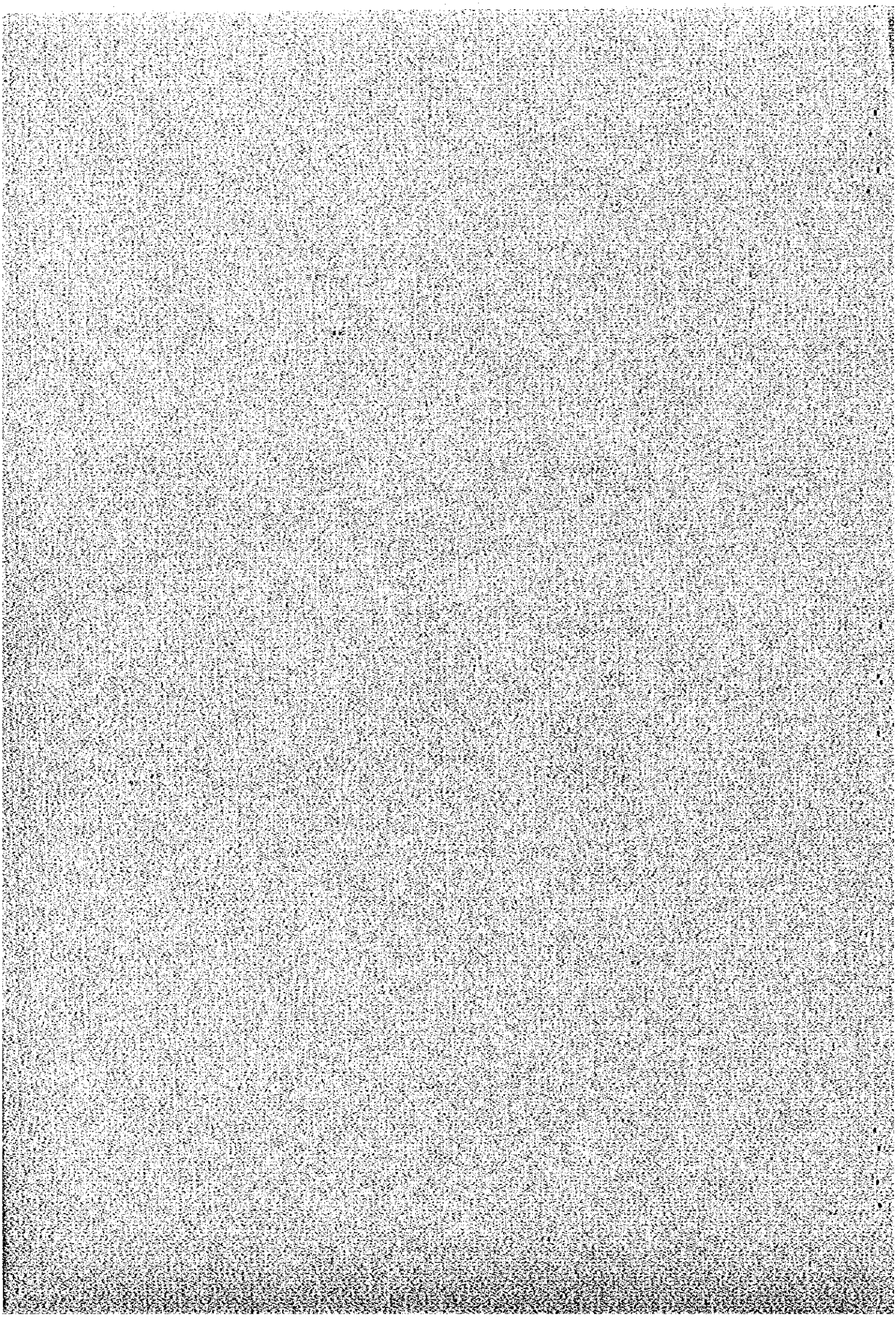
2. Minutes of Meetings (M/M)



MINUTES OF MEETING

ON

THE SCOPE OF WORK

FOR

IMPROVEMENT OF TRUNK ROAD

AT

KAMPALA URBAN INTERFACE SECTIONS

IN

THE REPUBLIC OF UGANDA

AGREED UPON BETWEEN

MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS

AND

JAPAN INTERNATIONAL COOPERATION AGENCY

KAMPALA, SEPTEMBER 5, 1996

Mr. H.R KIBUUKA,
PERMANENT SECRETARY,
MINISTRY OF WORKS, TRANSPORT
AND COMMUNICATIONS

Mr. Takanori JIBIKI,
LEADER,
PREPARATORY STUDY TEAM,
JAPAN INTERNATIONAL
COOPERATION AGENCY

The preparatory study team (hereinafter referred to as "the Team"), for improvement of trunk road at Kampala Urban interface sections in the Republic of Uganda (hereinafter referred to as "the Study") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Takanori JIBIKI visited the Republic of Uganda from August 30th to September 7th, 1996, and had a series of discussions with the Ugandan side, represented by Ministry of Works, Transport and Communications (hereinafter referred to as "MOWTC"). List of participants is shown in Attachment 1.

As a result of the said discussions, both sides came to an agreement on the Scope of Work (hereinafter referred to as "S/W") of the Study, and signed it on September 5th, 1996.

This document summarizes major items discussed between both sides and is meant to supplement the S/W for the smooth conduct of the Study.

1. Title of the Study

Both sides agreed to use "The Feasibility Study of Improvement of Trunk Road at Kampala Urban Interface Sections in the Republic of Uganda" as the title of the Study.

2. Target year

Both sides agreed that the target year of the Study shall be at year 2005.

3. Study area

Both sides agreed that the Study will cover the city of Kampala and its envelope.

4. Study sections

Ugandan side newly requested Japanese side to include other road sections for the Study in addition to the original request made to the Government of Japan (see Attachment 2). Japanese side explained that the priority road sections have to be identified through the feasibility study covering the whole trunk road network in Kampala maintained by MOWTC. Ugandan side agreed on this.

5. Scope of the Study

Ugandan side strongly requested to receive grant aid from Japan for carrying out the improvement of Kampala urban trunk roads. Japanese side explained that the feasibility study is implemented on the scheme of technical cooperation, but the detailed design is not to be involved in the scheme, and that the Scope of Work of the Study will cover only the feasibility study. Ugandan side agreed on this point.

6. Environmental Impact Assessment (EIA)

The proposal of National Environment Management Authority (NEMA), "Environmental Impact Assessment (EIA) for the Improvement of Kampala Urban Section of Trunk Roads"(see Attachment 3), is including assessment required in the course of the implementation and the detailed design. JICA shall carry out only the necessary environmental study during the course of the feasibility study in collaboration with NEMA. Ugandan side agreed on this point.

7. Steering Committee

Both sides agreed that Government of Uganda would establish a Steering Committee under the chairmanship of the MOWTC. Steering Committee will consist of following organizations such as; National Environmental Management Authority, Ministry of Finance, Ministry of Local Government, Kampala City Council.

8. Undertaking of Uganda Government

(1) Japanese side requested MOWTC to provide the office space with necessary equipment (electricity, telephone, furniture) for the full-scale study team.

(2) Considering the limited budget of MOWTC, JICA will provide vehicles for the use of the Study Team.

