TERMS OF REFERENCE

LESOTHO INTEGRATED TRANSPORT, TRADE AND LOGISTICS PROJECT (LITTL-P)- (P502125)

Consulting services for the Design, Tender Documentation, Pre-Contract Service, construction supervision and Post Contract Services for spot improvement along A1 Corridor road from Maqhaka to Ha- Malesaoana road Project (+/-90km)

1.0 BACKGROUND:

The Kingdom of Lesotho is a land-locked country by the Republic of South Africa (RSA) at a size of about 30,500 km² and a population of about 2 million. The country's fortunes are inherently tied to RSA, which provides Lesotho with access to global markets, its migrants with livelihoods, and influences its national currency, the Loti, which is pegged 1:1 to the South African Rand. The country is characterized by extremely mountainous terrain over approximately two thirds of its area, in which population density is relatively medium. The development of the country's transport infrastructure in the remote mountain regions (such as Thaba-Tseka), is part of the National Strategy to reduce poverty by promoting economic growth and improving access to socio-economic services such as Agriculture, education, health, social welfare, and administrative services. Improving access for major population centers to key border posts and supporting logistical infrastructure to develop productive sectors in lagging regions is a key strategic objective of the government as per the National Strategic Development Plan II.

Lesotho's growth and development are constrained by the untapped potential for regional integration with South Africa, and indirectly, other neighboring countries. The Southern Africa Tran-frontier Conservation Area (TFCA) treaty was founded on the realization that natural resources straddling boundaries between the Southern African Development Community (SADC) destinations are shared assets that contribute to regional integration, socio-economic development, and biodiversity conservation. As part of the treaty, Lesotho has identified the Maloti Drakensberg Trans-frontier Corridor (MDTC), which includes four road corridors covering the eastern portion of the country and including the proposed Katse to Thaba-Tseka road project (Corridor 3 of the MDTC), as critical to the SADC regional integration agenda. Further, the establishment of a "Bi-national Commission treaty" signed between the

governments of Lesotho and South Africa on November 25, 2021, has identified several areas of cooperation including development of economic corridors, trade and logistics, border management, and implementation of MDTC.

Lesotho has nine border crossings open for commercial trade with South Africa, with three borders (Maseru Bridge, Maputsoe-Ficksburg, and Caledonspoort) operating 24 hours a day and with the Maseru Bridge crossing in the west and the Maputsoe-Ficksburg crossing in the northwest handling most of the activity. Trade routes to the east and south are constrained by high mountains and undeveloped road infrastructure, and, thus, under the proposed project, the Katse to Thaba-Tseka road investment would close the missing link from the Thaba-Tseka district to the Maseru and Leribe districts, which are key economic and export hubs. Improved border infrastructure with harmonized digitally enabled joint border procedures with South Africa could minimize time and costs at the two main borders. Investment at the Qacha's Nek border, the only commercial border in the east, would provide improved access from eastern Lesotho to South African markets including the city of Matatiele, South Africa, which is only one hour from the border, compared to Maseru which is three hours away. This also provides another step in improving east-west regional integration and creation of a regional corridor with the Port of Durban.

The Lesotho Government has requested the International Development Association (IDA) through the World Bank for possible financing (in the form of a Credit), to assist the Government in achieving its objectives with this policy and strategy. The total original cost of the LITTL-P is estimated at US$80 million. Under the proposed LITTL Project, ***IDA will fund Upgrading of Katse to Thaba-Tseka Road corridor to paved standard and Spot improvements along the A1 Economic corridor (Maseru to Botha – Bothe); Regional Trade, Integration, and Logistics Services; Technical Assistance and Capacity building and Contingency Emergency Response Component***.

It is anticipated that LITTL-P will be completed over a period of ***five years*** and will include civil works involving A8 road upgrading and A1 spot improvements with Intersection improvements and bridge rehabilitation, Smart One Stop Boarder facilities at Maseru Bridge and Maputsoe-Ficksburg border crossings, and improvement of Qacha's Nek border facilities, Inspection and laboratory testing facilities and Climate controlled community-level horticulture packing and storage facilities (cold chain), as well as Technical Assistance and capacity building. ***The project became effective on September 26th, 2024 and is expected to be completed by December 31st, 2029***.

