E1369 rev.

ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED RECORDS & ARCHIVES CENTER

Submitted to:

MINISTRY OF PUBLIC SERVICE
P. O. Box 7003, Kampala
UGANDA

By:

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0 EXECUTIVE SUMMARY

1 Ministry of Public Service of the Republic Of Uganda intends to construct a Records and Archives Center at Plots 8-10 Lourdel Road in Kampala. The project is one of the components of the Uganda Public Service Performance Enhancement Program (UPSPEP). The facility will provide a safe repository for government records for the next 25 years.

2 The proposed site lies on a triangular tract of land measuring 1.348 acres in area and bounded by Ministry of Health to the west, Yusuf Lule Road (former Kitante Road) along the northern boundary, and Lourdel Road along the southern periphery. Based on its proposed functional requirements, the facility has four distinct zones, namely, repositories (stores), technical facilities, public and educational facilities and administrative offices. The facility will have 4500 square meters of car parking in conformity to KCC's requirement of one parking unit for every 40 m^2 of office space (occupancy). Functional components of the proposed facility as presented in the Final Design Report are summarized in the table below.

Basement	**Lower ground floor**	**Ground floor**	**1st and 2nd Floor**
Storage areas	Storage room	Repository areas	Repository areas
Service rooms	Sorting areas	Conference/lecture room	Exhibition area
Car park	Fumigation room,	Restaurant	Public reading areas
	Loading bay	Exhibition area	Offices
	Toilets	Offices	Toilets
	Conservation laboratory	Toilets	
	Kitchen		
	Microfilming room		

3 The site has a good cover of native tree species. The hedge along Yusuf Lule Road (former Kitante Road) and Lourdel roads is predominantly composed of mature trees. Construction operations will give priority to conservation of existing trees and hedges on site. The objective of proposed landscaping will

be to compliment existing faunal environment with a selection of aesthetic indigenous and exotic plants.

4 The proposed facility was designed to support a population of up to 300 people including employees and visitors during its operation. Construction of the facility will avail a significant number of jobs and revenue to suppliers of construction materials.

5 Location of the proposed facility has access to a public sewer, stormwater drainage, electricity grid, telephone lines and public roads.

Significant potential environmental impacts are summarized below.

6 **Negative construction phase impacts**

i) Facility construction implies an irreversible commitment of the plot from a residential site to public use site. Specifically this will affect the families currently residing at the site.
ii) This project will impact the short public road cutting across the southeastern part of the site, if it were closed during construction.
iii) Improper management of excavated or filled soil during site preparation has potential impair air quality in the neighborhood due to dust plumes. Entrainment of loose soil on site in stormwater could clog adjacent drains.
iv) Traffic flow impairment if no safety signs were located on roads adjoining the site.
v) Construction will generate considerable quantities of demolition waste, stripped vegetation and overburden from site leveling operations, improper disposal of which poses negative environmental and aesthetic impacts.

7 **Positive construction phase impacts**

i) Employment during facility construction.
ii) Income to suppliers of construction materials.

8 Negative operation phase impacts

i) Incineration of office waste poses a risk of onsite and offsite air pollution if incinerator was not operated according to manufacturer's specifications or improper maintained.
ii) Noise associated with standby electricity generators.
iii) Permanent traffic flow obstruction if access roads to site were inadequately designed and improperly aligned.
vi) Adverse impact on traffic if the short public road cutting across the southeastern part of the site was permanently closed.

9 Positive operation phase

i) The facility will provide a safe repository for cultural, historical, legal, economic and scientific records for the next 25 years. Records provide a retrospective basis for consistency and reliability in planning and decision-making.
ii) The facility will provide centralized location and access to records by educational institutions, business community, general public and government agencies.
iii) Improved aesthetics and socio-economic value of the site.

10 Impact mitigation recommendations

Apart from change of landuse at the site, all other negative impacts can readily be mitigated with good design, due diligence and continued monitoring. Impact abatement measures recommended in this study are summarized below;

i) Access to the site should not disrupt traffic flow on existing roads.
ii) Onsite waste management practices including document incineration, should conform to NEMA guidelines and KCC solid waste ordinance.
iii) Project development should seek guidance from utility firms in locating sewers, water mains, underground communication and electricity infrastructure that could be severed during site preparation.

iv) Construction workers should be adequately protected against occupational safety risks such as excessive exposure to noise, dust and body injuries. Builders working at elevated levels above 2 meters should use safety latches to avoid fatal falls.

v) To avoid defects that have been rampant in high-rise construction in Uganda, construction should be managed and supervised by professional (registered) engineers and architects.

vi) Ministry of Public Service is preparing Resettlement Action Plan to cater for the compensation and relocation requirements for the households currents on the proposed site.

11 Biological assessment

A section of this report (see Appendix 2) was dedicated to biological assessment, its findings and impact mitigation recommendations. No significant impacts on fauna and flora would result from construction of the proposed facility.

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LIST OF ACRONYMS

A/C:	Air Conditioning
EIA:	Environment Impact Assessment
EIS:	Environment Impact Statement
EMP:	Environment Management Plan
KCC:	Kampala City Council
MoWHC:	Ministry Of Works Housing & Communications
MoWLE:	Ministry Of Water Lands & Environment
NEMA:	National Environment Management Authority
NWSC:	National Water & Sewerage Corporation
OHS:	Occupational Health & Safety
UEDCL:	Uganda Electricity Distribution Company Limited

LIST OF MEASUREMENTS

d:	Day
h:	Hour
km:	kilometre
l	Litre
m:	Meter

1 PROJECT DESCRIPTION

Ministry of Public Service of the Republic Of Uganda plans to construct a Records And Archives Center on Plots 8-10 Lourdel Road, in Kampala as one of the components in its Uganda Public Service Performance Enhancement Program (UPSPEP). The facility will provide a safe repository for government records for the next 25 years.

The proposed site lies on a triangular tract of land measuring 1.348 acres in area and bounded by Ministry of Health to the west, Yusuf Lule Road (former Kitante Road) along the northern boundary, and Lourdel Road along the southern periphery.

Plate 1:

Part of Ministry of Health (left middle ground) located west

Based on its proposed functional requirements, the facility has four distinct zones, namely; repositories (stores), technical facilities, public and educational facilities and administrative offices. The facility will have 4500 square meters of car parking in conformity to KCC's requirement of one parking unit for every 40 m^2 of office space (occupancy). Functional components of the proposed facility are presented in table below.

Table 1: Functional components in each level of the proposed facility.

Basement	Lower ground floor	Ground floor	1st and 2nd Floor
Storage areas	Storage room	Repository areas	Repository areas
Service rooms	Sorting areas	Conference/lecture room	Exhibition area
Car park	Fumigation room	Restaurant	Public reading areas
	Loading bay	Exhibition area	Offices
	Toilets	Offices	Toilets
	Conservation laboratory	Toilets	
	Kitchen		
	Microfilming room		

The site has access to a 7-inch public sewer crossing the site from Lourdel Road to Yusuf Lule Road (former Kitante Road), stormwater drainage, electricity grid, telephone lines and public roads. It has a good cover of native tree species. The hedge along Yusuf Lule Road (former Kitante Road) and Lourdel roads is predominantly composed of mature trees.

The proposed facility was designed to support a population of up to 300 people including employees and visitors during its operation.

1.1 Justification of Proposed Development and its Location

The facility will provide a safe repository for government records for the next 25 years. The facility will provide improved, more efficient and easy access to records by educational institutions, business community, general public and government agencies in a centralized location. The proposed facility is conveniently located on the flanges of Kampala city in an area with a quiescent scholarly atmosphere. It is near to Makerere University, Mulago Hospital, Medical School, Law Development Center and yet close to government ministries and business community located in the city center.

1.2 Facility Development

To the greatest extent possible, building footprints will be laid out and oriented so as to minimize the removal and loss of existing trees. The area of removal will also take into account the need for clear space around each construction area for the passage of construction equipment. Site preparations (access roads, temporary office buildings,

materials stockpiles, equipment and material stores, etc.) will entail some loss of trees and vegetation. Construction operations and site works will require supply of water, thus provision of water to the site from nearby NWSC mains will also be an initial construction activity.

1.2.1 Building Construction Methodology

Engineering and architectural designs defined the construction methodology to be employed, specifying type of foundations, phased construction and nature of external and internal finishings. This is relevant insofar as different foundation types affect subsurface drainage differently. Modular construction on the other hand, allows for shorter construction time. The proposed site is largely flat and large-scale excavation is not expected.

