

Government of Nepal
Ministry of Infrastructure Development
Department of Roads
Development Cooperation Implementation Division
Siddhartha Highway (Butwal–Pokhara Section) Improvement Project
Chakupat, Lalitpur, Nepal

Request for Expressions of Interest (REOI)

Country: Nepal

Client: Ministry of Infrastructure Development, Department of Roads (DoR)

Project: Siddhartha Highway (Butwal-Pokhara Section) Improvement Project

Grant No.: S0996A

Contract/Assignment Title: Consultancy Services for Detailed Project Report (DPR) Preparation, Institutional Strengthening & Capacity Building, Tender & Contract Documentation, Environment and Social Impact Assessment (ESIA) and Resettlement Plan (RP) of the proposed Siddhartha Highway (Butwal-Pokhara Section) Improvement Project

REOI Reference No: AIIB-DOR-BP-QCBS-1

Notice Published On: 27th August, 2026

1. The Government of Nepal (GoN) has received Project Preparation Special Fund (PPSF) Grant from the Asian Infrastructure Investment Bank (AIIB or the Bank) to support and facilitate the preparation of the proposed Siddhartha Highway (Butwal-Pokhara Section) Improvement Project and intends to apply the proceeds for the above-referenced contract.
2. The consulting services (“the Services”) include:

Part I: Preparation of a Detailed Project Report, which shall include:

- a. (i) the engineering survey and investigation, design, drawing, Bill of Quantities (BOQ), cost estimation and preparation of bidding documents for the improvement option recommended by the implementing agency; and (ii) the contract modality shall be EPC/Design and Build contracts for tunnels and bridge viaduct, and item-rate contracts for road works.
- b. the strategic procurement planning and development of the Project Delivery Strategy (PDS) and Procurement Plan (PP) for the Project.

Part 2: Environmental and Social Assessments, including but not limited to the preparation and updating of the Environmental and Social Impact Assessment/Environmental and Social Management Plan, Resettlement Plan, Stakeholder Engagement Plan, Labor Management Procedure, Gender Action Plan, and other environmental and social safeguard instruments in alignment with the Project’s Environmental and Social Management Planning Framework and the Bank’s Environmental and Social Standards in the Bank’s “*Environmental and Social*

Framework”, dated February 2016, as amended February 2019, May 2021, November 2022 and June 26, 2024, and national regulatory requirements of the Recipient.

The estimated time input for the Services is 39 person-months for international key experts, 83 person-months for national key experts, and 45 person-months for national non-key experts. The overall implementation period is 18 months, with the Services expected to commence in April 2027.

3. The detailed Terms of Reference (ToR) for the Services is available on the website of the DoR: www.dor.gov.np/home/notices.
4. The Ministry of Infrastructure Development, Department of Roads (DoR, or the Client) now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. For the shortlisting criteria, please refer to **Annex-3** to the ToR. Key experts will not be evaluated at the shortlisting stage.
5. The attention of interested Consultants is drawn to Section II of the Bank’s “Directive on Procurement Instructions for Recipients” dated July 26, 2024 (“Procurement Instructions”), setting forth the Bank’s policy on conflict of interest.
6. Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.
7. A Consultant will be selected in accordance with the Quality and Cost Based Selection (QCBS) method set out in the Procurement Regulations.
8. Further information can be obtained at the address below during office hours from 09:00 am to 17:00 pm (Nepal Time).
9. Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by 17:00 (Nepal Time) on 18th September, 2026.

Department of Roads
Development Cooperation Implementation Division
Chakupat, Lalitpur, Nepal
Tel: +977-1-5418000
Email: dcid@dornepal.com
Website: www.dor.gov.np

Terms of Reference

For

**Consultancy Services for Detailed Project Report (DPR) Preparation,
Institutional Strengthening & Capacity Building, Tender & Contract
Documentation, Environment and Social Impact Assessment (ESIA) and
Resettlement Plan (RP) of Siddhartha Highway (Butwal-Pokhara Section)
Improvement Project**

Terms of Reference contains the following sections:

1. Introduction and Background
2. Objectives of the Consultancy Services
3. Scope of Services
4. Duration of the Services
5. Reporting Requirements
6. Consultant's Qualifications for Shortlisting
7. Staffing Requirements
8. Reference Data, Local Services, and Facilities to be Provided by the Client
9. Consultant's Obligations
10. Contractual Arrangements
11. Schedule of Payments

1. INTRODUCTION AND BACKGROUND

The Government of Nepal (GoN) has received a grant in the amount of US\$ 2,000,000 from the Project Preparation Special Fund (PPSF) of Asian Infrastructure Investment Bank (AIIB or the Bank) toward the cost for the preparation of Siddhartha Highway (Butwal-Pokhara Section) Improvement Project (the Project), and it intends to apply the proceeds to payments for consultancy services to be procured under the PPSF to be implemented by the Department of Roads (DoR) under Ministry of Infrastructure Development (MOID) (the Client). The Client intends to procure Consultancy Services for Detailed Project Report (DPR) Preparation, Institutional Strengthening & Capacity Building, Tender & Contract Documentation, Environment and Social Impact Assessment (ESIA) and Resettlement Plan (RP) (the Assignment) to facilitate the preparation of the Project in accordance with AIIB's Procurement Policy, as revised through June 26, 2024, the Directive on Procurement Instructions for Recipients, dated July 26, 2024.

