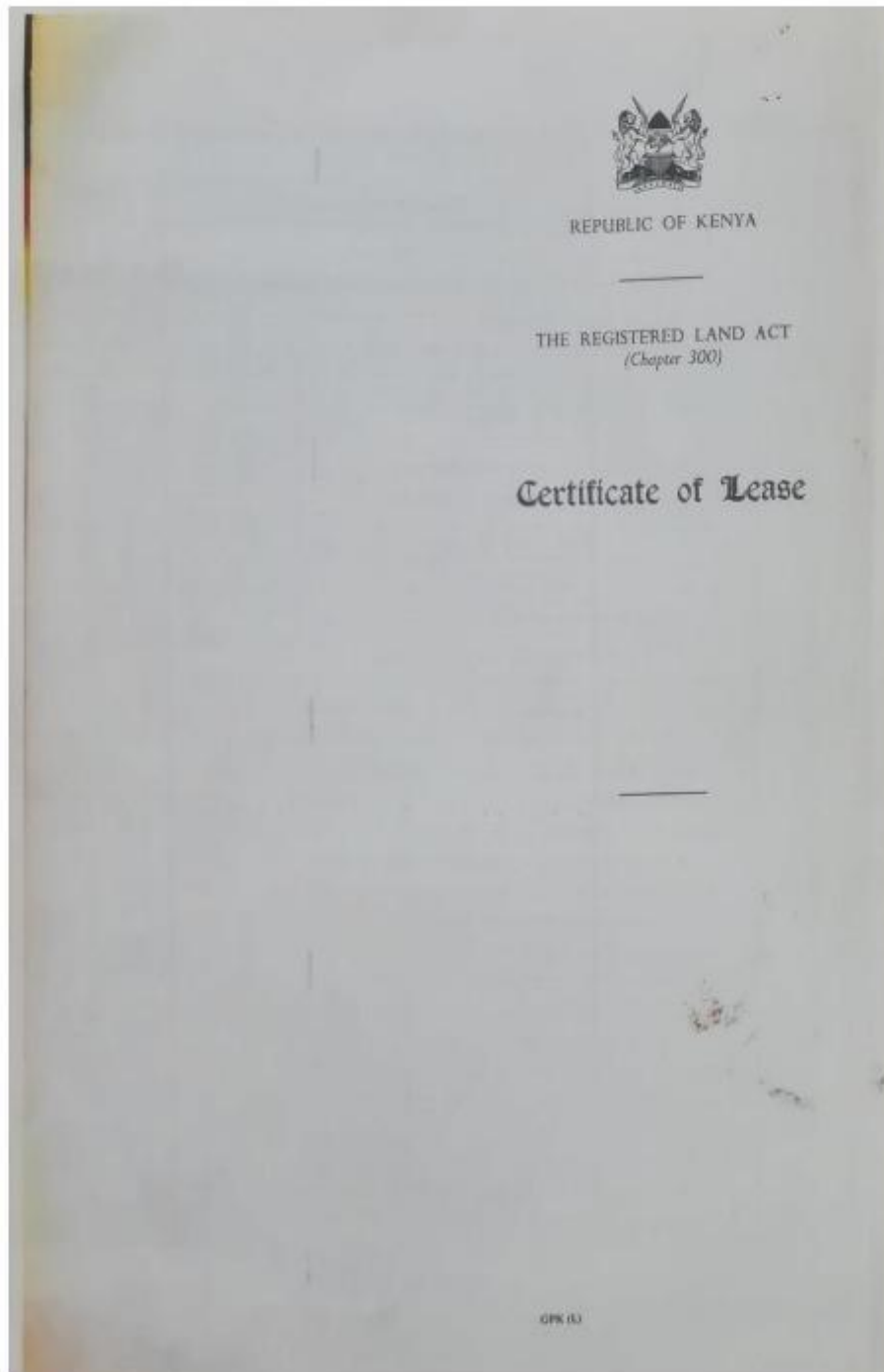
MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

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MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

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MOWASSCO HQS LAND OWNERSHIP DOCUMENTS



MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

Form 13—(RLA—Government (General))

Presentation Book No. 70 Date received for registration: 20 REGISTRATION DISTRICT: MOMBASA Registration Fee: KSh. 500 Paid Receipt No. 110

REPUBLIC OF KENYA

THE REGISTERED LAND ACT, 1963
(Cap. 300)

LEASE

REGISTRATION DISTRICT: MOMBASA TITLE No. MOMBASA ISLAND/
BLOCK 25/121

THE PRESIDENT OF THE REPUBLIC OF KENYA on behalf of the Government
of the Republic of Kenya ~~in consideration of the sum of shillings~~

HEREBY LEASES to THE NATIONAL WATER CONSERVATION AND PIPELINE CORPORATION
a body corporate duly established under the provisions of the National Water
Conservation Act (Chapter 446) of the Laws of Kenya of MOMBASA (Post Office
Box Number 30173)
hereinafter called "the lessee"

ALL THAT piece of land comprised in the above-mentioned title containing by measurement
nought decimal three eight six nought (0.3860) of a
hactares^{or} thereabouts
for the term of ninety nine (99) years
from the first day of May 2000
Shillings twenty two (Shs.72/-)(Revisable) with effect from
at the annual rent of 1.5.2000

payable in advance on the first day of January in each year, and subject to the provisions
the Government Lands Act (Chapter 280) and the following special conditions:

SPECIAL CONDITIONS

1. No buildings shall be erected on the land nor shall additions or external alterations be
made to any buildings otherwise than in conformity with the plans and specifications
previously approved in writing by the Commissioner of Lands and the Local Authority.
The Commissioner of Lands shall not give his approval unless he is satisfied that the
proposals are such as to develop the land adequately and satisfactorily.