(3) MOWTC agreed to provide appropriate number of technical staff to supervise traffic count survey, the O-D survey and axle load survey and arrange traffic police assistance.

(4) The Government of Uganda shall provide the Japanese Consultants with

(i) appropriate traffic count data

(ii) all available reports on the original design and right of way

Attachment 1

PARTICIPANTS LIST

THE UGANDAN SIDE

1. Mr. H. R KIBUUKA
   Permanent Secretary, MOWTC
2. Mr. J. MWEDDE
   Chief Engineer, MOWTC
3. Mr. A. O. MUGISA
   Ag. Commissioner for Works (Development), MOWTC
4. Mr. M. Edward
   Engineer, MOWTC

5. Mr. Toshio OKAZAKI
   JICA Expert (Advisor for Japanese Aid), Ministry of Finance & Economic Planning

THE JAPANESE SIDE

1. Mr. Takanori JIBIKI
   Team Leader, Preparatory Study Team
2. Mr.Kunio Ohashi
   Road maintenance program/Road planning, Preparatory Study Team
3. Mr. Hiroatsu NARITA
   Natural conditions/ Environment, Preparatory Study Team
4. Mr. Koichi KITO
   Study planning, Preparatory Study Team

5. Mr. Hiroyuki ABE
   Assistant Resident Representative, JICA Kenya Office

MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS

TERMS OF REFERENCE FOR THE FEASIBILITY STUDY AND DETAILED DESIGN OF THE IMPROVEMENT OF KAMPALA URBAN SECTIONS OF TRUNK ROADS.

1.0 INTRODUCTION

The overall road network of Uganda measures approximately 28000 km. of which 8000 km. are classified trunk roads and the remaining 20,000 km. are rural feeder roads and urban streets. The construction and maintenance of the classified (major) road network (2000 km. paved and 8000 km. gravel) is the responsibility of Ministry of Works, Transport and Communications (MOWTC) while that of the rural feeder roads and urban streets (20,000 km.) come under the overall responsibility of Ministry of Local Government (MOLG).

For a period of about 15 years, prior to 1986 there was virtually no road construction and maintenance carried out and almost the entire road network deteriorated to a state of acute disrepair. Since 1986, Government has carried out a vigorous road rehabilitation programme and to date 55% of the trunk road network has been reinstated. The Government has embarked on the second phase of the construction programme to finalise the rehabilitation of the entire road network by the year 1997. In addition the Government has also focussed on increasing the trunk road network by about 2000 km. by the same year.

A number of the paved trunk roads originate from the Capital City of Kampala and radicate outward into the country. Short sections of these roads traverse the densely populated urban and semi-urban areas of Kampala as they flow out into the countryside. Just like the rest of the road network, these road sections were also affected by the lack of maintenance during the period of political turmoil and economical mismanagement (1971-1985). To date most of these urban sections of trunk roads need rehabilitation and strengthening to meet the present and future traffic demand. In addition, due to the increase in the city population and traffic, these road sections are at the moment characterised by a high rate of fatal accidents and heavy traffic congestions, hence the urgent need for improvement.

2.0 BACKGROUND

The Kampala urban sections of the trunk roads include the following road sections:-

a)	Queens way (Clock Tower)-Kibuye-Busega	-	9 km
b)	Katwe road including Lubiri ring road to Masaka road	-	5 km
c)	Kampala-Gaba road	-	10 km
d)	Kampala (Lugogo)-PortBell road	-	5 km
e)	Kampala (Bakuli)-Wakaliga-Nateete road	-	5 km
f)	Kampala (Bakuli)-Nakulabye-Kasubi-Nansana road	-	10 km
g)	Kampala (Lugogo)-Bweyogerere road	-	6 km
h)	Kampala - Kawempe road	-	8 km
i)	Kampala - Mpererwe road	-	6 km
			64 km

These road sections are part of the main trunk roads making up the classified road network. They traverse the densely populated urban and semi-urban areas of Kampala as they flow out into the countryside.

These stretches which are on average 6-7m wide two lane carriageway are characterised by the following:-

a) Pavement distress in a number of locations;

b) Heavy traffic congestion due to inadequate lane capacities, poor junctions, etc..

c) Frequent accidents, many of them fatal, due to over-congestion, lack of pedestrian walkways and safe crossing points etc.

Ministry of Works, Transport and Communications wishes to address itself to these problems and devise ways of getting them solved.

3.0 OBJECTIVES OF PROJECT

The objectives of the project are:-

a) To investigate the feasible capacity and safety improvement and strengthening needs of the Kampala - Urban Interface sections of trunk roads.

b) To carry out the detailed engineering design of such improvements and strengthening measures.

4.0 PROJECT DESCRIPTION

The project shall consist of the following:-

i) Review of existing road and traffic data on the identified road stretches.

ii) Collection of such additional data as may be necessary.

iii) Identification of the improvement needs that are technical and economically viable over a 15 year period (utilising as much of the existing alignment as possible within accepted standards as approved by Government).

iv) Definition of the decongestion, pedestrian/cyclists/vehicle traffic segregation and pavement strengthening measures required.

v) Preliminary engineering design and economic feasibility study of the proposed improvement measures of the identified road sections with the view of recommending the most technically and economically feasible solutions.

vi) Detailed engineering survey and design including cost estimates and tender documents for the improvement/construction of the road sections to a standard approved by the Ministry of Works, Transport and Communications.

5. SCOPE OF WORK

The consultancy services will be carried out in two stages:-

Stage 1 Economic Feasibility and Preliminary Engineering

(a) Economic Feasibility:

This will include and not be limited to the following:

(i) Carrying out traffic counts and analysis to determine the nature of traffic, present volume of freight, and passenger movement on the roads under study.

(ii) Carrying out traffic forecasts and general projections of future traffic for the economic life of the roads.

(iii) Examining all available information on Vehicle Operating Costs, and Road Maintenance Costs.

(iv) Giving a detailed qualitative analysis of those social and economic benefits of a highway project that are not quantifyable

(v) Evaluating the road project in terms of future benefits of the road over a fifteen year period with regard to user benefits, savings in road maintenance costs and any other parameter considered necessary.

(vi) Carrying out a sensitivity analysis, in which traffic forecasts, cost and benefits will be varied.

vii) Defining the decongestion, pedestrian/cyclists/vehicle traffic segregation and pavement strengthening measures required.

(b) Preliminary Engineering

Within the scope of the feasibility study, topographic surveys, aerial surveys, subsurface explorations and other field and laboratory investigations that are required for the preliminary engineering will be conducted.

Points to be considered during preliminary engineering include:-

i) Environmental Impact:

Study and analysis of the effect of the improvement on the overall City traffic system.

ii) Design Standard:

The geometric and loading standards to be as agreed with Ministry of Works, Transport and Communication and the system used to be metric.

iii) Preliminary Soil investigations:

All preliminary soil investigations and tests and identification of sources of construction materials necessary for the economic feasibility final design and construction to be undertaken.

iv) Preliminary design:

Based on traffic studies, economic analysis and geophysical tests, one or more design standards to be carried out and merits and demerits of each standard to be ascertained to determine final standard to be adopted for each road section.

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v) Cost estimates:

The following estimates shall be worked out:

- Preliminary quantities estimate for the proposed construction.

- Preliminary cost estimate of construction of the road sections, net of taxes.