Brief description of the Project context and the road section under the consultancy services is given below:

Project Context

Nepal's road transport network now spans over 35,600 km with roughly 15,800 km of blacktopped roads, linking all 77-district headquarters. Road transport accounts for around 90% of passenger and freight movement, making it the dominant mode of transportation. Therefore, the expansion and improvement of the road transport network have become one of the top priorities of the GoN to accelerate the country's economic development, trade balance, and poverty reduction, and to provide safe and comfortable access to the people. Presently, the GoN is committed to upgrade different national highways and north-south trade corridors to either standard four lane or to proper two-lane based on the current lane standard in order to enhance road capacity, efficiency, road safety, shortened travel time along the highway/road corridors. The GoN is actively working on this emergent strategy by leveraging investments from the multilateral development banks and the private sector.

In this connection, GoN has approached to AIIB for a possible financing of upgrading Siddhartha Highway (Butwal to Pokhara Section) to dedicated 2-lane standards with improvement including road realignment, horizontal and vertical geometry, introduction of tunnels and viaducts to shorten length, integration of ITS for-road safety, and green infrastructure features. The improvement of the highway is set to significantly enhance road capacity, travel time, efficiency, road safety, level of service, riding quality and comfort for the passengers and freight transporters as well as stimulate agriculture, tourism, industrial, commercial and socio-economic development activities along the highway corridor and promote cross-border trade with India and China. The Project will serve as a replicable model of green infrastructure for similar infrastructure initiatives across Nepal.

A preparation study conducted for the technical improvement of this highway has confirmed the technical, environmental, social and economic viability of the initiative. Based on the study's recommendations and the joint decision of the Bank and GoN to proceed with the preparation of the Project, the Client intends to engage a competent consulting firm to carry out the above-mentioned Assignment so that project implementation can begin as soon as possible.

Current Status of the Road Section

The road section is from Butwal to Pokhara of the Siddhartha Highway (NH 47), which spans about 157 km, starts from Golpark of Butwal and provides access to several urban areas, including Butwal, Bartung, Waling, Putali Bazzar and Pokhara, major cities in the Lumbini and Gandaki provinces, respectively. The starting point of this road is the junction of Mahendra Highway and Siddhartha Highway (Puspa Lal Chowk, Butwal) and ends at Lakhan Chowk, Pokhara (Starting point of Prithvi Highway). The condition of this road varies considerably. While certain segments closer to Butwal and Pokhara are relatively smooth, sections in between, particularly in the hilly areas, are known for being challenging. Reports indicate that the road geometry is of relatively fair standards, having numerous curves with a small radius of 15 and 20 m all along the road and having many stretches with high grades up to 10-12%. The carriageway width of this road is 5.5 m (intermediate lane) in most areas, 7 to 8 m in market areas and four lane standards in Butwal (Pushpa Lal Chowk) and Pokhara (Chorepatan) areas. There are about 37 bridges and 780 culverts (pipe, slab, arch) along the alignment, but most of the crossing structures are aging and require major maintenance. The road falls in Chure and Mahabharat ranges, and some parts experience frequent landslides during the monsoon, especially at Siddhababa Area, Kerabari and Bhalu Pahad. The travel time from Butwal to Pokhara is approximately 6-7 hours, depending on the mode of transport. Due to these long travel times, difficult curvatures, high grades, and a lack of road safety, the traffic volume is relatively low in this road section.

2. OBJECTIVES OF THE CONSULTANCY SERVICES

The primary objective of this Assignment is to procure a qualified consulting firm to deliver a bankable, construction-ready DPR, develop procurement strategies and procurement plan, prepare the tender and contract documentation, conduct comprehensive Environmental and Social Impact Assessments (ESIA), and build institutional capacity for project execution.

The specific objectives are organized into five core pillars:

Component-1: Feasibility Study Report Preparation of Siddhartha Highway (Butwal-Pokhara Section), which shall include:

Conduct a review of the following studies with necessary field verification.

- i) Conduct a rigorous feasibility analysis of a route connecting Butwal to Pokhara to establish a dedicated 2-lane road. This must include optimizing the existing Siddhartha Highway corridor (Brownfield) as well as exploring completely new, shorter, and safer bypass routes (Greenfield), evaluating tunnels, viaducts, and major structural variations for construction.
- ii) The viability and constructability of the road shall also be considered during the feasibility study.

Component-2: Detailed Project Report (DPR) Preparation

Upon formal, written approval of the recommended alignment option in component-1 by DoR, the Consultant shall transition from the feasibility phase to prepare the DPR. This phase shall include, but not be limited to, the following activities:

- i. **Detailed Engineering Surveys, Hydrological Study and Soil Investigations:** Execute high-precision topographic surveys, comprehensive traffic/axle-load forecasting, catchment-area hydrological modelling, and deep sub-soil geotechnical investigations (including

specialized core drilling, geophysical surveys, and rock mass classification for tunnels, viaducts, and major bridges) along the approved alignment corridor.

- ii. **Detailed Design of Upgradation Works:** Perform comprehensive geometric design (horizontal/vertical alignments) and structural design of pavement layers. Deliver complete detailed engineering, structural, and seismic designs for all road sections, slope stabilization elements, retaining structures, bypasses, viaducts, tunnels, and associated bridges identified in the approved feasibility option.

Component-3: Institutional Strengthening & Capacity Building

- i. **Training Needs Assessment (TNA):** Review prior technical institutional capacity studies and conduct a targeted TNA focusing on complex contract administration and modern risk allocation.
- ii. **Joint Capacity Delivery:** Plan and execute structured training modules for all three primary project tiers, the Client, the Consultant, and the Contractors—to ensure uniform interpretation of FIDIC contract management, E&S compliance monitoring, and modern construction safety.

