

TERMS OF REFERENCE

FOR

CONSULTANCY SERVICES FOR DESIGN REVIEW AND SUPERVISION OF REHABILITATION OF LUSAHUNGA – RUSUMO ROAD (92KM)

1. INTRODUCTION

- 1.0 The Government of the United Republic of Tanzania (GOT) has applied a credit from the World Bank towards the cost of the Development Corridors Transport Project (DCTP) and intends to apply a portion of the proceeds of this credit to eligible payments under the Contract for Consultancy Services for Supervision of Rehabilitation of Lusahunga – Rusumo Road (92 Km).
- 1.1 The project is located in Kagera Region. The Lusahunga – Rusumo road section (92 Km), forms part of the T3 (Central Corridor Highway) which connects the Dar es Salaam port with the land locked neighbouring country of Rwanda and Burundi. The Road starts at Lusahunga in Biharamulo District and ends at Rusumo, which the border town with Rwanda in Ngara District in Kagera Region. The total length of the project roads is about 92km.
- 1.2 The construction of the road in its present alignment was completed in 1985 with a double bituminous surface dressing (DBSD) on the 6.5 meter wide carriageway with 1.5 meter wide double bituminous surface dressing (DBSD) shoulders each side for a design life of 15 years. The route follows the existing paved trunk road traversing through a number of villages and centres including Lusahunga, Nyakahura, Nyabugombe, Nyakasanza, Benako/Kasulo and Rusumo. The road consists of 1 major Rusumo bridge, 27 box culverts 52 steel pipe culverts and 8 reinforced concrete culverts. Currently the road has deteriorated drastically due to long age despite of efforts that are carried out by TANROADS in Kagera region to maintain and repair it. Typical defects include severe potholes, rutting deformation, corrugations, extensive cracking (alligator cracks) and depressions. Generally, the road condition is from bad to fair.
- 1.3 Rehabilitation of Lusahunga – Rusumo road section (92 Km) section to bitumen standard is a key component of the implementation of the Development Corridor Transport Project. The road rehabilitation will provide an important catalyst in reducing poverty, transport cost and spur economic growth in the project area, in addition to being a key International route for export/import traffic of Rwanda, Burundi and Eastern Zaire to and from the Dar es Salaam port, Uganda and the Port of Mombasa in Kenya. The roads also connect areas with variety of potential economic opportunities such as agriculture, livestock, forestry & minerals, fisheries and wildlife & tourism.
- 1.4 The proposed project will consist of rehabilitation and upgrading to Asphalt Concrete, both the carriageway and shoulders on the entire length of road as follows:
 - (i) rehabilitation of 92 km by re-working and stabilizing the existing pavement, placing new crushed aggregate base and 50mm asphalt concrete surfacing;
 - (ii) improvement of drainage by replacing some old culverts with new larger size ones, extending some to cover the improved pavement layers and excavation of a flood diversion channel; and
 - (iii) appropriate road safety measures to slow down traffic in built-up areas and to allow safe pedestrian crossing.

- 1.5 The original design was done in 2014 by M/s Nicholas O'Dweyer Co. Ltd., and the original Environment and Social Assessment (ESIA) and Resettlement action plan (RAP) was done, also in 2014, by an independent firm M/s Techniplan International Consulting. Due to some changes in the project design, M/s H.P. Gauff Ingenieure were appointed to undertake the review of the existing Feasibility Study, ESIA Study and the Design Review of the project in 2017. Further to fully incorporate and update the recommendations of the Design Review in the ESIA, and RAP TANROADS Safeguards Environment and Social Consultants updated the ESIA and RAP in November, 2019. This RAP and ESIA documents have been disclosed to public and are available on the Bank website.
- 1.6 The Environmental and Social Impact Assessment was conducted in accordance with the requirements of the Environment Management Act No.20 of 2004 and Environmental Impact Assessment and Audit Regulations (2005) of Tanzania with full cognizance with the Guidelines of the World Bank's Environmental and Social Safeguard Policies. Other important legal provisions providing guidance on environmental issues pertaining to road sector such as the Road Act (2007), Environmental Code of Practice for Road works (2009) and Environmental Assessment and Management Guidelines in the Road Sector (2004) have also been used in the undertaking Environmental and Social Impact Assessment. Subsequently, the ESIA certificate with registration No. EC/EIA/2690 was obtained from the National Environment Management Council in October 2016.
- 1.7 Tenders for the rehabilitation works are under process and the rehabilitation period is estimated to be 24 months excluding the 12 months defect liability period. The works contract will be implemented under the "General Conditions" which form part of the "Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer ("Red book") Second edition 2017" published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and "Particular Conditions" which comprise of the Bank's COPA and the amendments and additions to such General Conditions.

2. OBJECTIVES OF THE ASSIGNMENT

The objective of the assignment is to undertake consultancy services on behalf of the Tanzania National Roads Agency (TANROADS) for the supervision of the rehabilitation Works of Lusahunga – Rusumo road.

The specific objectives of the Consultancy services are:

- (i) to carry out design review to ensure correctness, completeness and compliance with the internationally acceptable standards and update where necessary,
- (ii) to carry out Supervision of the works contract to ensure that the works comply with the approved design, drawings, specifications, conditions of contract, sound engineering practice; and project environmental, social, and health and safety (ESHS) requirements, and
- (iii) to carry out the supervision of repair activities as well as the implementation of activities included in the snag list of construction during the Defect Liability Period

3. SCOPE OF SERVICES

3.1 Design Review

The Consultant shall perform all the required updates from the finalized design including update of the cost (Engineer's Estimate) and ESIA reports done by M/s H.P. Gauff Ingenieure in 2018. In particular

the Consultant shall review all the available and relevant documents including Design report, maps, drawings, previous studies if any and perform the updates to the Detailed Engineering Design, Environmental and Social Impact Assessment including an Environmental Management Plan, Resettlement Action Plan (RAP).

The purpose of this review is to ensure that the documents and data are correct, complete and conform to the internationally acceptable standards, IDA and National guidelines. The Consultant shall in particular also review the following

- (i) survey data on site to verify the correctness of the Survey data and where necessary correct the survey data and the design accordingly
- (ii) carry out a thorough study/review of the terrain and traffic at the major centres and Pavement layers,
- (iii) Drainage structures, Subsoil drains, Erosion checks for drains,
- (iv) geometrical design including Walkways, Bus bays and Truck lay bay areas along the route and Intersections type and design warranted based on, among other factors, the traffic volumes and turning movements at the intersections as provided road in the Geometric Design Manual,
- (v) service roads at the major centres for safeguard segregation of traffic, pedestrians and cyclists
- (vi) Signs and Road markings, Kerbs, Speed humps / rumble strips / raised pedestrian crossings, Guardrails in terms of a crash performance based on the design vehicle and length of needs,
- (vii) Illumination at the major centres.
- (viii) Review climbing lanes and determine appropriate locations for their provisions
- (ix) Safeguards Compliance in line with WB ESF requirements.

3.2 Supervision of Rehabilitation Works

The Consultant shall be fully responsible for the supervision of the rehabilitation works in accordance with the FIDIC Conditions of Contract. The Consultant shall, in general, exercise the powers of the Engineer in all matters concerning the contract and the execution of the works. He shall supervise the construction works with due diligence, efficiency and in accordance with sound technical, administrative, financial, socially responsive, environmentally sound and economic practices. He 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 to, or better than that specified, at the most economic costs and is carried out in full compliance with the governing specifications.

In particular, the Consultant's duties and responsibilities shall include but not be limited to:

- (i) Check and establish that the contractor mobilises and supplies to the contract all plants, equipment and machinery that have been committed under the Works Contract and ensure that all such items of plants, equipment and machinery are calibrated, as required and remain on the construction site until their release has been authorized;
- (ii) Study/review the design, ESIA, RAP and contract documents and advice the Client of any deficiencies or necessary improvements that are identified or deemed necessary for the successful implementation of the project;
- (iii) At all times take necessary measures and provide appropriate advice to TANROADS to enable the construction contract to be completed in a timely and cost effective manner, in conformity with the contract conditions and specifications;

