

REPUBLIC OF RWANDA



RWANDA TRANSPORT DEVELOPMENT AGENCY

KG 563 St., Queen's Land House

P.O Box 6674

Email: info@rtda.gov.rw

KIGALI

Kigali, 04 OCT 2023
Ref No: 2619/Corp/023

REQUEST FOR EXPRESSION OF INTEREST
(Consulting Services)
RWANDA

**DESIGN REVIEW, MONITORING AND SUPERVISION SERVICES FOR
REHABILITATION AND UPGRADING WORKS OF KIBARI - GATUNA (BYUMBA -
NGONDORE) AND BYUMBA URBAN ROADS (15.53KM)**

Transport Sector

Financing Agreement reference: 2000130012880

Project ID No.: P-RW-DBO-014

The Government of Rwanda has received financing from "the African Development Bank" towards the cost of the upgrading the road of Base-Rukomo-Nyagatare, Lot 1: Base-Rukomo, and intends to apply part of the agreed amount for this loan to payments under the contract for **Design review, Monitoring and Supervision services for Rehabilitation and upgrading works of Kibari - Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km)** in Gicumbi district.

The services included under this project are the consultancy services for supervision of the above- mentioned road sections for which the main objective is to diligently fulfill, to the highest professional standards, the role of the Engineer's Representative to supervise construction of the works (on behalf of the Employer) throughout the entire construction period of twenty (20) months including 18 months for works supervision and 2 months for works completion report, as well as eighteen (18) months of defects liability (maintenance) period; and economic impact evaluation of the Base - Rukomo road project (51.54km), and Kibari-Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km). The works includes five (5) sections: *i. Kibari-Gatuna (Byumba-Ngondore), 11.7Km; ii. Road to Cathedral, 2Km; iii. Road to Stadium, 0.77km; iv. Access Road in Miyove, 0.72km; v. Byumba town center to Byumba Market, 0.34km).*

The consultant shall also carry out design review of any change that may be deemed necessary. The Consultant shall, in general, exercise the powers of the engineer's representative in all matters concerning the contract and the execution of the works.

The consultant shall supervise the construction works with due diligence and efficiency and in accordance with sound technical, administrative, financial and economic practices. The consultant shall perform all duties associated with such tasks to ensure that only the best construction practices are followed and that the final product is in all respects equal

A handwritten signature in black ink, consisting of a stylized 'e' followed by a horizontal line.

to, or better than that specified, at the most economic costs and is carried out in full compliance with the governing specifications.

The consultant shall conduct Economic Impact Evaluation of Base – Rukomo road (51.54km) and Kibari-Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km).

Rwanda Transport Development Agency (RTDA) now invites eligible consultants to indicate their interest in providing these services. Interested consultants must provide information indicating that they are qualified to perform the services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc). Consultants may constitute joint-ventures to enhance their chances of qualification.

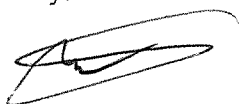
Eligibility criteria, establishment of the short-list and the selection procedure shall be in accordance with the African Development Bank's "**Procurement Framework**" dated October, 2015, which is available on the Bank's website at <http://www.afdb.org>.

Interested consultants may obtain further information at the address below during office hours from 9:00 to 17:00 local time on Monday to Fridays. **The Terms of Reference are available on the RTDA website <https://www.rtda.gov.rw/index.php?id=8>**

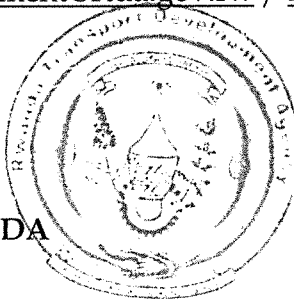
Expressions of interest must be delivered to the address below by **20th October 2023 at 17:00 Kigali Time** and mention "**Design review, Monitoring and Supervision services of Rehabilitation and upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53KM) in Gicumbi district**".

Attn: Director General
Rwanda Transport Development Agency/Procurement Unit
KG 563St, Queen's Land House, 1st Floor
P.O Box: 6674, Kigali-Rwanda
Tel : +250788389232
Email: procurement@rtda.gov.rw / info@rtda.gov.rw

Sincerely,



Imena MUNYAMENDA
Director General



Terms of Reference

(Consulting Services – Firms Selection)

Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km)

1. BACKGROUND

The Government of the Republic of Rwanda received funding from the African Development Bank (AfDB) for the Transport Sector Support Project aiming to improve accessibility and mobility between the towns of Base, Gicumbi, Rukomo and Nyagatare and the living conditions of the population within its zone of influence. Therefore, it is intended to apply part of the agreed amount for the payments of the consulting firm to undertake Design review, Monitoring and Supervision of the Rehabilitation and Upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km) under this project.

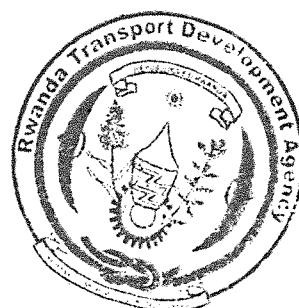
The supervision services for the additional works are estimated to Twenty (20) calendar months including Two (2) months for works completion report followed by 18 months of The Defects Liability Period (DLP).

The selected roads will provide socio-economic benefits like increased social services, reduced transport costs, access to remote villages, reduced transit time on the road section, increased revenue, reduced vehicle operating cost, etc.

2. PROJECT DESCRIPTION

The project of Rehabilitation and Upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km) includes:

1. ROAD 1: Kibari-Gatuna (Byumba-Ngondore), 11.7Km;
2. ROAD 2: Road to Cathedral, 2Km;
3. ROAD 3: Road to Stadium, 0.77km;
4. ROAD 4: Access Road in Miyove, 0.72Km;
5. ROAD 5: Byumba town centre to Byumba Market, 0.34km



