



KENYA RAILWAYS CORPORATION

KENYA URBAN MOBILITY IMPROVEMENT (KUMIP)

**TERMS OF REFERENCE FOR INDIVIDUAL EXPERT - RAIL CIVIL
ENGINEERING EXPERT**



SEPTEMBER 2026

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Abbreviation

Term	Meaning
AFCS	Automated Fare Collection Systems
BEMU	Battery Electric Multiple Units
CHMP	Cultural Heritage Management Plan
EN	European Norm
ERP	Enterprise Resource Planning
ESS	Environmental & Social Commitment Plan
ESIA	Environmental & Social Impact Assessment
ESMF	Environmental & Social Management Framework
ESS	Environment and Social Safeguards
FEED	Front-End Engineering Design also known as Basic Engineering
GOK	Government of Kenya
KR	Kenya Railways
KUMIP	Kenya Urban Mobility Improvement Project
LMP	Labour Management Procedure
MDBs	Multilateral Development Banks
NCR	Nairobi Commuter Railways
NEMA	National Environment Management Authority
PIT	Project Implementation Team
RAP	Relocation Action Plan
RPF	Resettlement Policy Framework
SA	Sexual Assessment
SEA	Sexual Exploitation & Abuse
SHP	Sexual Harassment Plan
SRA	Sexual Risk Assessment
SEP	Stakeholder Engagement Plan
TA	Technical Assistance
TOD	Transit Oriented Development
UIC	International Union of Railways
TSI	Technical Specification for Interoperability

1 Background

Kenya Railways (KR) is a State Corporation established in 1978 pursuant to the Kenya Railways Act, Cap 397 Laws of Kenya. It is mandated to develop an integrated rail network and provide rail and inland waterways transport services in the Country.

The Kenya Urban Mobility Improvement Project (KUMIP) is a World Bank-financed project under preparation that aims to transform urban mobility in the Nairobi Metropolitan Area through the development of an integrated, financially sustainable and low-carbon public transport network. The project addresses the chronic underperformance of the Nairobi Commuter Rail network, a metre gauge railway spanning four lines radiating from Nairobi Central Station, which currently operates at low frequency, with ageing diesel rolling stock, degraded track and civil infrastructure, inadequate stations and minimal integration with other public transport modes. The project will involve the modernization of the Nairobi Central–Thika corridor, comprising full track and civil infrastructure renewal, including bridges, drainage and level crossing upgrades; station modernization with universal access, gender-informed safety design and intermodal interchange; procurement of rolling stock; traction electrification; signaling and telecommunications upgrades; operationalization of the Makadara Depot; and deployment of an Integrated Automated Fare Collection System. The project will also support transit-oriented development planning and land-based financing at priority station areas along the corridor, and institutional strengthening of Kenya Railways Corporation and other transport-related authorities involved in the project.

KR has engaged a Consultant to undertake the Feasibility Study and Front-End Engineering Design (FEED)/Basic Engineering Design for the entire NCR network over a period of 24 months, with priority given to the Nairobi–Thika Line (Line 2). The September 2026 Interim Feasibility Report from the ongoing study indicates that complete track renewal and review of the existing track work will be required. The principal civil engineering challenges include upgrading the track formation and alignment, earthworks, drainage and structures within a constrained and increasingly urbanized right-of-way, while maintaining railway operations during construction. Existing bridges, culverts and other structures will require detailed condition assessment to determine the appropriate rehabilitation, strengthening, replacement or modification measures. The corridor has 22 identified level crossings, for which the interim assessment indicates 10 grade separations, one protected level crossing and 11 permanent closures. The design will also need to address road and utility interfaces, access and other right-of-way constraints. These findings remain subject to verification and refinement through the ongoing surveys, investigations and FEED/Basic Engineering Design.

KR therefore wishes to engage an individual Railway Civil Engineer for 12 person-months to provide specialist technical support during the Feasibility Study and FEED/Basic Engineering Design. The Expert will support the Project Implementation Team (PIT) in reviewing and assessing the Consultant's proposed railway civil infrastructure solutions, including track and alignment, geometry deterioration forecasting, stations and boarding interfaces, bridges, drainage and associated

hydrology/hydraulic requirements, level crossings, earthworks and formation. The Expert will also review the Consultant's technical outputs, identify civil engineering risks and deficiencies, and provide actionable recommendations to support technical decisions and implementation.