- (iv) Satisfy himself thoroughly of the nature and scope of the works, of all information and documents available, the materials and equipment to be used by the contractor in executing the works as to enable him to perform his duties satisfactorily, study and check all documents associated with the projects, foresee possible problems and advise TANROADS appropriately during the construction and repair (defect liability) period;
- (v) Identify and mark all utilities with the help of the responsible authorities and assist TANROADS in effecting the removal/relocation (where necessary) of utilities within the right of way;
- (vi) Liaise with the respective Regional Authority to ensure that the assessment and compensation of crops and buildings if any within the right of way is done before the contractor is given possession of site;
- (vii) Identify and locate all beacons and benchmarks, confirm their compatibility with the designs and hand over to the contractor before commencement of the works to enable the contractor set out and construct the works;
- (viii) Inspect, test and approve all materials and completed works to ensure compliance with technical specification requirements;
- (ix) Review and approve all road safety measures, including road detours/deviations, safety controls and signs, training, and monitoring; and should undertake inspections on adequacy of road safety measures and make recommendations for changes or improvements as needed,
- (x) Keep updated all records including reports, works diaries, correspondence, instructions given to contractor(s), test records, measurement and quantity calculations, payment records and all other relevant documents pertaining to the works operations and supervision contracts;
- (xi) Prepare consolidated monthly reports on physical and financial status, site meetings, contractual matters, etc., with recommendations for action by TANROADS;
- (xii) Review and approve Management Strategies and Implementation Plans (MSIP) to manage the (ESHS) risks and monitor their implementation. The MSIP shall include but not limited to:
 - a) Traffic Management Plan to ensure safety of local communities from construction traffic;
 - b) Water Resource Protection Plan to prevent contamination of drinking water and manage the extent of usage by the Contractor for construction purposes. The plan should also outline the process for effluent and water discharge quality monitoring;
 - c) Chance find procedure that outlines the actions to be taken if previously unknown cultural heritage is encountered;
 - d) Waste Management Plan to provide guides for reducing, handling, and disposing of waste during construction or land-clearing;
 - e) Material source, borrow pit and quarry management plan;
 - f) Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts;

- g) Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit;
 - h) Gender based violence, sexual exploitation and abuse, and sexual harassment (GBV/SEA/SH) prevention and response action plan;
 - i) Grievance Redress Mechanism;
 - j) Health and Safety Management Plan, to ensure health and safety of workers; including use of protective clothing; HIV/AIDS and COVID-19 awareness and prevention, including sensitization and counselling; drug and substance abuse, and avoidance of child labour and child abuse.
- (xiii) Management of Labour Influx and use of local labour.
 - (xiv) Direct and monitor the implementation of traffic safety and HIV/AIDS Sensitization campaigns & programs,
 - (xv) Prepare control charts of the main activities and a project master schedule, indicating both past performance and forecasts for completion including time involved in each case;
 - (xvi) Measure quantities of works satisfactorily carried out and certify monthly and final payment certificates for consideration by TANROADS. Monthly certificates to be submitted to the Client for payment shall include the total cost of the works executed in foreign and local currency;
 - (xvii) Record, examine and evaluate all claims submitted by the Contractor and submit timely recommendations thereof for consideration by TANROADS;
 - (xviii) When the implementation of the civil works contract reaches a value of 80% of the initial construction contract, the consultant shall prepare and submit a detailed progress report with updated cost of the civil works contract, implementation schedules and substantiate any request related to additional funding, is such needed to full completion of the project;
 - (xix) Determine the unit rates for new items of Works in the contract and submit to TANROADS for approval;
 - (xx) Prepare and submit to TANROADS the final account of executed works;
 - (xxi) Review and approve the as-built drawings;
 - (xxii) The Consultant may, with prior consultation with TANROADS effect changes that will improve design or specification for the works. Such changes shall not increase the contract time nor shall the increase in contract sum resulting from such changes exceed a percentage to be agreed with TANROADS;
 - (xxiii) The Consultant shall prepare a Supervision Manual which will lay out procedures to be followed during the execution of the works. The Manual will also serve as a basis for on-the-job training of TANROADS staff if any or any visiting students during the implementation of the works contract;
 - (xxiv) Maintain a site diary on a daily basis with the contents and format to be agreed with TANROADS;

- (xxv) The Consultant shall provide any other additional services if so requested by the Client, at rates and under conditions to be mutually agreed which fall within general ambit of these terms of reference.
- (xxvi) The Consultant shall ensure that the Contractor's ((Environmental, Social, and Health and Safety - ESHS) ESHS performance is in accordance with TANROADS Environmental and Social Policy (Refer Annex 1), Contractor's ESHS obligations and good international industry practice. The ESHS related services include but are not limited to:-
- a) Review and approve the Contractor's Environment and Social Management Plan (C-ESMP) prior to any construction works, including all updates and revisions (within a reasonable time and prior to any significant works that would be covered by the proposed material changes) in consultation with the Environmental, HS or Social specialists of TANROADS;
 - b) Monitor the implementation of the Contractor's ESHS requirements, including impact mitigation and monitoring measures, during the construction of the works,
 - c) Review and approve ESHS provisions of method statements, implementation plans, GBV/SEA prevention and response action plan, drawings, proposals, schedules and all relevant Contractor's documents;
 - d) Review and consider the potential ESHS risks and impacts of any proposed design change proposals and advise if there are implications for compliance with ESIA, C-ESMP, consent/permits and other relevant project requirements;
 - e) Undertake audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities related to the Works, to verify the Contractor's compliance with ESHS requirements including its Gender Based Violence (GBV)/ Sexual Exploitation and Abuse (SEA) obligations, with and without contractor and/or client relevant representatives, as necessary, but for GBV related issues not less than once per month,
 - f) review the Contractor's EHS workers training and related materials and activities related to workers whom predominate language is Swahili,
 - g) Develop and maintain ESHS checklists and supervision reports related to audits and and inspections related to Contractor's ESHS compliance and performance,
 - h) Routinely review and undertake audits and inspections of Contractor's worker EHS training records, accident logs, community liaison records, EHS inspection and monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements;
 - i) Promptly report any identified non-compliance issues to Construction Contractor and TANROADS and work with these entities to define acceptable remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
 - j) In the case of any significant or material ESHS incident (such as death or seriously accident, significant spill, pandemics like COVID 19 etc.), report within one day of

knowledge of such event to TANROADS and work to define acceptable remedial actions to investigate, remediate and prevent such events in the future (see Section 6.1 for related reporting),

- k) In relation to all significant material and service providers to the Contractor (such as sites/providers of road base and fill materials, construction waste disposal services and sites), undertake site visit and assessment of such material and service providers in terms of potential significant ESHS issues
- l) Ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations;
- m) Review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
- n) Undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential ESHS issues
- o) On behalf of TANROADS, establish and maintain a grievance redress mechanism with support of the Contractor, including types of grievances to be recorded and how to protect confidentiality e.g. of those reporting allegations of GBV/SEA.
- p) Ensure any GBV/SEA instances and complaints that come to the attention of the Consultant are registered in the grievance redress mechanism,
- q) Prepare and submit to TANROADS, as part of monthly progress report, issues on ESHS project construction compliance and performance (see Section 6 for details)
- r) Upon completion of project construction or closure of any specific work area or camp site, perform an inspection of such site/area to ensure Contractor compliance with ESHS requirements and whether there are any existing unmitigated ESHS impacts, and if issues are identified then promptly notify the Contractor and TANROADS and work with such entities to define acceptable remedial actions to resolve all issues

3.3 Defect Liability Period

The Consultant shall supervise maintenance of the works as well as the implementation of activities included in the snag list of construction (including the administrative, environmental and social aspects of the works) during the defects liability period. For purposes of fulfilling his obligations during the Defects Liability Period, the Consultant shall assign his personnel to carry out inspection of the works and send a team of his personnel on the final inspection, and subsequently prepare and issue the final certificate following his certification that the Contractor has complied with his obligations during the Defect Liability Period. During this period the Consultant shall be expected to draw the attention of the Contractor to any defects as soon as such defects are noticed and shall supervise the subsequent remedial works. The cost for such services will be included in the price breakdown as a Provisional item to be spent only when the services are required. As the defects liability period for the Contract is 12 months, an inspection will be carried out in an interval of 4 months after completion of the total works and any deficiencies noted along the road and its remedial measures proposed to the Contractor. Depending on the nature of deficiency, repair work will be carried out under the Consultant's supervision. At the end of the 12 month liability period, a final inspection will be carried out. Inspection will be carried out under the supervision of the Resident Engineer who will prepare and sign the

Inspection Report and distribute to the Contractor, TANROADS HQ and Kagera Regional Manager Office.

4. CONSULTANT'S PERSONNEL

The professional staff to be provided by the Consultant is estimated at **179 person-month** covered by the services of: Resident Engineer, Pavement /Materials Engineer, Highway Engineer, Topographical Surveyor Bridge/Structural Engineer, Environmentalist, Health and Safety Expert and Sociologist. The Consultant shall provide the above-mentioned key professional staff with academic and professional qualifications and experience to recognize and to deliver good international industry practice with respect to Environment, Social Sexual Exploitation and Abuse (SEA) and Gender Based Violence (GBV) in order to fulfill the objectives of the services and for which he/she will receive remuneration as specified in the contract document.

The Consultant shall employ only such key staff whose CVs have been approved by the Client. In addition to the expert personnel, the Consultant shall determine the support staff to assist with on-site supervision of the works.