Component-4: Project Delivery Strategy (PDS) and Tender & Contract Documentation

- i. **Project Delivery Strategy (PDS):** Develop a comprehensive Project Delivery Strategy (PDS) (including a Procurement Plan (PP)) in compliance with AIIB's Procurement Policy (June 2024), AIIB's Directive on Procurement Instructions for Recipients (July 2024), and the Public Procurement Act/Rules of Nepal (Latest revision).
- ii. **Tender & Contract Documentation:** Produce complete construction-ready Engineering Drawings, Detailed Bill of Quantities (BoQ), cost estimation and preparation of tender documents applicable to international open competitive tendering procedures and FIDIC Conditions of Contract (or Client-approved equivalents) appropriate for large-scale, complex mountainous terrain works.

Component-5: ESIA/ ESMP and Resettlement Plan (RP)

- i. **Compliance & Instrument Generation:** Formulate site-specific E&S instruments strictly adhering to Nepal's national regulatory laws (Latest revision) and the AIIB Environmental and Social Framework (ESF) (including updates up to June 26, 2024).
- ii. **Deliverable Package:** Review, validate, and build upon preparatory documents to deliver a final Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Resettlement Plan (RP) with a livelihood restoration program, Stakeholder Engagement Plan (SEP), Labour Management Procedure (LMP), and Gender Action Plan (GAP).
- iii. **Structural Independence Mandate:** To ensure complete objectivity, the Consultant must maintain a dedicated E&S team functionally independent from the geometric/structural engineering team. Full-time E&S specialists must be embedded from day one to actively analyse risk trade-offs (e.g., tunnel vs. deep mountain cutting) and integrate mitigation costs directly into the project's overall cost estimations.

3. SCOPE OF SERVICES

The principal services to be provided by the Consultant in order to fulfill the specific objectives of the consultancy services are detailed below (but not limited to):

A. Component-1: Feasibility Study Report Preparation of Siddhartha Highway (Butwal-Pokhara)

The consultancy services will include, but are not necessarily limited to the following:

- a. Review studies and documents related to the proposed feasibility study, including DoR planning documents; road traffic data and available forecasts (vehicle, cargo, and passenger); relevant environmental and social impact studies; and available survey data (including maps, aerial photographs, etc.).
- b. Carry out desk study to assess and examine earlier studies of the AIIB's Project preparatory survey report (2025) and DoR's DPR report (2017) of Butwal Pokhara Section of Siddhartha Highway for upgradation from the existing intermediate to dedicated 2-lane standard. The desk study shall include but not be limited to the following:
 - i. Collection and study of existing topographical, geological and geotechnical, climatic, land use, hydrological, traffic, environmental, socio-economic data, etc., using relevant sources.
 - ii. Study of potential social impacts and risks related to natural hazards such as landslides, floods, erosion, etc.
 - iii. Evaluate proposed alignment options of the earlier project preparatory activities of the Siddhartha Highway recommended by AIIB.
- c. Conduct a field survey to validate and supplement data gathered during the desk study.
 - i. The fieldwork will include reconnaissance surveys (drive along existing roads and walk along identified alternative alignments for proposed construction).
 - ii. Inspect the existing road conditions (including drainage, bridges, and other physical structures). Prepare an inventory of existing infrastructure, necessary improvements, and initial environmental and social impact findings.
 - iii. Conduct topographic surveys.
 - iv. Conduct traffic counts and origin-destination surveys to project future traffic flows and loadings.
 - v. Conduct soil sampling, and geological/ geotechnical investigations to assess subsurface conditions and material properties.
 - vi. Identify environmental and social impacts, including potential displacement/resettlement, land acquisition needs, wildlife corridors, migratory crossings, critical habitats and any other protected or sensitive areas as per AIIB ESS. The Consultant should attempt to identify at this stage any particularly vulnerable groups whose social, economic, or environmental capability could be threatened by the proposed road construction or land acquisition.
 - vii. Investigate the suitability of local construction materials and, where necessary, locate new quarries and borrow pits and assess the quality and quantity of materials and hauling distance.
 - viii. Study the hydrological regime based on an analysis of rainfall and flood records, supplemented by engineering field investigations, to establish the adequacy of climate resilient road embankment levels, culverts, and side ditches, and identify bed and slope protection required for the drainage structures and bridges.
 - ix. Map areas vulnerable to flooding, landslides, or other climate-related events, and identify disaster risks.

- d. Evaluate the technical viability of alternative alignments from earlier studies, incorporating optimization options via Bridges, Viaducts and tunnels. Analyze and prepare conceptual alignment options and preliminary engineering profiles. For upgrading works, this will include adjustments to alignments, improvements, or new construction of drainage, bridges, etc. For new road sections, provide alignment, profile, and cross-section on an appropriate scale with relevant details. The scale for the drawings must be agreed upon with DoR beforehand and not less than 1:25000. Perform concept design of structures such as tunnels, bridges and Viaducts and Detailed Design of rest road structures. Evaluate the ease of construction and also evaluate the availability of construction materials.
- e. The Consultant is required to provide work specifications, road geometry, bio-engineering measures, and cost-effective road structures in their design.
- f. The Consultant shall systematically prioritize and integrate Bio-engineering and Nature-Based Solutions (NbS) alongside conventional civil engineering structures (hybrid or green-gray infrastructure).
- g. Assess the potential environmental and social impacts for the alternative alignments. Include consultation with local communities affected by the project, possibly through community meetings, local leaders, and non-governmental and other community organizations. Mitigate adverse impacts to the extent possible through the project design (inclusive of such measures as supporting DoR Standards), with costs incorporated in the economic evaluation. In addition to negative impacts (such as blasting construction techniques) assessments, explore the opportunities to support environmental enhancement measures, such as forest and other natural resource conservation along the road corridor. Identify positive benefits to, for example, human resource development. If resettlement is required, advise the Government on the requirements for a resettlement plan and assist with defining the basis for the plan.
- h. Prepare the cost estimates for the project, including the cost of construction, detailed engineering, supervision, land acquisition, resettlement compensation, environmental monitoring cost, price escalation, and contingencies. The consultant is required to apply appropriate GoN norms and specifications with proper and timely interactions with the concerned branches/ sections of DoR. In consultation with DoR, develop a comprehensive list of unit item rates to form the basis of the estimate. Estimate the maintenance cost in the same manner.
- i. Assess the economic viability and financial sustainability of the project by evaluating the economic return of the project, using indicators such as Net Present Value (NPV), Internal Rate of Return (IRR), and Benefit-Cost Ratio (BCR). The benefits accruing to the road network improvement shall be assessed in terms of reduction in road user transport cost and travel time, improvement in the efficiency of the network capacities, savings on improvement in road maintenance, and benefits accruing to the society such as traffic safety, accident reduction, improved land use and so on.
- j. The Consultant will evaluate, using an economic evaluation model (HDM-4) for the road alignment option VI considering different investment levels, which will be compared against a without-project alternative that will represent a do-minimum scenario or do-nothing scenario.
- k. Submit a comparative economic analysis on a “with project” and “without project” based on the above-mentioned indicators.
- l. By conducting a multi-criteria analysis of the above results, provide recommendation on the best alternative.
- m. Following the completion of the feasibility study, cost estimates, environmental studies and economic assessments, the Consultant will develop and present their recommendations regarding the timing, phasing of the upgrading of the relevant (i.e., phased investment plan), and implementation of the proposed project components for each road-section. Specifically, this will