No additional Level of Effort (LOE) beyond the authorized milestone allocation shall be expended without prior written approval. Unused LOE shall not automatically roll forward without justification.

The Expert shall provide technical support to the PIT throughout the assignment and report to the PIT Team Leader.

2 Objectives of the Assignment

The objective of this consultancy is to;

- i. Provide technical expertise in integrated rail systems engineering, advisory and technical advisory support to PIT;
- ii. Review feasibility study reports, RAMS artefacts, designs, specifications and bidding documents submitted by the consulting firm;
- iii. Advise the PIT on international best practices to be adopted for the feasibility study and FEED/Basic design, with adherence to quality standards, on schedule risk mitigation, and on achieving project goals on schedule and within budget.

3 Scope of Services

The scope of service for the Individual expert shall be to;

- i) Provide technical review of civil engineering outputs produced by the FEED consultant, including track alignment, station layouts, Platform–Edge–Door (PED) interface and evacuation flow assessment, and associated infrastructure.
- ii) Review of feasibility study reports, including inception report, independent validation of design inputs, the draft feasibility report, final feasibility report and FEED/Basic Engineering designs.
- iii) Review and propose relevant international (EN, UIC, TSI scope list) standards for railway track systems.
- iv) Review the Bidding Documents, Technical Specifications, Requests for Proposals, Terms of Reference, and the PIT comment log deliverable.
- v) Review Reports and the required hazard traceability, submitted by the Project Consultant.
- vi) In liaison with the PIT, the expert shall assist in the preparation of reports (ad hoc, monthly, quarterly, annually and completion) per the KRC reporting template.

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- vii) Provide input on materials, railway engineering components, Persons with Reduced Mobility Technical Specification for Interoperability (PRM TSI) alignment, and systems integration.
 - viii) Support capacity building of KRC staff on railway civil engineering, based on identified needs and agreed priorities.
 - ix) Provide technical advisory services on railway civil engineering to KRC, as requested.

4 Outputs and Deliverables

In line with the scope, the Railway Engineer will deliver the following outputs:

- i) Progress/ad hoc reports per KRC template.
- ii) Technical review reports with a RAMS commentary section of the feasibility studies/FEED/Basic engineering designs.
- iii) Report, including a compliance scorecard, on compliance with international rail standards and best practices in railway engineering systems.
- iv) A final report upon project completion summarizing outcomes, performance metrics, lessons learnt, life cycle cost (LCC) considerations and future recommendations.

5 Assignment Duration and Location

5.1 Assignment Duration

The total Level of Effort (LoE) is 12 person-months over a period of 24 months coinciding with the duration of the feasibility study and FEED/Basic Engineering Design phase. The Consultant's inputs shall be intermittent and demand-driven, based on project needs. The Consultant will undertake tasks as agreed with the Client, each assigned an indicative number of person-days prior to commencement. These person-days may be adjusted through prior consultation and mutual agreement between the Consultant and the Client. The Consultant shall not exceed the agreed LoE ceiling without prior written approval from the Client.

5.2 Mode of Engagement

The assignment shall be implemented under a Time-Based Contract for Individual Consultants in accordance with the World Bank Procurement Regulations for Investment Project Financing. Payments shall be based on actual time inputs (person-days) multiplied by agreed remuneration rates, subject to satisfactory performance.

5.3 Assignment location

The in-country assignment will be primarily based in Nairobi, Kenya, at Kenya Railways offices. Periodic site visits to the Nairobi-Thika rail corridor and associated project sites will be required. Remote working arrangements may be accommodated for specific tasks such as document reviews, per agreement with the Client and ensuring effective communication and responsiveness.

6 Qualifications and Experience

The individual expert shall be a suitably qualified and experienced professional railway engineer, with the following qualifications and skills.