Stage II - Detailed Engineering Design

The scope of the engineering investigations, design and related work shall include, but not limited to:-

a) Detailed Engineering

Condition survey of existing road sections including shoulders, roadside drains and cross-drainage structures and related engineering work will be carried out as necessary to complete detailed engineering and preparation of bidding documents and will include necessary surveys, location of centre lines, levelling of profiles and cross sections, soils and materials survey; location and testing of sources of materials required for construction.

b) Cost Estimates

The consultant shall give cost estimates broken down into foreign and local currency components. The foreign exchange and local currency costs will be computed in detail for each item in the bill of quantities. The foreign exchange component costs shall include such items as depreciation of imported plant and equipment, imported materials and supplies, locally procured goods of foreign manufacture, wages of foreign personnel, foreign components of wages and overheads, profits of foreign firms and also the principal foreign cost elements of locally produced goods and materials incorporated in the works. The estimate for the right-of-way acquisition shall be made on the basis of the unit prices to be furnished by the Government for each type of road section and property utilisation.

1. The foreign currency component shall include the cost of:

i) imported equipment (depreciation), materials and supplies;

ii) domestic materials of which the country is a net importer;

iii) identifiable foreign components of domestic materials of which the country is a net exporter;

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iv) profit of foreign firms and overheads where appropriate.

2. The local component shall include the cost of:

i) right -of-way acquisition;

ii) local materials and supplies;

iii) salaries and wages of local employees.

In addition, the consultant shall present separately, the taxes and duties element of the cost estimates.

c) Contract Packaging

The consultants shall, in consultation with MOWTC, prepare appropriate contract packages.

d) Soils and Materials Investigations

A review shall be made of all existing relevant data, followed by a general study of the soils and materials along the routes. The consultant shall be required to make additional detailed soil investigation along the road alignment to identify the varying soil types.

Investigations for sources of construction materials for pavements and structures shall also be carried out, and sites of suitable materials surveyed and shown in the engineering plans. Analysis and testing shall be carried out as necessary on the construction materials. Undisturbed samples will be tested for the determination of the main mechanical characteristics, i.e. classification, shear strength, compressibility, etc. In the case of the identified road stretches, the consultant shall make..... tests to prepare alternative designs of sub-base, base and wearing courses with different materials, viz., naturally occurring gravel stabilised with cement or lime or crushed stone.

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This shall be followed by a cost comparison and a firm recommendation of which alternative to adopt.

Construction materials samples shall be tested where necessary for: grain-size distribution and plasticity characteristics; maximum dry density and optimum moisture content; aggregate crushing value; bitumen adhesion and chemical analysis as necessary. Other tests which may be necessary as prescribed by MOWTC shall also have to be carried out.

(e) Drainage and Bridge Site Investigations

Hydrological studies shall be carried out on all drainage structures with careful analysis by stereoscopic examination of aerial photos, the study of available maps and field investigations.

The catchment areas, run-off factors and design discharge flows shall be determined for each drainage structure and the corresponding water level established. The flood return period(s) utilised for the design of culverts, bridges and other drainage structures shall be selected from an engineering and economic analysis to determine the optimum period for each road and type of structure from hydrographic data pertinent to the topography and terrain of Kampala area.

Cross-sections and gradients of water courses shall be surveyed to determine the design of proper drainage and erosion control of the roadway and the protection of the surrounding areas.

(f) Engineering Plans

The consultant shall prepare the following engineering plans for the project, using format and title sheets as required by the MOWTC:

i) Plan and Profile, Scale 1:2000 horizontal and 1: 200 vertical: Showing running chainages, natural ground levels, and design levels all at 25m centres: horizontal and vertical curve details; side drain locations; descriptions and references to all drainage and bridge works; location and values of bench marks and traverse stations; location of road furniture; contour lines super-imposed on plans; any other relevant information on the format approved by the Ministry of Works, Transport and Communications.

ii) Typical Cross-sections, scale 1:25: Showing all details of road cross-section in cuts and fills; side drains; pavement thickness; and camber and superelevation; pavement widening.

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iii) Cross-section, scale 1:100: Showing the natural ground level and super-imposed road prism at 25m intervals.

iv) Typical Culverts: Showing the details of all types of culverts and other drainage structures less than 10 metre spans, their inlets and outlets including the protection works necessary for the project.

v) Major Structure: For all bridge structures with spans of 10 metres or greater, sufficiently detailed engineering drawings will be produced at appropriate scales, showing recommended corrective measures to be undertaken.

vi) Soils Plan: Showing the characteristics of soils for various sections of the road sections.

vii) Ancilliary Works: Showing plans of all other ancilliary works including related works.

(g) Construction Quantities

The quantities for the items of construction shall be calculated based on the design drawings and within reasonable accuracy (+/- 10%) and in accordance with accepted methods of measurement which shall be agreed with the MOWTC. The quantities shall be summarised into the following sections:

-General
-Surface water drainage
-Earthworks, sub-bases, shoulders and bases
-Bituminous surfacing to the road
-Ancillary works
-Structures
-Materials and testings
-Day works

(h) Prequalification of Bidders

The consultant shall:

i) prepare all necessary documents for the prequalification of contractors, including abbreviated specifications of the work to be performed, forms, invitations to prequalify, draft advertisements, etc. and;

ii) review and evaluate proposals for prequalification and prepare a list of qualified firms which should be permitted to bid.

(i) Bidding Documents

The consultants shall prepare for each of the contract packages the following bidding and contract documents as necessary, suitable for international competitive bidding, including conditions of contract, specifications, drawings (to an appropriate scale), bills of quantities and forms for bid and performance bonds/bank guarantee(s):-

1. Instructions to Bidders
2. General Conditions of Contract
3. Conditions of Particular Application
4. Technical Specifications
5. Forms of Bid, Appendix to Bid and Bid security
6. Bill of quantities
7. Form of Agreement
8. Forms of Performance and Domestic Preference Securities, and of Bank guarantee for Advance Mobilization Payment.
9. Drawings

(j) Economic Evaluation

While up to date traffic counts have provided a first indication that the inclusion of the selected road section in the project for improvement/rehabilitation is economically justified, the Consulting Engineer will, undertake an economic evaluation to establish the Net Present Value (NPV) dis-counted at 12 percent and the Economic Rate of Return (EIRR).

The Consulting engineer will assess the possible benefits including but not limited to vehicle operating cost savings, accident cost savings,time savings and savings in road investment and maintenance costs. The consultant shall forecast the traffic by type and size of vehicle to arrive at vehicle operating costs and time savings.

6. DATA, LOCAL SERVICES AND FACILITIES TO BE PROVIDED BY THE GOVERNMENT

a) Data

The Government shall provide the consultants with:

i) appropriate traffic count data;

ii) assistance in undertaking additional traffic counts if necessary;

iii) relevant road design standards;

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iv) cost of recent road construction, regravelling/rehabilitation and maintenance for the various types of roads;

v) topographical, meteorological maps of the project areas, as available; and

vi) agricultural, social, administrative and economic data covering the areas served by the project roads.

b) Cooperation of Government Agencies and counterparts

i) The Government will provide for the cooperation of Government Ministries, departments and other agencies as required for carrying out the work, liaison as necessary for this purpose, and will give the consultants full access to all information required for the completion of the studies.

ii) The Government will assign suitable counterpart staff to work with the key personnel of the consultants.

c) Facilities and Supporting Staff

The consultants will make their own arrangements for all necessary office and living accommodation, local transportation, supplies etc., in connection with the services to be provided.

