



National Environment Management Authority

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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) STUDY REPORT FOR THE PROPOSED UPGRADING OF JARAMOGI OGINGA ODINGA TEACHING AND REFERRAL HOSPITAL ON PLOT L.R NO.KISUMU MUNICIPALITY/BLOCK 4/809, ALONG KISUMU-KAKAMEGA ROAD, KONDELE, KISUMU COUNTY.

Pursuant to Section 59 of the Environmental Management and Coordination Act CAP 387, the National Environment Management Authority (NEMA) has received an Environmental Impact Assessment Study Report for the above proposed project.

The proponent, **Jaramogi Oginga Odinga Teaching & Referral Hospital**, proposes to upgrade the existing level 5 hospital to level 6 hospital with a 2000 bed capacity comprising of 20No bed Intensive Care Unit, 20 bed High Dependency Unit, 60No. bed Emergency & Accidents Unit, 4No. operating theatres, 150No. bed general wards, central pharmacy diagnostic Unit, 10No. specialized clinics to accommodate (oncology, psychiatric, paediatric, endocrine, haematology, cardiology, Dental, cardothoracic, endocrine, Renal, Gastral, orthopaedic, forensics and neuro-surgery), associated amenities and facilities on plot Lr no. Kisumu Municipality/block 4/809, along Kisumu-Kakamega Road, Kondele, Kisumu County.

The following are the anticipated impacts and proposed mitigation measures:

Environmental	Mitigation measures
Destruction of utility lines along access road	• Proper surveying to identify location of the utility lines • Reinforcements to protect the delicate utility lines • Liaison with the utility service providers in case of relocation and or re-positioning • Marking of the positions of the utility lines specially to alert truck drivers • The developer to indemnify service providers such as Safaricom, Telkom Kenya, Kenya Power & Lighting Company, Kisumu City Water and Sewerage Company, Kisumu County Government and other service providers against any alteration and or damage to existing service utility lines as a result of any of the construction works on this site • Have a specific entry and exit point to and from the site • Replace and or repair any affected utility lines immediately to avoid unnecessary inconveniencing the consumers • Repair the main access road to site once affected by the construction works and or by trucks carrying material supplies to and from the site • Construction works to be completed within the approved time frame as per the schedule of activities.
Increased surface water run-offs and or flooding	• Provision of storm water trenches and drains on site • Connection of the site to the Nairobi trunk storm drainage system. • All roof water and surface runoff water to be collected and stored in water reservoirs to use on site • Proper and regular maintenance of drainage systems
Fire risk	• All buildings on site to be made of non-combustible material • One 9kg Co2 fire extinguisher shall be stationed at strategic points all-round the premises • Water hydrants should be installed. • All the electrical connections shall be connected to one central emergency stop switch; in addition, they shall be designed by a registered engineer • Liaison with emergency service providers such as the Kisumu City Fire department, Kenya Police, Kenya Red Cross and Public Health directorate
Air pollution through exhaust fumes and dust emissions	• All trucks and any other mode hauling soil sand and other loose materials to and from the site should be covered. • All these trucks must maintain at least two feet of free board to prevent overflow of materials as this is recipe for free fall thus pollution. • The site should be enclosed with dust-proof net • Workers on site to have dust masks • Vehicles and machines to be switched off when not in use on site as roaring engines blow up dust and release exhaust fumes • If possible, use of electrically operated machines to reduce exhaust fumes • Control speed of construction vehicles to reduce dust generation • Sprinkling of water on dry soils in excavated areas, pavements and staging areas on site to suppress dust.
Occupational health & safety	• All workers and visitors on site to use mandatory protective gear • Awareness creation on communicable and STDs • Strict observation of ministry of Health guidelines on prevention and management of Covid-19 • Maintain the right number of workers on site at any one time • Unattended entry to the project site to be restricted • Use of efficient and well-maintained machines to lift and transfer materials • Removal of all dangerous waste materials that may pose a threat such as metal bars, wires, glass and broken equipment. • Availing of fully equipped first Aid kitties to help address emergencies. • Installation of firefighting equipment at strategic points • Warning signs to all users and visitors be placed at appropriate places
Increased traffic generation	• Provide walkways for use by pedestrians to avoid competition between hard and soft traffic • Transportation of construction materials and excavated soil to be carried out during off-peak hours only. • Sensitization of truck drivers to avoid unnecessary road obstruction • Provision of ample parking on-site and plot frontage. • Sign posts to guide motorists to and from the construction site and the Construction site

Noise pollution and excessive vibrations

- Comply with the maximum permissible noise levels for construction sites as provided for in the second schedule of the EMCA (Noise and excessive vibration pollution) control regulations of 2009 which provides that Vehicular Noise pollution from hooting/horn and or engine not to exceed 84dB (A) as per the noise regulations 2009 (See Appendix 1)
- Use of well-maintained and serviced machines and equipment for this very purpose.
- Ensuring that all construction activities to be restricted to day-time(008-1700hrs)
- Workers in the vicinity of high-level Noise to wear safety & protective gear.
- Install portable barriers to shield compressors and other small stationary equipment.
- Location of all stationary noise sources from high sensitive primary receptors as far as possible such as the adjoining residential Developments

Increased Water demand

- Construct water reservoirs and rainwater harvesting systems for conservation
- Use of tanker water for construction works
- Management of water usage for construction and re-use in lawns/gardens.
- Avoid unnecessary water wastage
- Recycling of water where possible
- Install water conserving taps that turn off automatically when water is not being used.

Loss of Habitat and Biodiversity

- Removal of only necessary vegetation where construction works will be carried out
- Proper demarcation of the project site to establish only the area that will be affected by the construction works to avoid spilling over to the rest of the plot
- Landscaping of the site after construction by planting grass, flowers and other forms of Vegetation in all open spaces
- Encourage terrace gardening (where applicable)
- In the case of possible pest control such as termite invasion etc, secure services of a registered and Licensed (By NEMA and the County Government) experts in pest Control. They MUST use only Eco-friendly and approved Chemicals by the Government

Increased Solid Waste generation

- Use of temporary Eco-toilets for management of human waste during construction phase
- Ensure that all the solid waste management during construction and operational phases of the project do comply with the Environmental Management and Coordination Act (Waste management) regulations of 2006)
- Use of construction materials that need minimal packaging to reduce packaging wastes on site
- Ensure a continuous review of waste management procedures with changing technology and regulatory changes.
- Incorporate suitable facilities for collection, segregation and safe disposal of solid wastes.
- Provide bins for solid waste disposal in every Waste generation points

Increased liquid waste Generation

- Ensure that all liquid waste generated on site is channelled to the Sewer and complementary soak pit on site.
- All channels leading from the parking bay to have grease and oil filters and interceptors
- Where applicable, use Bio-digester tanks for recycling waste waters for reuse on site for landscaping etc
- Construction works to be done to standard to avoid incidences of spillages and linkages.
- Any sludge in the sewer system to be removed regularly by a private ex-hauster contracted for the same.
- Proper maintenance of the waste water drainage systems

A full report of the proposed project is available for inspection during working hours at:

**1. Director General
National Environment and
Management Authority (NEMA),
Popo Road, off Mombasa Road
P. O. Box 67839-00200,
NAIROBI.**

**2. County Director of Environment,
KISUMU 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/ENVIS/SR/00711**

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

**MAMO B. MAMO, PhD, EBS
DIRECTOR GENERAL**

This advertisement is sponsored by the proponent.