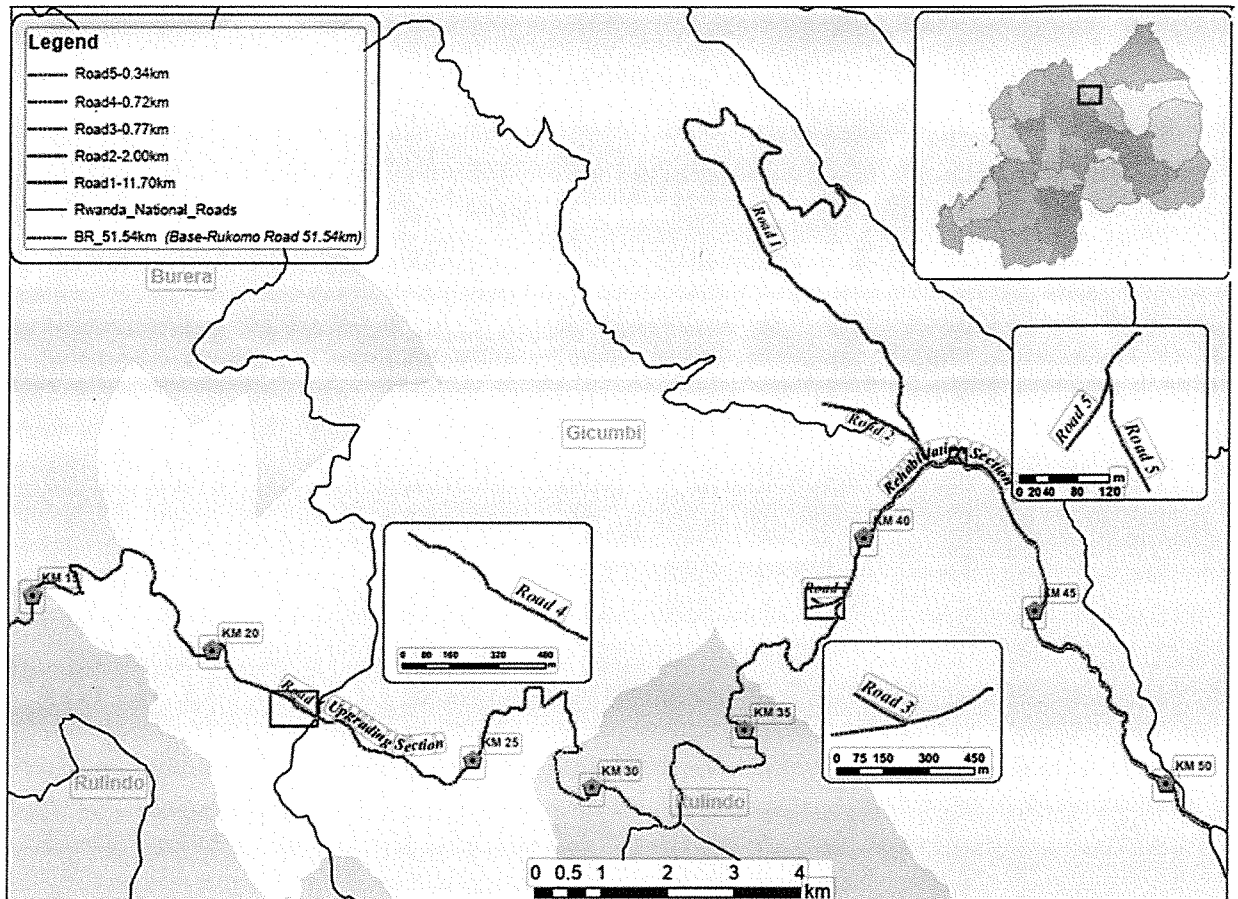


Figure 1: Project location

3. OBJECTIVES OF THE SERVICES

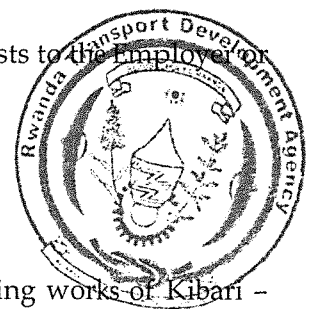
The objective of the Consultancy services for supervision is to conscientiously fulfil, to the highest professional standards, the role of the Engineer's Representative to supervise construction of the Works (on behalf of the Employer) throughout the entire construction period, including the Defects Liability (maintenance) Period and to ensure that the works are constructed: -

- (i) In accordance with the General and Special Conditions of Contract, the Technical Specifications and Engineering Drawings or any amendments thereto;
- (ii) So far as is reasonably possible, within the Contract Price and Time for Completion allowed under the Contract or any agreed amendments thereto.
- (iii) By optimizing the use of available material resources to minimize costs to the Employer, and to maximize the quality of the Works or expedite construction.

4. SCOPE OF CONSULTING SERVICES

The assignment shall include:

- i. Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km) which includes the following:
 - Site installation



- Preparatory works
 - Earthworks
 - Pavement
 - Drainage
 - Safety and road works
 - Environmental activities
 - Street light installation
 - Other tasks as specified below
- ii. Economic Impact Evaluation of Base - Rukomo road project (51.54km) and Kibari-Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km).

4.1 Specific technical scope of work

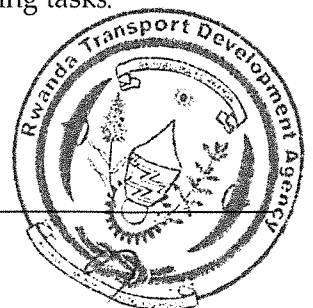
4.1.1 For Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari - Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km)

The Consultant shall be fully responsible for the supervision of the construction in accordance with the FIDIC Conditions of Contract.

The Services of the consultant shall comprise in 3 phases:

- **Design review Phase:** This period will include a design review and possible modifications or adjustment of the design in accordance with the terrain conditions. The Design review phase will start immediately after the Contract signature and service order issued and will last up to Two months.
- **Construction Phase:** supervise the construction works with due diligence and efficiency and in accordance with sound technical, administrative, financial and economic practices. Perform all duties associated with such tasks to ensure that only the best construction practices are followed and that the final product is in all respects equal to, or better than that specified, at the most economic costs and is carried out in full compliance with the governing specifications. During this phase the consultant will perform his main activities which will consist in everyday supervision, approval of materials, modifications, cost control, time control, reporting etc. This task will be performed during all construction period of 18 months (including 2 months of design review).
- **Defects Liability Period:** During this period the Consultant will pay periodic site visits to evaluate the performance of the completed works, give additional instructions or advice on repairs or modifications of the works. Maintenance activity should be also inspected and reported. The Defects Liability Period will be valid for 18 months.

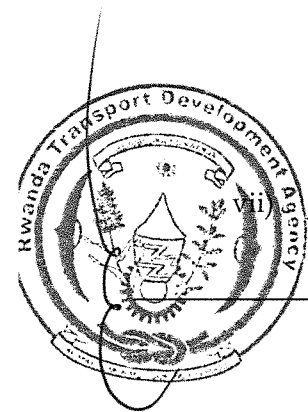
The scope of the Services shall include all the services necessary to achieve the objectives described above and, in so doing, the Consultant shall expeditiously execute not less than the following tasks:



A. For Design review and works supervision

- i) During the contractor's mobilization period, the consultant shall carefully and comprehensively review and satisfy himself of the sufficiency of the engineering drawings, plans, technical specifications, design calculations, pertinent reports prepared at design stage - in particular the materials report and sources of materials identified. The consultant as an outcome of his review shall, through a design review report, propose to the Employer any amendments deemed necessary to ensure the soundness and sufficiency of the detailed engineering design, contract documents, and accuracy of the bill of quantities. After approval by the Employer the Consultant shall make, any necessary amendment to the design documents. In addition to this, the consultant shall continue review of the design, in relation to site conditions, during the whole construction period and timely propose necessary changes to the employer and shall make necessary amendments.
- ii) The consultant shall verify the survey of existing utility services, plans and proposals for the relocation of these services if affected by the proposed works, and liaise closely with authorities concerned on the proposed relocation of such services. The consultant shall put up detailed plans and proposals for the relocation of these services if affected by the proposed work. All official dealings with any service agencies shall be done through the Employer.
- iii) Liaise with RTDA to ensure that assessment of Compensation and payment in respect to properties within the Right of way is carried out before the contractor is given possession of site.
- iv) Identify all the survey ground control stations (beacons and bench marks), which have been established during design stage; verify the accuracy of the survey stations and instruct and coordinate with the contractor to re-establish (as per section VI Special provision to the standard technical specification of the bidding document) any damaged or missing stations to enable the Contractor to set out and construct the Works.
- v) Issue the Contractor with all necessary copies of the Engineering Drawings, Technical Specifications and Contract Documents or timely provide any such supplementary information requested by the Contractor, necessary for the Contractor to carry out the Works. Issue site instructions to the Contractor as required.
- vi) With due diligence and efficiency supervise fully the construction of the works which are to be executed in accordance with sound technical administration, financial and economic practices. The consultant shall perform all duties associated with such tasks to ensure that only the best construction practice is followed and that the final product is in all respects equal to that specified, at the most economic costs and is executed in full compliance with the specifications.