include recommendations regarding the most appropriate contracting procedures and packaging of the project components. These findings shall be presented to the Client for approval.

n. Traffic Study and Analysis, Axle Load Survey

For the design purpose, the traffic study at the critical points and intersection shall be made deploying the high-definition (HD), IP-rated, weather-resistant smart cameras equipped with edge-based Artificial Intelligence (AI) and Computer Vision & Side-Fired Microwave Radar / Non-Intrusive Sensors. The system must perform continuous, non-stop, 7-day, 24-hour classified traffic volume counts at all critical nodes, intersection approaches, and proposed bypass interfaces. Conduct traffic counts in strategic locations (e.g., adjacent to major junctions) along the Section, validate these counts against DoR data and the limited count data presented in the feasibility study report, adjust the forecast analysis from the feasibility study as appropriate, and update feasibility study recommendations, as appropriate, during detail design. The Consultant shall make traffic demand estimates and establish possible traffic growth rates in respect of all categories of vehicles, taking into account the past trends, annual population and real per capita growth rate, elasticity of transport demand in relation to income, and estimated annual production increase. socio-economic development plans and the land use patterns of the region having impact on the traffic growth, the projections of vehicle, manufacturing industry in the country, development plans for the other modes of transport, commodity movement behavior should also be taken into account while working out the traffic demand estimates, and other factors as appropriate. Consider peak hour volumes, peak hour factors, seasonal adjustment factors, passenger vehicle equivalent conversions, and other adjustments as appropriate to recommend widening scenarios.

Axle load surveys in both directions shall be carried out at suitable location(s) in the project road stretch on a random sample basis and deduce the result. The axle load survey shall be done by using Automated Axle-Load Survey. Measurement shall be carried out for a minimum of 48 continuous hours. While selecting the location(s) of axle load survey station(s), the locations of existing bridges with load restrictions, if any, should be taken into account and such sites should be avoided. The Consultant shall ascertain from local enquiries about the exceptional live loads that have used the highway in the past in order to assess the suitability of existing bridges to carry such loads.

Conduct turn movement volume counts at all major junctions and selected minor junctions with substantial traffic volume, as appropriate to inform design options and to incorporate into design. Junction survey information shall be collected and thoroughly analyzed prior to starting work on the preliminary and detailed design. This is necessary to adequately inform access control decisions, which need to be made prior to the start of detailed design in order to avoid rework and design schedule delays.

In-person surveys, community engagement, and coordination with E&S Consultant and others as appropriate to propose pedestrian crossing and other ancillary feature locations.

o. Based upon the above-mentioned studies and investigations, the Consultant shall make the best use of their technical know-how and professional skill to arrive at conclusion and recommend the most cost-effective design parameters. The Consultant shall discuss with comparative study in detail all possible options and shall recommend the most appropriate option.

The Consultant will justify decision to move ahead with the selected priority road-sections in Component-1 of the study, based on the outcome of the technical and economic feasibility study.

Component-2: Detailed Design Report (DPR) Preparation of Butwal to Pokhara Section of Siddhartha Highway as identified from the Feasibility study in component-1.

Under this component, the Consultant will prepare the DPR by referring to the output of component-1 of the consulting service. The consultancy services will include, but are not necessarily limited to the following:

a. Topographical survey and mapping

The Consultant must use a hybrid matrix of high-speed digital data capture for topography and sub-surface remote sensing for geology to mitigate risks like the fragile Siwalik rockfalls and landslide-prone segments characteristic of the Butwal-Pokhara corridor. The topographical survey shall collect adequate data to show the following details in the subsequent topographical map:

