NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
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NOTICE TO THE PUBLIC TO SUBMIT COMMENTS ON AN ENVIRONMENTAL IMPACT ASSESSMENT STUDY REPORT FOR THE PROPOSED ESTABLISHMENT OF BUS RAPID TRANSIT LINE 5 ON OUTER RING ROAD , NAIROBI COUNTY

Pursuant to Section 59 of the Environmental Management and Coordination Act, 1999, the National Environment Management Authority (NEMA) has received an Environmental Impact Assessment Study Report for the above proposed project.

The proponent, Kenya Urban Roads Authority, intends to establish a Bus Transit Line (BRT) Line 5 transport system which will include the construction of 2No BRT line on the median of outering road approximately 10.435km long connecting Airport North Road and Thika Road,3No.River bridges, 13No.BRT stations, drainage works, barrier on the outer extent of the BRT lane, 5 acre parking depot along Mombasa road just after city cabanas interchange, street lightning, electromechanical works associated works and facilities.

The following are the anticipated impacts and proposed mitigation measures:

Impacts	Mitigation Measures
Occupational Safety and Health (OSH)	• The Proponent shall ensure that the Contractor is committed to adherence to OSH Rules and Regulations as stipulated in the Occupational Safety and Health Act (OSHA), 2007. • Provision of appropriate Personal Protective Equipment (PPE) and ensuring that workers while at work always use the provided PPE as the last line of defence in risk control at the workplace. • Proactive risk management of safety at the workplace centred at identifying precursors that lead to risk, identifying threats before they become dangerous, and understanding what behaviours and attitudes are influencing safety performance.
Noise and Vibration Pollution	• On-site power gen-sets shall be covered with an acoustic enclosure and fitted with muffler and shall conform to EMC (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 and the Noise Prevention and Control Rules, 2005; • Prescribe noise reduction measures if appropriate noise buffering. • Inform the surrounding community on the permissible noise levels and best working hours; • Use quiet equipment and regular maintenance of machinery to ensure that noise produced from machinery is kept to a practicable minimum; • Limit pickup trucks and other small equipment to a minimum idling time ; • Vehicles hired for bringing construction materials at site shall conform to the noise emission standards and shall be operated during non-peak hours.
Air Pollution	• All dusty materials shall be sprinkled with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; • Cover stockpiles of sand, soil and similar materials or surround them with wind breaks; • Watering all roads used for any vehicular traffic at when need arises and restrict vehicle speed to 15 miles per hour; • Down wash of trucks (especially tyres) prior to departure from site; • Vehicles delivering loose and fine materials like sand and fine aggregates shall be covered to reduce spills on road; • Post signs that limit vehicle speeds onto unpaved roads and over disturbed soils; • Rapid onsite construction so as to reduce duration of traffic interference and therefore reduce emissions from traffic delays.
Interruption of Existing Installations and Services	• Establish the various service providers whose installations are to be interrupted; • Identify key interests of each of the stakeholders and development of utility relocation action; • The work plan should then be implemented to ensure smooth execution of the construction.
Loss of Biodiversity	• Ensure proper demarcation of the Project area to be affected by the construction works. • KURA will engage relevant stakeholders such as Kenya Forest Service (KFS) and other Community Based Organizations (CBOs) in growing trees along the Outer Ring Road.
Flooding	• Design team has incorporated the impacts of flooding in the Project design by utilizing the flood risk assessment guide; • The BRT infrastructure will be elevated in areas where flooding is common; • The BRT Project System will have an option for collecting floodwater before it pools by placing rain barrels on the side of the BRT infrastructure; • The design will provide a concentrated location for water collection and contain rain that would otherwise pool on the street; • Road shoulders and storm drains shall be kept free from debris to reduce the severity of flooding; • KURA to liaise with NCCG and Water Resources Authority (WRA) for development and implementation of an appropriate Storm Water Management Plan anchored on the watershed management concept.
Increased Temperatures	• Planting of trees after construction of the BRT infrastructure to provide shade and help to reduce the impact of carbon emissions and restore natural ecosystems; • Increase investment in BRT System maintenance and repair programs, focusing on the use of heat-resistant road materials; • Greater usage of permeable materials in civic infrastructure to reduce the urban heat island effect; • The BRT buses will improve public transportation and reduce private vehicle usage thus helping in reducing extreme heat; • Adjustment of both bituminous mixture design and structural design of the pavement; • Change of the design for concrete pavement mixture to lower the amount of water needed.
Generation and Disposal of Solid Waste	• Carefully budget to ensure that the amount of construction materials left on site after construction is kept to a minimal; • Consider the use of recycled or refurbished construction materials; • Purchase and use once-used or recovered construction materials; • Use of durable, long-lasting materials that will not need to be replaced as often, • Provision of facilities for proper handling and storage of construction materials to reduce the amount of waste caused by damage or exposure to the elements; • Use of construction materials that have minimal packaging to avoid the generation of excessive packaging waste; • Use of construction materials containing recycled content when possible and in accordance with accepted standards; • Adequate collection and temporarily storage of waste on site shall be ensured to facilitate sustainable waste management including but not limited to safe transportation of waste to designated waste disposal site.