7. TIME SCHEDULE FOR CONSULTING SERVICES AND REPORTS

a) Commencement

The consultant shall commence the study within 30 calendar days of the effective date of the contract. The effective date shall be the date on which the Consultancy Agreement shall be signed.

b) Reports

The consultant shall prepare and submit the following reports. All reports shall be in English and prepared on metric size papers:

i) Inception Report: Summarizing initial findings, and giving proposals for the conduct of the services in 10 copies to the Government plus 2 copies to the financing agency directly.

ii) Draft Report on Stage I: Giving findings, analysis and recommendations in 10 copies to the Government plus 2 copies to the financing agency directly.

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iii) Final Report on Stage I: Incorporating all modifications based on the comments by the Government and the financing agency in 15 copies to the Government plus 2 copies to the financing agency directly.

iv) Draft Report on Stage II: Furnishing all aspects of stage II services included in the Terms of Reference, in 10 copies to the Government plus 2 copies to the financing agency directly.

v) Final Report on Stage II: incorporating all modifications based on the comments by the Government and the financing agency in 15 copies to the Government plus 2 copies to the financier directly.

vi) In addition, the consultant shall produce bi-monthly progress reports showing the programme, progress, difficulties, staff employed and other salient points including photographs, in 10 copies to the Government plus 2 copies to the financing agency directly.

c) Time Schedule

The following time schedule shall be observed in carrying out the study.

i)	Effective Date of Contracts	: M	
ii)	Commencement of the Services (within 30 days after effective date of contract)	:	M + 1
iii)	Inception Report	:	M + 2
iv)	Draft Final Report - Economic Study and Preliminary Engineering	:	M + 6
v)	Comment and Approval by Government and the financing agency	:	M + 7
vi)	Final Report - Economic Study and Preliminary Engineering	:	M + 8
vii)	Commencement of Detailed Engineering Design	:	M + 9
viii)	Draft Final Report - Engineering Design	:	M + 14

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ix)	Comments and Approval by Government and financing agency	:	M + 16
x)	Final Report - Engineering Design	:	M + 17

8. TAXES, DUTIES AND EXEMPTIONS

a) The Government shall grant exemption from local income taxes for expatriate personnel employed by the consultant in Uganda for the duration of the study.

b) Exemption from import duties on all equipment including vehicles to be utilised on the study, and personal effects of expatriate personnel (and their dependents) employed by the consultant, shall be granted by the Government. Equipment, personal effects and vehicles, shall be re-exported on completion of the study.....

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Attachment 3

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

East African Development Bank Building 5th Floor,
4 Nile Avenue, P.O. Box 22255, Kampala, Uganda
Tel: 256-41-236817
Fax: 256-41-251521
E-Mail: NEMA@imul.com/NEIC@starcom.co.ug

28 August 1996

Engineer A.O. Mugisha
Ag. Commissioner for Works
(Development)

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE IMPROVEMENT OF KAMPALA URBAN SECTION OF TRUNK ROADS

It is the general policy of Uganda that in order to ensure development without harming the environment, Environment Impact Assessments (EIAs) be conducted for all proposed projects/activities which may, are likely to or will have significant impacts on the environment.

Construction of all major roads is among the projects/activities listed in National Environment Statute, 1995, Schedule 3 for which an EIA shall be required.

In this respect an EIA will ensure that all environmental impacts resulting from the proposed project on improvement of 8 Kampala Urban sections of trunk roads are considered during conception, design and implementation, and mitigation measures are put in place.

The following areas of concern of should be addressed, among others, during the EIA process of the above proposed project:

1. Erosion on the roads and consequent off-site sedimentation/pollution.

2. Excavations including cut-and-fill (if applicable) - The cut slopes should be stabilised to avoid the hazard of accelerated erosion, while as much as possible the fills should be done in such a way not to cause blockage of drainage in the valleys (e.g. culverts should be high-wide enough to evacuate flood water).

3. Further to drainage systems, in all aspects they should not infringe on off-site peoples' rights such as settlements or other properties.

4. Reduction of accidents through proper traffic management should be given due consideration. In particular there is need to design and construct pedestrian safety passes, including pavements or side walks on all roadsides, traffic lights at appropriate crossings and most particular, a pedestrian by-pass at Nakawa and Katwe. Sub-way are strongly discouraged in favour of fly-overs, as the former are unsafe for use at particular times especially at night. Road signs at suitable places should be given priority too.

5. Borrow pits for murram and stone quarries should be opened up without harming the environment. In particular, avoid destroying prime agricultural land, causing accidents e.g. from stone blasts, and disfiguring hillsides and causing erosion. After removal of the material there should be clean up (levelling, planting of trees/grass.

6. Along the roads, environmental enhancement activities are recommended such as planting of trees. Also road signs indicating places and other forms of useful information should be included.

Festus D.K. Bagoora
NRM (Soils and Land Use)
NEMA

3．正式要請書（当初のTOR）

MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS

TERMS OF REFERENCE FOR

THE FEASIBILITY STUDY AND DETAILED ENGINEERING DESIGN OF IMPROVEMENTS OF TRUNK ROADS AT

KAMPALA URBAN INTERFACE SECTIONS

1.0 INTRODUCTION

The classified road network of Uganda has the shape of a semicircle made up of arcs and radials, with Kampala, the economic and adminstrative centre of the nation, at its hub. Kampala is also on the Northern Corridor which joins Eastern Zaire, Rwanda and Burundi with their outlet to the sea at Mombasa.

Almost all the major roads either radiating from or going across Kampala have recently been rehabilitated and the traffic volume is attaining considerable magnitudes. In fact, road accident tolls are rising from year to year and this has become an important cause of national concern. It has been statistically established that the problem is more accute at sections where the trunk rural roads approach the urbanized periferies of Kampala. Unlike in the city center itself, pedestrian travelway is not segregated, and the junctions with side streets have not been engineered adequately from the point of view of road safety and smooth flow of traffic.

The objects of immediate concern include the following road sections:-

a) Kampala - Kawempe (12km) on the main road to Gulu

b) Kampala - Mpererwe (5km) on the main road to Gayaza

c) Kampala - Zana (3km) on the main road to Entebbe

d) Kampala - Port Bell(5km) access to the recently rehabilitated ferry station on the Lake Victoria

e) Kampala - Gaba (7km) access to the main fishing town on Lake Victoria

f) Kampala - Kasubi (10km) on the main road to Hoima.

These are 2-lane carriageways, 6-7m wide on the average are also characterised by heavy traffic congestion.

2.0 OBJECTIVES OF PROJECT

The objectives of the study are: i) to assess the current conditon of the Kampala Urban Interface sections of trunk rural roads as regards safety, flow of traffic and adequacy of pavement strength; ii) examine the feasibility of alternate solutions to the current problem in those sections, with due emphasis on road safety; and, iii) carry out detailed engineering design and prepare tender documents for improvement measures recommended for each section.

3.0 GENERAL SCOPE OF CONSULTING SERVICES

3.1 The Consultant shall perform all necessary field survey investigations, examine the expected impacts of current and planned development activities, conduct economic analyses and engineering designs required to attain the objectives of the study as set on Section 2, hereof.