1.2.1.1 Foundations

In the design, a raft foundation was adopted in all heavily loaded repository areas while singular foundations were recommended in all other areas.

1.2.1.2 Columns, Beams and Slabs

Circular and rectangular columns were used as structural supports in the structural design of the facility while all beams would be rectangular. In some cases, column cross-sections were varied with height depending on the load to be supported and to enhance aesthetics. Aesthetic considerations are particularly important for columns because they are commonly external structures compared to either beams or slabs. Solid and ribbed slabs with Maxpan infill were recommended in the design.

1.2.1.3 Roofing System

The roof will be made of waterproofed reinforced concrete slabs to allow for vertical expansion in the future.

1.2.1.4 Windows

A significant environmental characteristic of proposed windows is their having a coffee tray and mesh to avoid ingress of vermin into the facility. This is critical considering the value of records and duration for which they should be maintained in good condition. All windows will

be powder-coated aluminum sliding profiles, which aesthetic and easy to clean. Also, aluminum, more than iron, is resistant to deterioration by weather conditions.

1.2.1.5 Floors and Ceilings

Public areas around major circulation area will be finished in granite tiles for durability and aesthetics. Washrooms will have granite tiles for beauty and ease of cleaning. Repository floors, lift lobbies and escape staircases will be finished in terrazzo which is resistant to wear yet easy to clean. Public areas will have acoustic ceilings for reduction of noise and echoes.

1.2.1.6 Geometry of Proposed Facility

The facility will comprise of three blocks: an administrative block, exhibition block and a records block. While the rest will be rectangular storied structures, the exhibition block will be circular. The longest side of the triangular shaped of site provides opportunity for a long building (records block) with big potential for horizontal expansion. The administration block has an east-west orientation perfectly shielding the interior from direct rising and setting sun. The circular block defies all sun angles to provide a unique and functional exhibition space while being appropriately joined to the two rectangular buildings.

1.2.1.7 Landscaping

Landscaping operations will give priority to conservation of existing trees and hedges on site. The objective of proposed landscaping will be to compliment existing faunal environment with a selection of aesthetic indigenous and exotic plants.

Landscaping is also intended to provide convenient access all buildings on site and perimeter fence for site security. Apart from the paved parking lots, pedestrian paths, the rest of unbuilt areas on site will have grass and flower gardens. The main entrance to the facility will have a fountain in the forecourt to reinforce scenic impression of the facility.

Lighting will be provided on the exterior of the buildings, along pedestrian pathways, and in the entire project area. Lighting will also be provided as part of the project's landscape features. The exterior walls of the proposed buildings will use low glare producing materials.

1.2.2 Materials Transportation

Site clearance and construction of the facility will require transportation of materials to and from the site and this will generate a significant volume of traffic, especially trucks, on both Lourdel and Yusuf Lule roads. This could exacerbate traffic congestion at Mulago roundabout north of the site and potentially cause a deterioration of air quality due to dust plumes. These are impacts that can be mitigated as discussed in mitigation recommendations.

1.2.3 Site Alteration and Aesthetics

During construction, careful site development will be undertaken to ensure that only areas to be built are stripped of existing mature trees. Particularly, the developer intends to preserve trees in the hedge around the site.

Seven old residential houses, homes to employees of the Ministry, currently occupy the site. It is evident that site aesthetics would be improved when the project is completed.

Construction will permanently alter the site's stormwater hydraulics, the overall effect being more runoff flowing from the area. However, adequate stormwater drainage was provided for in the facility architectural and engineering designs.

Plate 2:

Some of the old houses currently on the site.

1.3 Facility Operation

Operation of the proposed facility would have the following environmental and socio-economic attributes:

1.3.1 Expected Water Demand

With expected maximum occupancy of 300 people and per capita water use of 80 liters per person per day, maximum daily water demand at the facility is expected to be at least 24,000 liters per day. Water would be obtained from existing mains and this presents NWSC with a long-term, irreversible source of revenue.

1.3.2 Expected Refuse Generation

For a solid waste generation rate of 0.5 kilogram per capita per day, maximum quantity of refuse generated at the facility is at least 150 kg or 1.75 tonnes per week. Solid waste generated at the facility will primarily be domestic in nature, mainly composed of paper and food waste from the staff kitchen. This will be collected on a regular basis from the facility by KCC or its licensed contractors and dumped at Kiteezi Landfill. Waste disposal will be based on the KCC's solid waste management system for Kampala City and in conformity with regulations in its Solid Waste Ordinance (2000).

1.3.4 Expected Wastewater Generation and Management

Wastewater will be generated from toilets, ablution rooms and kitchen. Table 2 gives estimates of daily quantities of wastewater generated when occupancy is maximum.

Table 2: Wastewater generated by the facility at 100% occupancy.

Wastewater generation rate	Water/Waste Volumes (maximum occupancy)
Number of people expected at maximum occupancy is 300	
Daily water use per capita	80 litres/person per day
Total water consumption for 500 persons	24,000 l/d
Total volume of sewage generated at expected maximum occupancy of at least 300 persons (considering that 80% of water used turns into wastewater)	19,200 l/d

1.3.5 Vehicular Traffic

Operation of the facility will generate considerable volume of traffic moving into and out of the facility. This traffic volume will include facility staff, suppliers, and visitors. On advice of KCC and Ministry of Works Housing & Communications (MoWHC), access routes should be aligned so as to avoid traffic disruption on Yusuf Lule and Lourdel Roads. Roadside parking around the facility should be designed so as to avoid traffic flow disruption on adjacent roads.

1.4 Project Categorisation According to the Environment Act (CAP 153)

The proposed project is included in Category 2- "Urban Development" of the Third Schedule of the Environment Act as one of the projects that should be considered for Environment Impact Assessment (EIA).

2 STUDY METHODOLOGY

The methodology used consisted of review of literature and World Bank Guidelines on environmental impact assessments for large-scale building construction. Field measurements were undertaken to establish baseline environmental noise levels.

2.1 Methodology for Environmental Impacts

2.1.1 Identification of OHS Risks during Project Construction

The possible sources of occupational hazards to the workforce were identified. The proposed plans and measures to overcome them were then developed. OHS impacts of development and operational phases were identified basing on nature of construction activities and occupational safety risks involved.

2.1.2 Assessment of Traffic Flow Obstruction

Traffic flow on Yusuf Lule and Lourdel Roads was observed to establish likely disruption if accesses to the site were constructed off these road.

2.1.3 Assessment of Impact of Haulage of Construction Materials

Major issues associated with material transport which were assessed included air quality impairment, road safety and traffic flow disruption associated with heavy trucks ferrying construction materials to the site.

2.1.4 Assessment of Construction Waste Management

An inventory of likely construction waste was developed and used to identify potential impacts and effective mitigation measures.

2.1.5 Environmental Noise

Noise measurement was done on the site using an EXTECH™ Digital Sound Level Meter.

3 POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

Sections below provide a review of policies and regulations relevant to the proposed project.

3.1 Policy Framework

3.1.1 The National Environment Management Policy, 1994

The overall goal of the National Environment Management Policy, *1994* is to promote intergenerational equity and sustainable development that maintains and enhances environmental quality and resources periodicity to meet human needs of the present generation without compromising ability of future generations meeting their own.

This policy aims at enhancing the health and quality of life of the people of Uganda; and the integration of good environmental practice and behavior into development policies, plans and activities. The policy is also intended to assist decision makers and resource users in determining priorities in the national context and also at the sectoral, private sector and individual levels.

3.1.2 Kampala Structure Plan - 1994

Since independence in 1962, urban planning and development has continued to be regulated by the Uganda Town and Country Planning Act. In 1994, KCC developed the Kampala Structure Plan with the following objectives for the city:-

Demographic:

a) Accommodate anticipated future growth based on realistic, achievable growth rates.
b) Ensure that planning proposals and policies address the full range of socio-economic groups currently resident in Kampala, including in particular, lower income residents, women and members of the informal sector.
c) Ensure that affordable land, housing and services are provided in proportion to actual urban demand.

Environmental aspects:

a) Protect and enhance the natural environment of Kampala including the quality and integrity of air, water and land resources.
b) Pursue energy and water conservation policies and waste reduction, reuse and recycling.
c) Promote tourism within Kampala district.