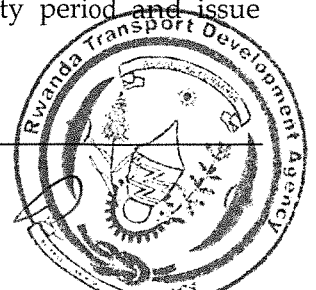
working practices in all operations and immediately draw attention to any instances where this policy is not followed, directing the contractor to carry out all such works deemed



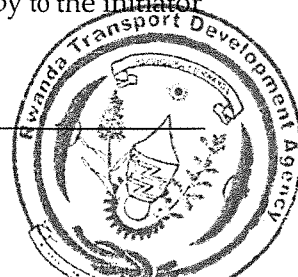
Handwritten signatures and initials.

necessary in case of emergency/ affecting the safety of personnel, works and adjacent property. Minimize impediment caused to the flow of traffic and that safe acceptable detours are provided and maintained at all times.

- viii) Organize the supervision of the works contract with proper allocation of responsibilities to individual members of the supervision team and supervise their work in order to ensure that it is effectively executed.
- ix) Prepare any design changes as may be necessary or advisable to suit field conditions including improvements to alignments during construction or changes required to reduce construction costs, without sacrificing strength or quality of the work. This includes, in particular, potential changes to design of bridge structures as a result of ground investigations carried out by the Contractor at bridge sites. Supervise ground investigations which will be carried out by the Contractor at bridge/ hydraulic structure sites. Prepare Engineer's Instructions (EI) and Variation Orders (VO) as recommended or necessary, complete with the associated measurement and payment instructions. Issue such EI's and VO's to the Contractor in writing - whilst advising the Employer of such EI's and VO's and of the associated implications. (The Particular Conditions of Contract may require the Employer's approval and Banks no objection prior to issue of some instructions or variations).
- x) Routinely and at not more than quarterly intervals, advise the Employer of the estimated total cost in the different contract currencies to completion of the Works and expected completion time.
- xi) Approve the Contractor's work program, work methodology, staff and plant resourcing, setting out of the Works and preparation for the Works in compliance with approved designs, specification, quality, requirements, time schedule and budget; prior to issuing approval to construct the Works.
- xii) For all soils and materials proposed and used by the Contractor in the Works conduct all necessary and advisable inspection, sampling, testing and analysis for compliance with the Technical Specifications at source and in the laboratory and approve or reject the use of the soils or materials proposed for or used in the Works. Whenever necessary order removal and substitution of unsatisfactory material and workmanships.
- xiii) Routinely or as requested by the Contractor, inspect the Works both under construction and completed, for compliance with the Specifications and the agreed method of working, as a basis for payment.
- xiv) Formally arrange joint inspections with the Contractor, in the presence of the Employer, of completed sections of the Works for acceptance and/or identification of defects, both at substantial completion and upon the expiry of the defects liability period and issue Handing-over Certificates and Defect Liability Certificate.

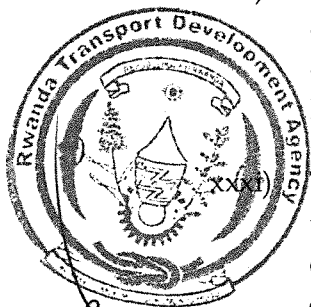


- xv) Keep and maintain up-to-date detailed Daily Site Diary and detailed records (making them available for inspection by the Employer or his representatives when requested to do so) of all contractual correspondence and data; all work stoppages or delays; accidents on Site; official visitors to Site; weather records; all activities in progress at any time on site showing the start and end time and full details of the resources employed per activity.
- xvi) Keep and maintain detailed records (and make available for inspection) of the Contractor's equipment on Site and its precise date of arrival or removal from Site, its date of manufacture, previous hours worked and condition, the date commissioned to commence work, its availability, and utilization. Establish equipment availability figures for each category of equipment.
- xvii) Review the Contractor's proposed work programs and associated work method statements, resource analysis and requirements in relation to the required rate of progress, and approve or reject the proposals accordingly. Identify any changes or additional resources required. Make sure that the program submitted for the execution of the works shall, in addition to the program for pure construction activities, include an alleviation program for Site staff and Labor in respect of Sexually Transmitted Diseases (STD) including HIV/AIDS.
- xviii) Continuously evaluate and monitor the Contractor's physical and financial progress against work program and his method of working in respect of each and all construction activities and produce a resource analysis against production needs. Advise the Contractor when additional resources or revised methods of working or revised program of the works are required.
- xix) Review and familiarize themselves with the Rwanda's HIV/AIDSs policy and strategy, and follow up and report in the monthly reports on how the contractor is implementing the alleviation program for Site staff and labor in respect of Sexually Transmitted Diseases (STD) including HIV/AIDS. In consultation with Rwanda and REMA's responsible environmental office, advise the contractors of new developments and additional needs in respect of the STDs and HIV-AIDS as and when they occur.
- xx) Review the Contractor's proposed working drawing/plans and associated calculations. Approve or reject the proposals accordingly and identify any changes required.
- xxiii) Review and check the Contractor's Payment Applications and, after verifying the accuracy of the measurement and costing calculations and the sufficiency of the supporting documentation, prepare and issue interim payment certificates for processing by the Employer within 7 days of receiving such statement from the Contractor. Advise the Employer on whether liquidated damages are due from the Contractor. Prepare and issue final certificate with transmittal sheet of approval and processing steps from the initiator or contractor (originator) invoice/approval or rejection of supervising consultant/approval or rejection from the executing agency and receipt by Bank with return copy to the initiator or originator and supervising consultant.