2. The Lessee shall within 6 calendar months of the actual registration of the lease
submit in triplicate to the Local Authority and the Commissioner of Lands plans (including
block plans showing the positions of the buildings and the system of drainage for the

MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

disposal of the sewage surface and sullage water) drawings elevations and specifications of the buildings the

Lessee proposes to erect on the land and shall within 24 months of actual registration of the lease complete the erection of such buildings and the construction of the drainage system in conformity with such plans drawings elevations and specifications as amended (if such be the case) by the Commissioner PROVIDED that notwithstanding any thing to the contrary contained in or implied by Government Lands Act (Chapter 280) if default shall be made in the performance or observance of any of the requirements of this condition it shall be lawful for the Commissioner of Lands or any person authorized by him on behalf of the President to re-enter into and upon the land or any part thereof in the name of the whole and thereupon the term hereby created shall cease but without prejudice to any right of action or remedy of the President or the Commissioner in respect of any antecedent breach of any conditions herein contained.

3. The Lessee shall maintain in good and substantial repair and condition all buildings at any time erected on the land.

4. Should the Lessee give notice in writing to the Commissioner of Lands that it is unable to complete the buildings within the period aforesaid the Commissioner of Lands shall (at lessee expense) accept a surrender of land comprised herein PROVIDED FURTHER that if such notice is aforesaid shall be given (1) within twelve months of the actual registration of the Lessee the Commissioner of Lands shall refund to the lessee fifty per centum of the stand premium paid in respect of the land or (2) at any subsequent time prior to the expiration of the said building period to the Commissioner of Lands shall refund the Lessee twenty-five per centum of the said stand premium. In the event of notice being given after the expiration of the said building period no refund shall be made.

5. The Land and buildings shall always be used for offices purposes only

6. The buildings shall not cover more than fifty per centum of the area of the land or such lesser area as may be laid down by the Local Authority in its by-laws.

7. The Lessee shall not subdivide the land without prior written consent of the Commissioner of Lands.

8. The Lessee shall not sell transfer sublet charge or part with possession of the land or any part thereof or any building thereon except with prior consent in writing of the Commissioner of Lands. No application of such consent (except in respect of a loan required for building purposes) will be considered until Special Condition No. 2 has been performed.

9. The Lessee shall pay to the Commissioner of Lands on demand such sum as the Commissioner may estimate to be proportionate cost of constructing all roads and drains and sewers serving or adjoining the land and shall on completion of such construction and the ascertainment of the actual proportionate cost either pay (within seven days of demand) or be refunded the amount by which proportionate cost exceeds or falls short of the amount paid as aforesaid.

10. The Lessee shall from time to time pay to the Commissioner of Lands on demand such proportion of the cost of maintaining all roads and drains serving or adjoining the land as the Commissioner of Lands may assess.

MOWASSCO HQ'S LAND OWNERSHIP DOCUMENTS

11. Should the Commissioner of Lands require the said roads to be constructed to a standard the Lessee shall pay to the Commissioner on demand such proportion of the cost of such construction as the Commissioner may assess.

12. The Lessee shall pay such rates, taxes, charges, duties, assessments or outgoings of whatever descriptions as may be imposed charged or assessed by any Government or Local Authority upon the land or the buildings erected thereon, including any contribution or other sum paid by the President of the Republic of Kenya in lieu thereof.

13. The President of Kenya or such person or authority as may be appointed for the purpose shall have the right to enter upon the land and lay and have access to water mains service pipes and drains telephone or telegraph wire and electric mains of all descriptions whether overhead or underground and the Lessee shall not erect any buildings in such a way as to cover or interfere with any existing alignments of main or services pipes or telephone or telegraph wires and electric mains.

14. The Commissioner of Lands reserves the right to revise the annual ground rent payable hereunder at the expiration of every ten years of the term. Such rental shall be at a rate to be determined by the Commissioner of Lands of the unimproved value of the land as at the end of every tenth year of the term.

MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

Dated this 6th day of October, 2023

SIGNED by JUDITH MARILYN OKUNGU the
Commissioner of Lands by order of the President in the
presence of: [Signature] } M. A. Zai
LAND REGISTRAR

COMMON SEAL of the Lessee was affixed hereto
SIGNED by the Lessee in the presence of:
[Signature] } [Signature]
DIRECTOR
DIRECTOR/SECRETARY

I CERTIFY that the above-named
appeared before me on the _____ day of _____
and being known to me/being identified by _____
acknowledged the above signature or marks to _____ and that
had freely and voluntarily executed this instruments and understood its contents.

Signature and Designation of
Person Certifying
[Signature]
Land Registrar
M. A. Zai 047

REGISTERED this 27th day of April, 2024

DRAWN BY:-
D. OKUNGU
LAND REGISTRAR
P.O. BOX 30009
NAIROBI

CPK (L)

MOWASSCO HQS LAND OWNERSHIP DOCUMENTS

Handwritten: 120

MOMBASA WATER SUPPLY & SANITATION COMPANY LTD


Mombasa Water Supply & Sanitation Company Ltd

MIKINDANI ST. OFF
NKRUMAH RD
P.O. BOX 1100 – 80100
MOMBASA, KENYA
Email: info@mombasawater.co.ke Web: www.mombasawater.co.ke

Telephone: +254 041 2222700
Fax No.: +254 041 2222728
Mobile: +254726313006
+254735655650

REF: MWSC/TM/031/VOL I/64

DATE: 6TH DECEMBER 2012

Managing Director,
National Water Conservation & Pipeline Corporation,
P.O Box 30173,
NAIROBI

Dear Sir,

RE: TITLE DEED – MOMBASA WATER OFFICES

Reference is made to the above subject.