The Consultant must provide in the proposal CVs and copies of highest education certificates for all professional and technical staff including the duration in man-months during which the staff will be deployed under the Contract

1. Back up Staff

Project Coordinator: The Project Coordinator shall provide overall direction of the project, co-ordinate design review, guide and support the site supervision staff and liaise with the Client for the duration of the project. He shall be based at the Consultant's head office and shall co-ordinate any specialist services that may be required from the Consultant.

2. Staff Requirement during Design Review

The design review services shall be undertaken in three (3) months by the following key professional staff. The Consultant is free to propose a staff compliment that will carry out the exercise. The Consultant however is free to propose experts that he considers necessary to complete the task at hand.

(i) Highway Engineer/Team Leader

She/he must be a registered Civil Engineer or equivalent qualification. Postgraduate qualification in Highway Engineering is added advantage. She/he must have a minimum of (10) years of cumulative experience related to road/bridge design and Construction. She/he must have served in a similar capacity on at least two (2) projects for construction/rehabilitation of bituminous roads of similar magnitude and complexity in the last 10 years. His/her duties shall comprise road surveys, construction of pavement structure, measuring of quantities and management of site operations. In addition, he/she must have a working experience of at least 3 years in Sub-Sahara countries. Fluency in written and spoken English is mandatory

(ii) Environmentalist/ Sociologist

She/he must be a graduate in Environmental Management Studies or related discipline. She/he must have sound knowledge of environmental and social issues, initiatives and implementation of mitigation measures related to civil engineering infrastructure projects. He/she must have served as an Environmentalist in at least two (2) road design projects of similar nature in the last ten years. She/he

must have at least 3 years working experience in Sub-Saharan countries. Fluency in written and spoken English is mandatory

(iii) Topographical Surveyor

She/he must possess a minimum of a diploma in Land Surveying. She/he must have at least ten (10) years cumulative experience in road design and construction. She/he must have served in similar capacity on at least two (2) road construction projects in the past 10 years. In addition, he/she must have a working experience of at least 3 years in Sub-Saharan countries. Fluency in written and spoken English is mandatory

3. Consultants Professional Key Staff during Supervision Services:-

The professional staff to be provided by the Consultant is estimated at **168 person-month** covered by the services of: Resident Engineer, Pavement /Materials Engineer, Highway Engineer, Topographical Surveyor Bridge/Structural Engineer, Environmental Expert and Sociologist. The Consultant shall provide the above-mentioned key professional staff with academic and professional qualifications and experience to recognize and to deliver good international industry practice with respect to Environment, Social Sexual Exploitation and Abuse (SEA) and Gender Based Violence (GBV) in order to fulfill the objectives of the services and for which he will receive remuneration as specified in the contract document.

The Construction Supervision shall be carried out by the following key professional staffs:

(i) Resident Engineer (1 no)

The Resident Engineer shall head the site staff and shall be responsible for day to day management of technical and administrative aspects on site.

She/he must be a registered or chartered Civil Engineer with a degree in Civil Engineering. Postgraduate qualification in Civil or Highway Engineering is an added advantage. She/he must have experience of a minimum of fifteen (15) years related to road design/construction supervision. She/he must have served as a Resident Engineer or Project Manager in at least three (3) road construction projects of similar nature for the last ten (10) years. Experience in contract administration under FIDIC conditions of contract is also an added advantage. She/he must have a working experience of at least three (3) years in Developing Countries and shall be proficient in written and spoken English.

(ii) Pavement /Materials Engineer (1 no)

The Pavement/Materials Engineer shall be responsible for ensuring the quality of all materials to be incorporated in the works, as well as the completed works, conform to the contract specifications.

She/he shall be a registered or chartered Civil Engineer with a degree in Civil Engineering. Postgraduate qualification in Geotechnical/Pavement Engineering or Foundation Engineering is added advantage. She/he must have a minimum of ten (10) years of cumulative experience in pavement/materials matters related to road works. She/he must have served in similar position in at least three (3) road projects of similar nature for the last ten (10) years. She/he must have a working experience of at least three (3) years in Sub-Saharan Africa and must be proficient in written and spoken English.

(iii) Highway Engineer (1 no)

The Highway Engineer shall be responsible for day to day road surveys, construction of pavement structure, measurement of quantities and management of site operations, approving working schedules and as built drawings.

She/he shall be a registered or chartered Civil Engineer with degree in Civil Engineering. Postgraduate qualification in Highway Engineering is an added advantage. She/he must have a minimum of ten (10) years cumulative experience in road design/construction supervision. She/he must have served in similar position in at least three (3) projects for construction of bitumen roads of similar nature for the last ten (10) years. She/he must have a working experience of at least three years in Sub-Saharan Africa and must be proficient in written and spoken English.

(iv) Bridge/Structural Engineer (1 no)

The Bridge/Structural Engineer shall be responsible for the assessment of existing bridges and design and construction of new bridges and other structures along the project road.

She/he must be a chartered or registered Civil Engineer with a degree in Civil Engineering or Bridge Engineering or Structural Engineering. Postgraduate qualification in Bridge/Structural Engineering is an added advantage. She/he must have a minimum of ten (10) years cumulative experience in construction/upgrading and rehabilitation of bridges/structures. She/he must have served as a Bridge/Structural Engineer on at least three (3) bridge projects of similar magnitude and complexity involving design and construction of road bridges within the last 10 years. In addition, he/she must have a working experience of at least 3 years in Sub-Sahara Africa. Proficient in written and spoken English is mandatory.

(v) Topographical Surveyor (1 no)

The Topographical Surveyor shall be responsible for conducting and supervising the survey team. He/she will be responsible for planning of the fieldwork, select known survey reference points, and determine the precise location of important features in the survey area. He/she shall be responsible for searching legal records, look for evidence of previous references survey points (geodetic reference points and national benchmarks) and analyze the data to determine the location of boundary lines and record the results of the survey, verify the accuracy of data, and prepare plans, maps, and reports. The surveyor shall mark all properties to be affected by the proposed road to facilitate valuation for compensation.

The Topographical Surveyor shall be a Registered Land Surveyor with a respective Professional Body, holding a minimum of an Advanced Diploma in land surveying. She/he must have at least ten (10) years of cumulative experience related to Land surveying activities. She/he must have served as a Topographical Surveyor on at least three (3) projects of similar magnitude and complexity within the last 10 years. In addition, she/he must have at least 3 years working experience in Sub Sahara Africa. Proficient in written and spoken English is mandatory.

(vi) Environmental Health and Safety Expert (1 no)

The Environmentalist Health and Safety specialist shall be responsible for monitoring of day to day implementation of the MSIP and environmental health and safety (EHS) issues under the project and ensure compliance by the Contractor with all EHS Plans in order to help avoid, minimize, mitigate and remediate if necessary any negative EHS impacts and risks from the project.

The EHS Expert shall be a registered EIA Expert with a degree in environment management, environmental engineering, environmental science, or health and safety. A postgraduate qualification in above professional fields is an added advantage. She/he must have a cumulative experience of ten (10) years in related to EHS management in infrastructure or construction projects. She/he should have

worked on at least five (5) projects of a similar nature within the last ten (10) years. She/he must have at least 3 years working experience in Sub Saharan Africa; and Proficient in both written and spoken English and Swahili are mandatory..

(vii) Sociologist (1 no)

The Sociologist shall be responsible for monitoring of the Social Management Plans issues in the project in order to minimize any negative impacts from the project on the people in the project area. The sociologist shall also advise the Contractor and supervise the implementation of mitigation measures to the impacts related to land acquisition and resettlement resulting from Engineering Review and Contractor activities to ensure compliance with the contract requirements.

The Sociologist shall be a holder of at least B.A in Sociology. Post graduate qualifications in social science are an added advantage. She/he must have a cumulative experience of ten (10) years in undertaking and implementing social impact assessment and management plans in infrastructure or construction projects. She/he must have done social studies on at least five (5) similar projects and should, ideally, have knowledge of GBV and SEA and labor influx issues in relation to linear infrastructure projects within the last ten (10) years. She/he must have at least 3 years working experience in Sub Saharan Africa. Proficiency in both written and spoken English and Swahili are mandatory.

(viii) Support Staffs:

In addition to the key personnel designated above, the Consultant shall determine the support and back-up staff deemed necessary to assist with on-site supervision of the rehabilitation works for both lots. These shall include Road Inspectors, Surveyors and Materials Technicians. Office attendants and housekeepers shall be provided under the works contract.

5. SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

5.1 Services and Facilities to be provided by the Client

The Client shall provide the Consultant with:

- (a) One set of all contract documents and previous design reports.
- (b) Liaison and assistance for any information or documents required from other Government agencies and which TANROADS considers essential for the proper conduct and execution of the assignment.
- (c) Furnished Office, Laboratory and Staff Accommodation, with furniture and equipment as required for efficient execution of the services, will be provided under the Works contract.