- xxiv) Monitor the payment process and alert the Employer when payment delays accrue to a point when; (a) interest charges will become due and (b) the Employer will be in Default for late payment.
- xxv) Thoroughly review and analyze all the Contractor's applications for extensions of time or claims for additional payment and furnish the Employer with the Engineer's detailed analysis of such applications and recommended rulings and, subject to the Employer's approval (where necessary), advise the Contractor accordingly.
- xxvi) Ensure that all materials, tools, plant, equipment, facilities, etc, which have to be handed over to the client after completion of the works are in usable and required standards properly dismantled, packed, stored and maintained until the official handing over to the client. Furthermore, the consultant shall arrange for the handing over of these items to take place as provided in the works contract
- xxvii) In the event of adjudication or arbitration, provide the necessary personnel and expertise to advise and assist the Employer in any such process and prepare any further analysis of the Contractors claims submissions as may be necessary to assist the Employer in the presentation of his case.
- xxviii) Provide on-the-job training to not more than 2 (2) graduate civil engineers at a time (furnished by the Employer) in the various aspects of construction supervision and application of the Works Contract including, but not limited to, training in respect of the various contractual issues which arise. Deploy the trainees as practicable to supervision tasks on the Works. These activities to be conducted at no extra costs to the Consultant.
- xxix) Immediately prior to commencement of works, at the commencement of the Defects Liability Period and before the final hand-over/acceptance of the whole of the Works as complete, the Consultant shall conduct 2 days 24 hour and 5 days 12 hours' traffic counts, at count/survey station locations agreed with RTDA. The counts shall use the RTDA standard forms and shall differentiate between the various vehicle type categories shown on the form. The results and analysis shall be presented in the Inception Report, works completion report and the Final Report. There is also a need for the consultant to gather data which will help to measure the outcomes of the project (traffic accident, transport tariff for selected type of transport buses, Station Wagons, HIV/AIDS prevalence, employment rate, increased production rate, etc.)
- xxx) Ensure that the contractor organizes HIV/AIDS awareness campaigns by providing health education to the work force and the local population and provides condoms. For this aspect of the supervision services, the Consultant should include an Environmentalist/Social Expert as part of the supervision team.
- xxxi) Take digital color photographs and video camera of progress throughout the duration of the Contract, keep and maintain an official photographic record (available for inspection) of monthly progress at set locations and also of any construction activity of technical or contractual interest at any time. Each photograph and video camera to be captioned with:

Website: <http://rtda.gov.rw>



reference number, time, date, precise location, subject, and points of particular note. All related digital data should be stored on Flash disk/ CD in a record system, together with copies of the captions.

- xxxii) Submit progress reports, special report (to fully acquaint the client with all aspects likely to affect the Technical and Financial implementation of the project), final reports and records, and other hard outputs regarding construction progress and the status of the Works Contract and the consulting services contract in accordance with Section 9 herein.
- xxxiii) Review, approve and submit full sets of as-built drawings within two months of completion of the Works detailing all alignment and level information, position and sizes of drainage structures, services information (including photos), and structural drawings (including type and positions of reinforcement).
- xxxiv) Review and get familiar with the Environmental Procedures Manual of REMA as well as AfDB's policies on environmental aspects and ensure proper implementation of the project as per guidelines, policies set forth in the aforesaid documents. Request the contractor to provide an environmental protection plan with a time frame for actions to be taken. The plan should be submitted to the Employer prior to the commencement of the construction works and be updated, as required, during the construction period. The plans shall confirm (those actions identified in the EIA and in the environmental mitigation plan) or recommend additional mitigation measures.

Monitor the implementation of these plans in collaboration with RTDA environmentalist in Charge. The potential adverse impacts to be minimized during construction include, but not limited to:

Recommendations made to minimize potential adverse impacts during construction including, but not limited to:

- Minimize water and soil pollution, by directing runoff waters into tailing ponds.
 - Alleviate noise vibration and dust by regular wetting of surface.
 - Ensure safety during construction by installing the appropriate signs and signals and wearing of safety boots, hats, glasses and ear protectors
 - All borrow pit areas will be reclaimed as much as possible to their original state.
 - Minimize the risk of soil erosion by grassing the embankments; stabilize with gabions or stone pitching at bridges and at the inlets and outlets of culverts on sandy soils.
 - Long traffic diversion roads shall be avoided so as to minimize the effect of dust on the surrounding Environment. In any case all diversions shall be kept damp or reduce dust.
- Spillage of oil, fuel, and lubricants, shall be avoided. If spilt, they shall be collected and disposed of in such a way as no to adversely affect the natural environment.



- Rock blasting near settlement areas shall be properly coordinated with the relevant officers of the Employer's Government Authorities in an attempt to minimize levels of noise pollution and community interference.
- Camp sites will be located in an area so as to minimize disruption to local population, fauna and flora and water courses; adequate drainage facilities and treatment of sewerage and waste disposals will be provided. Camp area will be dismantled and rehabilitated once construction is completed.
- Follow up of the tree planting
- Follow up of the road safety awareness campaign

The Consultant shall also have full consultation with the Local Authorities during implementation of above mitigation measures. In administering the contract implementation, the consultant is to ensure the minimization of the negative impact of the project to the society of project influence area.

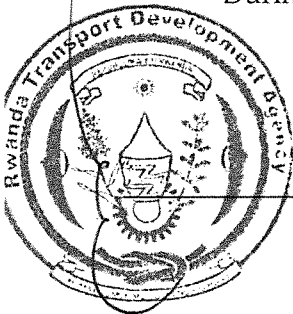
- xxxv) The consultant shall ensure street lighting installation follows REG (or competent authorities in charge) updated specifications as required in collaboration with REG and the Client
- xxxvi) The consultant shall establish a quality assurance system to ascertain the desired quality standards at all stages of the service. To this end a quality assurance manual needs to be developed at early stages of the service.
- xxxvii) The consultant shall organize monthly tripartite progress review meeting and prepare the minute of meeting and submit it to the Client.
- xxxviii) Carry out inspections, prepare a Defects list and draft the "Taking Over Certificate" before commencement of "Defects Liability Period."
- xxxix) Within one month following final inspection of completed works, agree with the contractor the final measurements of the works, and prepare the final payment certificate for submission to the Employer.

B. Defects Liability Period

The Defects Liability Period for the construction contract is eighteen (18) months. During this period, the Consultant shall reduce the supervision staff accordingly. Staff mobilization and demobilization plans are to form part of the Consultant's technical proposal and related financial proposal. Where sub-sections of the road will be handed over as work progresses, the Defects Liability Period will start at the date of handover of the last sub-section of the road.

During this period, the Consultant shall undertake the following:

- (a) Prepare and submit the Works Completion Report, within one month from the commencement of the "Defects Liability Period."



- (b) Inspect the works on quarterly basis during the Defect Liability Period and prepare the deficiency list for each session of inspection, supervise the remedial works and recommend to the Employer on the proposed date of the final inspection of the works after the end of Defects Liability Period.
- (c) Carry out the final inspection of the Works with the Contractor and the Employer's representative.
- (d) Prepare the "Final Completion Certificate" for signature by the Engineer upon satisfactory completion of the project.
- (e) Prepare and submit the Final Completion Report.

4.1.2. Economic Impact Evaluation

The consultant shall conduct the economic impact evaluation of Base – Rukomo road (51.54km) and Kibari-Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km).