Urban development:

a) Encourage urban growth, which makes full use of existing infrastructures as opposed to urban sprawls.
b) Encourage orderly patterns of land subdivision that ensures direct access to existing or future roads, and allows for upgrading of infrastructure.

Within this structure plan it was proposed that land is designated into 5 basic zones i.e residential, commercial, industrial, institutional and environmental. The proposed site area is zoned as institutional and the neighborhood predominantly is composed of corporate offices and government ministries (Ministry of Health, Ministry of Public Service, Chieftaincy of Military Intelligence among others).

3.2 Legal Framework

3.2.1 Constitution of the Republic of Uganda, 1995

The Constitution under Article 245 empowers parliament to provide for measures intended to protect and preserve the environment from abuse, pollution and degradation among others in order to promote sustainable development for the present and future generations. It also vests all land in the country in the citizens of Uganda and protects property and other individual rights. Under Article 26, all persons are given a right to own property and it is stipulated that the land/property cannot be compulsorily acquired unless there is prompt payment of fair and adequate compensation prior to the taking or acquisition of the property.

Article XXVII (The Environment) further recognizes the need for sustainable management of air, water and land resources, and utilization of natural resources to meet development and environment needs and conservation of natural resources.

3.2.2 The National Environment Act (Cap 153 of the Laws of Uganda)

The Act provides for the sustainable management of the environment in the country. Under this law, it is a requirement that an environmental impact assessment be undertaken by the developer where the lead agency, in consultation with NEMA, is of the view that the project may have an impact on the environment, is likely to have a significant impact on the environment, or will have a significant impact on the environment.

Development of urban infrastructure is in the category of projects that are likely to have significant impact on the environment and hence the need for the EIA.

3.2.3 National Environment (Noise Standards & Control Regulations), 2003

(Under sections 23 and 107 of the Environment Act) these regulations are aimed at ensuring the maintenance of a healthy environment for all people in Uganda, the tranquility of their surroundings and their psychological well-being by regulating noise levels. This is done through prescribing the maximum permissible noise levels from a facility or activity to which a person may be exposed and the provision for control of noise and for mitigating measures for the reduction of noise. Under regulation 8, it is the duty of the owner of a facility or premises to use the best practicable means to ensure that the emission of noise from his/her premises does not exceed the permissible noise levels.

Table 3 : Maximum permissible noise levels relevant to project.

Facility	Noise limits B (A) (Leq)	
	Day	Night
Construction sites for buildings	75	65
Mixed residential (with some commercial and entertainment)	55	45
Time frame: Day – 6.00a.m -10.00 p.m; Night: 10.00 p.m. – 6.00 a.m. The time frame takes into consideration human activity.		

Section 6(1) of these regulations requires that the maximum noise levels from a facility in the general environment specified in Part 1 of the First Schedule as "mixed residential (with some commercial and entertainment)", shall not exceed 55 dBA and 45 dbA during day and nighttime respectively. This regulation will have a direct influence on daytime or nighttime noise levels generated at the proposed facility both during construction and operation phases.

3.2.4 The Kampala City Council (Solid Waste Management) Ordinance, 2000

The ordinance places responsibility on every waste generator Sections 4 (1) to properly store solid waste generated on premises until collected by a licensed waste disposal firm. Conversely, for construction waste, Sections 16(1) and (2) require that a contractor shall be responsible for removal of this waste from site and its disposal at an authorized site. Sections 19 (1) and (2) entrust KCC with legal authority to license waste disposal facilities including incineration units. Since the proposed facility plans to operate a small onsite incineration unit to dispose of office waste, a license from KCC would be necessary.

3.2.5 The Land Act, Cap 227

As the principal law relating to land tenure in Uganda, this Act provides for ownership and management of land. It requires any proponent executing public works on land to promptly compensate any person having an interest in the land for any damage caused to crops or buildings *inter alia*. Section 45 of the Act further provides that any use of land shall conform to provisions of the Town and Country Planning Act and any other law. There is need therefore to acquire the necessary permits before project works can commence.

3.2.6 The Water Act Cap 152

Under Regulation 7 of the Sewerage Regulations it is prohibited to erect a building in a NWSC area unless the appropriate sewerage connections are installed as required and the necessary permission has been sought from NWSC to construct a building sewer or connect/disconnect it to NWSC infrastructure. Further, the regulations require that one may not erect a building in a NWSC area unless the appropriate water connections are installed as required and the necessary permits sought from the corporation and plans approved.

3.2.7 Local Governments Act Cap 243

The Act allocates responsibility for service delivery of a number of functions to local government councils. The district councils provided for in the Act have both legislative and executive powers, rendering them the highest political authorities in the districts. With regard to natural resource management, the district councils are responsible for land surveying, land administration, physical planning and environment and sanitation services that are not the responsibility of central government. Kampala district will thus play a vital role during the establishment of the proposed development project.

3.3 Institutional Framework

Following the enactment of the National Environment Act, the National Environment Management Authority (NEMA) was created and charged with the responsibility to oversee, coordinate and supervise environmental management in Uganda. NEMA also enforces regulatory compliance during and after construction of projects.

4 DESCRIPTION OF BASELINE ENVIRONMENT

4.1 Meteorology

Microclimate of the site affects onsite conditions, activities and operations hence influencing extent and intensity of socio-economic and environmental impacts of the project. More soil erosion would for example be experienced during rain seasons than in drier months. Dry seasons will be characterised by higher water demand for cleaning dusty areas and watering lawns and flower gardens. Sections below provide a quantitative situation of the microclimate of Kampala area, which are relevant to the proposed site.

4.1.1 Rainfall

Kampala experiences two distinct rain seasons. The shorter and lighter rains fall from March to May while heavier and longer rains are experienced from August to November.

4.2 Topography and Hydrogeology

The project site is relatively flat, well drained and topographically located on a mild slope ending in Kitante Golf Course. Stormwater from higher western neighborhoods is intercepted by drainage channels running Lourdel Road. Therefore there is minimal risk of flooding on site during heavy storms or prolonged rain seasons.

4.3 Vegetation

All trees on site are native, not threatened species and have low ecological significance. However, preservation of existing mature trees is aesthetic and environmentally responsible.

Plate 3:

Some of the mature trees on proposed

4.4 Socio-Economic Environment

The plot slopes gently towards Yusuf Lule Road (formerly Kitante Road) to the east. It is bounded by Lourdel Road to the south and Ministry of Health headquarters to the west. The southwestern portion of the site is used by nursery growers selling flower and tree seedlings.

Immediate neighborhood of the proposed site consists of the Heifer Project International office, Tamoil Oil Company office, MSL Computer Services, the Chieftaincy of Military Intelligence offices (formerly Ministry of Health staff courts) and several office premises on Lourdel Road.

The project area lies in the central division of Kampala district. The project site is in a planned area and the surrounding land was originally designated for residential purposes. However, basing on the 1994 Kampala Structure Plan, most of the land around the project area has been rezoned for commercial purposes.

Currently, the proposed site has seven dwellings occupied by employees of Ministry Of Public Service. Families living at the site grow crops such as bananas, maize, cassava, beans, sweet potatoes and a variety of vegetables in their backyards. Flower nurseries selling seedlings exists along Yusuf Lule roadside and at its junction with Lourdel. Families living at the proposed site have all been informed of the proposed project the compensation, and displacement when project development starts.

4.4.1 Economic Activity near Site

The neighborhood of the site comprises corporate offices and government ministries. Ministry of Health headquarters are located to the site's immediate west. Further west is located the Office of Government Chemist, Agriculture organization (FAO) and Ministry Of Public Service. Food Lourdel road is lined by corporate offices and foreign missions/embassies. Southeast, the site is bordered by corporate office of The Heifer Project.

4.4.2 Physical Infrastructure

4.4.2.1 Electricity Grid

The site has access to an 11 kV hydroelectricity powerline, which could easily be stepped down to either single- phase (240 volts) of three- phase (415 volts) to suit onsite energy demand of the facility.

4.4.2.2 Telecommunications

This area is within the city and well serviced by landline telephone infrastructure and by all wireless phone networks.

4.4.2.3 Water Supply

The facility will obtain water by connection to the NWSC trunk mains.

4.4.2.4 Sewage Disposal

Disposal of sewage from the proposed project will be by connection to a NWSC foul sewer leading to Bugolobi sewage treatment works. There is an existing main sewer running across the plot from Lourdel Road to Yusuf Lule road. Another combined sewer runs along Yusuf Lule road adjacent to the proposed site.