The overall Project Objective is to improve climate resilient regional connectivity on the Katse to Thaba-Tseka road corridor and reduce the costs of at three of Lesotho's commercial borders with South Africa. In particular to:-

a) Reduce Travelling time along the A8 corridor
b) Increase Road users' benefits from climate resilient road infrastructure along the project corridor by amongst others; reducing vehicle operating costs
c) Reduce end-to-end border crossing time for commercial traders through implementation of smart border systems at Maseru Bridge and Maputsoe-Ficksburg crossings

LITTL-P implementation (for Component 1 and road related aspects of Component 3)[1] will be through The Road Directorate (RD) of the Ministry of Public Works & Transport (MoPWT) established by the Roads Directorate Act No 16 of 2010 as a Government of Lesotho's semi-autonomous corporate statutory body whose key mandate is to implement government policy on roads related matter through the road network planning, development and maintenance, undertake quality assurance on all roads and construction of rural footbridges. This ToR is therefore prepared in line with the mandate of the RD to employ a professional consulting firm who is to provide engineering consulting services for the Upgrading of Katse to Thaba-Tseka Road corridor to paved standard. The ToR is not exhaustive, and the successful consultant is required to deliver the assignment following state-of-the art professional standards and quality, as per the Client engineer's role.

2.0 OBJECTIVE:

The overall objective of the Consultancy is to provide all necessary engineering design of the two intersections Maputsoe and Hlotse, drainage structures and critical sections along the road and including, pavement design, materials and pavement investigations, topographic survey, traffic Surveys at intersections, hydrological and hydraulic studies, preparation of Tender Documents and assistance with all procurement procedures in line with Lesotho Public Procurem ent Rules and Regulations and the Roads Directorate procurement guidelines, for procurement of the Works Contractor.

Specific Objectives

a) The consultant shall review the 2015 rehabilitation design documentation of the section from Maqhaka to Hleoheng and update the design of those sections identified as critical
b) Asses drainage structures along the route and extract drainage designs from the 2015 rehabilitation design
c) Design those sections outside the scope of the 2015 designs which are included within the this scope.
d) The Consultant shall also provide engineer's estimation for the construction works for the intersections, all drainage structures and critical sections rehabilitation.
e) The Consultant is to advise Roads Directorate on all the matters concerning the implementation of the project taking into consideration the allocated budget and prioritize accordingly to fit into the budget, including the quality control, implementation issues and the issues of dispute adjudication.
f) The order of prioritization shall be the two intersections, drainage structures/culverts and lastly the rehabilitation of critical sections.

[1] The project consists of the following component:
Component 1: Road Corridor Infrastructure Development
Component 2: Regional Trade, Integration, and Logistics Services
Component 3: Technical assistance, capacity building, and project management

g) Provide the pre contract and post contract services. (i.e. Tender documentation and evaluation, Supervision during construction, and Post construction services)
h) Ensure that all design have been done according to the standards used. To furthermore verify that climate change conditions have been taken into account in the design of all drainage structures.

3.0 SCOPE OF CONSULTING SERVICES

The overall scope is for the **Design** of the Environmental & Social Impact and Detailed Engineering Design and the Tender Documentation, Pre-contract Services, Construction Supervision and Post Contract Services of Spot improvements along the A1 Economic corridor connecting Maseru and Botha Bothe which serves as the primary economic corridor linking the three 24-hour commercial borders of Maseru Bridge, Maputsoe-Ficksburg, and Caledonspoort. This scope will include configuration and improvement of the main intersection of Sir Seretse Khama Road (from Maputse Border Post to A1 Junction at Ha Nyenye) and the Hlotse town intersection where A8 Pitseng to Katse Road connects with A1. In addition, the scope shall include rehabilitation of pavement on critical sections along the route and damaged cross drainages along the A1 Road from Maseru to Hlotse (maqhaka-Malesaoana).

The Consultants shall endeavour to fulfil the objectives set out in Section 2 of this Terms of Reference. An indication of the specific items of work to be carried out is given below but should not be considered exhaustive. All activities required for the completion of the project shall be carried out in accordance with the recommendations of Lesotho Design Standards, while taking cognisance of the SADC Roads & Bridge Design Standard & Specifications and SADC Road Traffic Signs Manual for regional compliance and the Consultant shall be conversant with the requirements thereof

1) To undertake a comprehensive and detailed pavement design, materials investigations, pavement investigations, foundation investigations and evaluation and design of drainage structures, road furniture, including preparation of construction drawings, tender documents and cost estimates to construct **the works on the selected sections**.
2) The engineering design shall be carried out together with an ESIA and ESMP Studies. The Engineering Design Consultant is expected to liaise with the Environmentalist on all road alignment/routes, borrow pits and quarry sites that will be proposed by the Engineering Design Consultant and to liaise with the Environmentalist to undertake a comprehensive and detailed Strategic Environmental and Social Impact Assessment study of the works. The study shall take full account of socio-political, environmental, road users & wild life safety, economic and engineering considerations & relocation/protection of services in its analysis. The Environmentalist shall further be required to prepare an Environmental and Social Management Plan on the affected areas.
3) The Consultant shall also assist the Roads Directorate in consulting the public and assessing compensation of properties, Identify a list of people owning properties and the compensation required particularly on the intersections and where the need arises.
4) The Consultant shall also identify services affected, if any, for consultation with service providers for relocation/protection on the intersections.
5) To prepare Tender Documentation including Engineer's Estimate