- i. Topography survey with details such as: trees & forest, water bodies, wildlife habitat and movement corridors, sacred/ cultural & religious sites (including natural features with cultural values, e.g., trees, cliffs, etc.), existing infrastructures and other land features
- ii. Existing road details such as: formation width, paved area, access roads, bus bays, footpath, parking places, traffic signs, islands, signals and right of way (RoW) limits (Buildings, Taharas, shops etc.)
- iii. Details of existing cross-drainage structure details (including wildlife crossing if any) such as: length, width and heights of culverts, bridges, details about bridge spans, pier, abutment, railing and vertical clearances, existing access under the bridge, river training works and riverbank structure details
- iv. Existing power line (electricity transmission line) alignments and elevations (if buried) such as: high-tension poles, low-tension poles, transformers, sub stations, Streetlights poles, underground electrical supply (if any) etc.
- v. Existing telecommunication alignments and elevations (if buried) such as: telephone lines, poles, cabinets, towers and underground lines (if any)
- vi. Existing water supply line details such as: supply mains, distribution lines, valves, valve chambers, underground water storage, fire hydrants, etc.
- vii. Existing sewer line details such as: trunk sewers, branches, manholes, location/position of septic tank and soak pit of the adjacent building on both sides of road within the RoW
- viii. Existing buildings and structures details such as: religious shrines, tangible cultural heritage, community building governmental building, and residential building, type of foundation and tentative depth of foundation of the building
- ix. Existing or potential flood prone zones/ spots, low laying areas and riverbank cutting areas
- x. Survey and Production of a map of a minimum 100 m wide road corridor in 1:1000 scale and with 0.20m contour interval and clearly showing the centerline of existing roads and all features. The Consultant may consider and propose wider bandwidth or additional survey areas, if necessary, for design.
- xi. While conducting Survey works, the survey team should be accompanied by a highway engineer. The Consultant shall acquire the reference coordinate points from the Department of Surveys and referencing of all the survey works shall be made on these references. It should establish benchmarks at a distance of every 300m along the road and on both sides of the riverbanks in case of bridges.
- xii. While conducting the topographical survey for bridge design, the survey area should cover a minimum distance of 500m upstream, 200m downstream and 200m from the riverbanks on either side of the river at the proposed bridge site or more, if necessary, for analysis and design.

In case of the topographical survey of the bridge site, the topographic map should show the following:

- (a) Contours at 0.2 m intervals;
- (b) Flood lines on either side of the river in the entire area surveyed;
- (c) Both banks of the river;
- (d) River cross section at 25 m intervals, or less if required for modeling, analysis, and/or design; one cross section along the proposed bridge axis showing cross profile of 1m interval using suitable method;
- (e) Details of government and/or public establishments on the riverbanks, details of existing river training works (if any);
- (f) Traverse lines, benchmarks reference lines and/or points with respect to which the present topo map is prepared;
- (g) The angle and direction of skew, if the bridge/viaduct is proposed to be aligned skew;
- (h) The foundation type and zone of influence of the existing foundation of the bridge or any other structures adjacent to the proposed bridge/viaduct site;
- (i) Other information relevant to design, construction and/or maintenance of the bridge/viaduct.

b. Hydrological survey

For determination of all design data the Consultant shall carry out a detailed hydrological survey and study of the river and bridge/viaduct sites, which shall include the following:

- i. Catchment area of the river up to bridge site and if applicable up to the viaduct site;
- ii. Nature, size and quantities of debris carried by the river;
- iii. Intensity, duration and distribution of rain in the catchment;
- iv. Existing bridge or other hydraulic structures across the river in the vicinity of the proposed bridge/viaduct site with their details as much as possible;
- v. General slope of the river from the critical point (origin) of the river up to bridge/viaduct site and general slope of the catchment on both sides of the river;
- vi. Cross sections covering 100m on either side. Beyond flood lines of the river at proposed bridge/if applicable in viaduct site, at about 500m. u/s and about 200m d/s, wherein HFL, LWL, LBL, area of the cross section, wetted perimeter and geological profile with silt factor of each strata (at proposed bridge/ if applicable in viaduct site only) shall be indicated. (Horizontal and vertical scale of the cross section shall be the same.);
- vii. Bed slope of the river which must start from 100m up of the U/S cross section and end at 100 m down of the d/s. cross section;
- viii. Maximum discharge calculated by established formulas with different return periods and the peak discharge observed over a period of 100 years;
- ix. Velocity and depth of flow at the time of survey;
- x. Shifting of the river in the past at proposed bridge/ if applicable in viaduct site and in its vicinity;
- xi. River-bed degradation or aggradation (covering 500 m upstream and 500 m downstream);
- xii. Use of river as migration corridor of wildlife and fisheries;
- xiii. Other information required for river control, design, construction and maintenance of the bridge / viaduct (if applicable).
- xiv. The hydrological survey shall collect secondary data, preferably from the governmental sources, to determine the following:

- (a) Unit hydrograph for the catchment of River for bridge construction
 - (b) Size of the opening and location of cross drainage structure
 - (c) Minimize modification to the natural drainage pattern
- xv. After the selection of the proposed bridge/ viaduct (if applicable) site with alternatives and preparation of topographic maps, the Consultant shall discuss the collected hydrological and other data and decide the following points with the Client for final decision of the bridge/viaduct site:
 - (a) Design discharge
 - (b) Scour depth, Maximum Scour depth
 - (c) Linear waterway needed to be provided
 - (d) Anticipated soil condition for foundation
 - (e) The most feasible proposed bridge/viaduct site
 - (f) River- training & approach roads
 - (g) Type of proposed foundation, substructure and superstructure
- xvi. The Consultant shall also carry out a detailed hydrological survey and study along the road alignments including alignment of proposed tunnel and identify catchment, discharge in drain, cross drainage, seepage area etc.
- xvii. For the hydrological analysis, the consultant shall use the DoR Guidelines on Hydrologic and Hydraulic Analysis, Nepal Bridge Standard, Indian Roads Congress (IRC:5), and any other relevant standard codes. In case of any contradiction between the codes, the local DoR guidelines and Nepal Bridge Standards shall take precedence.