At the time of the assessment, onsite buildings were in very poor condition, piped water supply had broken down and solid waste dumped in backyards. Sewer manholes next to the houses were fouled and malodor was emanating from them.

4.4.2.5 Solid Waste Disposal

Area comprising the proposed site is within Kampala City Council and disposal of solid waste must be in compliance with the Solid Waste Management Ordinance (2000).

4.4.2.6 Healthcare Infrastructure

Existing healthcare infrastructure are adequate to handle medical emergencies at the proposed facility project. In addition to numerous clinics in Wandegeya and Buganda Road, the proposed facility would easily access medical services provided at major hospitals such as Kololo Hospital and Mulago Referral Hospital.

4.4.2.7 Other Land Use in the Area

Not far away are Makerere University and several schools and corporate agencies, which will be among the major users of the proposed Records and Archives Center.

4.4.3 Services

4.4.3.1 Firefighting Services

In case of an emergency, the proposed facility has easy access to firefighting services from M/s Fire Masters and Uganda Police Fire Fighting Department all located within a 5 kilometers radius from the site.

4.4.3.2 Public Safety and Security

Safety and security are critical in deciding the location of a national records and archives facility. Opportunely, the site is located in prime area with adequate security. Nearby security agencies include Uganda Police (Wandegeya) and the Chieftaincy of Military Intelligence on Yusuf Lule Road.

4.5 Environmental Noise

Due to the site's proximity to Yususf Lule and Lourdel roads both of which are relatively busy carriageways, onsite measurements showed a site with relatively high background noise levels. At points closer to the roads (P1 and P2 along Lourdel Road; P9 and P10 along Yusuf Lule Road), noise levels were higher than WHO guideline of 55 dBA for serious annoyance and NEMA's daytime maximum permissible level for general environment (mixed residential with

some commercial and entertainment) of 55 dBA. Hence baseline noise levels presented below were mainly contributed by vehicular traffic on Lourdel and Yusuf Lule roads that border the site on southern and northern boundaries respectively.

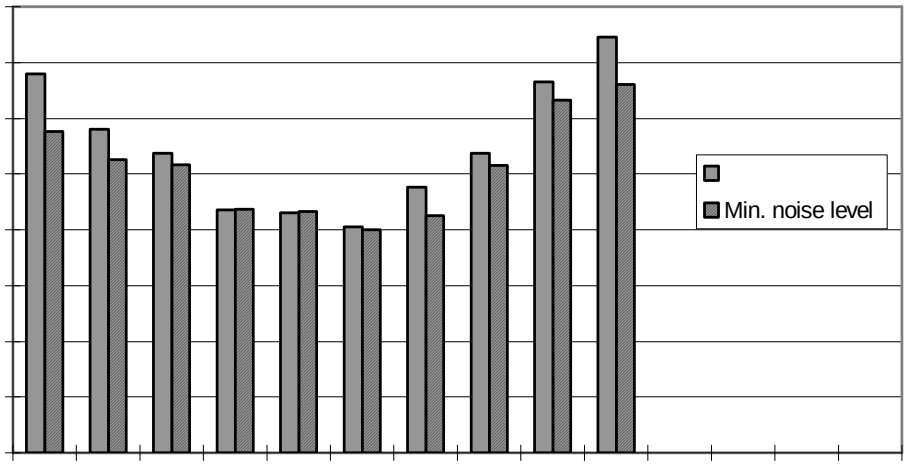

Figure 1: Recorded daytime maximum and minimum baseline noise levels.

It is evident that the tall tree hedge along both roads adjacent to the site has significant impact on reducing traffic noise levels on the site since noise recorded at random locations by the roadside were significantly higher than well inside the plot.

5 POTENTIAL IMPACTS AND MITIGATION

An impact is any change to the existing condition of the environment caused by human activity or an external influence. Impacts therefore may be positive (beneficial) or negative (adverse). They may also be direct or indirect, long-term or short-term, and extensive or local in effect. Impacts are termed cumulative when they add incrementally to existing impacts. Both positive and adverse environmental impacts could arise during the site preparation, construction and the operation phases of the facility development project. These are discussed below.

5.1 Construction Phase Impacts

Consideration of construction phase impacts in the following section includes those effects related to site clearing and preparation works.

5.1.1 Displacement of Existing Residents, Flower Seedling Vendors

Construction of the facility will involve compensation and displacement of families currently living on site. Even when adequately compensated, permanent relocation to new living area with different socio-economic benefits the current site presented (such as proximity to urban infrastructure and services) is considered to be a negative impact.

Along Yusuf Lule Road and at its junction with Lourdel Road, people who for over 8 years have operated small-scale nurseries selling flower seedlings will be displaced once construction starts. Although their operations could easily be shifted to new locations, displacing them will result into loss of clientele and income before their businesses reestablish.

Mitigation: MPS should develop an effective Resettlement Action Plan, to ensure fair and adequate compensation to affected people.

Plate 4:

Subsistence farming carried out by residents on site

5.1.2 Loss of Trees during Site Clearing

If the contractor does not follow wishes of the developer to preserve mature trees on site to the greatest extent possible, site preparation before construction could result in the loss of many existing trees and the hedge along Yusuf Lule and Lourdel roads.

Mitigation:

Impact mitigation here seeks to retain and restore as much of the original tree cover on site.

a) Site clearance should be carried out in a manner that retains the large trees when building footprints are pegged out.

b) The landscape plan should seek to utilize low-maintenance native species rather than invasive species.

c) Trees to be protected and left in place should be clearly marked, individually numbered, identified on the site plan and encircled by a sturdy fence prior to the commencement of construction.

d) A landscape plan prepared prior to commencement of site clearing activities should be strictly followed.

e) All construction workers should be aware of the environmental management plan in this report and sensitized on its contents.

5.1.3 Soil Erosion

Vegetation clearance, road construction and excavation works related to construction of the facility will expose soils in the affected areas leaving them vulnerable to erosion by surface run-off, a negative consequence. The flat topography of the site would tend to reduce erosive surface flows and the threat of turbidity should exist only for the duration of construction works before landscaping and drainage works are put in place.

Mitigation:

a) To the greatest extent possible, phase site clearance so as to minimize the area of exposed soil at any given time.

b) Re-plant exposed soils with grass and other appropriate species as soon as possible.

c) Temporarily bund exposed soil and redirect flows from heavy runoff areas that threaten to erode or result in substantial surface runoff to adjacent channel waters.

d) Monitor areas of exposed soil during periods of heavy rainfall throughout the construction period of the project.

5.1.4 Nuisance Conditions during Construction

During construction, there are several activities which if not controlled may inconvenience people in the site neighborhood. Anticipated impacts in this case include interference on traffic, limited access to some roads in the vicinity when installing pipelines. Also there would be dust and noise generated from operation and circulation of heavy vehicles and equipment. Temporary disruption to water supply and sewage services may also occur if water mains and sewers are severed during site preparation.

Mitigation:

a) Access roads and exposed ground should be regularly sprayed with water in a manner and at frequencies that effectively suppress dust.
b) Stockpiles of fine materials should be wetted or covered with tarpaulin during windy conditions.
c) Workers on the site should be issued with dust masks where necessary.
d) Construction activities should always be undertaken during daytime.
e) Traffic guides and signs should be provided by the contractor through out the construction period.

5.1.5 Construction Noise

The use of heavy equipment during site clearing and construction works will inevitably generate noise. Although annoying, this negative impact will be short-term (limited to construction phase) and will not pose a threat to health or well being of humans.

Mitigation:

a) Construction activities that will generate disturbing sounds should be restricted to normal daytime working hours.
b) Immediate neighbouring buildings should be given notice of intended noisy activities so as to reduce degree of any annoyance that would have arisen.
c) Workers operating equipment that generate noise should be equipped with noise protection gear. Workers operating equipment generating noise levels greater than 80 dBA continuously for 8 hours or more should use earmuffs. Workers exposed to prolonged noise of 70 – 80 dBA should wear earplugs.
d) Silencers for equipment should be monitored to ensure they are operational.

5.1.6 Sourcing of Earth Materials

Earth materials needed for construction (e.g. murram, sand) are normally obtained from quarry and mining operations. Conscious or unwitting purchase of these materials from unlicensed quarries indirectly promotes environmental degradation and causes medium to long-term negative impacts. Obtaining materials from legally

operating quarries would provide income to operators of sand and stone quarries, which is a positive but short-term impact.