5.2 The Consultant Responsibilities/Obligations

- (a) The Consultant shall ensure that his supervision staffs provide organized training and instructions to counterpart personnel assigned to the Project, monitors their performance and submits a quarterly progress report on each individual. Training program and reporting should be defined in the Consultants proposal and agreed with TANROADS during pre-contract discussion.
- (b) The Consultant shall ensure that all professional EHS and one Social Specialist providing services under this Supervision Contract have background training related to potential worker

health and safety risks associated with this work, and provided all the necessary health and safety equipment, including applicable personnel protective equipment, to fulfill their duties. The Consultant shall also ensure that all non-ESHS personnel providing services under this Supervision contract are provided basic training relate the Project ESHS requirements and potential significant ESHS related impacts and risks.

- (c) In the conduct of this work, the Consultant shall cooperate fully with relevant Government Ministries and Departments. The Client will provide the Consultant with data and services outlined above. The Consultant shall be solely responsible however, for the analysis and interpretation of all data received and for the conclusions and recommendations based thereon.
- (d) The consultant shall comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Experts and any other person.
- (e) The Consultant shall be responsible for arranging for his support staff who will not be accommodated in the multiple accommodations provided under the works contract.

6. REPORTING

6.1 Design Review Report

The Consultant shall prepare a Design Review Report three (3) months after the commencement date of the Consultancy services. This report shall include results of the review of the design, drawings, and ESIA including an Environmental Management Plan, Resettlement Action Plan (RAP) reports. The draft design review report shall be submitted to TANROADS and one copy submitted to IDA for review within two months in 6 copies. The final design review report incorporating comments and approved design improvement should be submitted in six (6) copies to the Client.

6.2 Reporting During Construction Period

6.2.1 ESHS Reports

- a) The Consultant shall provide immediate notification to the Client should any incident in the following categories occur while carrying out the Services. Full details of such incidents shall be provided to the Client within three (3) calendar days.
 - (i) confirmed or likely violation of any law or international agreement;
 - (ii) any fatality or serious (lost time) injury;
 - (iii) significant adverse effects or damage to private property (e.g. vehicle accident); or
 - (iv) any allegation of Gender Based Violence (GBV), Sexual Exploitation or Abuse (SEA), sexual harassment or sexual misbehavior, rape, sexual assault, child abuse or defilement, or other violations involving children.
- b) Ensure that contractor immediate notifications on ESHS aspects are shared with the Client immediately;
- c) Immediately inform and share with the Client any immediate notification related to ESHS incidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting; and
- d) Share with the Client in a timely manner the Contractor's ESHS metrics, as required of the

Contractor as part of the Monthly Progress Reports.

6.2.2 Inception Report

This report shall include the results of study/review of the design and contract documents, any modification or improvements deemed necessary, results of the review of the contractor's work program, any modifications thereto, status of the consultant and contractor's mobilization, ESHS Contractor requirements or other ESHS plans or documents and any other matter requiring the Client's action. This report shall be submitted in 10 copies to TANROADS one month after commencement of works contract. One copy will be sent to TANROADS Regional Manager Office – Kagera.

6.2.3 Progress Reports

- (a) The Consultant shall prepare separate monthly progress reports throughout the duration of the contract starting one month after submission of the inception report up to and including one month after substantial completion. These are to be submitted in ten (10) copies and should reach TANROADS not later than fifteen (15) days after the end of the month being reported on. One copy will be sent to TANROADS Regional Manager Office – Kagera. Failure to submit reports whether at intermediate stages or overall on specified time periods may result to imposition of liquidated damages equal to 1/1000th (one thousandth) of the value of the invoice raised payable per day of delay up to 15% (fifteen percent) of the said value of the invoice.
- (b) The format and the content of the monthly progress reports shall be as agreed with TANROADS. They will include but not limited to the following:
 - (i) Summary progress of the Works, both physical and financial;
 - (ii) Project Data including key milestones;
 - (iii) Mention of any changes on the original design;
 - (iv) Major changes of quantities compared to contractual Bill of quantities;
 - (v) Record of working units (number of equipment and labour) used for the various types of works and total number of working hours of every item of equipment and labour category.
 - (vi) Suggestions for resolving any technical and other problems including ESHS metrics which occur and those affecting the progress of the works.
 - (vii) Financial status of both works and consultancy contracts;
 - (viii) Progress charts including percentages of completion of individual main work items and overall project;
 - (ix) Weather information and charts; and
 - (x) Construction and supervision data.

6.2.4 Detailed Progress Report

When the implementation of the civil Works contract reaches a value of 60% of the initial construction contract, the consultant shall prepare and submit within one month a detailed progress report with updated cost of the civil Works contract, implementation schedules and substantiate any request related to additional funding, if such needed to full completion of the project. The report in ten (10) copies submitted to TANROADS and one copy will be sent to TANROADS Regional Manager – Kagera. The Consultant shall make an update of detailed progress report when 80% of works contract has been completed.

6.2.5 Report after Construction Period (Final Report)

- (i) The final report in ten (10) copies submitted to TANROADS Headquarter, one (1) copy to the TANROADS Regional Manager Office - Kagera; shall be submitted not later than one month after the substantial completion of construction Works. The report should contain sufficient details to enable TANROADS to know the type, quality and quantity of materials used and all information which together with the as built drawings (original and 6 copies) and specifications will help TANROADS in future maintenance of the road.
- (ii) The report shall also include a summary of major difficulties encountered during construction and the means employed to overcome them, changes (if any) made in the original designs, modifications to specifications and conditions of contract, all variation orders, assessment of claims by the contractor, utilisation of provisional and price variation and physical contingencies sums, cumulative monthly payments to the Contractor, by date and number of payment certificate and break down into foreign and local currencies and including a similar payment schedule for supervision services, and any significant unmitigated environmental and social impacts. The details of the overall project costs (construction and supervision) with justification for any significant differences with the original shall be given in the final report. The report shall include a separate volume on proposed future maintenance activities for the road including related to environmental and social aspects.
- (iii) Upon issuance of the defects liability and the final payment certificates, the Consultant shall prepare within 30 days a Final Completion Report and submit ten (10) copies to TANROADS and one (1) copy sent to the TANROADS Regional Manager Office - Kagera.

7. PAYMENTS TO THE CONSULTANT

7.1 Payments to The Consultant During the Design Review Services

The Consultant shall build up the costs for carrying out the assignment using the forms provided in the Request for Proposal (RFP).

Payment (Lump-sum) under Design Review shall be made according to the following schedule:

- Twenty (20) percent of the lump sum amount shall be paid upon submission of an acceptable Inception Report,
- 40% of Lump sum amount to be paid to the Consultant after submission of acceptable Draft Final Design Review Report, drawings, and ESIA including an Environmental Management Plan, Resettlement Action Plan (RAP) reports and revised Cost Estimates,
- 40% of Lump sum amount to be paid to the Consultant after submission of the Final Design Review Report, drawings, and ESIA including an Environmental Management Plan, Resettlement Action Plan (RAP) reports and revised Cost Estimates.

Payment of all Provisional sums shall be supported with relevant confirmation attachments.

7.2 Payments to the Consultant During Construction Supervision Services

Payments will be made monthly for undertaking the assignments described in these Terms of Reference to cover fees for approved personnel and reimbursable.

The costs shall be quoted to cover the Consultant's performance of his duties described above in accordance with the following:

7.2.1 Advance

An advance payment of not more than **15%** of the total cost (excluding contingency allowance) may be provided to cover initial mobilization costs upon submission of acceptable Bank guarantee.

The advance payment shall be recouped by deductions from the Consultant's first **five** invoices in the same currencies in which the advance was made at a rate of **20%** of the advance payment.

7.2.2 Reimbursable Expenses

Reimbursable expenses, which cover all out of pocket expenses, will be made against acceptable documentary evidence, as agreed with the Client.

7.2.3 Payment certificates

Payment invoices will be subjected to **5%** retention to a maximum of **10%** of the contract sum which will be released after the Consultant has furnished the final completion report and as-built drawings.

7.2.4 Other payments

No other payments will be made to the Consultant under this contract.

8. DURATION OF THE ASSIGNMENT

The timeframe for the execution of this assignment is **27 months** period for the Design review (3 months) and Supervision for rehabilitation of road works (24 months) and **12 months** of Defects Liability Period. The engagement shall be deemed to have started on execution of the Agreement for the Services and shall terminate when the final inspection of the works at the completion of the Defects Liability Period has been done and the Consultant has fulfilled all his obligations.

9. LEAVE

The Consultant's expatriate staff engaged in the supervision of the construction Works will be entitled to 30 days leave per calendar year. In connection with leave, the expatriate staffs are entitled for one round trip international travel per year, for which the Consultant will be reimbursed. Person-month during annual leave will not be paid.