6.1 Minimum Qualification Requirements

- i) A Bachelor's degree in either Civil Engineering, Transportation Engineering, Railway Engineering, or an equivalent discipline with railway specialization.
- ii) Demonstrated personal responsibility for technical review/design of railway civil infrastructure works including track rehabilitation, station design and civil structures, on at least two assignments on urban or suburban railway corridors
- iii) Experience with World Bank-funded or projects funded by similar development partners, specifically FIDIC Red/Yellow/Silver Book.
- iv) In-depth knowledge of railway systems, including track design, rolling stock, signalling safety and train operations.
- v) Excellent communication, leadership, and stakeholder management skills, with the ability to coordinate multidisciplinary teams and ability to mentor. All recommendations shall be impartial, evidence-based, and vendor-neutral, with no preference for specific suppliers unless transparently and technically justified.
- vi) Knowledge in international railway standards (e.g., UIC, AAR, AREMA, ISO, EN)
- vii) Registered Professional Engineer with an internationally or nationally recognized engineering body; registration with the Engineers Board of Kenya or willingness to obtain temporary registration is desirable.

6.2 Desired Skills and Competencies

- i) Proven track record in railway geometry competence, designing track layouts including alignment, geometry and elevation, and computing cant deficiency.
- ii) Ability to interpret, assess and comment on civil engineering drawings, specifications and geotechnical calculations produced in standard railway design software
- iii) Knowledge of various track materials such as rails, sleepers, ballast and fastening systems using the relevant UIC or EN track component standards (e.g., EN 13674 for rails, EN 13230 for sleepers, UIC 713 for ballast) corrosion mitigation thresholds.
- iv) Be knowledgeable and have exposure to international track design, construction, and safety standards.
- v) Understanding of how track geometry affects rolling stock dynamics and signalling system performance
- vi) Ability to exercise sound and timely judgment.
- vii) Exceptional interpersonal skills and effective communication (maintaining stakeholder influence logs), both orally and in writing.

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- viii) Experience in a rail construction environment for plant and maintenance depots and yard integration.
 - ix) Analytical and problem-solving skills.
 - x) Presentation, reporting, editing, and proofreading skills.
 - xi) Leadership and administrative skills,

The expert should be able to advise the PIT on all aspects of the project regarding the interpretation of recommendations made by consultant(s) in feasibility studies and design reports, and will follow up on recommendations from the consultants' reports. The expert shall provide a signed declaration confirming the absence of any actual, perceived, or potential conflict of interest related to this assignment.

7 Reporting

7.1 Reporting structure

The Individual Consultant shall report directly to the Project Team Leader of the Kenya Railways Project Implementation Team (PIT). The reporting structure is designed to ensure effective coordination, timely decision-making and clear accountability throughout the assignment.

7.2 Working Relationships

The Consultant will work closely with and interface with the following entities:

- Kenya Railways Project Implementation Team (PIT) - primary client and day-to-day coordination;
- FEED/Basic Engineering Design Consultant - technical reviews and design discussions;
- Kenya Railways Operations Department - operational requirements input;
- Kenya Railways Engineering and Technical Services Department - maintainability and lifecycle considerations;
- World Bank Task Team - periodic progress updates and safeguards compliance;
- Other project consultants and technical specialists as required.

7.3 Coordination mechanisms

- Bi-weekly technical coordination meetings with FEED consultant during active design periods;
- Regular joint inter-expert coordination sessions chaired by the PIT Team Leader.
- The expert is required to coordinate with the other individual technical experts involved in the project on a more frequent basis as needed.
- Monthly progress meetings with PIT senior management;
- Ad-hoc technical workshops and review sessions as required by project milestones.

7.4 Decision making authority

The Consultant shall:

- Have authority to request additional information and clarifications from the FEED consultant;
- Provide technical recommendations and approval/non-approval recommendations to PIT;
- Escalate critical technical issues requiring management decisions to Project Team Leader;
- Not have direct contractual authority over the FEED consultant - all formal communications shall be channelled through PIT.

7.5 Quality Assurance

The Consultant's work will be subject to quality assurance review by the Project Team Leader. The World Bank may conduct periodic supervision missions and review the Consultant's technical outputs as part of project oversight activities.