Mitigation: Earth materials must be obtained from licensed and approved quarries.

5.1.7 Transportation of Materials

Various materials required for construction and building (e.g. steel, blocks, lumber, gravel, asphalt) will be obtained from distant sources and transported to site. Transporting these materials, typically in over-laden and sometimes uncovered trucks, usually results in undue road wear-and-tear and negative environmental or socio-economic impacts. In the case of fine earth materials and crushed stones (aggregate), dusting and spillages occur on roadways between source and site. Dusting degrades local air quality and material spills, especially of aggregate, worsen driving conditions or increase the risk of road accidents. These represent indirect, short-term, reversible, negative impacts on public health and safety.

Mitigation:

a) All fine earth materials must be covered during transportation to prevent spillage and dusting. Trucks used for that purpose should be fitted with tailgates that close properly and with tarpaulins to cover materials. The cleanup of spilled earth and construction material on the main roads should be the responsibility of the Contractor and should be done in a timely manner (say within 2 hours) so as not to inconvenience or endanger other road users. These requirements should be included as clauses in contracts made with contractor and sub-contractors.

b) If construction machinery is fuelled on site, transportation of lubricants and fuel to the construction site should only be done in appropriate containers such as sealed drums.

c) As far as possible, transport of construction materials should be scheduled for off-peak traffic hours. This will reduce risk of traffic congestion and of road accidents on roads adjacent to the site.

d) Appropriate warning signs, informing traffic of entrances and exists to the construction and instructing drivers to reduce speed, should be placed along both Lourdel Road and Yusuf Lule Road.

e) Flagmen should be employed to control traffic and guide construction vehicles as they enter and exit the project site.

5.1.8 Material Storage

The improper siting of stockpiles and storage of sand, gravel or cement at the construction site could lead to fine materials being washed away during heavy rains, into the drainage system. This would not only represent a waste of materials but also contribute to turbidity and sedimentation of stormwater. Hazardous and flammable materials (e.g. paints, thinner, solvents, etc.) improperly stored and handled on site are potential health hazards for construction workers. Spilled chemicals would have potential to contaminate soil and inhibit plant growth during landscaping.

Mitigation:

a) Stockpiling of construction materials should be properly controlled and managed. Fine-grained materials (sand, murram, etc.) should be stockpiled away from surface drainage channels.

b) Low berms should be placed around the piles and/or tarpaulin used to cover open piles of stored materials to prevent them from being washed away during rainfall.

c) Safe storage areas should be identified and retaining structures put in place prior to the arrival and placement of granular construction materials.

d) Hazardous chemicals (e.g. fuels, oil paints) should be properly stored in appropriate containers and safely locked away. Conspicuous warning signs (e.g. 'NO SMOKING' or "DANDER") should also be posted around storage areas of any hazardous or flammable materials.

5.1.9 Modification of Surface Drainage

The impervious surface created by the covered building area will be about 20% of the site area. To this add the paved surfaces and it becomes apparent that the site will generate considerable volumes of runoff during periods of prolonged rainfall.

Mitigation:
Appropriate design and construction of an adequate stormwater drainage system for the facility.

5.1.10 Construction Waste Disposal

Solid waste generated during site preparation and construction work would include cut vegetation and typical construction waste (e.g. wasted concrete, steel, wooden scaffolding and forms, cement bags and demolition waste). This waste would negatively impact the site and surrounding environment if not properly managed and disposed of.

Cleared vegetation or trees when burnt on site would generate smoke, negatively impacting ambient air quality. Vegetation and solid waste, if allowed to accumulate in drains could cause localised pooling and flooding. Pooling of water, in turn, would create conditions conducive to the breeding of mosquitoes. Poor construction waste management constitutes a short-term but reversible negative impact.

Mitigation:

a) A site waste management plan should be prepared by the contractor prior to commencement of construction. This should include designation of appropriate waste storage areas, collection and removal schedules, identification of approved disposal site and a system for supervision and monitoring. Preparation and implementation of the plan must be a responsibility of the building contractor who can be independently monitored by the client's site agent.

b) Special attention should be given to minimizing and reducing quantities of solid waste produced.

c) Vegetation and combustible construction waste must not be burnt on site.

d) Un-reusable construction waste, such as damaged pipes, formwork and other construction material, must be disposed of at KCC's approved landfill.

5.1.11 Night Soil and Litter Management

Inadequate provision of toilets for use by workers can lead to ad hoc urination or in extreme cases defecation on the site, creating of unsanitary conditions and sources of fly infestation.

Mitigation:

a) Provide mobile or chemical toilets for use by construction workers.

b) Disposal of waste in Kitante Channel should be discouraged.

c) Proper solid waste collection and storage containers should be provided in sufficient numbers, to prevent littering on site.

d) Arrangements should be made for regular collection of litter and its disposal at a designated landfill.

5.1.12 Replanting Trees and Landscaping

Landscaping and replanting of trees should be carried out to enhance ecology and site aesthetics. In addition to enhancing aesthetics of the project site, landscaping provides the means for partially restoring the site's natural elements and ecological habitats. It is therefore a significant mitigation activity with a positive, long-term impact.

Mitigation:	A good landscaping plan should seek to avoid the use of non-native and potentially invasive species. It should include low-maintenance, local species and the types of trees and shrubs used for feeding by local bird species. Landscaping should seek to encourage bird life, maximize shade and windbreak effect, as well as to lessen intrusiveness of the facility's buildings.

5.1.13 Employment

At this stage it is not possible to accurately determine the number of construction workers to be employed on the site but it is estimated that this number would be up to 150 persons. This temporary employment opportunity would have a positive impact on incomes of hired construction workers.

Mitigation:	None

5.1.14 Inadequate OHS for Construction Workers

Construction operations have potential to inflict body injuries and accidents to workers. An example of a potential accident is when construction workers fall off scaffoldings or roof of a building. This impact is reversible if caution and personal protection gear is provided to workers exposed to construction risks.

Mitigation:	Provide adequate protection gear to workers such as hard hats, boots, gloves, welding goggles to welders and safety latches to workers working higher than 2 meters off ground level.

5.1.15 Construction Over Existing NWSC Infrastructure

There is an existing main sewer running across the plot from Lourdel Road to Yusuf Lule road. Another combined sewer runs along Yusuf Lule road adjacent to the proposed site. Infringing on the mandatory way of four meters from this infrastructure during construction would make it impossible for NWSC to undertake repairs or inspection when necessary. This would be a negative, long-term impact.

Mitigation: Seek advice of utility companies on exact location of infrastructure on or near the site.

5.2 Operation Phase Impacts

5.2.1 Improved Efficiency in Records Storage and Access

The facility will enhance efficiency in storage and management of records and archives, ensuring their preservation, longevity and safety. This would represent a positive and long-term impact. The facility will provide a safe repository for cultural, historical, legal, economic and scientific records for the next 25 years. Records provide a retrospective basis for consistency and reliability in planning and decision-making. Its convenient location will enables centralized access to records by educational institutions, business community, general public and government agencies.

Mitigation: None

5.2.2 Water Supply

The facility intends to obtain water form existing NWSC mains. This would generate additional revenue for NWSC, a positive, long-term and irreversible impact.

Mitigation: None

5.2.3 Sewage Disposal

Sewage generated by facility would be discharged into NWSC Bugolobi Sewage Treatment Plant through an existing sewer. This would generate additional revenue, which is a long-term, positive economic benefit to NWSC.

Mitigation: None

5.2.5 Solid Waste Disposal

Poor garbage management at the facility would lead to unsanitary conditions especially vermin infestation. Rat infestation would be a major threat to longevity of stored records. Onsite incineration of office waste such as paper poses an air pollution impact when improperly done.

Mitigation:

a) Ensure regular collection of garbage by a licensed solid waste disposing firm.

b) Ensure waste is properly stored on site before collection and final disposal.

c) Operate onsite incinerator according to manufacturer's specifications and guidelines.

d) Regularly service the incinerator to ensure high performance efficiency.

5.2.6 Consumption of Electricity

Umeme will supply power for the development site from the existing mains running along Yusuf Lule Road or Lourdel Road. It is expected that power demand of the facility can be adequately handled by the supply. The project would therefore not cause any supply shortages to the power supply system. Readily available power could mean inefficient electricity consumption at the facility and Umeme would realize higher revenues from this

situation. On the other hand, inefficient consumption would not only be a negative financial impact for the facility but also for the utility company (Umeme).