We kindly request your office to give us a copy of the title deed for the land on which the Mombasa Water Supply and Sanitation Company Headquarter offices are located.

This is a requirement to enable us engage private investors carry out assessment for possible funding of office buildings development under Public Private Participation (PPP) which is being steered by the Ministry of Finance.

Your co-operation is highly appreciated.

Yours faithfully
FOR: MOMBASA WATER SUPPLY AND SANITATION CO. LTD.


Alome K. Achayo (Mrs.)
MANAGING DIRECTOR

Handwritten: Copy of Title
Mombasa/Block XXV/121
Issued to
Eng. Olwoch Stephen
of Mombasa Water
31/5/13
GMPD

DIRECTORS: Ms. F. Awali (Chairperson), Mr. J. Mureu, Mr. R. Mwachigadi, Mr. T. Otieno, Mr. R. Waiganjo, Mr. H. Korume, Mr. M. Ki amis, Mr. S. Mbandi, Eng. A. Keno, Mr. M. Rashid, Mrs. A. Achayo

Appendix IV: Bills of quantities

MAIN PROJECT OBJECT: CONSTRUCTION OF 15 NO. ABLUTION BLOCK IN MOMBASA COUNTY					
CONTRACT NO.: KE-MOWASCO-228804-CW-RFB					
SPECIFIC OBJECTIVE: BOQ For Drilling and Test Pumping of 7 Nr. Shallow Wells					
S/N	PROJECT SITES	Sub Contractor's Cost for Drilling and Test Pumping	Sub Total	Add 16% V. A. T	Total Cost per Ablution Block
		Amount			
		(Kshs.)	(Kshs.)	(Kshs.)	(Kshs.)
1	Makadara Grounds	564,140.00	564,140.00	90,262.40	654,402.40
2	County Court	545,840.00	545,840.00	87,334.40	633,174.40
3	Public Health Department	545,840.00	545,840.00	87,334.40	633,174.40
4	Fire Station	657,940.00	657,940.00	105,270.40	763,210.40
5	Tudor Manyimbo	657,940.00	657,940.00	105,270.40	763,210.40
6	Fort Jesus 02	645,940.00	645,940.00	103,350.40	749,290.40
7	MOWASSCO HQ	536,690.00	536,690.00	85,870.40	622,560.40
	Total	4,154,330.00	4,154,330.00	664,692.80	4,819,022.80

Appendix V: Stakeholder Consultation Minutes and meetings Attendance lists

EIA - A CPR, COMPREHENSIVE PROJECT REPORT FOR MSA SHALLOW WELLS

MINUTES FOR CONSULTATION AND PUBLIC PARTICIPATION (CPI) FOR THE PREPARATION OF AN EIA REPORT FOR A PROPOSED SHALLOW WELLS PROJECT TO SERVE THE NEWLY CONSTRUCTED FORT JESUS AND COUNTY COURT ABLUTION BLOCKS WITHIN MOMBASA COUNTY.

VENUE: NATIONAL MUSEUMS OF KENYA FORT JESUS PROJECT SITE, DATE: 11TH DECEMBER, 2025

ATTENDANCE

NAME	CONTACTS	SIGNATURES
1. Fatma Twahir, Principal Curator, NMK		
Additional attendance list attached.		
Christine Mwakimbi, EIR/EA Lead Expert		
Additional attendance list attached.		

MINUTE 1: OPENING REMARKS

The principal Curator Madam Fatma Twahir called the meeting to order at 2 pm. And asked for a volunteer to open with a word of prayer. Salio Mowassco (the proponent) & Expert team were asked to provide the agenda of the meeting. Members were informed that the proponent proposed to sink & equip two shallow wells to the newly constructed Ablution block under WSDP project to supplement the rationed water. No severe environmental impacts were envisaged as the site is already active.

MINUTE 2: PLENARY DISCUSSION

The NMK team informed the meeting the newly constructed Fort Jesus one Ablution block was on reclaimed land. Secondly Inside the Fort there is an existing well, and probably the project could explode the option of cleaning the existing well with pumps and care out improvement in compliance with UNESCO set procedures. NMK informed that same compliance be extended to Court site which is also within the conservation area.

MINUTE 3: FEEDBACK FROM EXPERT AND PROPONENT

The proponent and expert team appreciated NMK for their commitment and active engaged through the entire process of Fort Jesus one Abuja block construction and expected continuity operations.

The meeting agreed that a joint working group involving all technical expertise, Engineers and conservationist spear head the process. Once any archaeological items are encountered the project will halt and necessary chance find procedures be adhered to.

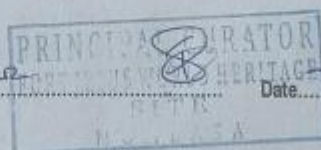
MINUTE 4: CLOSING REMARKS.

The members upon agreement that both parties need to closely work together, came to a conclusion that a whatsapp group be formed by the proponent so as to enable easy of communicating and preparation of way forward. No body objected to the approval of the ESIA process. There being no any other business, meeting adjourned at: 3pm

Signed By

CHAIRPERSON: Name & Signature

GATMA Tuzima



Date

22/12/2025

SECRETARY: Name & Signature

CRISTON K. MWAHINI



Date

11/12/2025

ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS



Fort Jesus / County Court

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
1	FARUK TUNATIE	MOMBASA	RESEARCH CURATOR	1573142	
2	ALI MUKORRA	MOMBASA	ADMINISTRATIVE OFFICER	14408230	
3	Haleem Afacan	MOMBASA	ICT OFFICER	24515298	
4	PHILIP WANYAMA	MOMBASA	Research NMR/Forensic	12939061	
5	TEARON DORRA	MOMBASA	P.R.O	21557916	
6	KIPKOSGI DAVID	MOMBASA	ICW	88148801	
7	CORNELIUS MULAMA	MOMBASA	ICW	31790010	
8	MICHAEL OMUYA	MOMBASA	ESH	33352879	

In compliance with the Data Protection Act, 2019, be informed that your personal data collected in this attendance register (which may include name, signature, contact details and photos) will be used solely for the purpose of recording attendance and facilitating communication related to this meeting. We will not share your data with third parties without your consent, except as required by law. By signing this sheet, you acknowledge that you have read and understood this notice and consent to the processing of your personal data for the stated purposes.