c. Geophysical Survey

Detailed Geological mapping consisting of structural (Faults/ thrusts, Shear zones, Fold, joints etc), litho-logical and tectonic mapping on the proposed alignment for a corridor width of 100m on either side of alignment in scale 1:5000 and submission of geological plan, L-section along the design alignment in scale 1:5000H & 1:500V as well as in scale 1:5000H & 1:5000V

- i. **Remote sensing**
Remote sensing studies along the 10 km wide alignment corridor with Limited ground checks consisting of interpretation of satellite, collateral and field data for preparation of Thematic maps depicting geological units, geomorphologic maps depicting geomorphic units, lineament/ fracture map showing structural features, detailed drainage and surface water bodies, map portrayal of geological and tectonic features and their significance in planning, design and construction of tunnels, bridges and road formation.
- ii. **Seismic Refraction Tomography (SRT)**
Seismic Refraction Tomography Survey including data acquisition, data processing and interpretation for deciding suitability of alignment at portals of tunnels, open cutting and major bridge locations.
- iii. **Resistivity Survey**
2-D Resistivity image mapping including data acquisition, data processing and interpretation for deciding suitability of alignment at portals of tunnels, open cutting, yards and major bridge locations.

- iv. **Shear wave velocity profile (VS30)** through Multi Channel Analysis of Surface Waves (MASW) technique in connection with earthquake design parameter study at various bridge locations.
- v. The Consultant will evaluate all the possible alignments for the tunnel sections, especially keeping in mind the thrust / shear zones identified by the geological mapping and geophysical (SRT, ERT & VS30) investigations. The design exercise will commence only post approval of the Alignment Report by the Client. This alignment report will also include a Comparative study of alignment options by Multi Criteria analysis by assigning weights to various criteria and sub-criteria in consultation with the Client and recommendation of the most preferred alignment
- vi. Develop Conceptual designs and drawings for the recommended option of preparatory study, tunnel, high bridges, viaduct, intersections, slope protection and stabilization structures, bio-engineering works, pavement works, road safety and ITS required for upgrading/ improvement of the road, and incorporating climate resilience and green infrastructure features.
- vii. Work out the Bills of Quantities, cost estimates and quantification of benefits based on prescribed norms by GoN, current market rates and district rates.
- viii. Conduct economic/financial analysis, and recommend viable financing models (PPP, EPC or Design & Build model etc.)
- ix. Prepare institutional arrangements, implementation plans and schedules.
- x. Prepare updated DPR report with content and format acceptable to the AIIB.

d. Geotechnical Investigation

For the pavement design, Bridges, Viaducts and Tunnels, the following geotechnical tests should be performed as per site requirement:

- i. Determine the sub-soil condition through pitting (1m x 1m x 3m) and Dynamic Cone Penetration (DCP) tests at 4 locations each 100m of the road alignment and adding necessary locations to determine.
 - a. in-situ density and moisture content, Characterization (grain size and Atterberg limits) and field CBR using DCP at each test pit,
 - b. Laboratory moisture-density characteristics (modified AASHTO compaction) and Laboratory CBR as well as swelling test
- ii. Determine the sub-soil condition through 2m deep pitting and DCP test at each 25 m interval where a retaining wall of height more than 3 m is required.
- iii. Conduct moisture-density characteristics (modified AASHTO compaction) and Laboratory CBR.
- iv. Determine the stability of the cut slopes using appropriate stability analysis or through study, field surveys and investigation of materials at site.
- v. Conduct other tests as required by geological, geotechnical investigation and study.
- vi. Benkelman Beam test for existing pavement evaluation (if necessary).

Bridges, viaducts and Tunnels shall utilize an EPC/Design-Build approach. The Consultant is strictly responsible for establishing the baseline Employer's Requirements, including executing mandatory sub-surface boring investigations (at least one deep borehole for every Bridges, Viaducts and Tunnels) and General Arrangement Drawings (GADs). For the concept design of bridges, Viaducts and Tunnels, the consultants shall perform geotechnical investigation of at least 1290m of borehole depths for different soil strata throughout the road corridor. The locations and depth of borehole shall be subjected to prior approval of the Client.

e. Preliminary Geo-Technical Study and Design for Road slope Disaster

For the preliminary geotechnical study and design of critical road slope, the following studies shall be carried out as per site requirement:

- i. Field Investigation
 - a. Conduct site reconnaissance and mapping of slope conditions.
 - b. Identify unstable slopes, erosion zones, and drainage issues.
 - c. Perform preliminary geotechnical investigations such as: Trial pits and/or boreholes (if required)
 - d. Soil and rock sampling
 - e. Discontinuity mapping for rock slopes
 - f. Document slope geometry, vegetation cover, and existing protection measures
- ii. Laboratory Testing
 - a. Conduct basic soil and rock tests including
 - b. Grain size distribution
 - c. Atterberg limits
 - d. Shear strength parameters
- iii. Mitigation Measures and Design
 - a. Recommend suitable slope stabilization measures, such as: - Retaining structures (gabion, RCC walls)
 - b. Slope regrading and benching
 - c. Rock bolting and shotcrete
 - d. Bio-engineering techniques
 - e. Surface and subsurface drainage improvements
 - f. Prepare preliminary designs and typical drawings
 - g. Estimate quantities and costs for proposed measures.

f. Construction Material Availability Survey

- i. The Consultant shall conduct the material availability survey and study for subgrade, sand, gravel, boulders, timber, etc., with their engineering properties, quantities and lead up to the road works site and bridge site. The quarry site of materials with their available quantities should be shown on a sketch plan with reference to bridge /road construction site. It shall determine the quality and quantity of the materials required for construction. The Consultant shall conduct a comprehensive Construction Material Availability and Quarry Survey along the project corridor. This survey must be carried out in close coordination with the respective Local Governments (LGs) to verify legal ownership, zoning laws, extraction royalties, and community-level usage rights.