Increased Water Demand	• Ensure that water is used efficiently at the workplace by sensitizing construction workers to avoid irresponsible water use; • An assessment and evaluation of the identified water sources should be done against the estimated water demand during construction.
Increased Storm Water Runoff from New Impervious Areas	• Put in place appropriate measures aimed at minimizing soil erosion and associated sediment release from the proposed Project site during construction.
Traffic Disruption	• Erect temporary road signs that are visible both during the day and at night indicating road works and restrictions; • Restrict construction activities at the median of Outer Ring Road as much as possible; • Set aside footpaths and parking areas; and • Areas where construction is taking place should have clearly marked speed reduction signage.
Fuel and Oil Spills	• Control dangers of oil and fuel spills by maintaining machinery in specific areas designated for this purpose; • Prompt cleaning of oil and fuel spills, and proper disposal of clothing and rags contaminated with oil; • Construct sealed areas for the storage of pollutants so as to avoid any accidental discharge that would pollute water resources; and • Oil and fuel shall be stored in storage tanks within a secure compound.
Generation of Wastewater	• No grey water runoff or uncontrolled discharges from the site/working areas (including wash-down areas) to watercourses and/or water bodies shall be permitted; • Water containing such pollutants as cements, concrete, chemicals and fuels shall be discharged as provided in EMC (Water Quality) Regulations, 2006. • The Contractor shall also prevent runoff loaded with sediment; • Wash areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas (including groundwater) are not polluted.
Soil Erosion and Sedimentation	• The Contractor should avoid working on very steep alignments; • Avoid cut-slope creation and embankments greater than the angle of response for the soil type; • The Contractor should minimize ground clearance area by working only within the road reserve; • Balance the cut-and-fill requirements by rightly choosing the route in order to avoid creating excess spoil materials and borrow pits; • Store and re-use top soil during the initial excavation to be deposited on the slopes to form a superficial layer for seedling establishment; • Construction of riprap, gabions, cribs or other wooden barricades and grid work battered back against the slope.
Asphalt Mixing and Hazardous Materials	• All concrete and asphalt plants shall be operated and maintained in accordance with the manufacturers' specifications and manuals; • The plant should be located a distance from residential areas with a buffer zone in between; • Fit the exhaust with appropriate acoustic design to arrest noise pollution; • Control visual impacts by ensuring that the design camouflages with the surrounding and trees are maintained to enhance aesthetics; • The plant should be fitted with dust collectors and operated on venture principle; • Wastewater from the wet dust collector and cleaning of the equipment should be channeled to dedicated settling tanks and the effluent dried to form sludge which is recycled; • Install absorbent mineral aggregates such as limestone for the absorption of sulphur oxides from the combustion of fuels; • There should be regular maintenance of the burner and optimization of the combustion volume to reduce emission of hydrocarbons; • Allow for correct air-fuel mixture and appropriate retention time for complete combustion to limit production of carbon oxides.
Fire Risks	• The Contractor's staff shall undergo fire safety training and must be instructed in the correct use o f fire-fighting equipment; • The site shall have suitable emergency routes and exits, • The Contractor shall ensure that fires, except for controlled fires for burning rubbish • The Contractor shall have trained firefighting personnel armed with adequate fire-fighting equipment; • Electrical systems must only be installed by a qualified electrician and must be frequently maintained; • High-intensity lights should not be hidden or placed near flammable material; • The Contractor shall ensure any welding activity is undertaken in areas free of flammable materials.
Labour Influx	• Prepare a labour influx plan to manage labour influx; • Casuals and skilled labour will be sourced from the local population as far as possible to minimize on influx of foreigners into the community; • Use of manual labour where possible to ensure more employment of locals and hence ensure support of the Project throughout the construction process; • Sensitize workers on the different cultures and inculcate tolerance.
Pollution of Rivers	• Reduce plastic consumption and reuse/recycle as much as possible; • Ensure properly disposal of chemical cleaners, oil, and non-biodegradable materials to keep them from going into the rivers; • Maintain the machineries and vehicles so that they don't leak oil, antifreeze, or coolant on the ground; and • Remove all the solid waste that has been dumped into the storm water drainage system of Outer Ring Road.
Demolition of Warehouses at the Depot Site	• Demolition to be carried out in accordance with the standard procedures by ensuring that all plant and construction equipment are fitted with noise control measures and shall strictly conform to the EMC (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 and Noise Prevention and Control Rules, 2005; • Ambient air quality measurements shall be undertaken and maintained in compliance with EMC (Air Quality) Regulation, 2014.

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3. **County Director of Environment, NAIROBI COUNTY.**

A copy of the EIA report can be downloaded at **www.nema.go.ke**

NEMA invites members of the public to submit oral or written comments within thirty (30) days from the date of publication of this notice to the Director General, NEMA to assist the Authority in the decision making process for this project. Kindly quote ref. No. **NEMA/EIA/5/2/2249**

Comments can also be e-mailed to **info@nema.go.ke**

DIRECTOR GENERAL

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