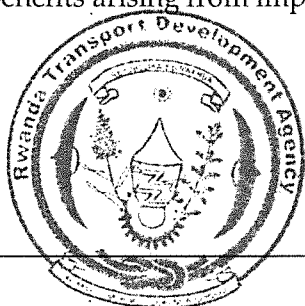
To achieve the objectives of this part of the assignment, the Consultant services shall include but not limited to Traffic Analysis and Economic Evaluation.

In addition to the traffic count mentioned above for Kibari-Gatuna (Byumba-Ngondore) and Byumba urban roads; the Consultant shall conduct for Base –Rukomo road (51.54km), a 2 days 24 hour and 5 days 12 hours' traffic counts, at count/survey station locations agreed with RTDA. The counts shall use the RTDA standard forms and shall differentiate between the various vehicle type categories shown on the form. The traffic counts shall be conducted at the commencement of the contract, after 18 months and after 36 months. The results and analysis shall be presented in a separate reports.

The traffic study shall be prepared, and the consultant shall include Existing traffic composition, occupancy, and volume counts; Forecasts of annual average daily traffic composed of normal, generated and diverted flows by appropriate vehicle types.

There is also a need for the consultant to gather data which will help to measure the outcomes of the project (traffic accident, transport tariff for selected type of transport buses, Station Wagons, HIV/AIDS prevalence, employment rate, increased production rate, etc.)

The consultant shall undertake evaluation of the economic impact of the project for the present status and for Twenty years following the completion of the construction of the road using HDM-4. For this, the construction costs shall be compared with the relevant level of economic user benefits arising from implementation of the project.



4.2 Additional responsibilities of the consultant

Under the terms and Conditions of the Civil Works Contracts, the Consultant shall be provided with his own site offices and laboratory facilities, site accommodation, site transport and other site facilities, equipment, utilities and consumables necessary for the complete execution of the services.

It will, however, be the responsibility of the Consultant to supervise provision of the above stated facilities and equipment by the Contractor in accordance with the contract document. Any equipment purchased by the contractor and paid for by the Client shall become the property of the Client upon completion of the contract or whenever it is no longer required for carrying out of services, whichever occurs earlier. This do not include consumables or any equipment deemed to be in an unusable condition.

In the event the Consultant needs to attend to official duties off-site in Kigali or elsewhere, office facilities, accommodation, transport, equipment, utilities and consumables, and any other resources deemed necessary off-site for the complete execution of the services, then the cost of provision of such facilities and the related additional staffing shall be detailed in the Consultant's proposal.

4.3 Duration of the services

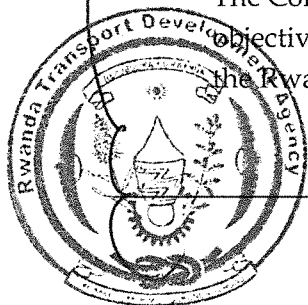
The duration of the Services is to extend from the effective date of the Civil Works Contract to the end of the Defects Liability Period of the last section of the Works, which is envisaged as a period of approximately **Twenty (20) months including Two (2) months for works completion report, and followed by Eighteen (18) months** of the Defects Liability Period, subject to final contract completion.

If possible, the Consultant may be asked to start the design review one calendar month before the start of works, to allow early review of all construction documents prepared for the project.

During the 18 months Defects Liability Period, when construction of the whole of the Works has been substantially completed, the Consultant shall reduce the construction supervision staff accordingly. Staff mobilization and demobilization plans are to form part of the Consultants technical proposal and related financial proposal. Where sub-sections of the road will be taken-over as work progresses, the final Defects Liability Period will not be for a whole section of the works, depending on how it is specified in Special Specifications of the contract.

4.4 Duties of the consultant

The Consultant shall carry out the tasks aforementioned with due care and diligence to achieve the objective of the services. In the conduct of the work, the Consultant shall maintain close liaison with the Rwanda Transport Development Agency (RTDA).



The Consultant shall provide competent personnel for the services. The Consultant's personnel will be managed by a Project Director who shall also act as the principal person of contact between the Consultant and the Employer.

5. THE REPORTING REQUIREMENTS

The Consultant shall prepare and submit to the Client the reports and documents and a brief description of the contents of these reports are presented as follows:

(i) Design Review Report

The report shall outline the recommendation and appropriate changes if necessary or modification on the design standards, design documents, topographic surveying data with the ground condition, the alignment, environment management plan, specification and quantities (updating) given by the design consultant. The existing design documents will be made available to all Consultants. This report does not include submission of revised designs. The draft design review report shall be submitted within three (3) weeks of the start of services.

(ii) Monthly Progress Reports:

Progress reports shall be prepared using RTDA's standard report format to detail progress against program in respect of all project elements and hard out puts. All monthly project correspondences shall be submitted in soft copy together with monthly progress reports.

The report will cover the activities performed during the reporting period.

In addition, the consultant shall provide a report of activities performed by the contractor on site on daily basis in a format to be developed in collaboration with client representative.

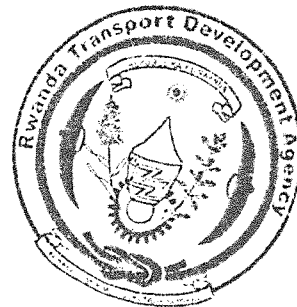
(iii) The first progress report shall include

An inception report. The report shall outline the Consultant's initial findings and confirm the methodology and detailed work program proposed for adoption in the light of the initial findings, while also identifying constraints and proposed solutions, together with any action required by RTDA to facilitate the successful implementation of the service.

a) a report about Contractor's Mobilization:

The Consultant shall report on the following:

- Contractor's mobilization
- Organization and correspondence
- Lines of communication
- Contractor's detailed work program
- Proposed resources schedules
- Proposed cash flow
- Plant and equipment schedules
- Format of forms and their use and presentation
- Schedule of site meetings
- Contractor's obligations



- Contractor Execution Plan
- Any other submitted contractual documentation
- Consultant's mobilization

A suitable number of color photographs with date imprint should be included which will illustrate progress and any difficulties encountered on the Site. These will allow a permanent record of progress.

Notwithstanding the submission of the monthly progress report stated above, the consultant is required to send to the client, two days before the end of each month, a progress summary of the works supported by the s-curve diagram.

(iv) Quarterly Progress Reports:

These will be similar to the monthly reports but will be more detailed and include record photographs. They will be prepared by the Resident Engineer and give an overview of the progress within the Project.

A suitable number of color photographs with date imprint should be included which will illustrate progress and any difficulties encountered on the Site. These will allow a permanent record of progress.

This report among other information shall include an update of estimated completion time and project cost estimate, keeping in view of variations, price escalations and contractor's claim entitlement for additional money. These reports shall extend over the Defects Liability Period.

(v) Annual Progress Reports:

These reports will summarize the activities performed within a year. The format of this report is similar to that of the monthly report. The annual report shall also include important information of the month of June, thus no monthly and quarterly reports will be required during the month June and the 4th quarter of any fiscal year.

