



NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

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NOTICE TO THE PUBLIC TO SUBMIT COMMENTS ON AN ENVIRONMENTAL IMPACT ASSESSMENT STUDY REPORT FOR THE PROPOSED MACHAKOS TOWN WATER SUPPLY PROJECT, MANZA, MACHAKOS CENTRAL CONSTITUENCY IN MACHAKOS COUNTY

Pursuant to Regulation 21 of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003, the National Environment Management Authority (NEMA) has received an Environmental Impact Assessment Study Report for the above proposed project.

The Proponent, Athi Water Services Board, is proposing to design and construct a new water supply infrastructure comprising reservoir on Miwongoni River, treatment works, transmission lines, storage tank and distribution network for Machakos town.

The following are the anticipated impacts and proposed mitigation measures:

Impacts	Proposed mitigation Measures
Air Quality	<ul style="list-style-type: none"> Maintenance of equipment and machinery by regular servicing to maintain efficiency in combustion and reduce carbon emissions; Use environmentally friendly fuels such as low sulphur diesel; minimize idling of machinery; ensure no burning of waste on sites/non-designated areas; Sprinkling of all active construction areas as and when necessary; Control of construction vehicle speeds by imposition of speed limits; Immediate backfilling of trenches and rehabilitation of disturbed areas once completed; Use of tarpaulins to cover trucks carting away spoil using public roads; Proper planning in transportation of spoil to ensure that the number of trips done or the number of vehicles used is as minimum as possible; and Provision of appropriate Personnel Protective Equipment such as dust masks to site workers Strict adherence to Air Quality Regulations, 2014.
Visual & landscape	<ul style="list-style-type: none"> Reinstatement in accordance with the project's reinstatement specification; Avoidance of the removal of existing mature trees which form important visual focal points; and Replacement of any removed trees during the reinstatement phase using indigenous species of local provenance
Water environment	<ul style="list-style-type: none"> Develop and implement a site construction waste and wastewater management plan to minimize environmental damage from construction activities; Install secondary containment measures in areas where fuels, oils, lubricants etc. are stored and loaded or unloaded, including filling points; Implement soil erosion control measures at construction sites; Design and implement an agreed seasonal compensation flow regime during operation; Manage operations to avoid rapid fluctuations in downstream flow; Undertake regular (preferably continuous) flow monitoring downstream; Undertake regular water quality monitoring in reservoir, to include dissolved oxygen, nutrients (N & P), pesticides and nuisance plants; Seek an abstraction license from WRMA and adhere to the conditions of the license; Construction of silt check dams, traps and vegetation (capable of thriving in waterlogged conditions) at and upstream of the tail of the reservoir, along and across the valley
Ecology and biodiversity	<ul style="list-style-type: none"> Provide for rescue of rare or distressed animals. Selectively harvest tall trees within the inundation area prior to impoundment to force tree dwelling wildlife to migrate from the area prior to flooding; Begin reservoir inundation after the dry season once hibernating animals have emerged; Reduce the biomass that will be flooded by selective vegetation clearing; Implement 'nuisance' plant monitoring programme for the reservoir Minimize riverbed and shoreline disturbance (e.g. restricting access of construction activities and workers to susceptible areas that could contribute to sediment loading); Implement education programmes for construction workers on, inter alia: respect for wildlife and vegetation, avoidance of fires and accidental damage, and generally minimizing the footprint of the construction camp and work areas; Prohibit development of unnecessary spur roads off main access roads, to limit land degradation and habitat disturbance; Develop "good construction environmental management" protocols to reduce effects on vegetation and wildlife; Replant or take measure to encourage recolonization by native vegetation in disturbed or denuded areas immediately following construction.
Soil Resources	<ul style="list-style-type: none"> Back-fill material to be compacted to a similar value to the original surrounding soils to avoid subsidence as a consequence of rain water channeling; implementation of a project specific Reinstatement Plan which include mitigation for impacts to soils; and Implementation of spillage prevention and control measures for hazardous materials in use and storage at sites
Waste	<ul style="list-style-type: none"> Land-fill spoils as much as possible within the sites or identified fill areas; Felled trees, shrubs and stumps can be isolated for collection by locals as firewood; Organic wastes can be composted on site; Provide pit latrines at the camp(s) and construction sites for use by workers; Vehicle maintenance to be done off-site (at the construction camp's garage/workshop or commercial garage) and wastes (used oil, oily rags, cans and used parts) disposed in a designated area; Ensure that construction materials left over at the end of construction are used elsewhere rather than their disposal; Washing of concrete coated vehicles or equipment to be done off-site or in a designated wash area, a minimum of 50 feet away from drainage channels;