Project preparation activities will be split into phases as described below. Each phase will cover a set of activities and shall be followed with a detailed report in respect of each phase which will be presented to the Client prior to acceptance Time schedule in respect of all such phases will be as indicated. The Consultant shall be required to complete, to the satisfaction of the Client all the different phases of the study within the time frame indicated in the schedule of submission.

1. Phase 1 – Design, Tender Documentation Review and Pre Contract Services
2. Phase 2 – Construction Supervision
3. Phase 3 – Post- Contract Services

PHASE 1- DESIGN REVIEW, TENDER DOCUMENTATION REVIEW AND PRE-CONTRACT SERVICES

On carrying of the tasks the Consultant shall design using the Colto Design Specifications, Lesotho Design Standard and other SADC Roads and Bridge Design Specifications and any other standard internationally recognized upon approval of the RD.

The following non exhaustive activities shall be undertaken:

A. Design:

a. **Identification of scope for the project** : The Consultant shall be required to design the improvement of the A1 junction to A12 (Seretse Khama – Maputsoe Road) at Seretse Khama and the A1 junction to A8 (Hlotse – Katse Road) in Hlotse including 350m approach roads on each side. The Consultant shall also inspect all drainage structures of the A1 Road between Marabeng and Ha 'Malesaoana, to identify culverts that are at risk of collapse or have been damaged and need to be repaired or replaced as per their design. The Consultant shall also identify structures that require erosion protection works at both the inlets and outlets, and river training activities where necessary. In identifying the scope, the Consultant will be required to prioritise the most critical drainage structure repairs and sectional treatments of the A1 Road. The Consultant shall also be required to identify critical sections along the A1 road for inclusion in the design.

b. **Traffic study and associated analyses Traffic studies will include, inter alia**:
   i. Traffic composition and volume counts including daily variation of traffic; average daily traffic; normal traffic growth; generated, diverted and turning traffic; as well as future traffic growth;
   ii. Origin-destination studies;
   iii. The determination of the maximum practical capacity of the intersection in terms of traffic flow and the level of service analysis
   iv. Intersection delay studies
   v. Peak Hour design traffic data
   vi. Details of directional split and composition of vehicular flow

vii. Intersection Pedestrian movement data
viii. Survey for each hour
ix. Collision and accident surveys
x. Intersection turning movements surveys and analysis

c. **Preparation of Environmental and Social Impact Assessment and Environmental and Social Management Plan and People Affected Properties**.

It is a requirement under these services that the Consultant should carry out an independent social and environmental impact assessment (ESIA) and heritage Impact assessment in line with the world bank Environmental and social Framework. The environmental impact assessment will address all aspects that are likely to impact on the environment which shall include the extend of encroachment into the road reserve. Related mitigation measures shall be proposed and analysed, in accordance with the Client Guidelines for Environmental Control (Volume 9). The Consultant will be required to prepare on behalf of the Client a Project Brief which is a statutory requirement of the Environment Act 2001. The Project Brief will contain an Environmental Management Plan including mainstreaming HIV/AIDS and Covid-19 issues to enable the National Environmental Secretariat (NES) to provide the necessary approvals to allow construction to proceed. The Consultant will collect socio-economic data of the area of influence of the project and on a national level pertinent to the project. The Engineering Consultant is expected to liaise with the Environmentalist on all environmental issues to come up with a road design that Ensures that all environmental consequences (physical, ecological and social) of the project are identified, understood and adequately considered during project planning process.

i. Ensures that environmental sustainability of the project is taken into account as required by Rio Convention, Lesotho National Environment Policy and the National Environment Action Plan.
ii. Ensures that stakeholders views on issues related to the construction works are captured.
iii. Ensures that environmental aspects of the project are taken into account in the choice of the drainage structure improvement strategies.
iv. Ensures that the recommendations of the EMP/ESIA report/mitigation measures are captured in contract document/tender documents.