Mitigation: Mitigation measures relate to incorporating and improving energy management and conservation practices at the facility, such as;-

a) Sub-meters and real-time energy monitoring equipment, light timer, thermostats, etc. should be installed throughout the facility to ensure efficient power consumption.

b) Install translucent shades and fluorescent lighting.

5.2.7 Standby Electricity Generator

The facility will maintain a stand-by generator to supply electricity in case of power outages. This implies the generation of noise, vibrations as well as the risk of hydrocarbon spills.

Mitigation: Generator house should be located where the effect of noise on the facility is minimal. In addition, the generator needs to be soundproofed to reduce offsite noise pollution for the nearest receptors (neighboring buildings).

Generator servicing should be contracted out to professional firms.

5.2.8 Impact on Public Road through the Site

There is a short public road cutting across the southeastern part of the site connecting Lourdel Road and Yusuf Lule road. This road becomes critically important during off peak house when motorists from Nakasero, Buganda Road and Wandegeya use it to connect to Yusuf Lule Road. Closing this road during operation of the facility would pose a permanent inconvenience to traffic flow in the area.

Plate 5:

The short road cutting across the lower southeastern part of the site and joining Lourdel Road (left) and Yusuf Lule Road (right background).

In addition to the foregoing, the Ministry should agree with KCC on where and how to construct access roads leading to the site so as to avoid adverse negative impact on traffic plying Yusuf Lule Road, Lourdel Road and this (nameless) road.

Mitigation:

a) Seek guidance from KCC on how the facility can to coexist with the road cutting across the southeastern part of the site.

b) Constructing a pedestrian air bridge across the road is recommended rather than closing it off to the general public.

5.2.9 Resource Consumption

Without adequate investment in conservation practices, the facility will consume excessive quantities of electricity and water. For instance the simple mistakes of running air

conditioning (A/C) units when windows are open can lead to immense waste of electricity. This is environmentally undesirable and also financially burdensome to the facility.

Mitigation: Take advantage of resource conservation technologies in the design and construction of the facility. Some of these are:		
INSIDE BUILDING		**Conservation measures**
	1	A/C will switch off automatically once a window is opened.
	2	A/C self-adjusts to the minimum when no person is detected in the room.
	3	Widespread use of fluorescent bulbs.
	4	Lights that switch off automatically when there are no people inside a room.
	5	Water tank in toilet to use water saving device (3/6 liters) per flush.
	6	Low water discharge, "press down" faucets (taps) that cannot be left running.
	7	Use of biodegradable soaps in ablution rooms.
FACILITY-WIDE MEASURES		
	1	Use of environmental friendly (phosphate free) detergents in washrooms.
	2	All outdoor areas be provided with electronic switching devices to ensure that lights are turned off during daylight hours.
	3	Widespread use of low consumption (6/9 watts) fluorescent bulbs to save electricity.
	4	Ensure ozone friendly A/Cs and cooling machines are used.

5.2.10 Onsite Security

Inadequate security at the facility would risk malicious damage to valuable or sensitive records.

Mitigation: Employ full-time security services at the facility.

5.3 Summary Of Impacts

Table 3: Summary of construction impacts.

Environmental/socio-economic impact		IMPACT TYPE								MITIGATION	
		Positive		Negative							
		Significant	Not significant	Significant	Not significant	Short-term	Long-term	Irreversible	Reversible	No mitigation required	Mitigation required
CONSTRUCTION PHASE IMPACTS											
1	Displacing existing residents			X			X	X			X
2	Loss of trees during site clearing			X			X		X		X
3	Soil erosion				X	X			X		X
4	Nuisance dust				X	X			X		X
5	Construction noise				X	X			X		X
6	Sourcing earth construction materials	X			X	X			X		X
7	Transportation of materials		X		X	X			X		X
8	Material storage				X	X			X		X
9	Modification of surface drainage				X						X
10	Construction waste			X		X			X		X
11	Night soil & litter management				X	X			X		X
12	Replanting & landscaping	X					X		X		X

13	Employment of construction labour	X				X			X	X	
14	Inadequate OHS for construction workers			X		X			X		X
15	Infringing on way leaves of NWSC infrastructure			X			X		X		X

Table 4: Summary of operation impacts.

Environmental/socio-economic impact		IMPACT TYPE								MITIGATION	
		Positive		**Negative**							
		Significant	**Not significant**	**Significant**	**Not significant**	**Short-term**	**Long-term**	**Irreversible**	**Reversible**	**No mitigation required**	**Mitigation required**
OPERATION PHASE IMPACTS											
1	Improved efficiency in records management and storage	X					X	X		X	
2	NWSC revenue from water supply to facility	X					X	X		X	
3	NWSC revenue from sewage disposal from facility	X					X	X		X	

4	Onsite solid waste management		X		X		X		X		X
5	Consumption of electricity	X		X			X	X			X
6	Noise impacts of standby power generators				X		X		X		X
7	Impact on public road through site			X			X		X		X
8	Excessive resource consumption			X			X		X		X

6 ANALYSIS OF ALTERNATIVES

The objective of analysis of alternatives presented here is aimed at identification of practical options that would eliminate adverse impacts of the proposed project. The analysis is based on two scenarios: the "no-action" option and undertaking the project as proposed in the EIS.

6.1 "No- Action" Scenario

The "no-action" option would eliminate opportunities and second order socio-economic benefits, which the proposed development would have created (see section 5.2), the major being efficient records storage and management and improved access to archives by users. Undeveloped, the site would remain a hideous spot in the midst of a prime urban area.

6.2 "Action" Scenario

The main benefit of the project lies in enabling efficient records storage, management and improved access to archives by users. The facility will provide a safe repository for cultural, historical, legal, economic and scientific records for the next 25 years. Records provide a retrospective basis for consistency and reliability in planning and decision-making. Its convenient location enables centralized access to records by educational institutions, business community, general public and government agencies. In addition, project development would improve aesthetics and socio-economic value of the site.

7 ENVIRONMENTAL MONITORING PLAN

Monitoring is necessary to avoid negative effects during construction and operation of the proposed facility and achieve sustained environmental compliance. Table 5 details the recommended environmental monitoring plan (EMP).

In Table 5, the proposed timeframe for monitoring every environmental issue or impact is given in the same cell as the proposed individual to collect monitoring information. The estimated cost (for both the monitoring process and corrective measures) is given in the same cell as the proposed method/tool (s) to be used. However, since most of the mitigation measures are to be executed during the construction phase, the contractor will have to build the exact cost estimates in the financial proposal. The proposed action to be undertaken during the monitoring is given in the same cell as who is responsible for undertaking the monitoring and corrective measures.

Table 5: Environmental Monitoring Plan.

	Issue to Monitor	**Indicator(s)**	**Data collection and Reporting**			**Use of data**		**Training or orientation required**
			Who collects ****Timeframe**	**Who checks, Counter-checks**	**Method(s), Tools** ****Cost**	**Who acts,** ****Action**	**Referral (if action cannot be taken)**	
1	LEVEL OF OCCUPATIONAL SAFETY OF CONSTRUCTION WORKERS	Provision of personal protective gear to workers. Presence of fully equipped First Aid Kits on site.	Site Supervisor. **Through out the construction period	Site engineer. Developer's site agent	Visual observation. **Protective gear – Ushs20M **First Aid Kit – Ushs5M	Site engineer. ** Ensure stringent construction supervision. ** Provide personal protection gear.	Contractor	Effective use of protective gear. Use of First-Aid Kit.
2	EXCESSIVE STRIPPING OF VEGETATION AND LOSS OF MATURE TREES	Areas stripped of vegetation on site.	Site Supervisor. **Through out the site clearing period	Site Engineer. Developer's site agent	Visual observation. **Facilitation – Ushs1M	Site engineer. ** Ensure that only areas to be constructed on are stripped of grass cover. Mature trees to be retained to the greatest extent possible.	Developer	Provide key site personnel with mitigation measures of this EIA report.

Continued.