8 Schedule of Payments

8.1 Payment Basis

Payments shall be made monthly based on actual person-days worked, supported by invoices and certified timesheets approved by the Project Team Leader.

8.2 Payment Frequency

Payments shall be made monthly, subject to submission and approval of timesheets and brief progress reports.

8.3 Contract Ceiling

The total payments shall not exceed the ceiling corresponding to twelve (12) person-months (264 person-days).

8.4 Approval of Payments

All payments shall be subject to approval by the Project Team Leader.

8.5 Reimbursable Expenses

Reimbursable expenses shall be limited to pre-approved travel and subsistence costs and shall be reimbursed at actual cost upon submission of supporting documentation

8.6 Estimated Time-Input.

The allocation of person-days below is indicative only and may be adjusted based on assignment requirements. It does not constitute payment milestones.

Table 1: Indicative Level of Effort Allocation

Item	Activity	Activity Description	Output / Deliverable	Estimated Expert Input Duration (Person-Months)
1	Inception Phase	Review and familiarization with all relevant project documents, contracts, and feasibility study inception report and any other technical support related to the project	Expert's Inception Report and comments as applicable	1
2.1	Feasibility Study	Review of Draft Feasibility Reports (as per Section 3(vii)) and any other technical support related to the project	Review Report on Draft Feasibility Study and comments as applicable	1
2.2	Feasibility Study	Review of Final Feasibility Reports (as per Section 3(vii))	Review Report on Final Feasibility Study	1
3	FEED / Basic Engineering Design (Corridor Level)	Review of Designs / FEED / Basic Engineering Reports and Bid Documents for Nairobi–Ruiru–Thika Line, Access Roads, and TOD and any other technical support related to the project	Review Report on FEED / Basic Engineering Designs and Bid Documents (Nairobi–Ruiru–Thika) and comments as applicable	2
4.1	Network-Wide FEED Review	Review of Interim Design / FEED / Basic Engineering Report for Entire Commuter Rail Network, Access Roads, and TOD and any other technical support related to the project	Review Report on Interim FEED and comments as applicable	1
4.2	Network-Wide FEED Review	Review of Draft Final Design / FEED / Basic Engineering Report for Entire Commuter Rail Network, Access Roads, and TOD and any other technical support related to the project	Comments and Review Report on Draft Final FEED and comments as applicable	2
4.3	Network-Wide FEED Review	Review of Final Design / FEED / Basic Engineering Report and Bid Documents for Entire Commuter Rail Network, Access Roads,	Comments and Review Report on Final FEED and Bid Documents and	1

Item	Activity	Activity Description	Output / Deliverable	Estimated Expert Input Duration (Person-Months)
		and TOD and any other technical support related to the project	comments as applicable	
5	Investment Program	Review of Investment Program for NCR Network, Station Areas, Access Roads, and Transit-Oriented Development	Review Report / Comments on Proposed Investment Program and comments as applicable	1
6	Operations, Safety & Security	Review of Operations, Safety, and Security Plans and any other technical support related to the project	Review Report on Operations, Safety, and Security Plans and comments as applicable	1
7	Capacity Building & Completion	Input into Capacity Building Program for Counterpart Staff and Verification of Completion Deliverables and any other technical support related to the project	Capacity Building Review & Completion Report and comments as applicable	1
	Total			12

8.7 Withholding of Payments

Payments may be withheld in case of unsatisfactory performance or missing reports.

8.8 Time Records and Audit

Time records may be audited by KR and the World Bank.

8.9 Currency of Payment

Payment shall be made in Kenya Shillings with a USD option for expatriate consultants.

9 Provision of Required Facilities

KR Inputs and Facilities

9.1 Office space and facilities

Kenya Railways shall provide the following office facilities to the Consultant:

- Furnished office space with desk, chair, and secure document storage at Kenya Railways headquarters in Nairobi;

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- Access to internet connectivity, printing, photocopying, and document binding services;
 - Meeting room facilities for technical workshops and review sessions;

9.2 Project Information and data

Kenya Railways shall provide access to the following information and data:

- Existing railway infrastructure data including track layouts, signalling system inventories and telecommunication network diagrams where applicable;
- Current operational data including train timetables, traffic volumes, and operational procedures;
- Historical maintenance records and performance data for existing systems;
- Project documentation including feasibility studies, design reports, and other relevant technical documents prepared by the FEED consultant;
- Applicable Kenyan railway standards, regulations, and operating rules;
- Access to KR's document management system and project collaboration platforms.