The availability of the necessary material shall be surveyed to determine the following:

 - (a) Suitable quarry site for subgrade, boulder, sub-base/base/pavement aggregates, concrete aggregates, sand, borrow pits, fill materials
 - (b) Materials to be transported from elsewhere
 - (c) Materials to be imported from outside Nepal, their source and route of transport
 - (d) Source of water for construction, location of boring if groundwater water to be used
- ii. The Consultants will assess local capacity to produce adequate material for the different phases of the construction. Based on this assessment, they will make recommendations to use existing

quarries and/or to open new quarries. Procedures associated with the opening of new quarries should be detailed, when necessary, in coordination with the ESIA consultant.

- iii. The Consultant shall prepare mass haul diagram for haulage purposes giving quarry charts indicating the location of suggested/selected borrow areas, quarries, and the respective estimated quantities.

g. Condition Surveys for Bridges, Culverts and Structures

The Consultant shall thoroughly inspect the existing Bridges, Culverts (including wildlife crossing if any) and structures and shall prepare a report about their condition, including all the parameters in the approved format. The condition and structural assessment survey of the bridges /culverts /structures shall be carried out by senior experts of the Consultant for the bridges identified to be in a distressed condition based upon the visual condition survey and supplementary testing. Selection of tests may be made based on the specific requirements of the structure. The Consultant shall assess the maintenance intervention (matching with the Maintenance Classification and definition in practice in the DoR) and the report shall include all necessary information regarding short, medium- and long-term works, work plan with the details regarding quantity, necessary specification, cost etc. The consultant shall use the Standard Condition Assessment format. The list of bridges is attached in Annex-1.

h. Identifying and Evaluating Possible Tunnels

The Consultant shall execute a rigorous engineering, geological, and economic investigation to identify and evaluate potential tunnel alignment options along the Butwal-Pokhara corridor. For this the consultant shall carry out the following:

- i. Desk Study, Satellite Imagery, and Lineament Mapping
- ii. Field Reconnaissance & Portal Site Selection
- iii. Functional and Geometric Configuration Studies
- iv. Selection of tunnel type (e.g., NATM, Drill & Blast, TBM as applicable).
- v. Concept/schematic design of portals, shafts, cross-passages
- vi. Lighting, fire safety, and emergency systems.
- vii. Recommend construction methods and sequencing.
- viii. Identify required equipment and resources.
- ix. Construction risk assessment and mitigation measures.
- x. Identify environmental impacts (spoils disposal, groundwater, ecology).
- xi. Propose mitigation measures.
- xii. Integrate with EIA/IEE requirements.
- xiii. Final Recommendations with concept design and preliminary cost estimate

i. Identifying and Evaluating Possible Bridges/Viaducts

The Consultant shall execute a rigorous engineering, geological, and economic investigation to identify and evaluate potential Bridges/Viaducts options along the Butwal-Pokhara corridor. For this the consultant shall carry out the following:

- i. Desk Study, Satellite Imagery, and Lineament Mapping
- ii. Field Reconnaissance & Bridges/Viaducts Site Selection
- iii. Functional and Geometric Configuration Studies

- iv. Selection of Bridges/Viaducts type (Length, Span arrangement, type of Superstructure, type of foundation)
- v. Identify required equipment and resources.
- vi. Construction risk assessment and mitigation measures.
- vii. Identify environmental impacts (spoils disposal, groundwater, ecology).
- viii. Integrate with EIA/IEE requirements.
- ix. Final Recommendations with concept design and preliminary cost estimate

j. Inventory survey of Road and Roadside structures

The Consultant shall thoroughly survey existing alignment of Roads and prepare a detailed inventory report. The Consultant shall prepare detailed drawings of the existing alignments showing plan, profile, drainage, structures, cross-section, roadside barriers, and other details.

k. Pavement Design

The Consultant shall carry out detailed structural and functional designs for both flexible (asphalt) and rigid (cement concrete) pavements for the entire length of the approved highway alignment based on the data collected in component-1. The scope of work for this sub-component includes, but is not limited to:

i. Data Integration

- a. **Calculation of Design Parameters:** Using the provided vehicle classification and axle-weight matrices, the Consultant shall compute the actual Vehicle Damage Factor (VDF) for every commercial vehicle category.
- b. **Cumulative Loading Calculations:** Project future traffic growth rates over a mandatory 20-year design life for flexible pavement and a 30-year design life for rigid pavement. Determine the ultimate cumulative Equivalent Standard Axles (ESAL) or Million Standard Axles (MSA) the road structure must bear.
- c. **Localized Stress Multipliers:** Apply structural design safety multipliers to the calculated loading configurations on sustained steep grades (exceeding 4%) and sharp curve radiuses. This accounts for heavy commercial vehicles crawling, braking, and generating extreme lateral shear forces that accelerate pavement rutting.

ii. Subgrade Evaluation & Material Characterization

- a. **Subgrade Testing Matrix:** Extract soil samples and execute California Bearing Ratio (CBR) tests on soaked soil specimens at a maximum frequency of 250-meter intervals along the alignment.
- b. **Resilient Modulus Determination:** Correlate the soaked CBR data with engineering equations to determine the Resilient Modulus (MR) of the native subgrade soil and all proposed unbound granular layers (Sub-base and Base courses).

iii. Structural Design Optimization (Flexible vs. Rigid)

- a. **Mechanistic-Empirical Design Modeling:** Utilize specialized pavement modeling software (such as IITPAVE, Kenlayer, or AASHTOW) to analyze critical structural stresses and strains. Design must limit vertical compressive strains on the subgrade (to control rutting) and horizontal tensile strains at the bottom of the bituminous layer (to control fatigue cracking).
- b. **Rigid Pavement Joint & Dowel Engineering:** For toll plazas, bus bays, and heavily congested bazaar sections where rigid pavement is selected, the Consultant must design

structural concrete slab configurations, including precise joint spacing, **dowel bars** for efficient wheel-load transfer across transverse expansion joints, and **tie bars** for longitudinal joints.