3.2 In the conduct of their work, the Consultant and its staff shall cooperate fully with Government Ministries responsible for development planning, including also the Kampala City Council. MOWTC will provide data information and general support as outlined on Section 5 hereof. The Consultant shall, however, have the sole resaponsibility for interpretation and analysis of all data received and for the conclusions and recommendations contained in its report.

3.3 The consultancy services shall be carried out in two phases:

PHASE I

- review and analysis of available traffic data and accident reccords along the interface sections;
- survey and investigate to determine the nature of the problem and future trends in the interface sections;
- draw up alternative solutions for each of the section, carry out preliminary engineering designs, and make an economic evaluation of each alternative.

PHASE II

carry out detailed engneering design of the best feasible alternative, complete with drawings, tender documents and engineering and economic evaluation reports.

Further details on the requirements of the study activities are given in the following section, and the schedule of reporting is detailed at Section 7.
Definition of the decongestion, pedestrian/cyclists/vehicle traffic segregation and pavement strengthening measures required.

v) Preliminary engineering survey and design work for the improvement of the identified road sections.

vi) Detailed engineering survey and design including cost estimates and tender documents for the improvement/construction of the road sections to a standard approved by the Ministry of Works, Transport and Communications.

5. SCOPE OF WORK

The consultancy services will be carried out in two stages:-

Stage 1 Economic Feasibility and Preliminary Engineering

(a) Economic Feasibility:

This will include and not be limited to the following:

(i) Carrying out traffic counts and analysis to determine the nature of traffic, present volume of freight, and passenger movement on the roads under study.

(ii) Carrying out traffic forecasts and general projections of future traffic for the economic life of the roads.

(iii) Examining all available information on Vehicle Operating Costs, and Road Maintenance Costs.

(iv) Giving a detailed qualitative analysis of those social and economic benefits that are not quantifyable

(v) Evaluating the road project in terms of future benefits of the road over a fifteen year period with regard to user benefits, savings in road maintenance costs.

(vi) Carrying out a sensitivity analysis, in which traffic forecasts, cost and benefits will be varied.

vii) Defining the decongestion, pedestrian/cyclists/vehicle traffic segregation and pavement strengthening measures required.

(b) Preliminary Engineering

Within the scope of the feasibility study, topographic surveys, aerial surveys, subsurface explorations and other field and laboratory investigations that are required for the preliminary engineering will be conducted.

Points to be considered during preliminary engineering include:

i) Environmental Impact:

Study and analysis of the effect of the improvement on the overall City traffic system.

ii) Design Standard:

The geometric and loading standards to be as agreed with MOWTAC.

iii) Preliminary Soil investigations:

All preliminary soil investigations and tests and identification of sources of construction materials necessary for the economic feasibility final design and construction to be undertaken.

iv) Preliminary design:

Based on traffic studies, economic analysis and geophysical tests, one or more design standards to be carried out and merits and demerits of each standard to be ascertained to determine final standard to be adopted for each road section.

v) Cost estimates:

The following estimates shall be worked out:

- Preliminary quantities estimate for the proposed construction.
- Preliminary cost estimate of construction of the road sections, net of taxes.

Stage II - Detailed Engineering Design

The scope of the engineering investigations, design and related work shall include, but not limited to:-

a) Detailed Engineering

Condition survey of existing road sections including

shoulders, roadside drains and cross-drainage structures and related engineering work will be carried out as necessary to complete detailed engineering and preparation of bidding documents and will include necessary surveys, location of centre lines, levelling of profiles and cross sections, soils and materials survey; location and testing of sources of materials required for construction.

b) Cost Estimates

The consultant shall give cost estimates broken down into foreign and local currency components. The foreign exchange and local currency costs will be computed in detail for each item in the bill of quantities. The foreign exchange component costs shall include such items as depreciation of imported plant and equipment, imported materials and supplies, locally procured goods of foreign manufacture, wages of foreign personnel, foreign components of wages and overheads, profits of foreign firms and also the principal foreign cost elements of locally produced goods and materials incorporated in the works. The estimate for the right-of-way acquisition shall be made on the basis of the unit prices to be furnished by the Government for each type of road section and property utilisation.

1. The foreign currency component shall include the cost of:

i) imported equipment (depreciation), materials and supplies;

ii) domestic materials of which the country is a net importer;

iii) identifiable foreign components of domestic materials of which the country is a net exporter;

iv) profit of foreign firms and overheads where appropriate.

2. The local component shall include the cost of:

i) right -of-way acquisition;

ii) local materials and supplies;

iii) salaries and wages of local employees.

In addition, the consultant shall present separately, the taxes and duties element of the cost estimates.

c) Contract Packaging

The consultants shall, in consultation with HOWTC, prepare

appropriate contract packages.

d) Soils and Materials Investigations

A review shall be made of all existing relevant data, followed by a general study of the soils and materials along the routes. The consultant shall be required to make additional detailed soil investigation along the road alignment to identify the varying soil types.

Investigations for sources of construction materials for pavements and structures shall also be carried out, and sites of suitable materials surveyed and shown in the engineering plans. Analysis and testing shall be carried out as necessary on the construction materials. Undisturbed samples will be tested for the determination of the main mechanical characteristics, i.e. classification, shear strength, compressibility, etc. In the case of the identified road stretches, the consultant shall make adequate tests to prepare alternative designs of sub-base, base and wearing courses with different materials, viz., naturally occurring gravel stabilised with cement or lime or crushed stone. This shall be followed by a cost comparison and a firm recommendation of which alternative to adopt.

Construction materials samples shall be tested where necessary for: grain-size distribution and plasticity characteristics; maximum dry density and optimum moisture content; aggregate crushing value; bitumen adhesion and chemical analysis as necessary. Other tests which may be necessary as prescribed by MOWTC shall also have to be carried out.

(f) Engineering Plans

The consultant shall prepare the following engineering plans for the project; using format and title sheets as required by the MOWTC:

i) Plan and Profile, Scale 1:2000 horizontal and 1: 200 vertical: Showing running chainages, natural ground levels, and design levels all at 25m centres: horizontal and vertical curve details; side drain locations; descriptions and references to all drainage and bridge works; location and values of bench marks and traverse stations; location of road furniture; contour lines super-imposed on plans; any other relevant information on the format approved by the Ministry of Works, Transport and Communications.

ii) Typical Cross-sections, scale 1:25: Showing all details of road cross-section in cuts and fills; side drains; pavement thickness; and camber and superelevation;

pavement widening.

iii) Cross-section, scale 1:100: Showing the natural ground level and super-imposed road prism at 25m intervals.

iv) Typical Culverts: Showing the details of all types of culverts and other drainage structures less than 10 metre spans, their inlets and outlets including the protection works necessary for the project.

v) Major Structure: For all bridge structures with spans of 10 metres or greater, sufficiently detailed engineering drawings will be produced at appropriate scales, showing recommended corrective measures to be undertaken.

vi) Soils Plan: Showing the characteristics of soils for various sections of the road sections.

vii) Ancilliary Works: Showing plans of all other ancilliary works including related works.