9.3 Site access

Kenya Railways shall facilitate and guarantee site access for the Consultant to conduct field inspections, site assessments, and verification surveys along the Nairobi-Thika corridor and associated facilities. This includes coordination with operational teams to ensure safe access to operational railway infrastructure and provision of required personal protective equipment (PPE) and safety briefings.

9.4 Counterpart Staff

Kenya Railways shall assign designated counterpart staff who will work with the Consultant under the Consultant's technical guidance during document reviews, site visits, and capacity building activities. These staff shall have appropriate qualifications and shall be made available according to agreed work schedules.

9.5 Coordination with other Agencies

Kenya Railways shall facilitate coordination and information exchange with relevant government agencies, regulatory bodies, utility providers, and other stakeholders as required for the Consultant to effectively execute the assignment. This includes facilitating meetings, obtaining necessary clearances, and supporting information requests.

9.6 Travel and transportation

For site visits and field inspections within Kenya approved by the Project Team Leader, Kenya Railways shall facilitate transportation arrangements or reimburse approved transportation costs in accordance with existing company policies. Accommodation costs for domestic travel shall be reimbursed at prevailing government rates upon submission of receipts.

Travel costs for mission- assignments shall be reimbursed.

10 Obligations of the Consultant

10.1 Professional standards

The Consultant shall:

- Comply with Kenya Railways code of ethics

10.2 Resource provision

The Consultant shall:

- Provide all necessary resources including laptop computer, software licenses, technical reference materials, and professional subscriptions required to execute the assignment;
- Ensure availability and responsiveness throughout the assignment duration according to agreed time commitments

10.3 Quality Assurance

The Consultant shall:

- Ensure that all deliverables meet contractual requirements and professional quality standards;
- Conduct thorough self-review and quality checks before submission of reports and technical documents;
- Ensure technical outputs are consistent with contractual requirements, professional standards, legal frameworks, and international best practices;
- Respond to Client comments and revise deliverables as required within agreed timelines.

10.4 Communication and coordination

The Consultant shall:

- Maintain regular communication with the Project Team Leader and report on assignment progress;
- Immediately notify the Client of any issues that may affect deliverable quality, schedule, or budget;
- Participate in coordination meetings, technical workshops, and review sessions as scheduled;
- Maintain professional and constructive working relationships with all project stakeholders.

10.5 Confidentiality and Data Security

The Consultant shall:

- Maintain strict confidentiality of all project information, data, and documents not in the public domain;
- Sign a Non-Disclosure Agreement (NDA) with Kenya Railways prior to commencement of services;

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- Implement appropriate cybersecurity measures to protect sensitive project data, particularly information related to signalling systems, telecommunication network architecture, and security-sensitive infrastructure details;
 - Not disclose, reproduce, or utilize confidential information for purposes other than this assignment without prior written consent from Kenya Railways;
 - Return or securely dispose of all confidential documents and data upon completion of the assignment.

10.6 Health Safety and environment

The Consultant shall:

- Comply with all applicable health, safety, and environmental regulations during site visits and field activities;
- Use required personal protective equipment (PPE) and follow KR safety protocols when accessing operational railway infrastructure;
- Report any safety incidents or near-misses immediately to the Project Team Leader

10.7 Conflict of Interest

The Consultant shall:

- Disclose any actual or potential conflicts of interest that may arise during the assignment;
- Not have any business or financial relationships with the FEED consultant or potential bidders for the design-build contract;
- Maintain independence and avoid any activities that could compromise objectivity in technical reviews and recommendations.

10.8 Compliance with laws and regulations

The Consultant shall comply with all applicable laws, regulations, and administrative requirements of the Republic of Kenya, as well as World Bank procurement and safeguards policies applicable to the assignment.