	<ul style="list-style-type: none"> Runoff from the on-site concrete wash area to be contained in a temporary pit where the concrete can set; The temporary pit to be lined with plastic or clay to prevent seepage of the wash water into the ground. The wash water should be allowed to evaporate or collected along with all concrete debris in a concrete washout system bin; To the extent possible, hydraulic test water should be discharged into the next section of the pipeline to be tested. Strict adherence to Waste Management Regulations , 2006
Noise and Vibrations	<ul style="list-style-type: none"> Portable hoods to be installed to shield compressors and other small stationary equipment where necessary; Pumps, generators and other mobile equipment to be sited as far as practicable from housing and other noise sensitive locations; The contractor to endeavor to use equipment installed with noise abatement devices as much as practicable; Idling time on trucks and other noisy equipment to be limited to a minimum; and personal protective equipment such as ear muffs will be provided to workers at the necessary. Adherence to Noise and Excessive Vibration Pollution (Control. Regulations, 2009
Land acquisition	<ul style="list-style-type: none"> Cash compensation based on market value of land or provide with option of replacement land within the village if available of equivalent size and quality; Cash compensation to be provided for lost agricultural productivity during the construction period; and Reinstatement of land to a least the condition it was in prior to construction
Occupational and public health, safety and security	<ul style="list-style-type: none"> Provision of all workers on site with the necessary Personal Protective Equipment; Workers accidents to be mitigated by enforcing adherence to safety procedures and preparing contingency plans for accident response; The Contractor to have qualified first aid personnel among the workers and maintain fully stocked first aid kits at the sites; Hazards and accidents involving the public to be minimized by controlling access to the construction sites; Contractor to ensure that workers have access to sanitary facilities at the sites and provide potable water. Inform local communities of major activities in advance; Endeavour to lay pipes and backfill as soon as possible to reduce the time of hazards exposure to the public from open trenches; Enforce and monitor road safety standards; Follow best practice to prevent the creation of breeding areas for vermin; Spray construction areas and roads regularly with water to suppress dust emissions; Ensure that potentially disturbing construction noise is not produced outside of working hours; Provide safety training, traffic management and place a high priority on public safety Ensure that the workers camp(s) and construction areas are open only to formal employees; Develop and enforce a strict code of conduct for workers to regulate behavior in the local communities Ensuring a safe and healthy environment for the construction workers Provide awareness training to the workforce regarding the transmission of STDs, and traffic safety awareness Structural dam integrity monitoring; Establishment and implementation of emergency preparedness plans; Maintenance of the perimeter fencing around the reservoir; and Creation of awareness among the surrounding community on safety and coexistence with the dam Ensure adherence to OSHA , 2007

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

**Principal Secretary,
Ministry of Environment and Forestry
NHIF Building, 12th Floor,
Ragati Road, Upper Hill,
P.O. BOX: 30126-00100, NAIROBI.**

**2. Director General, NEMA.
Popo Road, off Mombasa Road,
P.O. BOX 67839-00200, NAIROBI.**

**3. County Director of Environment
MACHAKOS COUNTY**

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

NEMA invites members of the public to submit 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/5/2/1 453**.

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

DIRECTOR GENERAL

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