Fort Jesus / County Court



Fort Jessou County Court

ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
	Atwani Immaculate	MOMBASA	ARE	36985233	
	Samah C. Lagat	MOMBASA	CEM		
	Crabtree R. Mwalimu	MOWASSCO	ISE	9206970	

In compliance with the **Data Protection Act, 2019**, be informed that your personal data collected in this attendance register (which may include name, signature, contact details and photos) will be used solely for the purpose of recording attendance and facilitating communication related to this meeting. We will not share your data with third parties without your consent, except as required by law. By signing this sheet, you acknowledge that you have read and understood this notice and consent to the processing of your personal data for the stated purposes.

Fort Jessou County Court

STAKEHOLDER ENGAGEMENT MEETING.

Construction of 15no. Abandon Blocks in Mombasa County.

ATTENDANCE SHEET FOR STAKEHOLDER ENGAGEMENT MEETING HELD ON 11th DECEMBER 2025 AT FORT

JESUS SITE.

No.	Name of Attendee	Organization	Designation	Contact Details (Email/Phone No.)	Signature
1.	Esther Twaga	NMC	Director Coastal Administration	esther.twaga@mca.go.ke	
2.	Atli Mwangi	NMC	ADMINISTRATIVE OFFICER	atli.mwangi@mca.go.ke	
3.	Haleem Hassan	NMC	ICF OFFICER	haleem@nmc.go.ke	
4.	PHILIP WANYAMA	NMC/Coastal Archaeology	Research Scientist	philip.wanyama@mca.go.ke	
5.	TEOSTOM Lwiza	NMC	Public Officer	teostom.lwiza@mca.go.ke	
6.	KIPROSGY Daniel	BATCH/TCE	ICM	kupirodaniel@gmail.com	
7.	CORNELIUS MUKUNA	BATCH/TCE	ICM	corneliusmukuna@gmail.com	
8.	MICHAEL ONDIA	BATCH/TCE	ICM	michaelondia96@gmail.com	
9.	Atiani Immaculate	BATCH/TCE JV	ARE	atiani.immaculate@gmail.com	
10.	Benjamin C. Bengt	Mowassco	CEM	benjamin@mowassco.co.ke	
11.	CRISTIANO K. Mwachumi	Mowassco	HSE	cristiano@mowassco.co.ke	
12.					
13.					
14.					



MOMBASA WATER



MINUTES OF MOMBASA WATER SUPPLY AND SANITATION COMPANY LIMITED ON ESIA PUBLIC CONSULTATIONS MEETINGS FOR ABLUTION BLOCKS SHALLOW WELLS CONSTRUCTION

The meetings were held at the following locations within Mvita Sub-County of Mombasa County:

1. Mwembe Tayari (Covering PHD ablution block)-10/12/2025
2. County court blocks)-11/12/2025
3. Tononoka (Covering Fire station)-17/12/2025
4. Makadara (Covering Makadara grounds block)-10/12/2025
5. Tudor Manyimbo block-17/12/2025
6. Fort Jesus blocks (2 No.)-11/12/2025.

BACKGROUND INFORMATION

Achieving universal access to improved water and sanitation services requires capital expenditure. The Government of Kenya, through the Ministry of Water, Sanitation and Irrigation has received financing from the World Bank in supporting the development of

pg. 1

PHD/makadara

water and sanitation services and is currently undertaking the following Projects within the coastal region, Mombasa County included:

1. Water and Sanitation Development Project (WSDP);
2. The Kenya Water Security and Climate Resilience Project, Phase 1 (KWSCR)
3. The Water and Sanitation Services Improvement Project (WASSIP),
4. The Kenya Informal Settlements Improvement Project (KISIP).

These are investments included in the Water Resources Masterplan for the region.

The WSDP will leverage development impacts of on-going World Bank Programs and Projects with the Project Development Objective (PDO) of improving water supply and sanitation services infrastructure in Mombasa. The Projects will also improve services by strengthening institutional capacity in specific areas, such as reducing non-revenue water (NRW), improving revenue collection and developing medium-term Business Plans. These would result in the residents of Mombasa County benefiting from a much more regular supply of water and from improved wastewater and septic sludge collection and treatment services.

The WSDP project's Environmental Social Management Framework (ESMF), Resettlement

Policy Framework (RPF) defines a clear protocol for managing stakeholders' engagement, citizen and public participation and consultations during the project planning to contribute to the success of its implementation, with the following objectives:

1. Engaging key stakeholders to harness collective participation, consensus and approach in project implementation;
2. Ensuring that the project Construction - Environmental and Social Management Plan (CESMP) is participatory document with approval of all affected stakeholders.
3. Communicating sufficient and correct information to set the general public minds at ease, regarding the Project, and enhance information disclosure in an open, clear, concise and timely manner;
4. Obtain stakeholders' input to the project advancement and implementation.

pg. 2

PHD/mukoko

**MEETINGS' OVERVIEW FOR COMBINED MEETINGS MWEMBE TAYARI (PHD)
AND MAKADARA BLOCKS HELD ON 10TH DECEMBER, 2025.**

AGENDA:

1. Introduction;
2. Project background, design and location;
3. Anticipated impacts during construction;
4. Anticipated positive impacts expected from the proposed project;
5. Women and youth views about the proposed project;
6. Management of the proposed projects.