	Issue to Monitor	Indicator(s)	Data collection and Reporting			Use of data		Training or Orientation
			Who collects	Who checks, Counter-checks	Method(s), Tools **Cost	Who acts, **Action	Referral (if action cannot be taken)	
3	DEPOSITION OF OVERBURDEN IN ADJACENT ROADSIDE STORMWATER DRAINS	Color of runoff from site is not excessively brown indicating excessive soil erosion and high sediment load.	Site supervisor **Through out the construction period but emphasis in the site clearing phase	Site engineer	Visual observation **Facilitation – Ushs1M	Site engineer. ** Ensure construction crew is ecologically aware and responsible.	Developer's site agent.	Erosion control measures on construction sites.
4	RESPONSIBLE CONSTRUCTION WASTE MANAGEMENT.	-Improper construction waste management practices observed on site throughout construction period. - Containers for construction waste collection provided.	Site Engineer **Through out the construction period	Contractor	Visual Inspection. **Facilitation – Ushs1M	Contractor ** Provide containers for construction waste collection and storage	--	Possible problems of improper waste management KCC Solid Waste Ordinance, 2000

Continued.

	Issue to Monitor	Indicator(s)	Data collection and Reporting			Use of data		Training
			Who collects	Who checks, Counter-checks	Method(s), Tools **Cost	Who acts, **Action	Referral (if action cannot be taken)	
5	ONSITE DRAINAGE	No ponding on site after storms.	Site supervisor **Through out the construction period	Site engineer.	Visual inspection **Facilitation – Ushs1M	Contractor ** Improve site drainage		--
6	SAFETY AND SECURITY WHEN FACILITY IS OPERATIONAL	No case of security breach or loss of records registered in first of operation	Facility Manager. **Through out the facility operation life	Commission-er in Charge	Security audits **Security personnel – Ushs2M per month	Facility management. ** Ensure fool-proof security screening before access to records repositories.	Police	--
7	Solid Waste management during operation	All waste is properly collected stored and transported off the facility	Facility Manager. **Through out the facility operation life	Commission-er in Charge	Visual inspection Pay or Private Collection **payments – Ushs0.5M per month	Facility management. **Provide waste bins to the facility and hire private waste collector	Permanent Secretatry	Importance of proper solid waste management Methods of waste handling

8 CONCLUSION

The proposed facility will enable efficient records storage, management and improved access to archives by users. The facility will provide a safe repository for cultural, historical, legal, economic and scientific records for the next 25 years. Records provide a retrospective basis for consistency and reliability in planning and decision-making. Its convenient location enables centralized access to records by educational institutions, business community, general public and government agencies. In addition, project development would improve aesthetics and socio-economic value of the site.

Impacts associated with project development are insignificant primarily because the site already has good access roads, utilities and infrastructure services such as refuse collection. All negative impacts of the project, which include irreversible displacement of families currently residing on the site, loss of trees during construction, noise impact from onsite standby electricity generator, fire risks are all remediable when proposed mitigation measures and EMP are implemented. Prior to construction, the developer should seek guidance from all utility companies on precise location of any facilities for which way leaves must be observed. The contractor should seek guidance about location of subsurface public infrastructure to avoid severance, public inconvenience and financial loss.

Inadequate OHS of construction workforce, improper supervision and use of substandard materials are major impacts that the developer should avoid. A recent spate of collapsing buildings is principally attributed to these causes. The consequences are litigation, loss of life, construction time and financial resources.

All potential adverse impacts of the proposed project can be mitigated as shown under corresponding sections in Chapter 5. When mitigation actions and environmental monitoring plan are implemented, the project would have less adverse environmental effects than significant positive socio-economic benefits.

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Appendix 1: Records of Community Consultation

Below are records of stakeholder consultation on the proposed project.

Meeting 1:

Meeting with:	**Name**	**Designation**
	Ms. Joyce Laker	Onsite resident (Occupant House No.5)
	Mr. Latim Kenneth	Onsite resident Occupant House No. 55
	Mr. Ochira Eric	Onsite resident
	Mr. Oola Peter	Onsite resident
	Mr. Moro Jerome	Onsite resident
	Mr. Alphonse Okello	Onsite resident
	Mr. Peter Otoi	Onsite resident
	Ms. Genevieve Malinga	Onsite resident
Purpose of meeting:	To obtain concerns about the proposed project and their recommendations.	
Date held & place:	27th October 2005, at the proposed site	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	
Responses to Issues raised by consultant (quoted verbatim):		
On if they aware of the proposed development and impending displacement:	All of them were aware that plans are underway to demolish the existing houses and develop the project site. Although no formal communication has been forwarded to them regarding compensation, all occupants are of the view that they will be compensated at least for their crops.	

Meeting 2:

Meeting with:	**Name**	**Designation**
	Mr. Hassan Bukenya	Horticulturalists on Yusuf Lule Road
	Mr. Noah Masagazi	Horticulturalists on Yusuf Lule Road
	Mr. Yawe	Horticulturalists on Lourdel Road
Purpose of meeting:	To obtain concerns about being displaced from their current place of work.	
Date held & place:	27th October 2005, by Yusuf Lule Road	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	
Responses to Issues raised by consultant (quoted verbatim):		
1.	On if they aware of the proposed development and impending displacement:	We are not aware of any upcoming developments at the site.
2	On the right/claim they have over the locations from which they operate	• We have no land ownership right over this place but for8 years now, we have been "leasing" from Kampala City Council to grow and sell flower seedlings from these locations. • We operate in a road reserve, which therefore belongs to Kampala City Council. Under the arrangement we have with KCC, we should always maintain clean, the surroundings of our work areas.
3	On being displaced from their workplaces	We have no objection at all if were directed to relocate our businesses but we ought to be compensated for our plants/trees like it was done when constructing the new British High Commission premises.

Meeting 3:

Meeting with:	**Name**	**Designation**
	Mr. Herbert Sekandi	Commissioner, Physical Planning, Ministry Of Water Lands And Environment (MWLE)
Purpose of meeting:	To obtain the Ministry's concerns about the proposed project and its recommendations.	
Date held & place:	1st November 2005, Ministry Of Water Lands And Environment (MWLE), Kampala.	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	
Responses to Issues raised by consultant (quoted verbatim):		
1. On the expected impact of the project:	• Development of the documentation center is a good idea although like other major developments and changes in landuse, the project will lead to some inevitable impacts e.g issues of traffic flow and parking along the roads adjacent to the site. The developer has duty to ensure minimal traffic interference around the site. • During construction, the contractor has to ensure that the regulations governing urban structures are followed (implemented).	
2 On suitability of site for the proposed development	• The small piece of land south of the road joining Lourdel Road and Yusuf Lule Road should not be developed at all because the Town and Country Planning Board resolved to preserve it as an open space. • In addition, there are several underground utilities within that space thus it would not be viable to develop that plot. • Moreover building over that small plot has potential to turn that area into an accident blackspot when motorists on Yusuf Lule Road or Lourdel Road lack visibility of traffic flow on either road.	

Meeting 4:

Meeting with:	**Name**	**Designation**
	Mr. Peter Katebalirwe	Senior Town Planner, Kampala City Council (KCC)
Purpose of meeting:	To obtain KCC's concerns about the proposed project and its recommendations.	
Date held & place:	1st November 2005, KCC Headquarters (White Hall)	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	

Responses to Issues raised by consultant (quoted verbatim):

1.	On the expected impact of the project:	• KCC has already granted the developer permission to put up a chain link fence around the site in preparation for construction works but observing the road reserves. • The developer should acquire titles for proposed plots from Uganda Land Commission as evidence of ownership. • Permission has to be sought from utility bodies to either relocate their underground infrastructure if at all they exist bearing in mind that the cost of relocating utility lines is borne by the developer.
2	On how project could impact traffic safety on adjacent roads	There is need to put up traffic signs on all adjacent roads to warn motorists about on-going construction works.
3	On suitability of site for the proposed development	Nakasero (the proposed project site) is part of the extended central business district and the designated use is office/limited commercial. So the proposed development properly conforms to the area's landuse zoning.

Meeting 5:

Meeting with:	**Name**	**Designation**
	Mr. Tadeo Seruwagi	Systems Planning Engineer / Fibre Optics, Mobile Telephone Network, (MTN)
Purpose of meeting:	To obtain information on underground telecommunications infrastructure existing on site and risk posed by site preparation activities of the proposed development.	
Date held & place:	1st November 2005, MTN Towers, Kampala	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	
Responses to Issues raised by consultant (quoted verbatim):		
On the expected impact of the project:	The MTN fibre optic cable does not extend to the proposed site currently. However, since MTN is continually extending its fiber optic coverage, it would be prudent for a contractor to seek advice of the utility company before commencement of works because there may be changes in coverage at the time when construction commences.	