The Environmentalist shall ensure that the impacts highlighted from the Environmental Impact Assessment Report on the society are fully captured. See Appendix 1 for the detailed Terms of Reference for Environmental and Social Impact Assessment (ESIA). Full road reserve of 30m for roadway and 60m for the junctions width shall be taken into account where it is considered unnecessary shall be justified as appropriate.

d. Topographic Survey

The Consultant will be responsible for carrying out necessary survey work, which shall be tied to the Lesotho National Grid System i.e. Modified Clarke 1880 Ellipsoid (Cape Lo27 datum).

Destruction of existing Reference Beacons should be avoided. Otherwise, if there is any need to remove then, prior permission should be sought from the Department of Land Survey and Physical Planning for removal of the same

e. **Geotechnical investigation**

Centreline soil surveys shall be carried out along the proposed alignment of the project roads as well as detours (if applicable) and areas of problematic soils encountered viz. dispersive soils, black cotton soils, other expansive soils, etc., shall be identified including recommendation of treatments/measures. The Consultants shall review and analyse the results of centreline soils surveys as a basis for establishing sub-grade conditions for pavement design. The Consultant shall also be required to carry out surveys and investigations for characterising quarry sources for crushed stone base, concreting and surfacing stones and shall recommend the source(s) for production/utilisation of suitable crushed stone base, concreting and surfacing stones.

f. **Services affected and Land Acquisition Requirements/Documents**

The Consultant shall review at an early stage all details of the affected properties and services requiring expropriation within the road reserve. This information shall be submitted to the Roads Directorate at the earliest stage of the consultancy services. In the event of failure to submit such drawings/topographic information, the Directorate will assume that no properties & services are affected by the alignment, and any claims that may arise due to non submission of the information, shall be borne by the Consultant from his professional indemnity insurance.

i. It will be the Consultant's responsibility to liaise with the respective service providers in particular **District Councils** for land issues and other service providers to ensure that owners of the affected services are consulted in time before finalisation of the design.
ii. Similarly, it will be the Consultant's responsibility to liaise with the relevant Local Government Structures and Chiefs to ensure that people whose properties are affected by the re-configuration are consulted in time before finalisation of the design.
iii. Compiled details of the expropriation of individual properties shall be submitted in a Land Acquisition Form to the Roads Directorate bearing the following information:
iv. Sketch of the property to be acquired shown on the horizontal alignment
v. Measurements of expropriation, evaluating area and the size of remaining portion
vi. Offset achieved from structure(s), if any
vii. Location details, particulars of the plot and details of the Local Authority
viii. Land use details of property/properties for expropriation
ix. Name of property owner, address and contact details

x. Confirmation whether the property owner has been contacted and consented
xi. Detailed cost of expropriation
xii. Other relevant details

g. **Materials & Pavement Investigations & Design for identified Critical Sections**

It is desirable that construction materials shall be sourced commercially however materials surveys including centreline investigations and borrow-pit surveys shall be carried out in accordance with the Lesotho Design Standards. Before the start of any centreline surveys or borrow pit investigations the Consultant shall obtain Prospecting Licence from Department of Mines and Geology in the Ministry of Natural Resource, Energy and Mining. Proposals not complying with Lesotho Design Standards in respect of centreline surveys and borrow-pits surveys may be considered to be non-compliant and may lead to disqualification. Should it be considered desirable to deviate from the Lesotho Design Standards the Consultant shall seek prior written approval from the Roads Directorate, stating the reasons thereof.

The Consultant shall produce a stand-alone Materials Report on the materials found. The Report will be considered complete if it includes results/data, analyses and interpretation of data and recommendations/comments on appropriate use of different materials for construction.

All areas/locations shall be identified by chainage relative to the existing road as well as by Co-ordinates. The use of GPS is recommended.

h. Geometric Design of the two Junctions/Intersections

To undertake a comprehensive and detailed geometric design, materials investigations, pavement investigations, pavement design, foundation investigation and design of structure(s), such as interchanges, road furniture, street lighting and signalling, footpaths, sidewalks, including preparation of construction drawings, tender documents and cost estimates to construct the intersections.

The Consultant shall produce a detailed geometric design of the intersections in the horizontal and vertical planes and associated cross-sections. The Consultant will be responsible for carrying out the necessary survey works for preparation of the geometric design of the intersections in accordance with the requirements of the Lesotho Design Standards and the SADC mauals, or as may have been found desirable to deviate with the prior approval of the Director General of the Roads Directorate.

i. **Hydrological Study & Drainage Structure Design** :

Drainage structures shall be designed for the existing river crossings and different alternative options shall be explored. Consultant’s recommendation for the most appropriate solution

among different options shall be based on safety, economy and aesthetics adequately matching with the surrounding environment and wildlife migration.