ANNEX 1: ENVIRONMENTAL AND SOCIAL POLICY

1. Goal

The overall goal of this Policy is to set out responsibilities regarding the protection and management of the environment, social, safety and health issues in the development and maintenance of roads and airports projects. It spells out the guiding principles, gives out the policy framework and policy implementation strategies.

2. Objectives

To achieve the goal the policy has set out seven objectives.

- a) To develop higher level of environment, social, safety and health management.
- b) To maintain environment, social, safety and health management issues into TANROADS' Development Plans and programmes at all levels.
- c) To provide practical guidance on safety, health and environment at work places with a view to:
 - o Prevent accidents, diseases and other harmful effects on the health of TANROADS' employees and other road stakeholders arising from working condition;
 - o Ensure that the responsibility for safety, health and environment management is understood and remains priority for all TANROADS employees and all road stakeholders;
- d) To provide a unifying vision that will guide the actions of TANROADS's management, employees, shareholders, customers, contractors, services providers and suppliers.
- e) To ensure that project affected people receive resettlement assistance, so that their standards of living, income earning capacity and production levels are improved.
- f) To promote research information generation and information on environment and social management, safety and health.
- g) To set up a mechanism for monitoring the Agency environment and social management, safety and health performance.

3. Guiding Principles

- a) TANROADS recognizes that sustainable development is a fundamental aspect of sound business management and that the pursuit of economic growth and a healthy environment are inseparably linked. TANROADS will consider the impacts of our activities on the health and safety of the entire communities and take action in our local surroundings.
- b) TANROADS count that the environment offers life support systems and value human life above all else and will manage risks accordingly. There will be no task that is so important to damage the environment is justified.

- c) TANROADS upholds the principle that every person in Tanzania is entitled to a clean and health environment and has a responsibility of safeguarding and enhancing the environment and ensure good occupational health and safety.

4. Policy Rationale

The motive behind this Policy is to have safe working environment with a minimum interruption as a result of working conditions. The intention is to develop adequate capacity for coordination and cooperation for a comprehensive environmental, social, occupational health-safety and road safety management among key players at all levels of TANROADS employees and others stakeholders involved in the road sub-sector. This is possible by mainstreaming environmental, social, occupational health- safety and road safety management activities as integral part of TANROADS core business. Mitigation and prevention measures are essentially a development process, which cannot be undertaken without properly defined Policy framework that will provide a unifying vision that will guide the actions of TANROADS and stakeholders.

5. POLICY COVERAGE

5.1 Environmental Issues

(i) Environmental Impacts

There is a growing concern in Tanzania and at global level that there are many forms of development activities trigger damage to the environment. Development activities have the potential to damage the resources upon which the economies are based. It is globally now accepted that the proposed development projects must be economically viable, socially acceptable and environmentally sound. In particular the road and airport development projects have significant impacts on the natural environment. The impacts arising from road and airport construction activities includes, land degradation, pollution (of water, soil and air), involuntary resettlement loss of vegetation cover, loss of biodiversity and soil erosion.

(ii) Sensitive Ecosystem

- a) The human activities including road development in a sensitive ecosystem possess threats to biodiversity found in the protected areas, wetlands, forests, and other areas of conservation concern or legal protection.
- b) The emissions of pollutants and generation of solid and liquid wastes where the road traverses in these ecosystems have effects to the flora and fauna in the ecosystem.
- c) TANROADS understand the importance of designing and implementing the appropriate mitigation measures for protection of sensitive ecosystems against negative impacts caused by construction activities within the areas where road and airport projects are implemented.

(iii) Climate Change

- a) TANROADS recognizes that climate change associated with increased frequency and severity of extreme weather events can affect road and airport infrastructure. Extreme weather events, such as heavy rains, flooding, high temperatures and changes of water table causing pavement deterioration, slope instability, landslides, flooding and damage of drainage systems and at watercourse crossings.
- b) Climate change effects increases the cost of maintaining road and airport infrastructure. This analysis estimates the damages of climate change in terms of increased costs to maintain current levels of service (i.e. adaptation costs). Without adaptation, climate change could render many road corridors and airports unusable and leading to huge economic damages.
- c) In the country, adaptation costs associated with the effects of higher temperatures on paved road corridors are estimated to increase over time. Changes in precipitation patterns are projected to increase the costs associated with re-grading the unpaved road corridors.
- d) The climate change effects which result into unexpected floods have contributed to the damage of the roads, airports, drainage systems (i.e. bridges and culverts) which ultimately results into deterioration and premature failures of the roads and airport infrastructures.
- e) TANROADS also recognises that emissions generated through operations of vehicles, generators, construction equipment and plants through fuel consumption and combustion contribute to the Greenhouse effects and ultimately climate change.
- f) The Agency endeavours to promote a robust and innovative designs, undertake risk management, and appropriate measures to promote resilience to adverse effects caused by climate change and associated weather stresses.

5.2 Social Issues

(i) Resettlement

- a) The roads and airport development projects in most cases have necessitated the involuntary resettlements to the surrounding communities. When involuntary resettlement is unavoidable, the Project Affected Persons (PAPs) have to be displaced to give way to the road development especially where there is re-alignment of a road. In so doing the PAPs are forced to change their lifestyle and economic base they used to enjoy.
- b) The resettlement caused by roads and airports projects is associated with various impacts including loss of land: (i) Agricultural land for cultivation of food and cash crop, (ii) Residential land, (iii) Public land for installation of infrastructures (such as water pipes, electric poles and cables, communications cables, etc.), and (iv) Land owned by

communities and institutions (village, mosques, churches, schools, government and private houses).

- c) The resettlement also involves loss of structures including office buildings, residential houses, worship buildings (i.e. mosques and churches), school and hospital buildings which belong to individual persons, private and public institutions. Other impacts include, destruction of public utilities (e.g. drainage, water supply and sewerage systems; etc.), loss of livelihoods, loss of formal and informal businesses (e.g. warehouses, large businesses, vendors, kiosks, barber shops, beauty shops, restaurants, market premises, etc.), loss of access to communal resources and associated loss of livelihood, loss of economic assets; loss of other individual and community assets such as water wells, graves/grave yards, ritual sites, etc.
- d) There may be some cases of physical resettlement associated with potential impacts including loss of structures such as houses; decreased land lots to local community; disruption from construction of new homes and facilities in local community; separation of family members and/ or disruption to family cohesion and social networks; and strain on education and health services in local community.

(ii) Gender and Vulnerable People

- a) In many cases the implementation of infrastructure projects marginalises gender and vulnerable people in terms of employment opportunities in construction works. Also during the implementation of Resettlement Action Plan (RAP) issues related to gender and vulnerable groups of people are sometime not given special consideration. In most cases vulnerable people have not been supported to improve their social welfare.
- b) Favourable actions to promote gender equality and participation by persons with disabilities and the elderly as well as other vulnerable groups of people in roads and airports projects is very important. Currently, there is unequal access to information particularly about HIV/AIDS, STIs and TB; unequal access to health facilities in the communities, unequal access to schools and access to job opportunities.
- c) It is disheartening that roads and airport construction activities have been associated with increased rates of gender violence, sexual harassment and child labour practices.
- d) TANROADS recognise that these phenomenon calls for safeguard tools to be developed and implemented in road and airport construction projects from commencement of the project to ensure that these inhuman actions are not happening at the project sites. Safeguard tools will help to reduce gender violence in the communities and promote participatory decision-making processes at community, Ward, District, Regional and National levels.

(iii) HIV/AIDS, STIs, COVID 19, Tuberculosis and Non-Communicable Diseases

- a) The construction sector is one of the most HIV and AIDS vulnerable sector in the formal economy. It is increasingly being adversely affected by depletion of skills

caused by HIV and AIDS infection given their work circumstances. Due to its nature, the construction sector attracts a large number of immigrant labourers from outside and inside the country.

- b) TANROADS is supporting the national efforts on the fight against HIV and AIDS. In so doing, the Agency has developed a specific HIV and AIDS Policy at Work Place to ensure effective responses on implementation, monitoring and evaluation of HIV and AIDS interventions. HIV and AIDS is a workplace phenomenon not only because it has the potential effects to labour and productivity but also because the workplace has a vital role to play in the wider strategies to limit the spread and effects of the pandemic.
- c) Roads and airports projects involve mobility and temporal migration of workers, which are documented to be linked to increased prevalence of HIV and AIDS. The Agency plans and implements preventions programs against HIV and AIDS and Sexually Transmitted Infections (STIs), targeting construction workers and the local communities they interact with and all vulnerable groups of people.
- d) Delivering civil works projects requires the assembly of a workforce, together with suppliers and supporting functions and services, and may lead to congregations of large numbers of people. TANROADS is supporting the International efforts on the fight against COVID-19. To achieve this the site Teams should work with TANROADS to ensure that projects are taking adequate precautions to prepare for an outbreak of COVID-19. In so doing, the Supervising Consultant and Contractor should advice of their healthcare team and their health and safety specialists to put in place measures to minimize the chances and contain the spread of the virus as a result of the movement of workers including quarantine and self-isolation measures, ensure their sites are prepared for an outbreak, and develop and practice contingency plans so that personnel know what to do if an outbreak occurs and how treatment will be provided. These preparation measures should be communicated not only to the workforce but also the local community, to reassure them that the movement of staff is controlled, and to ensure that stigma or discrimination is reduced in the event of an outbreak.