(g) Construction Quantities

The quantities for the items of construction shall be calculated based on the design drawings and within reasonable accuracy (+/-10%) and in accordance with accepted methods of measurement which shall be agreed with the MOWTC. The quantities shall be summarised into the following sections:

-General
-Surface water drainage
-Earthworks, sub-bases, shoulders and bases
-Bituminous surfacing to the road
-Ancillary works
-Structures
-Materials and testings
-Day works

(h) Prequalification of Bidders

The consultant shall:

i) prepare all necessary documents for the prequalification of contractors, including abbreviated specifications of the work to be performed, forms, invitations to prequalify, draft advertisements, etc. and;

ii) review and evaluate proposals for prequalification and prepare a list of qualified firms which should be permitted to bid.

(i) Bidding Documents

The consultants shall prepare for each of the contract packages the following bidding and contract documents as necessary, suitable for international competitive bidding, including conditions of contract, specifications, drawings (to an appropriate scale), bills of quantities and forms for bid and performance bonds/bank guarantee(s):-

1. Instructions to Bidders
2. General Conditions of Contract
3. Conditions of Particular Application
4. Technical Specifications
5. Forms of Bid, Appendix to Bid and Bid security
6. Bill of quantities
7. Form of Agreement
8. Forms of Performance and Domestic Preference Securities, and of Bank guarantee for Advance Mobilization Payment.
9. Drawings

(j) Economic Evaluation

While up to date traffic counts have provided a first indication that the inclusion of the selected road section in the project for improvement/rehabilitation is economically justified, the Consulting Engineer will, undertake an economic evaluation to establish the Net Present Value (NPV) dis-counted at 12 percent and the Economic Rate of Return (EIRR).

The Consulting engineer will assess the possible benefits including but not limited to vehicle operating cost savings, accident cost savings, time savings and savings in road investment and maintenance costs. The consultant shall forecast the traffic by type and size of vehicle to arrive at vehicle operating costs and time savings.

6. DATA, LOCAL SERVICES AND FACILITIES TO BE PROVIDED BY THE GOVERNMENT

a) Data

The Government shall provide the consultants with:

i) appropriate traffic count data;

ii) assistance in undertaking additional traffic counts if necessary;

iii) relevant road design standards;

iv) cost of recent road construction, regravelling/rehabilitation and maintenance for the

various types of roads;

v) topographical, meteorological maps of the project areas, as available; and

vi) agricultural, social, administrative and economic data covering the areas served by the project roads.

b) Cooperation of Government Agencies and counterparts

i) The Government will provide for the cooperation of Government Ministries, departments and other agencies as required for carrying out the work, liaison as necessary for this purpose, and will give the consultants full access to all information required for the completion of the studies.

ii) The Government will assign suitable counterpart staff to work with the key personnel of the consultants.

c) Facilities and Supporting Staff

The consultants will make their own arrangements for all necessary office and living accommodation, local transportation, supplies etc., in connection with the services to be provided.

7. TIME SCHEDULE FOR CONSULTING SERVICES AND REPORTS

a) Commencement

The consultant shall commence the study within 30 calendar days of the effective date of the contract. The effective date shall be the date on which the Consultancy Agreement shall be signed.

b) Reports

The consultant shall prepare and submit the following reports. All reports shall be in English and prepared on metric size papers:

i) Inception Report: Summarizing initial findings, and giving proposals for the conduct of the services in 10 copies to the Government plus 2 copies to the financing agency directly.

ii) Draft Report on Stage I: Giving findings, analysis and recommendations in 10 copies to the Government plus 2 copies to the financing agency directly.

iii) Final Report on Stage I: Incorporating all modifications based on the comments by the Government and the financing agency in 15 copies to the Government plus 2 copies to

the financing agency directly.

iv) Draft Report on Stage II: Furnishing all aspects of stage II services included in the Terms of Reference, in 10 copies to the Government plus 2 copies to the financing agency directly.

v) Final Report on Stage II: incorporating all modifications based on the comments by the Government and the financing agency in 15 copies to the Government plus 2 copies to the financier directly.

vi) In addition, the consultant shall produce bi-monthly progress reports showing the programme, progress, difficulties, staff employed and other salient points including photographs, in 10 copies to the Government plus 2 copies to the financing agency directly.

c) Time Schedule

The following time schedule shall be observed in carrying out the study.

i)	Effective Date of Contracts	: M
ii)	Commencement of the Services (within 30 days after effective date of contract)	: M + 1
iii)	Inception Report	: M + 2
iv)	Draft Final Report - Economic Study and Preliminary Engineering	: M + 6
v)	Comment and Approval by Government and the financing agency	: M + 7
vi)	Final Report - Economic Study and Preliminary Engineering	: M + 8
vii)	Commencement of Detailed Engineering Design	: M + 9
viii)	Draft Final Report - Engineering Design	: M + 14
ix	Comments and Approval by Government and financing agency	: M + 16
x	Final Report - Engineering Design	: M + 17

8. TAXES, DUTIES AND EXEMPTIONS

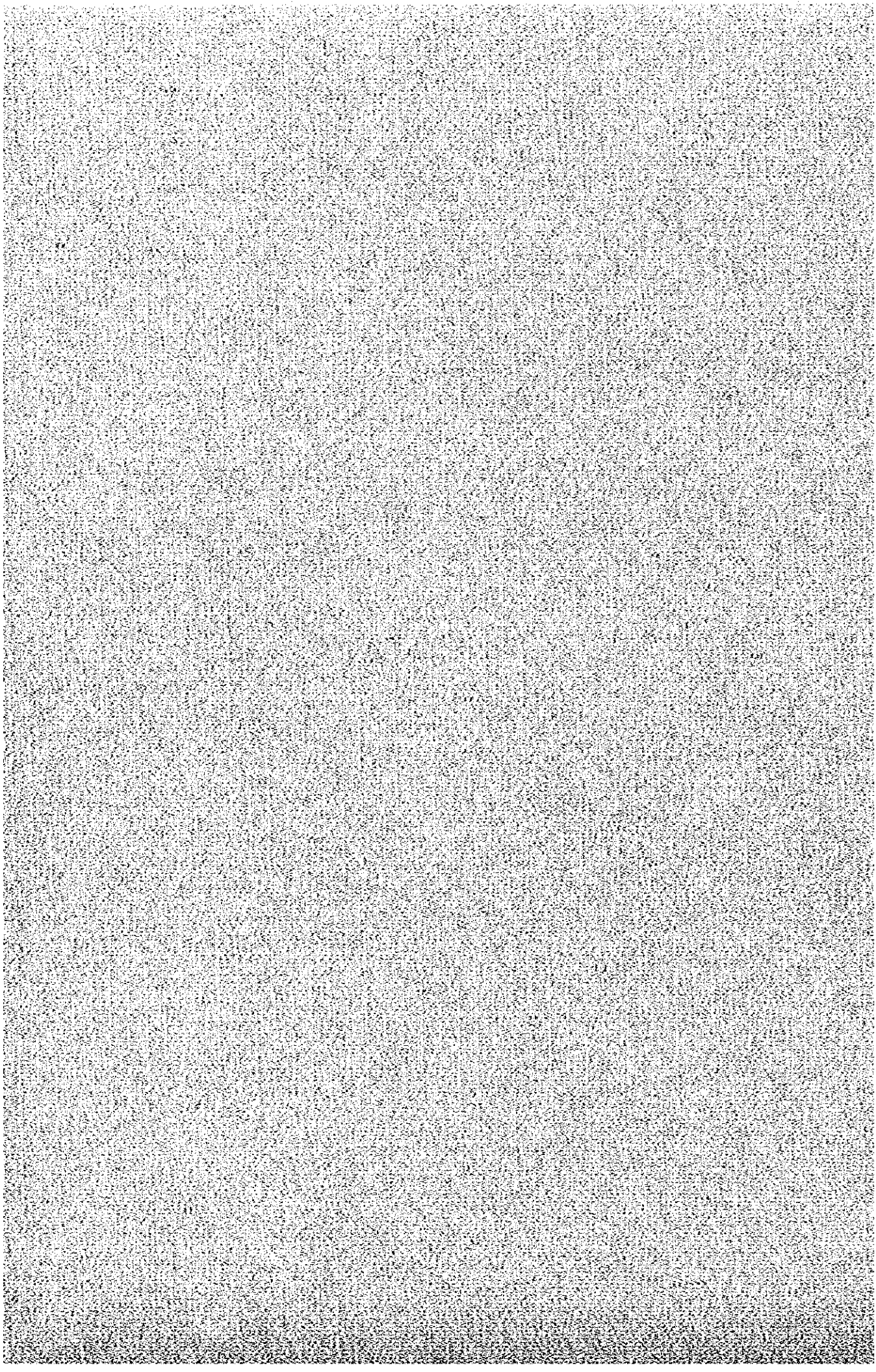
a) The Government shall grant exemption from local income taxes for expatriate personnel employed by the consultant