PRESENT:

1. Musa Mohamed - Area Senior Chief
2. Sarah Langat -Communications/ social safeguards
3. Cristom Mwalimu -Environmental safeguards expert
4. Sub-county administration (County Government of Mombasa) representative;
5. General public (as per attached attendance list)

MINUTE 1/6: INTRODUCTION.

The meetings were called to order by the rapporteur who invited the WSDP PCU coordinator. Participants were duly informed that proceedings of the meeting were a prerequisite requirement as part of the Environmental Social Impact Assessment of the proposed additional four (4no.) construction of ablution blocks as part of the overall WSDP Project.

MINUTE 2/6: PROJECT BACKGROUND DESIGN AND LOCATION.

The safeguards expert consultant in introducing the meeting informed members of the public that under the Water and Sanitation Development Project, the World Bank through the County Government of Mombasa (CGM) and Mombasa Water Supply and Sanitation Company Limited (MOWASSCO) proposed ablution blocks, pertaining: six toilets and two shower rooms with equal numbers for each gender (ladies and gents). Each section would be provided with a toilet fitted with special amenities for use by

pg. 3

P.T.D / Ma Kadet m

persons with disabilities (PWD). The proposed locations for the construction of the ablution blocks, having met the prerequisite requirements of certified, titled public land included:

1. PHD
2. Fire Station
3. Makadara grounds
4. County court
5. Tudor Manyimbo
6. Fort Jesus (2 No.)

The shallow wells provision in the project is to ensure that at the completion of the ablution blocks, their operations run efficiently with the required sanitation standards and to safeguard the environmental.

The main purpose of the public consultation meetings is in compliance with the Environmental

Management and Coordination (Impact Assessment and Audit) to carry out a comprehensive Environmental and Social Impact Assessment prior to the commencement of construction of the wells. This is to document both positive and negative impacts of the proposed projects.

MINUTE 3/6: ANTICIPATED IMPACTS DURING CONSTRUCTION.

Several environmental and social impacts will arise at different phases of the project cycle. At the construction phase, the main negative impacts will include environmental risks for sourcing raw materials, destruction of the physical environment, air pollution, noise pollution, solid waste generation, waste water generation, occupational safety and health risks HIV/AIDS impacts, gender equality and sexual harassment, child labour and protection.

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PHD/Makadara

MINUTE 4/6: ANTICIPATED POSITIVE IMPACTS EXPECTED FROM THE PROPOSED PROJECT.

The positive impacts anticipated on the project completion include the contribution of the implementation of the Mombasa Waste Water Master Plan, increased access to sanitation services in Mombasa County, improve the overall health and sanitation standards of residents of Mombasa County, platform for employment opportunities for residents, especially women, youth and PWD.

MINUTE 5/6: WOMEN AND YOUTH INCLUSION DURING THE PROPOSED PROJECT.

The construction industry is mostly male-dominated, and thus there is need to promote gender equality during the construction phase of the proposed. Women's roles in construction are mainly confined to supply of unskilled labour and vending of foodstuffs to construction workers. Cases of sexual harassment in the form of unwarranted physical contacts and biased treatment of women at construction sites have been previously reported. To mitigate this, the contractor in charge of the proposed projects is required to strictly adhere to the National Gender and development Policy 2000 and the Two-Third Gender Rule, prepare and implement the Gender Action Plan, enforce a No-Sexual harassment and Non-discrimination Policy- to cater for youth and women.

MINUTE 6/6: MANAGEMENT OF THE PROPOSED PROJECTS.

The management of the completed proposed projects will involve inclusivity of MOWASSCO, the CGM, through the Sub-county administration and local communities to ensure continuity and efficiency in meeting the project objectives in the enhancement of sanitation services to the residents of Mombasa County.

A verbatim of the Community/public contributions to the proposed project is recorded below:

Area Chief, Musa Mohamed

- Mr. Ahmed welcomed the idea of the proposed project and urged members of the community to unreservedly support the same.

pg. 5

PWD/makaden

Response: Madam Sarah thanked and appreciated the continued support from the Senior chief right from the onset on the ablution block at its construction stage both for PHD and Makadara.

Mr. Abdul:

- Noted that Makadara grounds shallow wells needs to serve the business community around so the quality of water should be good.

Response: Mr. Mwalimu assured the participants that the community will be involved on the selection of the ablution block management team.

Mr. Alamin Alwy:

- Thanked MOWASSCO for planning and holding the consultative forum;
- Noted that Kongowea ablution blocks would be better served with piped water other than shallow wells, the same was echoed by other participants.

Ms. Malika

Welcomed the World Bank, CGM and MOWASSCO initiative to consider Old Town-Kizingo

Ward for an additional ablution block after three others in Fort Jesus, Makadara, Mombasa Law Courts locations;

- Urged the community to unconditionally support the initiative as it would be to their benefit;

Mr. Yussuf Mohammed

- Noted that the toilets allocated to women ought to be managed by women;
- There should be a partitioned area for PWDs;
- The proposed project should benefit local youth in terms of employment during construction and at the management stage.

Response: The communications expert thanked the community for their openness and contributions. She assured them that all their concerns were noted and on the part of water scarcity, sewage overflow and corruption amongst MOWASSCO staff, the Company will technically and administratively resolve the complaints.

pg. 6

PHD/MC kadara

Mr. Josphat Mwage

- What criteria was used to select the piece of land to construct the ablution blocks as there were better areas to construct the ablution blocks like the Marikiti Market.