(iv) Labour and Working Conditions

TANROADS respect fundamental rights of workers and employment under Tanzania Labour Law and ILO Conventions. This includes rights related to specific working hours, wages, overtime allowances, leave compensation, benefits, organization and collective bargaining, non-discrimination and equal opportunity, child labour, and forced labour.

(v) Culture Resources and Anthropological Values

TANROADS recognizes the value and importance of cultural heritage including physical and non-physical cultural resources as one of the critical elements for sustainable developments. Cultural resources are potential for national economy as sources of revenue from tourism activities.

TANROADS understands that roads and airports construction activities might affect the potential physical cultural or historical sites of national importance.

5.3 Roads Safety

- a) Road transport is essential to the social and economic life and development of Tanzania. However, the current trend of loss of life and properties associated with road accidents in Tanzania is unacceptable.
- b) Road safety has increasingly become an issue of major concern in Tanzania as vehicles have increased on its road network. Ironically, road safety in Tanzania has deteriorated when the condition of the national road network has improved. Although a trend of road crashes in Tanzania is showing a reduction, road crashes are still the challenge which need to be addressed holistically.
- c) According to the Traffic Police reports from 2013 to 2016 the occurrences of road crashes is diminishing whereby in 2013 there were about 23,842 with 4,002 fatalities and 20,689 injuries compared to year 2016 whereby 9,856 road crashes were recorded with 3,256 fatalities and 8,958 injuries. Main factors of road crashes in Tanzania environment as to other countries are three, however the percentage is as follows; human error (76%), vehicle engineering condition (16%) and road condition (8%).
- d) Road accidents now cost the global economy about US\$ 500 Billion per year. In 2006, the socio-economic costs to Tanzania were estimated in monetary terms to be TSH. 208 billion per year. These costs included lost production, medical expenses, and damage to property, administrative costs, pain, grief and suffering.

5.4 Occupational Health and Safety

- a) The Agency project activities may present risks to health and safety of workers, communities, and the general public.
- b) The deterioration of occupational health and safety at working place deters the performance and life of workforce.

6. STRATEGIES FOR POLICY IMPLEMENTATION

6.1 Environmental Issues

(i) Environmental Impacts

- a) The Agency will conduct Environmental Impact Assessment to foresee the environmental impacts which may arise from the implementation of the road and airport projects and propose mitigation measures to prevent and minimize the predicted and identified impacts.

- b) The Agency shall prepare and monitor the implementation of the Environmental Management Plan during the construction works to ensure compliance by the Contractor.

(ii) Sensitive Ecosystem

- a) The Agency shall take all necessary measures to protect and/or minimize impacts on environment resources, to prevent and/or minimizing pollution, and to protect biodiversity, with special regard to sensitive ecosystems such as protected areas, wetlands, forests, and other areas of conservation concern or legal protection.
- b) Sensitive ecosystems such as natural forests and wetlands shall be conserved throughout project works by development and implementation of special management plans. The Agency will require contractors to ensure that the necessary plans or procedures are prepared and implemented. Contractors will be required to control emissions of pollutants and to manage wastes, including spoil, as required by applicable standards.
- c) The Agency shall take a proactive approach to protect, conserve and manage the natural environment and improve social conditions of communities in its road corridors and network.
- d) The Agency shall collaborate with other Government agencies and stakeholders to identify, design and implement activities to enhance Environment and Social conditions as part of its projects and will require Contractors participation as appropriate.

(iii) Climate Change

- a) The Agency incorporate necessary measures to address climate related risks in designing and implementing road projects.
- b) The Agency shall promote robust and innovative designs, undertake risk management, and appropriate measures to promote resilience to adverse effects caused by climate change and attendant weather stresses.
- c) The Agency shall ensure conducting of regular and timely vehicles maintenance and phase out exhaust vehicles for the dual benefits of reduced fuel consumption and lower exhaust emissions.
- d) The Agency will ensure that Contractors fully considers purchasing new equipment for road works with energy efficiency.

6.2 Social Issues

(i) Resettlement

- a) The Agency shall minimize the need for involuntary resettlement whenever possible. When involuntary resettlement is unavoidable, TANROADS will ensure that property losses are compensated, and that livelihoods are restored to at least pre-project levels as required by applicable Law and standards. The Agency will also require preparing the RAP that will give guidelines to protect PAPs and other stakeholders as mitigation of adverse social impacts caused by the road projects.
- b) The Agency, using the Land Acquisition process and applicable laws will develop and implement measures to minimize the impact of involuntary resettlement, including identifying and evaluating alternatives, sensitizing and/or providing support to help affected people, re-establishing livelihoods, providing allowances to cover costs of moving, and replacing and enhancing community infrastructure and facilities, the Agency will ensure an effective grievance redress mechanism is made available to all affected people. This however will not apply to illegal road reserve encroachment.
- c) A thorough consultation with project affected persons will take place. This is to ensure that their rights and interests are taken care of. For this to take place, their voices will be made clear via the formation of public consultation forums. Consultation will be done before and during project implementation.
- d) Baseline data for resettlement of people and affected properties including the inventory of landholdings and immovable/non-reprieveable improvements and a census detailing household composition and demography and other relevant socio-economic characteristics will be established.
- e) A fair and equitable set of compensation options will be negotiated with project affected persons. Compensation will be paid for structures, land, graves and trees that are disturbed accordingly to set rates derived from market value comparable as started by Land Act, No 4 & 5 of 1999 and Its Regulation of 2001.
- f) When practical, the employment and sub-contracting opportunities that arise from a project will be made available to the affected population and project surrounding communities.
- g) The Agency shall provide an open, transparent and fair process by which staff, project affected people, and other stakeholders can express concerns and grievances and be sure they will be considered and resolved in a timely manner.
- h) The Agency will establish and implement a Grievance Redress Mechanism that is available to any person who wishes to express concerns or comments free from retribution. The Mechanism will address any such grievances in a timely manager and will report back on the resolution.
- i) The Agency shall provide guidelines and funds to enable formation of Grievance Redress Committee on district and ward level to perform their duties and responsibility on conflict

resolution and retribution resulted from involuntary resettlement. This committee will require timely reporting to TANROADS of grievances and resolutions.

(ii) Gender and Vulnerable People

- a) The Agency shall provide an enabling where women, men, and vulnerable people, have equal opportunity to participate in, and benefit from projects.
- b) The Agency will implement specific measures to ensure that gender-specific issues are taken into consideration in the different stages of the projects management cycle. The Agency, its contractors and consultants shall be required to develop and implement specific measures and arrangements for the promotion of gender equality, identifying how to incorporate gender concern into road projects activities and ensuring that adequate resources and facilities are earmarked for that purpose. Such measures may include favourable actions to promote gender equality, and participation by persons with disabilities, the elderly, and vulnerable people and groups.
- c) The Agency will ensure that contractors, sub-contractors and consultants are aware of this policy, and shall required from them strict measures (including enacted worker codes of conduct) for ensuring compliance with the Policy by all workers, whether local or foreign. The Agency shall ensure zero tolerance towards sexual abuse and sexual harassment of community members and workers by its suppliers and services providers. Every project shall include clear and publicized procedures for reporting, recording and handing of any such incidents.

(iii) HIV/AIDS and Non-Communicable Diseases

- a) The Agency shall establish measures to reduce the risk of HIV transmission and to mitigate the effects of HIV and AIDS associated with roads projects.
- b) Roads and airports projects involve mobility and temporal migration of workers, which are documented to be linked to increased prevalence of HIV and AIDS. To help mitigate such risks, contractors shall be required to engage with service providers as will be advised by the Agency in planning and implementing a prevention program against HIV and AIDS and STIs, targeting construction workers and the local communities they interact with and all vulnerable groups of people.

(iv) Labour and Working Conditions

- a) The Agency shall ensure that terms of employment and working conditions of all workers who support TANROADS activities and projects meet the requirements of the National Labour Legal Framework and the International Labour Organization (ILO) conventions to which Tanzania is a signatory.
- b) The Agency will provide working conditions and terms of employment in accordance with legal requirements. The Agency respects fundamental rights of workers under Tanzania law and ILO Conventions, including rights related to hours of work, wages, overtime, leave compensation, benefits, organization and collective bargaining, non-discrimination and

equal opportunity, child labour, and forced labour. Agency will require its contractors, including their sub-contractors and primary suppliers, to take all necessary measures to ensure that workers have proper.