Hydrological Study

i. For determination of all data the Consultant shall carry out a detailed hydrometrical survey and hydrological study of the river and bridge site, which shall include the following: Catchment area of the individual intersection
ii. Possibility of change of catchment
iii. Intensity, duration and distribution of rain in the catchment area
iv. Vegetation, cultivation etc… within the catchment area
v. Existence of reservoirs, lakes, dams etc… within the catchment area
vi. Details of existing intersections or any other hydraulic structures across the subject intersection in the vicinity of the proposed site
vii. General slope of the river from the critical point (origin) of the river up to the bridge site and general slope of the catchment area on both sides of the river.
viii. Bed slope of the river shall be determined and plotted covering a distance of about 500m u/s and d/s from the bridge axis
ix. Maximum discharge calculated by established methods. like the Rational Method, Regional Maximum Flood (RMF) and Alternative Rational Method, all in accordance with Lesotho Road and Bridge Design Standards, shall be determined
x. Velocity and depth of flow at the time of survey shall also be determined
xi. intersection training works u/s or d/s of the proposed site and any other information deemed necessary for the design, construction and maintenance of the proposed structure shall be determined at this

j. Foundation Investigation and Design of Structure(s)
k. Submission of Draft Detailed Design Report and Final Detailed Design Report
l. Preparation of Tender and Construction Drawings
m. Preparation of Engineer's Cost Estimate
n. Preparation of Tender Documents including Project Specifications
o. Assistance with procurement processes for the Works Contractor, including carrying out evaluation and assistance with Contract Negotiations
p. Preparation of Contract Document.

B. Tender documentation and Pre-contract services:

The consultant shall separate the Tender documentation into Lots (preferably three lots of Intersections, drainage structures and critical sections) that will enable both construction methodology and project management run in a smooth manner with limited risks. They shall ensure submission of Draft Detailed Design Report and Final Detailed Design Report, Preparation of Tender and Construction Drawings, Preparation of Engineer's Cost Estimate, Preparation of Tender Documents including Project Specifications, Assistance with procurement processes for the Works Contractor, including carrying out evaluation

and assistance with Contract Negotiations and Preparation of Contract Document. The following process shall guide the consultant:

1. The Consultant should produce all tender documentation,
2. Assist the employer with conducting the site visit
3. Respond to clarifications and queries
4. Undertake tender evaluation and recommendation of preferred bidder, considering the Employer's procurement policy and guidelines and that of the Government of Lesotho.
5. Prepare the contract for the recommended bidder

PHASE 2: - CONSTRUCTION SUPERVISION

On carrying this task, the consultant shall take all contract management activities as per General Conditions of Contract for FIDIC 2017 as provided under the World Bank Regulations and undertake the following activities though not limited to**:**

a) Organize a team suitable for the supervision of the works upon award of construction contracts in accordance with the lots;
b) Prepare a site quality plan of supervision compatible with the accepted program of the Contractor or Contractors;
c) Provide all necessary engineering services and quality control and assurance of the work;
d) Oversee all Health and Safety matters;
e) Ensure compliance with the project ESMP;
f) Make field measurements of the progress of the work and keep up-to-date records;
g) Check and certify payment certificates for payment by the RD;
h) Review claims for additional compensation and/or extension of time and recommend appropriate actions on a timely basis;
i) Identify and check suitable land expropriation and recommendations;
j) to issue variation orders, in consultation with RD, to fix rates for un-priced items of work, to order day-works after obtaining prior approval of RD;
k) Prepare variation order and assist RD in negotiations necessary for execution of the changes;
l) Prepare "As-built" drawings and all necessary final reports.

The Consultant is to carry out all these duties in accordance and in compliance with the duties of the "Engineer" as defined in Works Contract.

PHASE 3: - POST CONSTRUCTION SERVICES

After the issuance of the taking-over certificate at the end of the normal supervision period, the Consultant shall perform the following duties, amongst others, if requested by the RD:

a) The Consultant shall periodically check the completed work, section by section, during the maintenance period.

b) The Consultant shall supervise the construction of the outstanding works and/or remedial works during the maintenance and shall approve such works upon completion.

c) Shortly before the end of the maintenance period the Consultant shall carry out the necessary inspections, specify the rectification work to be carried out, supervise this as required and finally issue the Completion Certificate after consultation with the RD, and after all noted defects have been corrected by the Contractor, to the Consultant's satisfaction. The Consultant shall then prepare the Final Completion Certificate of Payment to the Contractor and a Final Statement of Account. He shall further make recommendations to the RD for the return of any outstanding bonds, guarantees and so forth provided earlier by the Contractor.