Response: Mr. Mwalimu informed the meeting that the most important criteria was centrality to serve all equitably and land availability owned by the county Government of Mombasa.

Ms. Sarah assured the residents that the proposal to construct an ablution block at Marikiti market because of dire need by traders and market users will be forwarded to the relevant office for consideration.

RESOLUTION:

The residents led by the area Senior Chief Musa gave full consent to sink the proposed shallow wells at both the PHD and Makadara Ablution blocks.

Confirmed:

Area Chief

Environmental expert

Communications expert

Date

Date

Date



29/01/2026

29/01/2026

29/01/26



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PHD/Makadara



ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
1	Mohamed M. Musa	Khamsat	CHIEF	8371994	
2	Mohamed Hassan Mohamed	Muhsenet	V. ELDER	11227129	
3	Salma Abdulwahab	Sarigoi	V. ELDER	21944860	
4	Sulama Salim	Muhsenet	V. ELDER	8460479	
5	Omar Shere Mahmoud	Muhsenet	REAR	21221999	
6	Rahma Moh'd Sais	Sarigoi	REAR	13838606	
7	Warda A. Saum	Muhsenet	V. ELDER	8461200	
8	Rukitha M. Mohamed	Sarigoi	REAR	83719360	

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Peter Makdara



ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
9	Muhammad Hassan Ali	MUHAMMADI	6	8462873	Muhammad
10	MOHAMED JUMA	MUHAMMADI	ELDER	0769658280	Muhammad
11	Aboulectman Omar	M/Tayana	BOLODI	0716528434	Muhammad
12	MOHAMED A. AZAN	MICRON	ELDER	0722434667	Muhammad
13	DANIEL GOR	TUMBUK	BAROZI	0702568074	Muhammad
14	Fayzi A. Bata	Rama Leo	BAROZI	0721796666	Muhammad
15	ABDULRAHMAN H. ABGAS	UTHAU GARDEN	V/ELDER	0727418437	Muhammad
16	Hussain K. Ali	SALGOI	V/ELDER	0794243222	Muhammad

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P.H.B. MOKAFA

MOMENSA WRITER



ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
17	ANISA NASIR	CONGO BT	BAKOZI	204457262	
18	Sophia - A. Tachir	Babi wa Shop	V/elder		
19	Aminu Abdelle	M/Tangari	V/elder	0308532	
20	RUKUYA ALI MOHT	SPARCOI	BAKOZI	09986858	
21	MUHAMMAD OBO	Timbani	V/ELDER	0307113	
22	PETER MACHATI	ufumani	V/ELDER	3221619	
23	ISAAC KAMANDI	RATHA LBO	V/ELDER	85220109	
24	MUSTAFA HADI	M/Tangari	Chairman	8477329	

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PHOTOGRAPH

MOMBASA WATER



**MINUTES OF MOMBASA WATER SUPPLY AND SANITATION
COMPANY LIMITED ON ESIA PUBLIC CONSULTATIONS
MEETINGS FOR ABLUTION BLOCKS SHALLOW WELLS
CONSTRUCTION**

The meetings were held at the following locations within Mvita Sub-County of Mombasa County:

1. Mwembe Tayari (Covering PHD ablution block)-10/12/2025
2. County court blocks)-11/12/2025
3. Tononoka (Covering Fire station)-17/12/2025
4. Makadara (Covering Makadara grounds block)-10/12/2025
5. Tudor Manyimbo block-17/12/2025
6. Fort Jesus blocks (2 No.)-11/12/2025.

BACKGROUND INFORMATION

Achieving universal access to improved water and sanitation services requires capital expenditure. The Government of Kenya, through the Ministry of Water, Sanitation and Irrigation has received financing from the World Bank in supporting the development of

pg. 1

Tudor / Fire

water and sanitation services and is currently undertaking the following Projects within the coastal region, Mombasa County included:

1. Water and Sanitation Development Project (WSDP);
2. The Kenya Water Security and Climate Resilience Project, Phase 1 (KWSCR)
3. The Water and Sanitation Services Improvement Project (WASSIP),
4. The Kenya Informal Settlements Improvement Project (KISIP).

These are investments included in the Water Resources Masterplan for the region.

The WSDP will leverage development impacts of on-going World Bank Programs and Projects with the Project Development Objective (PDO) of improving water supply and sanitation services infrastructure in Mombasa. The Projects will also improve services by strengthening institutional capacity in specific areas, such as reducing non-revenue water (NRW), improving revenue collection and developing medium-term Business Plans. These would result in the residents of Mombasa County benefiting from a much more regular supply of water and from improved wastewater and septic sludge collection and treatment services.

The WSDP project's Environmental Social Management Framework (ESMF), Resettlement

Policy Framework (RPF) defines a clear protocol for managing stakeholders' engagement, citizen and public participation and consultations during the project planning to contribute to the success of its implementation, with the following objectives:

1. Engaging key stakeholders to harness collective participation, consensus and approach in project implementation;
2. Ensuring that the project Construction - Environmental and Social Management Plan (CESMP) is participatory document with approval of all affected stakeholders.
3. Communicating sufficient and correct information to set the general public minds at ease, regarding the Project, and enhance information disclosure in an open, clear, concise and timely manner;
4. Obtain stakeholders' input to the project advancement and implementation.

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Tudor/ Fire

**MEETINGS' OVERVIEW FOR COMBINED MEETINGS TUDOR MANYIMBO AND
FIRE STATION BLOCKS HELD ON 17TH DECEMBER, 2025.**

AGENDA:

1. Introduction;
2. Project background, design and location;
3. Anticipated impacts during construction;
4. Anticipated positive impacts expected from the proposed project;
5. Women and youth views about the proposed project;
6. Management of the proposed projects.