(v) Culture Resources

The Agency recognizes the value and importance of cultural heritage, including physical and non-physical cultural resources, as critical elements of sustainable developments. The Agency and its contractors, shall take all necessary measures to identify tangible and intangible cultural heritage that may be affected by construction activities and to ensure that procedures are in place to protect and conserve cultural heritage to the extent possible and as required by applicable standards and Laws.

6.3 Roads Safety

- a) The Agency shall ensure that the contractor prepare Traffic Management Plans (TMP) prior to the commencement of road construction works to ensure smooth traffic flow and improve safety of road users, adjacent communities especially children, the elderly and people with disabilities during construction period. This plan shall include but not limited to method of protection of communities, give details of operation hours, types and number of safety devices, details of the location and design of diversion roads; temporary structures, barricades, temporary signs, flagmen, signals and other physical features necessary to accommodate traffic flow during construction;
- b) The Agency's supervision team shall ensure contractors and its subsidiaries erecting temporary speed calming measures, temporary speed limit signs to the highly populated areas such as at road section under works, approach to trading centres, villages, school premises and health centres to control vehicles speed for safety of other road users;
- c) The Agency's supervision team shall ensure that contractors and subsidiaries conduct induction training on recruitment of Machines' operators and haulage drivers on accidents risks and control measures on traffic operations plan, construction sequencing, public information announcements, use of traffic control devices and other activities designed to minimize traffic disruption;
- d) The Agency's supervision team shall ensure that road users and communities living/working along the project roads access their home/office smoothly by providing proper access road and crossing facilities/slabs to deep open drains to be established through adequate consultation with the local communities with close follow up by Supervision Consultant;
- e) Road designs shall be made with the highest consideration for the safety of the roads users.

6.4 Occupational Health and Safety

- a) The Agency shall ensure that during road construction, the contractors are in compliance with OSHA Act requirements.

- b) The Agency shall ensure provision and maintenance of a healthy and safe work environment and safe systems of work for its employees and those working in projects.
- c) The Agency shall take all necessary measures to protect the health and safety of local communities and roads users throughout the roads project cycle, with particular concern for those who are disabled, elderly, or otherwise vulnerable.
- d) The Agency project activities may present risks to health and safety of workers, communities, and the general public. Therefore, the Agency and its partners and contractors shall ensure that all activities are conducted in a manner that protects the health and safety of workers, communities, and the general public. Contractors shall be required to adopt policies and to provide safe tools, materials, equipment, and processes for work and rest that meet or exceed National and International requirement, as well as best practices, for occupational and community health and safety.

6.5 Procurement and Contracting

- a) As part of its ongoing commitment to improve the environment and the quality of life of Tanzanians, the Agency will seek to reduce the environmental impacts of its operations and promote environmental stewardship by integrating environmental performance consideration in the procurement process.
- b) The Agency shall encourage and prefer Eco-friendly products which are more power efficient, vendors who use recycled packaging materials, printing papers made from planted and renewable forests, low-energy consumption desktop configuration, laser printers with GREEN functionality, servers with low voltage CPUs and low wattage storages, server racks with efficient cooling system and Eco-friendly procurement consideration for other Consumables.
- c) The Agency will strive to embrace where feasible Green Procurement where products and services are less harmful to the environment (land, air and water) and all species including humans that depend on environment for survival are procured.

6.6 Road Beautification

- a) TANROADS will promote tree planting at the highways to beautify and improve scenic view along the road. The planted trees will also act as carbon sinks while beautifying the essential to civilized life.
- b) The Agency will plant appropriate species of trees and flowers on the road reserves and median of the road.
- c) Tree planting during construction of new roads will be a requirement and this will be provided for in the bidding documents.
- d) The Agency will continually explore leverage partnership opportunities with governments departments, NGOs and Community Based Organizations for maintenance of trees and flowers on the road reserves.

7. POLICY IMPLEMENTATION TOOLS

7.1 Legislative and Regulatory Compliance

- a) TANROADS will strive to meet and/or exceed applicable laws and regulations. Environmental Regulations, laws and code of practice will be regarded as setting the minimum standards of environmental performance.
- b) The agency will monitor emerging regulatory and legislative policy changes and/or initiatives and facilitate their incorporation and implementation within the Agency's activities.

7.2 Environmental and Social Impact Assessment

- a) Environmental and Social Impact Assessment will be conducted to determine whether or not a project will have any adverse impacts on the environment as stipulated in the National Environmental Management Act of 2004 and International Policies and Guidelines including World Bank Safeguard Policies, African Development Bank Safeguard Policy, European Union, JICA and other development partners' requirements.
- b) The Agency will ensure that Environmental and Social Impact Assessment is carried out and required approvals obtained before a project is implemented.
- c) In carrying out Environmental and Social Impact Assessment, the Agency will ensure that public meetings are held with affected and interested parties to explain to them the project, its social, economic and environmental impacts, and to receive oral or written comments and objections to any proposed project.
- d) An Environmental and Social Management Plan (ESMP) has to be prepared detailing project activities, impacts, mitigation measures, time schedule, costs, responsibilities and commitments proposed to minimize environmental impacts or activities, including monitoring and environmental audits during implementation and decommissioning phases of a project. The plan has also to indicate the parameters to be measured and measurable indicators to be used in monitoring of a project.

7.3 Environmental, Social, Health and Safety Code of Conduct

The Agency shall prepare Environmental, Social, Health and Safety Code of conduct to form part of the bidding documents during tendering and which shall also form part of contract to ensure Contractor's compliance.

7.4 Environmental, Road Safety, and Occupational Health and Safety Audit

- a) From time to time, the Agency will carry out auditing to evaluate activities and processes of ongoing project to determine how far the activities conform to the approved Environmental and Social Management Plan (ESMP), road safety and Occupational Health and safety requirements
- b) The audits will be conducted in accordance with the provisions of relevant national Laws, Policies, Regulations and guidelines.

7.5 Environmental and Social Monitoring

- a) Environmental monitoring will be based on the agreed recommendations of the Environmental and Social Management Plans within the Environmental and Social Impact Assessment reports.
- b) The Agency shall monitor environmental phenomena with a view to making assessment of any possible changes in the environment and their possible impacts as a result of ongoing projects.
- c) Where necessary and feasible, the Agency will conduct measurements of environmental changes that have occurred during project implementation.
- d) Within 30 days of the order to commence work, the Contractor shall prepare, submit and thereafter implement a project specific overall Environmental and Social Management Plan (ESMP) for the project and its operations, relating to the approved project Environmental and Social Impact Assessment. The plan shall contain the following specific plans:
 - i. Erosion and Sediment Control Plan (ESCP) to ensure that potential soil erosion and sediment transport to nearby surface-water resources is addressed and protect water quality during road or bridge construct.
 - ii. Noise and Ground Vibration Control Plan (NGVCP) to reduce the possibility of adverse noise and vibration impacts to human health.
 - iii. The Contractor shall prepare and implement a specific Occupational Health and Safety Management Plan which should identify risks and mitigation measures. The plan should provide guidelines on how to deal with environmental emergencies and accidents.
 - iv. HIV/AIDS Control Plan to provide guidelines on how HIV/AIDS awareness and sensitization will be carried out.
 - v. Quarry and Borrow Pits Operation and Rehabilitation Plans that describe clearly the way quarries and borrow pits to be established for road construction will be operated in terms of excavation procedures, maximum depth, distances from settlements and the road itself. Also the Plan shall elaborate on how the open borrow pits and quarry sites will be restored at least to its original state upon its completion.
 - vi. Environmental monitoring will be carried out by Works Supervision Engineer during construction or rehabilitation at agreed interval. Environmental assessment Monitoring reports will be submitted to the Agency. The reports will be reviewed and action taken on non-conformances. The Agency will be responsible for regular Environmental Monitoring during project operation.

7.6 Stakeholder Engagement and Disclosure of Information

- a) The Agency shall work in cooperative partnerships with road users, transport providers relevant authorities, contractors, and local communities. The Agency shall engage with and listen to affected persons and organisations throughout all its activities, and will be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people.

- b) The Agency shall develop and implement mechanisms for attaining effective stakeholder engagement, including creating positive attitude, knowledge, providing information and creating awareness. The Agency shall require that contractors develop and implement community engagement programs to complement the Agency's own mechanisms. One goal of these activities will be to foster, dialogue among stakeholders, the Agency, and /or the contractor in order that stakeholder views can be understood, considered, incorporated where possible in the road projects, and clear feedback provided regarding the action taken.
- c) The Agency shall agree on service standards or memoranda of understanding with other agencies and governmental bodies with the aim of streamlining their respective activities.