in Uganda for the duration of the study.

b) Exemption from import duties on all equipment including vehicles to be utilised on the study, and personal effects of expatriate personnel (and their dependents) employed by the consultant, shall be granted by the Government. Equipment, personal effects and vehicles, shall be re-exported on completion of the study.

Government shall provide all necessary permits and visas for the consultant's expatriate personnel and dependants to enter and reside in Uganda and to work on the implementation of the study.

4. Questionnaire



QUESTIONNAIRE(DRAFT)

JAPANESE PREPARATORY STUDY TEAM

FOR

THE FEASIBILITY STUDY

OF

IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS

IN

THE REPUBLIC OF UGANDA

SEPTEMBER, 1996

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

Note :

- Please mark ○ for the Data/Item in the "Availability" which is available
- Please mark × for the Data/Item in the "Availability" which is not available
- List of required data/reports are as per attached
- Please answer YES or NO by marking ○ in the " VI. ROAD MAINTENANCE QUESTIONNAIRE "

II. TECHNICAL DATA / INFORMATION

ITEM	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAIL-ABILITY	PLACE OF DATA AVAILABLE	
1.Maps to be used for field investigation	(1) Topographic maps covering the Study area (of smaller scale)			
2.Availability of aerial photos and topographic maps	(1) Aerial photos (1/5,000) (2) Topographic maps (1/2,000), etc			
3.Geological data	(1) Geological maps covering the Study area (2) Existing report about data/ information such as : - Location of soft ground - Results of geological/soil investigation			
4.Geodetic data	(1) Triangulation point network (2) Bench-mark network (3) Points description (Control points, Bench-mark) (4) Triangulation point data lists			
5.Meteorological data	(1) Monthly rainfall data (daily rainfall data, if possible) (2) Temperature (3) Others			

I. ORGANIZATIONS CONCERNING THE IMPLEMENTATION OF THE STUDY

ITEM	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAIL-ABILITY	PLACE OF DATA AVAILABLE	
1.Agencies which are responsible for the followings: (A) Road development planning (B) Road construction (C) Road improvement/betterment (D) Road maintenance/management	(1) For the National roads (2) For the Provincial roads (3) For the Toll roads			
2.Agencies in charge of and/or concerned with the followings : (A) Permission of aerial photo taking (B) Custody of topographic maps and aerial photos (C) Area conservation (D) Geological data/information	(1) Name of Agencies and Departments (2) Name and position of the responsible persons in charge for the Japanese Study Team to contact			
3.Organization to supervise and steer the management of the Study	(1) Necessity of the Steering Committee and proposed member institutions			

III. SOCIO-ECONOMIC DATA/INFORMATION

ITEM	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAIL-ABILITY	PLACE OF DATA AVAILABLE	
1.Latest socio-economic indices	(1) GNP and GDP (2) Population (3) Past and future population growth rate (4) Industrial, agricultural and mining products (by main sort) (5) Foreign trade (quantity and value) (6) Tourism development plans (7) Others			
2.Existing development plans and reports	(1) Economic development plans (2) Transportation development plans (3) Industrial development plans (4) Mining and agricultural development plans (5) Forecast of socio-economic indicators			
3.Existing and on-going road development plans and road development projects	(1) Design, implementation schedule and current project status			

13 Reports/information of the road development projects closely related to the Study	(1) Intersection improvement plan (2) Widening plan for major road (3) Bridge plan -New construction -Reconstruction			
14.Road related budget	(1) Road construction budget (2) Road maintenance budget			
15.Road related cost	(1) Construction cost by type of road and location (2) Maintenance cost by type of road and location			

IV. ENVIRONMENTAL ISSUES

ITEM	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAIL-ABILITY	PLACE OF DATA AVAILABLE	
1.Legislation	(1) Law/guidelines on environmental impact assessment (2) Quality stauclards			
2.International conventions on environmental conservation	(1) Bilateral convention (2) Multilateral convention			
3.Present situation of the project area	(1) Socio-economic environment ・ Number of people to be resettled and plan of resettlement or compensation ・ Main industry or source of income of the residents ・ Number and distribution of schools, hospitals, religious facilities ・ Location of the community which might be split by the project ・ Cultural property or archaeological site ・ Use of river/lake water i.e. domestic industrial and agricultural ・ Existence of common land (2) Natural environment ・ Availability of meteorological data ・ Availability of land use and vegetation map			

6.Hydrological data of rivers				
7.Data/information on related roads in the study area	(1) Road maps (2) Road inventories (class, length, surface type, etc.) (3) Record of past disaster (flood, slope failure, etc.)			
8.Traffic survey system	(1) Location of periodic traffic count stations in the Study Area (2) Period (ex. once a year, seasonal, etc.)			
9.Traffic data on the related roads	(1) Traffic volume by vehicle types (2) Number of registered vehicles (3) Record of traffic accidents (type, causes, location, etc.)			
10.Land use plans and maps				
11.Specification and standard	(1) Highway capacity manual (2) Geometric standard (3) Bridge standard (4) Pavement standard (5) Environmental quality standard (6) Maintenance manual (7) Others			
12.Transportation Network Map	(1) Network maps and capacity of national transport system roads, railways, commercial flights (2) Traffic Flow data and forecasts of cargo/ passengers by each mode (3) Transportation cost of each mode (by type of vehicle) (4) Development / improvement policies (5) Related materials, if any (national transportation studies, etc.)			