d) In the event of claims outstanding at the end of the normal supervision stage the Consultant shall assist the RD in their settlement and, in case of arbitration or litigation, the Consultant shall be called upon to assist the RD's legal office representative before the court of law or arbitrators until the finalization of the case. No payment shall be made to the Consultant when the arbitration or litigation is shown to arise due to the Consultant's failure to act properly and judiciously during the performance of his duties.

e) On completion of the above services the Consultant shall complete and submit to the RD a final report which will be compiled according to the format of the Project Completion Report which is to be submitted to the Government by the RD

4.0 SCHEDULE FOR COMPLETION OF TASKS

The estimated duration of the assignment is 6 months for phase 1, 18 months phase 2 and 12 months phase 3. The durations will cover all the phases of the contract after the signing of the contract with the Roads Directorate.

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Phase 1: Shall commence upon award of the Contract for the duration of 6 months.

Phase 2: Shall commence at the date and final issue and approval for phase 2 for the duration of 18 months

Phase 3: This phase shall commence on the date of issue of the taking-over certificate and shall last for 12 months defects notification period till the issuance of completion certificate, submission of completion report and As-Build Drawings

5.0 DATA, SERVICES, AND FACILITIES TO BE PROVIDED BY THE CONSULTANT

The successful consulting firm is required to deliver the assignment at high quality and timely manner taking full responsibility. The Client is supposed to provide data and facilities as indicated in item no. 6.0 below. Other than that, the consultant is fully accountable including,

but not limited to ensuring that experts are adequately supported and equipped to deliver the assignment with highest professional quality. In particular, the Consultant must ensure that there is sufficient administrative, secretarial provision to enable experts to concentrate on their primary responsibilities. The Consultant shall ensure that its employees are paid regularly and timely. The Consultant shall pay travel expenses and vehicles for inspection and all other transport of his staff, equipment, supplies, surveys, investigations, testing, telecom equipment and services and consumables, secretarial services and all other input required for the purpose of the assignment for proper delivery. These costs should be included in the Consultant's Financial Proposal.

Office accommodation for each expert working on the contract is to be provided by the Consultant. However, office accommodation for supervision staff will be provided under the Works Contract during construction supervision.

6.0 DATA, SERVICES, AND FACILITIES TO BE PROVIDED BY THE CLIENT

The Roads Directorate (RD) will be responsible for the following:

Documents and Reports

RD will provide to the Consultants all such documents, data and reports available and relevant to the planned study and where necessary, assist with obtaining from third parties. The Consultant shall be responsible for the correct interpretation and dissemination of the data and information so gathered. All such documents, data and information shall be treated as confidential and shall not be used for any other purposes not related to the present study.

Liaison

The RD shall facilitate liaison with other Government Ministries and Departments and other related agencies and organizations which the Consultant may wish to consult or contact during the course of this study. However, the consultant is free to consult or contact any one of these organizations or agencies without involving RD, if it so wishes.

Visas, work and residence permits etc…

It is the responsibility of the successful Consultant to meet the entry and residential requirements of Lesotho. RD will facilitate the process of meeting these requirements by issuing relevant introduction letters but shall not be responsible for securing any permits

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All documents prepared and submitted as part of the assignment shall remain the property of the Roads Directorate therefore shall neither be copied nor duplicated for use for any other purpose other than this assignment without the written consent of the Roads Directorate.

7.0 DELIVERABLES, PERIODIC REPORTS, AND FINAL OUTPUTS

The consultant shall keep full records relating to the performance of the work covered by this Agreement and such records shall be available for inspection by the Client at all times. In particular, the Resident Engineer shall keep detailed diaries concerning the execution of the

work and related matters. The Consultant shall also prepare and submit the following reports and dates indicated.

No	Deliverable	Time frame	Soft copy + Bound Copies
Phase 1	1. Inception Report 2. Draft Design Report and Tender Documents 3. Final Design Report & Tender/Bidding Documents 4. Tender/Bid Evaluation Report and Recommendation to Award 5. Draft Contract for signature Any other reports as may be appropriate	1. In 1 month of signing & effectiveness of the contract 2. In 4 months of signing & effectiveness of the contract 3. In 5 months of signing of the contract 4. In 7 months of signing of the contract 5. In 8 months of signing of the contract Within 6 months	1+5
	Environmental and Social Reports		1+15
Phase 2	Monthly progress reports Quarterly contract cost and time monitoring and projections report	Every first week of the Months Quarterly	1 + 6
Phase 3	Completion Report and As Build Drawings	Within 28 days of completion of part two of the contract	1 + 6

Design Review Report: - The report shall include initial findings, recommendations and improvements (if any), incorporation of approved changes in the designs and tender documentation, detailed work program, staffing and methodology of work.