(vi) Contract Completion Report:

The Contract completion report shall include but not be limited to:

- Executive summary
- Mobilization/Demobilization details
- Description of Project
- Project Implementation
- Financial cost details together with a breakdown of the same, detailing and assessing extra expenditures and cost increases inclusive of the justification for such increases.
- Details of the work executed and of the techniques employed and type, quality, quantities and sources of materials used in the pavement.
- Contract changes and variations
- Contractor's performance
- Assessment of any complaints and/or claims by the Contractor



- A critical study of important technical problems which may have arisen during the construction
- Comments on Technical Specification and Conditions of Contract
- Construction Records.
- As-built drawings (A3 size reproducible)
- Assessment of counterpart training, if any;
- Gender balance among workers during the contract period
- Conclusions
- Details of Final Account, where possible

(vii) Consultancy Completion Report

This report will be a comprehensive report on the consultancy services throughout the Contract. It will describe the aims of the project and the achievements of the construction works. It will also give progress on the Final Account, which will be appended. Finally, it will give details of the Consultant's visits and activities during the defects liability period.

This report will come with Post Implementation Review Report to be produced by the Resident Engineer and counter signed by RTDA representative.

(viii) Consultant's Quality Assurance Manual

This manual shall at a minimum describe the methodology and procedures to be followed in attaining the desired quality of the service at each stage. The report should also detail assignment of responsibilities with regard to quality assurance to the respective personnel in the team. The content of the manual shall be suggested by the consultant for review by RTDA and will be finalized taking into account RTDA's comments.

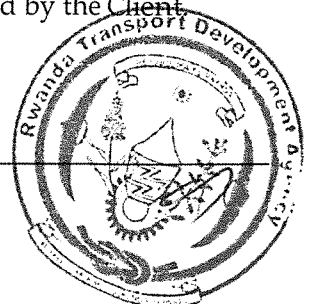
(ix) Quarterly/ Completion Social and Environmental Management Report

This report will be a comprehensive report on all Environmental and Social impact mitigation measures undertaken by the contractor. It will describe the major environmental elements of the project, adequacy of the mitigation measures proposed during design as well as supervision period and the effectiveness of the measures undertaken during construction. The supervision consultant is also expected to report in his progress report any development with respect to Environmental and Social aspect of the project.

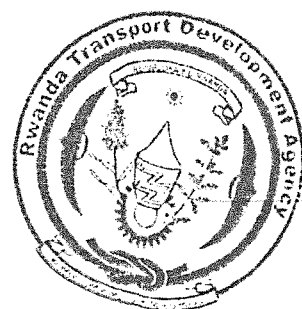
(x) Draft Economic impact evaluation report

The Consultant shall prepare and submit the draft economic impact evaluation report one month before the end of the DLP of Kibari-Gatuna (Byumba-Ngondore) and Byumba urban roads. The report shall evaluate the impact of upgrading the road by comparing the information of before and after project implementation. The draft report together with associated annexes shall be submitted to the Director General; in two (2) original hard copies. All documents must be submitted with electronic copies flash disk, and the data must be in original editable format of the computer programme/software which created it or any other form that may be requested by the Client.

(xi) Draft Economic impact evaluation report



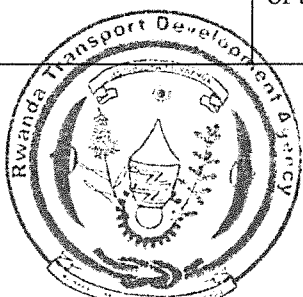
The Consultant shall prepare and submit the final economic impact evaluation report two (2) weeks after receiving the client comments on the draft report. The final report together with associated annexes shall be submitted to the Director General; in 4 (4) original hard copies. All documents must be submitted with electronic copies flash disk and CD, and the data must be in original editable format of the computer programme/software which created it or any other form that may be requested by the Client.



SUMMARY OF REPORTS AND DOCUMENTS TO BE PREPARED

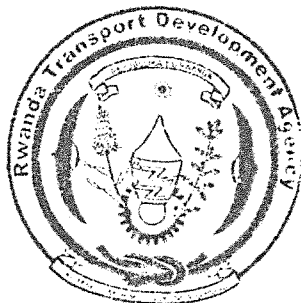
The Consultant shall prepare and submit directly by hand or by courier to the Client and AfDB the following reports and documents in the numbers stated as per the format that will be provided or discussed by the Client:

	Types of reports/documents	Draft report number & submission date	Final report number & submission date
1	Design Review Report	One hard copy and electronic copy on flash disk and e-mail, to be submitted within Two weeks before the commencement of actual work by the Contractor	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Within one week of receipt of the Client's comments
2	Monthly Progress Reports	-	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Not later than the first week of the following month
3	Quarterly Progress Report	-	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Not later than the first week of the end of each quarter – Note that Bank copy on its format available at RTDA.
4	Annual Progress Reports	-	Three hard copies and electronic copy on flash disk and e-mail, to be submitted at the end of each fiscal year of Rwanda (June), after the beginning of construction supervision and up to 10 th July of the next fiscal year
5	Works Completion Report	One hard copy and electronic copy on flash disk and e-mail, to be submitted Within one month of the completion of construction	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Within two weeks of receipt of the client's comments



	Types of reports/documents	Draft report number & submission date	Final report number & submission date
6	Final Completion Report	One hard copy and electronic copy on flash disk and e-mail, to be submitted Within one month of the end of the defects liability period	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Within two weeks of receipt of the client's comments
7	Consultant's quality Assurance Manual	One hard copy and electronic copy on flash disk and e-mail, to be submitted Within one month of the date of commencement of the consultancy contract	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Within two weeks of receipt of the client's comments
8	Quarterly Social and Environmental Management Report		Three hard copies and electronic copy on flash disk and e-mail, to be submitted Not later than the first week of the end of each quarter – Note that Bank copy on its format available at RTDA.
9	Social and Environmental Management Completion Report	One hard copy and electronic copy on flash disk and e-mail, to be submitted Within one month of the completion of construction	Three hard copies and electronic copy on flash disk and e-mail, to be submitted Within two weeks of receipt of the client's comments
10	Economic Evaluation Report	Two hard copies and electronic copy on flash disk and e-mail, to be submitted one month before the end of the DLP	Four hard copies and electronic copy on flash disk and e-mail, to be submitted Within two weeks of receipt of the client's comments

In addition to the above reports, at the completion of works, the Consultant will submit to the Client an external hard disk containing full project documentation.



6. KEY PERSONNEL AND SUB CONSULTANTS

The Consultant shall provide competent personnel for the services, who shall be managed by the Resident Engineer and who will represent the Consultant in performing the services.

All the Consultant's personnel shall be good in the full use (i.e. the writing, reading and speaking) of the contract language, which is English. They shall be fully computer literate regarding word processing and spread sheets, with not less than one member of staff fully computer literate in the use of: data bases and total station surveying.

The estimated man-months for Key staff is **122**. The table below is tentative as anticipated by the Client. CVs for permanent staff of the Consultant shall be signed by authorized representative while CVs for externally recruited staff shall be signed and recently dated by the proposed key staff. Providing copies of university certificates, membership of professional organization (translated to English or French) is required.

Key staff shall sign the exclusivity form attached. Only personnel having the minimum required academic qualification will be considered for evaluation.