	· History of natural disaster, landslide earthquake and flood · Areas affected by soil erosion · Change of water level of rivers and lakes in recent years · Location of environmentally vulnerable areas such as wetland · Species of valuable animals and plants living in the project area · Location of particular areas officially protected such as national parks · Distribution of important landscape or scenery for tourism (3) Quality of life · Present air quality · Regulation on emission gas · Present water quality · Regulation on effluent · Present condition of soil contamination · Regulation for prevention of soil contamination · Present condition of noise and vibration · Regulation for prevention of noise and vibration			

V. OTHER INFORMATION

ITEM	DESCRIPTION	AVAILABILITY		NAME OF MATERIALS
		AVAIL-ABILITY	PLACE OF DATA AVAILABLE	
1.Future budgetary plan for the implementation of the Project				
2.Any specific restrictions related to the Study				
3.Availability of the Government's equipment/instruments/apparatus for the Study	(1) List up equipment/instruments/apparatus which are available for the Study by the following category with the following information ; a) Category - Instrument for geodetic survey - Apparatus for geological/soil investigation - Apparatus for traffic survey - Computer - Services vehicle - Others b) Information - Name - Type(or model/maker) - Characteristics (or capacity) - Number of units - Condition			

I. ROAD MAINTENANCE QUESTIONNAIRE

1. INSTITUTIONAL CAPABILITY

1.1 Legal powers

1.1.1. Is the responsibility for road maintenance legally defined?	YES
1.1.2. Are all roads the responsibility of the maintenance department?	NO
1.1.3. Are the legal powers understood?	NO
1.1.4. Are the powers adequate?	NO

1.2 Administration

1.2.1. Is there an administrative structure capable of maintaining roads?	YES
1.2.2. Is there an unambiguous chain of command?	YES
1.2.3. Are responsibilities defined?	YES
1.2.4. Are staff aware of their responsibilities?	YES
1.2.5. Are decisions independent of the influence of negatism, favoritism, graft or corruption?	NO

1.3. Human Resources

1.3.1. Are there sufficient personnel available?	NO
1.3.2. Are they adequately trained?	NO
1.3.3. Are they adequately motivated?	NO
1.3.4. Is there an internal training scheme?	YES
1.3.5. Are there operations manuals?	YES

1.4 Budget

1.4.1. Is a budget awarded?	YES
1.4.2. Is it adequate?	NO
1.4.3. Can it be relied upon?	YES
1.4.4. Are operations independent of foreign exchange constraints?	YES

1.5. Financial Control

1.5.1. Does full financial control reside within the maintenance authority?	NO
1.5.2. Are accounts independently audited?	YES

2. MANAGERIAL CAPABILITY

2.1. Inventory

2.1.1. Does it exist?	YES
2.1.2. Is it up to date?	YES
2.1.3. Does it cover location and classification of all roads and structures?	YES

2.2. Planning and Programming

2.2.1. Is work programmed according to defined priorities?	YES
2.2.2. Are the costs and benefits of programs assessed?	YES
2.2.3. Is programming done within a plan designed to preserve or enhance the network in the medium/long term?	YES
2.2.4. Are there specifications for work?	YES
2.2.5. Are specifications achieved in practice?	YES

2.3 Budgeting

2.3.1. Is there a regular and formal budgeting process?	YES
2.3.2. Is this related to actual costs and the ability to disburse?	NO

2.4 Cost Control

2.4.1. Is work done measured and costed?	YES
2.4.2. Are costs realistic in terms of overheads, equipment, materials and labor?	NO
2.4.3. Is cost information collected centrally and used for budgeting purposes?	YES
2.4.4. Is there a physical inspection and audit of work done?	YES
2.4.5. Is productivity measured?	NO

2 .5. Plan and Equipment

2.5.1. Is there a fleet of plant and equipment of the size and composition required?	NO
2.5.2. Is the availability adequate?	NO
2.5.3. Is the utilization adequate?	NO
2.5.4. Are the workshops and stores adequate to support it?	YES
2.5.5. Is there an organization capable of managing the fleet cost effectively?	YES
2.5.6. Is adequate financial provision made for replacement and repair?	NO

2.6 Supplies

2.6.1. Are materials available as required?	NO
2.6.2. Does an adequate system exist for ordering and stockpiling road maintenance materials?	YES

3. TECHNICAL CAPABILITY

3.1. Planning Criteria

3.1.1. Are the criteria upon which road maintenance planning is based constantly under review?	YES

3.1.2. Do strong links exist between those responsible for road maintenance planning and those responsible for:

3.1.2.1. design and construction?	YES
3.1.2.2. traffic surveys and forecasting?	YES
3.1.2.3. road safety?	YES

3.2. Materials

3.2.1. Are the properties of materials used fully understood?	NO
3.2.2. Are there adequate testing facilities?	YES
3.2.3. Are materials of the right quality available?	YES
3.2.4. Are appropriate materials always used?	YES
3.2.5. Are testing methods appropriate and carried out at the appropriate frequency?	NO

3.3 Quality Control

3.3.1. Is quality control of products and materials adequate?	YES
3.3.2. Is quality control on site adequate?	YES

3.4. Condition Measurement

3.4.1. Are roads inspected systematically to determine maintenance requirements?	YES
3.4.2. Are physical measurements made of road conditions to determine maintenance requirements?	YES
3.4.3. Are condition measurements made using sophisticated or high-speed instruments?	NO

3.5. Field Monitoring

3.5.1. Is there any systematic monitoring of:

3.5.1.1. quality of work?	YES
3.5.1.2. material quantities used?	YES
3.5.1.3. man-hours spent on job?	NO
3.5.2. Do the results of any monitoring feedback into the future planning process?	YES

3.6. Research and Information

3.6.1. Is there adequate access to current work on road maintenance from other maintenance organizations or international research centers?	NO
3.6.2. Is research on road maintenance currently carried out within the organization?	NO
3.6.3. Are new techniques and practices introduced as a result of research results?	YES

5．収集資料リスト

収集資料リスト

No.	タイトル	発行元
1	Background to the Budget 1996-1997	Ministry of Finance and Economic Planning
2	1996 Statistical Abstract	Statistical Department MOF
3	The 1991 Population and Housing Census, Kampala District	Statistical Department MOF
4	Feasibility Study Report Strengthening and Improvement of Kampala - Entebbe Road (Feb.1993)	MOWTC, COWI Consultants
5	Feasibility Study Report Strengthening and Improvement of Kampala - Entebbe Road Cost Estimate (Sep.1994)	MOWTC, COWI Consultants
6	Kampala City Southern Bypass Economic Feasibility Study vol. I Executive Summary/Technical Study	MOWTC, GEOPROGETTI Consultants
7	Kampala City Southern Bypass Economic Feasibility Study vol. II Preliminary Cost Estimate/Economic Study	MOWTC, GEOPROGETTI Consultants
8	Kampala City Southern Bypass Economic Feasibility Study vol. II 2-Lane Detailed Engineering Design (Draft)	MOWTC, GEOPROGETTI Consultants
9	Comparative Feasibility Study Between Northern and Southern Bypass to Kampala City, Interim Report (May 1996)	MOWTC, GIBB Limited
10	南バイパス軸重調査データ	EC, GEOPROGETTI Consultants
11	Statutory Instruments The Traffic and Road Safety (Weighbridge) Regulations (1993)	MOWTC
12	日本の無償資金協力により供与された建設機械の現状	MOWTC, Central Workshop
13	Rehabilitation of Plant and Equipment	MOWTC, Central Workshop
14	TOR for Feasibility Study for a North Bypass to Kampala City	EU
15	The National Environment Statute (1995)	NEMA
16	The National Environment Management Action Plan (1994)	NEMA
17	The National Environment Action Plan for UGANDA (1995)	NEMA