PRESENT:

1. Ms. Mwaka S. Babu - Area Chief
2. Sarah Langat -Communications/ social safeguards
3. Cristom Mwalimu -Environmental safeguards expert
4. Sub-county administration (County Government of Mombasa) representative;
5. General public (as per attached attendance list)

MINUTE 1/6: INTRODUCTION.

The meetings were called to order by the rapporteur who invited the WSDP PCU coordinator. Participants were duly informed that proceedings of the meeting were a prerequisite requirement as part of the Environmental Social Impact Assessment of the proposed additional four (4no.) construction of ablution blocks as part of the overall WSDP Project.

MINUTE 2/6: PROJECT BACKGROUND DESIGN AND LOCATION.

The safeguards expert consultant in introducing the meeting informed members of the public that under the Water and Sanitation Development Project, the World Bank through the County Government of Mombasa(CGM) and Mombasa Water Supply and Sanitation Company Limited (MOWASSCO) proposed ablution blocks, pertaining: six toilets and two shower rooms with equal numbers for each gender (ladies and gents). Each section would be provided with a toilet fitted with special amenities for use by

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Tudor/Fire

persons with disabilities (PWD). The proposed locations for the construction of the ablution blocks, having met the prerequisite requirements of certified, titled public land included:

1. PHD
2. Fire Station
3. Makadara grounds
4. County court
5. Tudor Manyimbo
6. Fort Jesus (2 No.)

The shallow wells provision in the project is to ensure that at the completion of the ablution blocks, their operations run efficiently with the required sanitation standards and to safeguard the environmental.

The main purpose of the public consultation meetings is in compliance with the Environmental

Management and Coordination (Impact Assessment and Audit) to carry out a comprehensive Environmental and Social Impact Assessment prior to the commencement of construction of the wells. This is to document both positive and negative impacts of the proposed projects.

MINUTE 3/6: ANTICIPATED IMPACTS DURING CONSTRUCTION.

Several environmental and social impacts will arise at different phases of the project cycle. At the construction phase, the main negative impacts will include environmental risks for sourcing raw materials, destruction of the physical environment, air pollution, noise pollution, solid waste generation, waste water generation, occupational safety and health risks HIV/AIDS impacts, gender equality and sexual harassment, child labour and protection.

pg. 4
Tudor/Fire

MINUTE 4/6: ANTICIPATED POSITIVE IMPACTS EXPECTED FROM THE PROPOSED PROJECT.

The positive impacts anticipated on the project completion include the contribution of the implementation of the Mombasa Waste Water Master Plan, increased access to sanitation services in Mombasa County, improve the overall health and sanitation standards of residents of Mombasa County, platform for employment opportunities for residents, especially women, youth and PWD.

MINUTE 5/6: WOMEN AND YOUTH INCLUSION DURING THE PROPOSED PROJECT.

The construction industry is mostly male-dominated, and thus there is need to promote gender equality during the construction phase of the proposed. Women's roles in construction are mainly confined to supply of unskilled labour and vending of foodstuffs to construction workers. Cases of sexual harassment in the form of unwarranted physical contacts and biased treatment of women at construction sites have been previously reported. To mitigate this, the contractor in charge of the proposed projects is required to strictly adhere to the National Gender and development Policy 2000 and the Two-Third Gender Rule, prepare and implement the Gender Action Plan, enforce a No-Sexual harassment and Non-discrimination Policy- to cater for youth and women.

MINUTE 6/6: MANAGEMENT OF THE PROPOSED PROJECTS.

The management of the completed proposed projects will involve inclusivity of MOWASSCO, the CGM, through the Sub-county administration and local communities to ensure continuity and efficiency in meeting the project objectives in the enhancement of sanitation services to the residents of Mombasa County.

A verbatim of the Community/public contributions to the proposed project is recorded below:

Area Chief, Mwaka S. Babu

- Madam Chief welcomed the project and she noted that especially because of water shortage in the area the shallow wells would help a lot.

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Tudw / fire

Mr. Ali:

- Noted with concern why the Manyimbo ablution block was constructed next to a graveyard. Was there no other place in Tudor to construct apart from near the graveyard?

Response: Mr. Mwalimu responded that the ablution block was a distance away from the grave yard and the challenge with Tudor area was acquisition of County land for construction.

Mr. Ndegwa:

- Asked why MOWASSCO does not put much effort to contain sewer overflow in Fire station Mwembe Kuku area which has become a big problem.

Response: The communications expert that the Company was working closely with the community especially, to stop illegal connections of sewer to storm water drainages that cause perennial sewer overflows, especially during the rainy season; she assured the community that MOWASSCO sanitation team works round the clock to clear the overflows as and when they occur.

Ms. Fatuma

Noted that Wazee wa mtaa should be given first priority to manage the facilities.

Response: Mr. Mwalimu reiterated that due process and fairness will be followed by the County Government to ensure there was inclusivity in the management of the facilities

Mr. Okoya

Informed the meeting that the Manyimbo ablution block had been vandalized by parking boys near the garbage collection point and also informed the meeting that the askari who was guarding the facility had not been paid so he left the place unguarded.

Response: Mr. Mwalimu thanked the participant for this crucial information and promised to follow up the same with the contractor.

Ms. Sarah thanked the area chief for the overwhelming support and turn out and assured community that the facilities would be of benefit to them.

pg. 6

Tudor Fire

RESOLUTION:

The residents led by the area Senior Chief Musa gave full consent to sink the proposed shallow wells at both the Tudor Manyimbo and Fire Station Ablution blocks.