Personnel whose score is below 70% of the allotted points for their respective criteria, will have to be replaced by a better-qualified one, prior to contract signing.

Since the confirmation of joint and severable liability of the members of a said joint venture is required, Consultants shall make sure that the percentage of shares is reflected in the technical proposal and key staff participation. Joint ventures in which all key staff are from one member of the joint venture will not be considered.

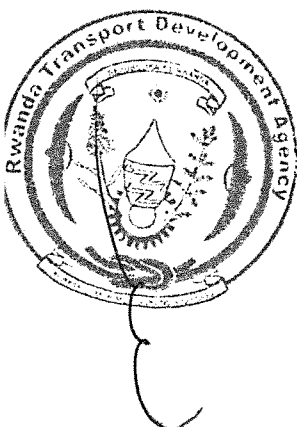
The Consultant's personnel shall include the following:

A. Key Personnel

I. For Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari – Gatuna (Byumba – Ngondore) and Byumba urban roads (15.53km)

(i) Resident Engineer

- A minimum of BSc. Degree in civil engineering and Fifteen (15) years of experience in relation to road projects. He /She must be a member of recognized engineers' professional organization.
- Ten (10) years minimum experience as Project Manager or Resident Engineer in managing or administering of Road Construction/upgrading/rehabilitation Projects representing any of the three parties in construction contracts (Client, Supervising Consultant or Contractor) out of which seven (7) years is on construction of Asphalt Concrete road projects. Experience on three (3) Asphalt concrete road projects as Resident Engineer. Knowledge of FIDIC Contract procedure is desirable and working with external funded projects (WB, EU and



AFDB) will be an advantage. Previous experience on road projects in Africa will be an advantage.

(ii) Assistant Resident Engineer and Highway Engineer

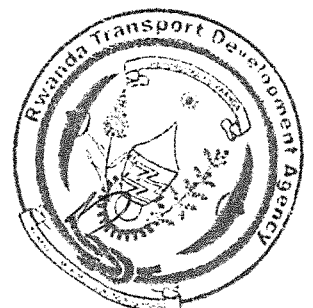
- A minimum of BSc. Degree in civil engineering and Ten (10) years' experience in relation to road projects. (S)He must be a member of recognized engineers' professional organization.
- Five (5) years of experience as Project Manager or Resident Engineer or Assistant Resident Engineer in managing or administering of road construction, upgrading or rehabilitation projects representing any of the three parties in road construction/ rehabilitation/upgrading contracts.
- (S)He must have at least five (5) years of recent experience in geometric design/supervision of roads using the latest highway design computer applications.
- (S)He must be able to prepare road geometric design drawings, and carry out estimation of quantities, write technical specifications and measurement of works.
- Knowledge of FIDIC Contract procedures is desirable and working with external funded projects (WB, EU and AFDB) will be an advantage.

(iii) Geotechnical/Pavement/Material Engineer

- A minimum of BSc. Degree in Civil Engineering or related field with at least Ten (10) years professional experience on road/bridge projects. (S)He must be a member of recognized engineers' professional organization.
- Experience as a Pavement/Material Engineer on three (3) road design/supervision projects.
- (S)He must have a minimum of Seven (7) years of experience in road construction materials, geotechnical surveys, testing and pavement design, highway construction, particularly in tropical countries. (S)He should have at least three (3) years of experience as in-charge of field laboratory, responsible for routine testing of all road construction materials, quality and performance tests. Previous experience on road projects in Africa will be an advantage.

(iv) Senior Surveyor / Topographical engineer

- (S)He must possess BSc. Degree in Survey & Photogrammetry or equivalent and with at least Ten (10) years professional experience. (S)He must be a member of recognized engineers' professional organization.



- (S)He must have served in similar capacity in at least three road projects of similar magnitude and complexity. (S)He must be familiar with the latest electronic survey equipment including GPS, Total Stations and associated computer applications. Previous experience on road projects in Africa will be an advantage.

(v) Structural / Hydraulic Engineer

Bachelor's degree or above in civil engineering or related field with Ten (10) years' experience in road/ bridge projects. He/she must be a member of recognized engineers' professional organization.

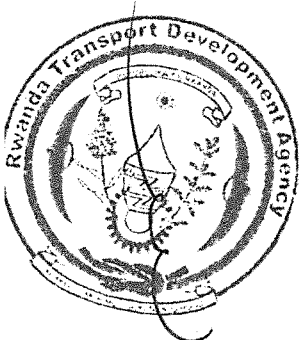
- He/she must have at least eight (8) years' experience in Hydraulic structure analysis, design/supervision or construction of bridges, non-destructive concrete testing, earth retaining structures, road drainage structures including urban drainage systems.
- He/she must be familiar with latest Computer Aided Design applications applicable to Hydraulic structural analysis. Previous experience on road projects in East Africa will be an advantage. He/she shall be responsible for ensuring the drainage structures are constructed according to design and conform to the Contract specifications and able to propose technical solution due to the geotechnical test result.
- Experience as Structural / Hydraulic Engineer on three (3) similar road construction/ upgrading projects.

(vi) Electrical Engineer

- He or she must have university BSc. Degree or above in Electrical Engineering;
- He/she must be a member of recognized engineers' professional organization.
- At least 10 years general experience in the field of Electrical Engineering projects;
- At least 6 years specific or similar experience in installation of street lights;
- Experience on at least 2 projects of street light installation of at least 10km each.

(vii) Social and Environmental Expert

- (S)He must be Rwandan
- A minimum of BSc Degree in Environmental Management or relevant fields with Eight (8) years professional experience. (S)He must be registered as Lead Expert (Rwanda Environmental Management Authority) or equivalent.
- (S)He must have a minimum of 5 years working experience on environmental/social management with sound knowledge of environmental and social issues, initiatives and implementation of mitigation measures in construction of bridges and road works. Experience in preparation of Resettlement



[Handwritten signatures and marks]

Action Plan (RAP), Environmental and Social Management Plan (ESMP).
Previous.

(viii) **Road Safety Expert**

- Should have at least a BSc. degree in Traffic/Transport/Highway engineering/Civil engineering or its equivalent with 10 years of experience. (S)He must be a member of recognized engineers' professional organization.
- At least Seven (7) years of experience of working on similar road safety designs or audit assignments and must be familiar with various evaluation and auditing system of transport accident and safety analysis and techniques.
- Should have active involvement in road safety, accident analysis, design and auditing during the last 5 years; of which at least 2 projects concerning safety auditing of roads;
- Project experience in Africa region and other developing countries is preferable.
- The expert is to be mobilized upon approval by the client

(ix) **Claims Expert**

- A minimum of BSc. Degree in civil engineering or related field with ten (10) years of experience in contract administration and/or claims handling. (S)He must be a member of recognized engineers' professional organization.
- (S)He must have extensive broad experience in highway Contract administration, evaluation of Contractors claims for at least eight (8) years and more specifically have recent service as a Claims Expert on at least two (2) highway construction Contract of comparable magnitude. Knowledge of FIDIC Contract procedure is desirable.
- The expert is to be mobilized upon approval by the client

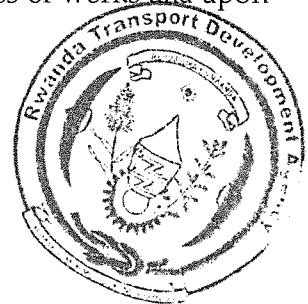
Note: the mobilization of all intermittent staff will depend on the progress of works and upon approval by the client

I. **For Economic Impact Evaluation**

(i) **Transport Economist**

Transport Economist will be responsible for economic impact evaluation.