Report of Field investigations, construction activity and surveys: - The consultant shall prepare and provide the Client with a report on design review engineering and other field surveys. The report shall include at least the following:

a) Graphical presentation of a layout;
b) Graphical and numerical presentation of the results;
c) Results of geotechnical and hydro-geology investigation.
d) Results of testing of construction materials.
e) Results from topographical and 3D surveys.
f) Photo documents from field surveys;
g) Results of core sampling testing;
h) Analyses of data and conclusions.

Monthly reports: - The monthly progress reports shall contain the following sections:

a) Executive summary of the contract progress
b) Contract Data
c) Contractor's Personnel
d) consultant's Personnel
e) Contractor's Resources including Equipment, Labour and Materials
f) Approved Programme
g) Progress measured against approved programme
h) Description of Activities undertaken during the period and cumulative progress
i) Physical Progress, quantities of substructure and super structure phases
j) Expenditure Record - include interim payments, Cumulative Sums, Retention of Money Record, escalations and so forth
k) Record of Variation Orders
l) Records of claims and action on claims
m) Problems and Recommendations
n) Minutes of Site Meetings
o) Weather records kept by project
p) ESHS report
q) Captioned Photographs

These sections will show correlation between the work programmed and the actual progress and the report must be signed by the Consultant. During the course of the project, the format of progress report may be changed as required by the RD. The draft final report and As Build Drawings shall be submitted within 30 days of issuance of the Completion Certificate unless otherwise instructed by the RD.

8.0 CONSULTING FIRMS' SUITABILITY AND COMPETENCE PROFILE REQUIREMENTS AND CONSULTANT'S TEAM COMPOSITION WITH ESTIMATE OF KEY EXPERTS INPUT

Consultant's Qualifications, Experience Requirements

In order to carry out the duties detailed in the scope of work above, the Consultant shall, for design team and the construction contract, furnish a team with necessary expertise to ensure that each stage of the services is performed to the highest professional standards.
The Consultant, as a Single Entity or in "Joint Venture", is expected to have appropriate capabilities and experiences in the engineering design and works supervision of Roads, Bridges, and major drainage structures. Showing Extensive experience in design or rehabilitation projects and social and environmental issues. The consultant is further expected to have appropriate experience in providing consulting services for the construction implementation of bridges and crossing drainage structures projects in hilly mountainous terrains with similar social and economic settings. Working experience in similar developing countries and within Sub-Saharan African with specific to Southern African Development Community (SADC) region would be an advantage.

The consultant shall specify in its Proposal key staff to be engaged in case of the contract award, requested references in accordance with the Request for Proposal. The key staff specified in the Proposal cannot be replaced, except in cases and under conditions clearly stated in general and particular conditions of the contract.

List of indicative Key Professional Positions whose CVs and experience would be evaluated

The Consultant shall assign to the project, professionals with appropriate qualifications and the necessary experience. The Consultant shall also provide sufficiently experienced laboratory personnel to carry out materials testing and survey personnel to carry out all necessary survey work for quantity and quality control and quality assurance purposes. In addition to the key staff, the consultant shall engage sufficient number of other staff of necessary expertise along with other auxiliary staff. A list of other staff engaged on the contract with description of assignments and responsibilities with periods of engagement shall be a composing element of the Work Plan presented on the Consultant's proposal. All key experts should include certified copies of educational qualifications (they should be translated in English from the issuer).

The profiles of the key experts for this contract are as follows:

S. No.	Key Position	Area of Specific Expertise required	Minimum Qualification and Professional Experience Required
K-1	Team leader-Contracts Engineer	experience in Contract management and administration related to highway, bridge and drainage structures and construction with proven records of managerial experience in projects of similar nature and magnitude with fluency English and construction language	BSc (Eng) or B.Eng in Civil Engineering with At least 15 years of general professional experience and proven record of supervising, organizing and managing of project preparation and construction of highway and drainage structures projects. Experience as a team leader on at least three successfully completed similar nature and complexity consulting assignments.
K-2	Bridge Engineer	experience related to design and construction of bridges and drainage structures.	BSc (Eng) or B.Eng in. Civil Engineering with At least 10 years of general professional with 7 years' Experience in designing and implementing bridge or drainage structures rehabilitation. Experience as a structural/bridge