Confirmed:

Area Chief..... MWANA KABE Date 29-01-2026
Environmental expert CRISTOM K. MWALIMU Date 29/01/2026
Communications expert S. LAKS Date 29/01/2026

MWAKA S. BABE
CHIEF
TUDOR LOCATION

CRISTOM K. MWALIMU
ESIA LEAD EXPERT
ES NO. 4067
P.O. BOX 2007 - 60100, MO
TEL: +254 724002083 / +254 733882503
Date 29/01/2026

pg. 7

Tudor/fire



MEMBER WRITER

ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
1	RONATA ALBERTA	SIMITINI	V/ ELDER	14602526	
2	ALEX KERR	SIMITINI	V/ ELDER	2250010	
3	MOHAMMED DAWUD	Mbura Mapemba	V/ ELDER	33467950	
4	Mudila SAIB BAKU	FUDDA	CHIEF	26704460	
5	Jenah C. Longi	MOWASSCO	Cum		
6	CAISSON K. MUKELIHO	MOWASSCO	ASST		
7	MABDALLA ALI	SPARKI	V-ELDER		
8					

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Tubocire



ATTENDANCE LIST FOR PUBLIC CONSULTATION - SHALLOW WELLS

S/NO	NAME	AREA	DESIGNATION	ID NO.	SIGNATURE
9	SATTA DUYA MOHAMMED	Jua Kali	V-Elder	0301426.	
10	RASHID TEWA	SPAKI A	V-Elder.	5323204	
11	OSMAN ADAN	SPAKI B	V-Elder.	8534851	
12	FATMA MOHAMMED	SPAKI A	V-Elder	20650144.	
13	MAHMEEL ODAMDA	JELEPOSTA Tumb.	V-Elder	5375525	
14	JOSPAT YAA GHARO	KIZIM C	V-Elder	9472489	
15	JOSPAT MURAGE	MADUKANI	V-Elder	3883380	
	CHARLES OKOYA	MURUKENGE	V-Elder	6172603	

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Tudor Furi

Appendix VI: Grievance Form

Grievance Form				
Grievance Number				Copies to forward to:
Name of the Recorder				(Original)-Receiver Party
Sub-County				(Copy)-Responsible Party
Date				
INFORMATION ABOUT GRIEVANCE				
Define The Grievance:				
INFORMATION ABOUT THE COMPLAINANT				Forms of Receive
Name-Surname				☐ Phone Line ☐ Community/ Information Meetings ☐ Mail ☐ Informal ☐ Other
Telephone Number				
Address				
Village				
Sub-County				
Signature of Complainant				
DETAILS OF GRIEVANCE				
<i>Access to Land and Resources</i> a) Lands c) Pasturelands d) House e) Commercial site f) Other	2. <i>Damage to</i> a) House b) Land c) Livestock d) Means of livelihood e) Other	3. <i>Damage to Infrastructure or Community Assets</i> a) Road/Railway b) Bridge/ Passageways c) Power/Telephone Lines d) Water sources, canals and water infrastructure for irrigation and animals e) Drinking water f) Sewerage System g) Other	4. <i>Decrease or Loss of Livelihood</i> a) Agriculture b) Animal husbandry c) Beekeeping d) Small scale trade e) Other	5. <i>Traffic Accident</i> a) Injury b) Damage to property c) Damage to livestock d) Other
6. <i>Incidents Regarding Expropriation and Compensation (Specify)</i>	7. <i>Resettlement Process (Specify)</i>	8. <i>Employment and Recruitment (Specify)</i>	9. <i>Construction Camp and Community Relations</i> a) Nuisance from dust b) Nuisance from noise c) Vibrations due to	10. <i>Other (Specify)</i>

			<i>explosions</i> <i>d) Misconduct of the project</i> <i>personal/worker</i> <i>e) Complaint follow up</i> <i>f) Other</i>	
<i>Grievance Resolved</i>	<i>Date Resolved</i>	<i>Comment from the aggrieved party</i>	<i>Comment from the mediation team</i>	<i>Signatures of Both Parties</i>

Appendix VII: Chance Find Procedures

Chance find procedures are an integral part of the project ESMP and civil works contracts. The proposed shallow wells project in Mombasa County, is not an exception. More important is that Fort Jesus a UNESCO recognized World heritage site. The following is proposed in this regard:

1. After discovery of archaeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, all activities within the vicinity of the identified site will be stopped and cordoned off.
2. The Contractor will notify the Resident Engineer on the finding.
3. Records of the finding will be made, including location, photographs, a description of the find, whether it's a structure, grave, etc.
4. The Resident Engineer will then inform the Client, local administration and relevant government official's e.g. National museums of Kenya officials if it's a cultural structure to discuss a way forward, including a change in design to avoid the cultural site.
5. If a grave is discovered, the authorities within the Mombasa community on the religious procedures will be involved in moving the remains to a new grave site.
6. The corrective measures will be carried out by the Contractor and supervised by the Resident Engineer. Records of the corrective measures will be made and given to all parties involved.

Responsible local authorities and the Ministry of State for National Heritage and Culture would then be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archaeologists of the National Museums of Kenya. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, namely the aesthetic, historic, scientific or research, social and economic values.

Decisions on how to handle the find shall be taken by the responsible authorities and the Ministry of State for National Heritage and Culture. This could include changes in the layout (such as when finding irremovable remains of cultural or archaeological importance) conservation, preservation, restoration and salvage.

Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities.

Construction work may resume only after permission is given from the responsible local authorities or the Ministry of State for National Heritage and Culture concerning safeguard of the heritage.

Appendix VIII: Hydrogeological Reports

Hydrogeological reports