H/She must have master's degree in Transportation Economics or related field; with Ten (10) years' experience including Five (5) years related experience in similar assignment for road



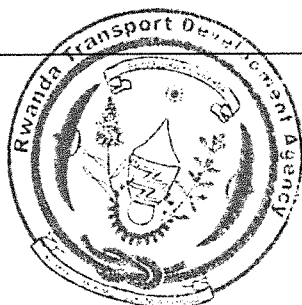
projects. At least 2 completed assignment for conducting Economic Impact Evaluation for road projects.

B. SUPPORT STAFF

In addition to the expert personnel proposed above, the Consultant shall determine the support and back-up staff deemed necessary to assist with on-site supervision of the works and design of the Roadside Amenities and determine their needed input (person-months). Remuneration for all other Support Staff e.g. Inspectors, Material Technologists, Technicians, Survey Assistants and any other expenses required for functioning of the site supervision or backstopping shall be priced using form FIN 3 and no adjustment can be sought during contract negotiations. CVs for support staff shall be presented during contract negotiations.

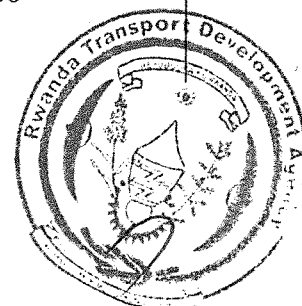
The estimated table below of person-months is given for indication as anticipated by the Client. However, the Consultant can propose different staff and personnel-months according to his methodology and understanding of terms of reference.

I. Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari - Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km)		
Phase 1. Design review and Supervision of works		
A. Key Staff	Unit	Estimated input
Resident Engineer	person-months	20
Assistant Resident Engineer and Highway Engineer	person-months	20
Pavement, Material, Geotechnical Engineer	person-months	18
Senior Surveyor / Topographer	person-months	18
Structural / Hydraulic Engineer	person-months	6



[Handwritten signatures and initials]

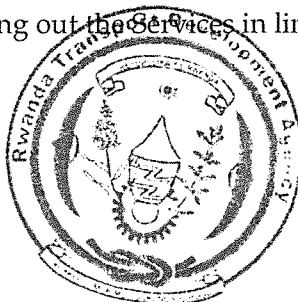
Electrical Engineer	person-months	8
Road Safety Expert	person-months	3
Claims Expert	person-months	2
Social and Environmental Expert	person-months	18
Total Key Staff-months for Phase 1		113
B. Technicians, Surveyors, Draftsperson and Secretary		
laboratory Technician 1	person-months	To be proposed by consultant
laboratory Technician 2	person-months	
Survey assistant	person-months	
Survey Assistant 2	person-months	
Draftsman	person-months	
Site Inspectors of Works 1	person-months	
Site Inspectors of Works 1	person-months	
Secretary	person-months	
On-job training (2 young Engineers)	Person-months	36



Total Support		
Phase 2. Intervention during Defect Liability Period		
Resident Engineer	person-months	1.5
Assistant Resident Engineer	person-months	3
Environmentalist	person-months	1.5
Total person-months for Phase 2		6
II. For Economic Impact Evaluation		
Transport Economist	person-months	3

7. FACILITIES, SERVICES AND RESOURCES TO BE PROVIDED BY CLIENT

- I. RTDA will avail to Consultant free of charge all available documents relevant to the project, including the Feasibility Study Report as well as detailed technical report, Environmental Impact Assessment(EIA), Resettlement Action Plan (RAP), Review of Engineering Design Reports, drawings, specifications and cost estimates prepared by the design Consultant.
- II. RTDA will provide liaison with other Ministries/Institutions/Departments/Districts of the Government in order to introduce the Consultant. The Consultant shall be fully responsible for collection of data and information from these agencies.
- III. RTDA will, if required, assist the Consultant in obtaining Visas, Work Permits, and other formalities for all Consultant Personnel entering or leaving Rwanda, for the purpose of carrying out the Services in line with the Agreement.



- IV. The client will assign 2 graduate Engineers staff to the Consultant for on the job training in the various aspects of the Consultant's duties and may be used by the Consultant as part of its inspectors. The consultant will include in his technical proposal the program and details of the training.
- The consultant shall pay a monthly allowance of 1000\$ per each graduate Engineer. This amount includes trainee's accommodation, works related transport, communication, consultant's overhead, required taxes (in accordance with applicable laws), etc. The net pay (trainee's take home) shall be fixed during contract negotiations based on the consultant's proposed cost breakdown.
- V. Under the construction contract, the consultant shall be provided with office, computers, laboratory, accommodation and equipment, housing for staff and transportation. These facilities are included in the construction contract and detailed in the special specifications and bills of quantities of the Contractor.
- VI. For the duration of the Services, the Consultant shall be provided with all site facilities under the Construction Contract. In this line, the Consultant shall be provided with Five (5) vehicles: (i) Four (4) pick-up double cabin (4x4) for the firm and (ii) one pick-up double cabin (4x4) for the Employer's representative. All according operating/functioning fee, insurance, maintenance, fueling, etc, shall be paid under the contractor's contract. All those vehicles shall be of the latest version available on market and manufacture year as well.

8. MONITORING AND EVALUATION

8.1 Definition of indicators

In his Technical Proposal (Organization and Methodology), the Consultant shall propose relevant key indicators for monitoring project progress, results, activities and assumptions and show how these will be monitored.

As a minimum, the Consultant will regularly review the physical work progress in terms of number of km of road construction and completed to various levels in compliance with the drawings and specifications in relation to the Contractor's approved work program and cash-flow projections, schedule of plant and manpower resources.

The Consultant will regularly appraise this information in his Progress Reports and in Site Meetings and discuss them with the Contractor and Engineer.

8.2 Reviews and evaluations

Project reviews and evaluation applying monitoring indicators will be presented in the regular progress reports and the Final Project Completion Report will contain an overall assessment.



9. **TERMS OF PAYMENT**

- a. **For Design review, Monitoring and Supervision of Rehabilitation and Upgrading works of Kibari - Gatuna (Byumba - Ngondore) and Byumba urban roads (15.53km)**

This is a time-based contract. Payments will follow the monthly progress report and the Consultant will invoice the Client based on inputs made in accordance with the agreed schedule of man-months of Consultant's personnel time inputs at the agreed rates, the itemized schedule of reimbursable expenses, and in accordance with the Terms and Conditions of the Contract Agreement with the RTDA

- b. **For Economic Impact Evaluation**

It is a lump sum amount to be 100% paid after submission of the final report of Economic Impact Evaluation