Meeting 6:

Meeting with:	**Name**	**Designation**
	Mr. Wamalwa Andrew Mr. Muramyenta Kenneth	Road Overseer – Ministry of Works, Housing & Communications (MoWHC)
Purpose of meeting:	To obtain Ministry Of Work, Housing & Communication (MoWHC) input to the proposed project.	
Date held & place:	1st November 2005, MoWHC	
Present:	Harriet Mujuni, Lawyer/Sociologist (AWE Environmental Engineers)	
Responses to Issues raised by consultant (quoted verbatim):		
	On the expected impact of the project:	• Any development in the plot adjacent to the Heifer project is not feasible because any construction in that area would affect/obscure visibility of motorists. • The scenic beauty of the place would be affected. Therefore only the larger plot should be developed and the smaller one (across the road) left intact.

Appendix 2: Biological (Faunal and Flora) Assessment

ASSESSMENT OF THE BIOLOGICAL ENVIRONMENT AT THE PROPOSED SITE OF THE RECORDS & ARCHIVES CENTER

1.0 INTRODUCTION

The proposed site is an already human impacted habitat in the middle of Kampala district. This would therefore imply that very little of it still survives as a pristine natural environment with very much significance for conservation of biological diversity. Evidently, the proposed development site was much more wooded than it is today. Nonetheless the site has a considerable stand of trees lining the roads surrounding it. The tree cover could have some significance for survival of urban fauna and some flora. Currently on the site exist seven residential houses while large portions of un built areas are under cultivation subsistence crops.

The biological environment described in this report is based on the two taxa: birds and plants and was conducted following methodology described below.

2.0 METHODOLOGY

2.1 Vegetation

The aim of biological assessment was to establish floristic composition of this site in light of proposed development and prescribe conservation measures for any identified species that are of special conservation significance. This involved carrying out an inventory of plant species and assessing their abundance, distribution and diversity.

2.1.1 Species enumeration

All trees were identified and recorded. Shrubs and common herbaceous plants were also recorded with their respective abundance using the DAFOR scale. Plants that could not be identified in the field were brought to the Makerere University Herbarium (MHU) for precise identification. Nomenclature followed Polhill *et al*. (1954).

2.2 Birds

Given the size and nature of the environment on proposed project site, birds were surveyed using the point count method as described by Pomeroy (1992). The point count consists of standing at a particular point for a fixed time and recording all birds seen or heard within a fixed radius. It assumes that all birds present in the desired radius will be detected and recorded. Identifications of the birds were based on Williams & Allot (1980).

3.0 RESULTS OF THE BIOLOGICAL ASSESSMENT

3.1 Plant species

A total of 31 species belonging to 17 plant families were recorded (Table A2-2). Commonest tree species on site were *Cedrella* sp. and *Cassia spectabilis*. Others included *Jacaranda mimosifloia, Cuppressus* sp and *Markhamia lutea*. Plant composition at the site suggests past human activity. This is evidenced by presence of many ornamental species such as *Jacaranda mimosifolia* and fruit trees such as *Carica papaya*. The presence of gardens of maize, sweet potatoes and cassava are also signs of habitation and human influence on floral composition.

None of plant species found at the site are of conservation significance (Katende et al. 1995; Eggeling & Dale, 1952; Langdale-Brown et al., 1964).

3.2 Birds

Birds recorded at the proposed site comprised a total of 19 species (Table A2-1). The large majority of these birds are not dependent on a close stand of trees as would be found in a forest. None of the species recorded at the site could be considered to be of conservation significance. Birds recorded at the site are given in table below.

Table A2-1: Bird species recorded at the proposed site.

BRITTON NO.	Common name	Species	Ecological type
43	Open Billed Stork	*Anastomus lamelligerus*	W
51	Hadada	*Bostrychia hagedasha*	W
129	Lizard Buzzard	*Kaupifalco monogrammicus*	F
138	Black Kite	*Milvus migrans*	A
350	Red eyed Dove	*Streptopelia semitorquata*	F
358	Green Pigeon	*Treton australis*	F
367	Brown Parrot	*Poecephalus robustus*	F
376	Eastern Grey Plantain Eater	*Crinifer zonurus*	F
475	Woodland Kingfisher	*Halcyon senegalensis*	A
534	Double toothed Barbet	*Lybius bidentatus*	F
654	Pied Crow	*Corvus albus*	
732	Common Bulbul	*Pycnonotus barbatus*	F
837	Grey-backed Camaroptera	*Camaroptera bracyura*	F
991	African Pied Wagtail	*Motacila aguimp*	W
1003	Black headed Gonolek	*Laniarius barbarus*	F
1060	Ruppel's long tailed Glossy Starling	*Lamprotornis purpuropterus*	
1098	Red Chested Sunbird	*Nectarinia erythroceria*	W
1206	Grey headed Sparrow	*Passer griseus*	
1266	Bronze Mannikin	*Lochura cucullata*	F

Definition of acronyms: A – Afrotropical Migrant species, F – Forest generalists, f – forest visitor, W-Water bird specialist, w- water bird non-specialist (following Wilson 1995)

3.3 Plant Species

Plant species at the site reflect a history of human activity. Sepcies recorded at the site, most of which used as ornamentals trees for shade include *Jacaranda mimosifolia, Casuarina sp., Cuppressus sp., Grevillea robusta* and fruit trees such *Artocapus heterophyllus* and *Persea americana*. Also existing in home gardens were species such as *Musa sapientum., Manhot esculentus* (Cassava) and *Ipomoea batatus* (sweet potatoes). Table below gives plant species identified at the site.

Table A2-2: Tree Species recorded in the proposed National Archives site

Family	Species	Lifeform	Status	Abundance
Pinaceae	Pinus carribea	T	Exotic	O
Cuppresaceae	Cuppressus sp	T	Exotic	R
Fabaceae	Jacaranda mimosifolia	T	Exotic	F
Moraceae	Ficus natalensis	T	Indigenous	F
Moraceae	Ficus vasta	T	Indigenous	O
Meliaceae	Cedrella sp	T	Exotic	F
Fabaceae	Cassia spectabilis	T	Exotic	A
Fabaceae	Cassia siamea	T	Exotic	A
Burseraceae	Canarium schweindurthii	T	Indigenous	R
Palmae	Phoenix reclinata	T	Indigenous	R
Bignoniaceae	Markhamia lutea	T	Indigenous	O
Asteraceae	Asystasia schimperi	H	Indigenous	A
Poaceae	Paspalum conjugatum	H	Exotic	A
Oxalidaceae	Oxalis latifolia	H	Exotic	F
Euphorbiaceae	Sapium ellipticum	T	Indigenous	O
Anacardiaceae	Rhus natalensis	S	Indigenous	O
Moraceae	Antiaris toxicaria	T	Indigenous	O
Anacardiaceae	Mangifera indica	T	Exotic	F
Caricaeae	Carica papaya	T	Exotic	O
Fabaceae	Albizia grandibracteata	T	Indigenous	F
Phytolacaceae	Phytolacca dodecandra	H	Indigenous	R
Lauraceae	Persea americana	T	Exotic	O
Asteraceae	Bidens pilosa	H	Indigenous	A
Asteraceae	Galisonga parviflora	H	Indigenous	A
Commelinaceae	Commelina africana	H	Indigenous	F
Commelinaceae	Commelina benghalensis	H	Indigenous	F
Euphorbiaceae	Phyllanthus sp	H	Indigenous	O
Poaceae	Digitaria abyssinica	H	Indigenous	A
Euphorbiaceae	Euphorbia sp	T	Exotic	R
Moraceae	Artocarpus heterophyllus	T	Exotic	O
Euphorbiaceae	Thevetia periviana	T	Exotic	O

T – Tree; H – Herb; S – Shrub; D – Dominant, A – Abundant, F – Frequent, O – Occasional, R – Rare.

4.0 POTENTIAL IMPACTS AND MITIGATION RECOMMENDATIONS

The proposed development site is already a human-impacted area but it has maintained some refuge to fauna and flora until now. The negative though not major impacts that were identified, include: -

i) The development will result in habitat loss for both plants and animals and loss of foraging grounds for the birds that have depended on this area until now.

Mitigation:	Preserve exiting mature trees to the greatest extent possible. Landscaping should ensure replacement of felled trees.

ii) If the large trees get felled there will be a loss of roosting and nesting locations for bird those species that were using these trees.

Mitigation:	Same as in i) above.

Overall, given the nature of property to be developed there is no major negative impact on biodiversity that would result from the development.