8. POLICY ROLES, REVIEW AND IMPLEMENTATION

8.1 Policy Dissemination and Capacity Building

- a) The Agency will communicate this Policy of responsible environmental management to all employees by providing the necessary training in all applicable procedures and practices, by informing suppliers and contractors of our environmental Policy and encouraging them to adopt effective environmental management practices, and by soliciting input from form employees, suppliers and customers on meeting our environmental objectives.
- b) TANROADS will disseminate environmental information to employees and other stakeholders through newsletters, posters, internal mails, training sessions and team talks/meetings.

8.2 Environmental Reporting

- a) The Agency shall implement and enforce procedures for the accurate and complete reporting of all environmental information and environmental policy implementation achievements.
- b) The Agency will conduct annual self-evaluation of our performance in implementing this Policy and in complying will all applicable laws and regulation.

8.3 Environmental Training and Awareness

- a) TANROADS will ensure that the entire staff receives appropriate training on the requirement of implementation of the commitments in this Policy.
- b) The Agency will establish a training program for all staff on environmental issues. Training and environmental awareness creation will on regular basis.
- c) Environmental awareness training session for contractors will be carried out prior to any work commencing on site, with target audience being all project personnel.

- d) The Agency will ensure that officials in key management, procurement services delivery and oversight positions, have the necessary training to support the objectives of the Policy.

8.4 Roles and Responsibilities for Policy Implementation

- a) The implementation of the Policy is the responsibility of every TANROADS' Employees, Contractors, Consultants, Suppliers' and other road users.
- b) The Agency's Management shall be responsible for administering and monitoring the implementation of this Policy.
- c) The Management and Supervisory staff shall be responsible for implementing and maintaining environmental management systems necessary to sustain this Policy.

8.5 Policy Review

- a) The Agency shall ensure adequate and regular monitoring to the effect of successful implementation of the policy.
- b) The Agency's environmental, social; safety and health policy will be reviewed after every five years taking into account the changes, progression and experience in the implementation of the policy. The Agency will collect data and regularly report on its performance in implementing this Policy.

8.6 Resources for Policy Implementation

- a) In order to ensure that the strategies provided in this policy are achieved, TANROADS will allocate appropriate resources to ensure an effective implementation. Environmental Management in the road sector would be economical, social and environmental beneficial and will contribute to improve the road network quality.
- b) The Agency will maintain adequate human resources to implement the commitments of this Policy and the Environment and Social Management System, including Environment and Social Impact Assessment and oversight of contractor performance. The Agency will sensitize and train as necessary to ensure there is sufficient capacity for implementation of this Policy.
- c) The Agency will ensure provision of adequate financial resources for managing the Environment and Social aspects of its project development and maintenance activities, including resources for assessments of Environment and Social Impacts, compliance monitoring and auditing of contractors activities. The Agency will require contractors to allocate the necessary financial resources for implementing applicable Environment and Social safeguards in their projects.
- d) The Agency has a clear commitment to harnessing environmental resources in a sustainable manner and minimizing environmental damage. It pledges to prevent actions which have adverse environmental impacts using various strategies provided in this Policy.

10. CODE OF CONDUCT

1. This ESHS code of conduct shall be adopted and embodies the commitment of the Contractor (including Sub-Contractors and day workers) to conduct construction related activities in accordance with all applicable laws, rules and regulations with high ethical standards.
2. The Contractor and its subsidiaries shall comply with this Code of Conduct and in a manner consistent with high ethical standards. Failure to observe this Code of Conduct may subject you to disciplinary action by the firm, up to and including termination. Furthermore, violation of this Code may also be violation of the law and due result in civil and /or criminal penalties for you, your supervisors and/or the firm.
3. The Contractor employees, Managers and Directors shall take all responsible steps to prevent a violation of this Code, to identify and raise potential issues, and to seek additional guidance when necessary, if you have any question's regarding the best course of action in a particular situation on this Code you should therefore promptly contact the project proponent for assistance. In principle this Code of Conduct is an extraction of the Environmental Code of Practice for Road Works 2009. In this regard, the implementation of this Code of Conduct should be in consistency with the Environmental Code of Practice for Road Works of 2009.

Minimum Requirement of Code of Conduct

4. This Code of conduct identifies risks associated with: environmental and social management, resettlement, labor influx, spread of communicable diseases, sexual harassment, gender based violence, criminal behavior, crime, child labour, and safety. The Code of Conduct contains obligations to all project staff (including sub-Contractors and day workers) in minimum specific requirements as follows:
 - a) The Contractor and its subsidiaries shall comply with applicable Laws, Rules and Regulations of the jurisdiction;
 - b) The Contractor shall prepares specific Health and Safety Management Plan (HSMP), Specific Environmental and Social Management Plan (ESMP), HIV/AIDS awareness programme, Road Safety Awareness Programme, Traffic Management Plan (TMP), Occupational Health and Safety Awareness Programme of the proposed road project prior to the actual execution of the construction works based on the Design and Environmental and Social Impact Assessment Reports;
 - c) The Contractor and its subsidiaries shall comply with applicable health and safety requirements (including wearing prescribed Personal Protective Equipment (PPE), preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment);
 - d) The Contractor and its subsidiaries shall provide temporary speed calming measures, temporary speed limit signs to the highly populated areas such as at road sections under construction, approach to trading centers, villages, school premises and health centers and ensure that drivers observe speed limits for safety of other road users;
 - e) The Contractor and subsidiaries are required to review the road levels before construction starts in order to blend aesthetically the horizontal and vertical alignment of the road with reference to the natural ground levels in order to allow communities to access their homes social amenities and businesses smoothly by providing proper access roads and crossing slabs to deep open drains to avoid storm water flowing into adjacent houses;
 - f) The Contractor and its subsidiaries are required to avoid unnecessary clearance of trees and

vegetation, avoid conflicts of water resources use with respective communities.

- g) The Contractor and its subsidiaries are required to make every effort to avoid water, air, soil pollution, land degradation and any related harmful that can damage the environment. Also all construction activities should strive to attain the high environmental standards;
- h) The Contractor and its subsidiaries are required to ensure safety of its workers and experts by providing them the required Personal Protective Equipment (PPE) to ensure safety. The standard safety signs and road marking should be provided during and after completion of road construction activities to ensure safety for all road users;
- i) The Contractor and its subsidiaries are required to provide sanitations facilities along the construction corridor (for example, to ensure workers use safe drinking water, specified decent sanitary services provided by their Client and not open areas);
- j) The Contractor and its subsidiaries after completion of construction activities are required to landscape and reinstate all the damaged areas through tree and grass planting to control soil erosion as stipulated in the "Environmental Code of Practice for Road Works, 2009". Among others, such damaged areas are borrow pits, quarry sites, road diversion, stockpiled material yards, workshop, crusher sites, batching plant, asphalt mixing plant, water dams or reservoir, waste dump area and used fresh/fuel oils storage areas and campsites along the construction corridor.
- k) The Contractor and its subsidiaries are prohibited to practice any kind of discrimination (for example to job seekers on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction);
- l) The Contractor and its subsidiaries shall adhere to the labour laws during labour recruitment to ensure skilled and unskilled laborers are given specified work Contracts, registered with National Social Security Schemes and contribute to "Pay As You Earn (PAYEE)" tax;
- m) The Contractor and its subsidiaries are required to interact with the community members (for example, to convey an attitude of respect and non-discrimination);
- n) The Contractor and its subsidiaries are prohibited of the sexual harassment (for example, to prohibit the use of abusive language or filthy behavior, in particular towards women or children, that is sexually provocative, demeaning or culturally inappropriate);
- o) The Contractor and its subsidiaries are prohibited to conduct any violence or exploitation (for example, the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliation, degrading or exploitative behavior);
- p) The Contractor and its subsidiaries are required to protect children (including prohibitions against child labor, abuse, defilement, or otherwise unacceptable behaviors with children, and ensuring their safety in project areas). A *"child" / "children" means any person(s) under the age of 18 years;*
- q) The Contractor and its subsidiaries are required to avoid conflicts of interest (such that benefits, contracts, or employment or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection);
- r) The Contractor and its subsidiaries are required to protect, provide safe equipment's and proper use of construction properties found along construction corridor and campsites (for

example, to prohibit theft of construction equipment and material, carelessness or waste);

- s) The Contractor and its subsidiaries are prohibited to demolish or relocate any affected properties followed by the construction corridor prior to effecting compensation to the Project Affected Persons (PAPs);
- t) Non-retaliation against workers who report violations of the Code, if that report is made in good faith;
- u) A copy of this code shall be displayed in the Engineer's Office; and
- v) All workers and Contractor's Experts are responsible to read, accept and sign the requirements of this Code of Conduct as condition of employment and any violation of this Code can result to serious contractual measures to be taken including contract termination, dismissal, or referral to legal authorities.