			engineer on at least three successfully completed similar nature and complexity consulting assignments.
K-3	Geotechnical/Materials Engineer	experience in geotechnical investigation and foundation design of bridges and drainage structures	BSc (Eng) or B.Eng in. Civil Engineering with At least Ten (10) years of general professional experience with Seven (7) years specific experience in geotechnical investigations, construction of foundations and slope stability
K-4	Geometric Design Engineer	experience in highway geometric designs, intersection geometric models and analysis including the knowledge and experience in the design of Intersections	BSc (Eng) or B.Eng in. Civil Engineering with At least Ten (10) years of general professional experience and seven (7) years specific experience in geometric design. Experience as a Geometric Design Engineer or highway engineer on at least three (3) successfully completed similar nature and complexity consulting assignments
K-5	Resident Engineer	experience as a Resident Engineer on the highway and drainage structures construction project of similar nature.	BSc (Eng) or B.Eng/B.Tech in. civil engineering with At least fifteen (15) years of general professional experience with at least Ten (10) years' experience as resident engineer in highway projects. Experience as a Resident Engineer on at least three successfully completed similar nature and complexity consulting assignments.
K-6	Environmental and Social Compliance officer	Environment and social compliance with experience in highway construction	Bachelors degree in Environmental Science or relevant field with seven (7) years' experience in Highway projects Experience as an Environmental and Social expert on at least two successfully completed similar

			nature and complexity consulting assignments.
K-7	Environmental and Social Expert	Environment and social impact assesments and mitigation measures with experience in highway construction	Bachelors degree in Environmental science/management or similar field with seven (7) years' experience in Highway projects
K-8	Land surveyor	Experience in cadastral survey and setting out of road alignments and measurement of quantities	Advance Diploma in land surveying or Diploma in Civil Engineering with Five (5) years' experience in highway projects experience on at least three (4) successfully completed similar nature and complexity consulting assignments.
K-9	Laboratory Manager	experience as a materials technician/laboratory manager on the similar type of the project with extensive experience working with road and bridge construction materials	B.Tech/Diploma in. civil engineering At least Seven (7) years' experience as a materials technician/laboratory manager experience on at least four (4) successfully completed similar nature and complexity consulting assignments.

Schedule of Key Experts (Expert-Months)

The Consultant shall assign sufficient staff appropriately qualified with relevant experience to the project to ensure completion within schedule

It is anticipated that the Consultants will propose suitable staffing inputs for key personnel positions. For this purpose, the expert-month given below may be treated as broad reference and different expert-months could be proposed by the Consultants with suitable qualifications & experiences based on the methodology, approach, and work program proposal of the consultant. The below expert-months input is just indicative.

Key Expert	Phase 1 Expert-months	Phase 2	Phase 3	Total
Team Leader/Contracts Engineer	1	4	1	6
Bridge Engineer	2	1		3

Key Expert	Phase 1 Expert-months	Phase 2	Phase 3	Total
Geometric Engineer	1			1
Resident Engineer		20	1	21
ARE Geotechnical/ Materials Engineer	1.5	18		19.5
ARE Measurement		18		18
Compliance Officer/ Environment & Social		18		40
Environment & Social Expert	2	2		4
Land Surveyor		18		18
Laboratory Manager	1	18		18
Total Expert-months	**8.5**	**117**	**2**	**137.5**

Other Key Expert, support staff and back stopping

In selection of other experts, it is expected from the Consultant to be transparent, and shall be based on pre-defined criteria, including professional qualifications, language skills and work experience. CVs for experts other than the key experts may not be evaluated during the proposals stage. However, the consultant will be required to demonstrate in their proposals that they have access to experts with the required profiles. The Consultant shall select and hire other experts as required according to the needs. The costs for backstopping and support staff, as needed, are considered to be included in the financial Proposals during RFP stage.

Counterpart Personnel

When assigned by the Employer, the Consultant shall provide training on a counterpart basis for at least two qualified Civil Engineers and Two Technicians and/or other selected staff member who shall be the employees of the RD. During such assignment the Consultant shall treat the counterpart as a member of his staff. The salaries of the counterparts will be paid by the Employer. The Consultant shall give the counterpart the training consistent with the terms of the assignment.

8.0 PAYMENT SCHEDULE

The Design review and Pre-Contract Services shall be paid out on a performance basis under a Lump Sum Contract as follows: For Phase 1 the following payment schedule shall apply.

No	Event	Percentage Payment (% of phase 1 amount)
1	Advance payment	10
2	Acceptance of inception Report	20
3	Draft Design Report	25
4	Acceptance of final Design Report	20
5	Tender Documentation, Tender Evaluation report and draft works contract agreement delivery	25

The Construction phase and Post Construction Services (Phase 2 and Phase 3) shall be paid under the Time-based payment method of the contract against mobilized and deployed experts' timesheet following work programs to be agreed from time to time.