- c. **Life-Cycle Cost-Benefit Analysis (LCCA):** Provide a comprehensive economic analysis comparing the 30-year lifecycle costs of a flexible pavement against a rigid pavement for high-stress zones.

l. Design of Major Intersections

The Consultant shall conduct all traffic volume surveys, origin-destination surveys, and other surveys as necessary to inform the design of Major Intersections. The Consultant shall utilize one or more state of the art traffic modeling software packages (such as VISSIM, Synchro, Sim Traffic, or others) to model the existing condition and proposed options using the traffic volumes and turn movements forecasted at different points in time. Prepare and present short traffic simulation videos depicting options for each junction to the DoR.

m. Road Safety Audit, Traffic Safety Features, Road Furniture and Road Markings

- i. The Consultant shall conduct a Complete design (Feasibility/DPR) audit including road safety audit should be carried out by inhouse/independent third party consultant to find out the maximum shortcoming of the design report and to correct timely before start implementation phase. The road safety audit shall consider forecasted crash numbers and severities, the cumulative economic costs of crashes without mitigation, and the costs and benefits of mitigations measures.
- ii. DPR shall undergo the exercise of Road Safety Audit through the Road Safety Auditor and recommendations mentioned be incorporated.
- iii. All roadside signs and other furniture placed or retained within the proposed roadway clear zone shall be crashworthy or protected by roadside barrier.
- iv. Ensure that all auxiliary lanes (including turn lanes, ramp acceleration/deceleration lanes, and others) have adequate deceleration/acceleration length, storage length, and taper length in the design year to mitigate the risks of rear-end collisions and traffic delays.
- v. Based on proposed site conditions, the Consultant shall conduct a thorough roadside barrier warranting process considering whether the hazard is within the clear zone, hazard severity, roadway geometrics, and an economic analysis.
- vi. The Consultant shall i) conduct a systematic and thorough safety analysis presenting existing deficiencies, ii) set road safety performance improvement goals for the designer to include during detailed design, iii) collect, analyze, forecast and consider vehicle crash/fatality history in developing the list of road safety mitigations.

n. Weighing Station, Parking Areas and Rest Areas

The Consultant shall select suitable sites for weighing stations, parking areas and rest areas and prepare suitable separate designs in this regard. The common facilities like petrol pump, EV Charging station, first-aid medical facilities, police office, restaurant, vehicle parking etc. should be included in the general layout for planning.

The Consultant should take into consideration the provisions for persons with disabilities in way side amenity centers /rest areas and provide ramp facilities, exit /entrance door with minimum clear opening of 900 mm and special toilet facilities for use of handicapped persons.

o. Utility shifting proposal and estimate

i. Identify type and location of all existing utilities within the proposed ROW

The Consultant will review information available with all utilities agencies in the region, consult maps/plans available with DOR, Nepal Electricity Authority, Nepal Telecommunication Cooperation (NTC) and other necessary bodies, consult with locals and municipal bodies to ascertain the presence and location of utilities and future plan, including but not limited to water-mains, telephone, electricity and fiber-optic installations in and around the project road. The consultant shall use Non-Destructive Sub-Surface Buried Utility Detection Surveys like Ground Penetrating Radar (GPR), Electromagnetic Locators (EML), and GPS to accurately trace buried pipelines, cables, and voids without digging.

ii. Plan for utilities in future road design

The Consultant is required to identify utilities that will require shifting to enable construction of the proposed project road.

The Consultant shall incorporate space required for elevated and under-ground utilities corridors and utilities crossings as required for existing and future utilities in consultation with user departments.

iii. Develop a utilities relocation plan

The Consultant is required to develop and submit a utilities relocation plan in consultation with DoR and user departments clearly identifying current utilities and suggested relocations along with crossings as required.

The Consultant shall plan, and conduct discussions, consultations and joint site visits required for the planning of utilities shifting and the development of required drawings and proposals.

The Consultant shall prepare all necessary details including costing, documents and suggested relocation plan to be submitted to user department and agreed with the user department for facilitating the upgradation of the road.

p. Miscellaneous Studies/Investigations

If not covered by aforesaid, the Consultant shall perform other studies, explorations, tests surveys, calculations, etc. required to produce full and complete set of working drawings, specifications, bills of quantities, requirement of materials and complete cost estimates for the viaduct/bridge/s including related works based upon which construction activities can be started to complete without further study and/or reference to them.

q. Option Analysis

The consultant shall propose various alternatives for road upgrading (eg. With or without tunnel, with or without viaducts etc, with or without bypass etc) and shall get approval from the Client before proceeding for the final design of the road.

The Consultant shall perform all detailed engineering designs, structural calculations, and data processing for the preparation of the final bankable DPR, mandatorily adopting the technical codes, design guidelines, and statutory standards set forth in Annex-2, including, but not limited to, those explicitly listed.

Component-3: Institutional Strengthening & Capacity Building

The Consultant will enhance DoR's technical expertise and institutional capacity by delivering a structured capacity development program. The Consultant must:

- i. Review existing organizational structure, mandates and workflows of DoR.
- ii. Assess human resource capacity, conduct an in-depth needs assessment to identify priority skill gaps, inefficiencies and define training needs for different disciplines of engineering including Environment and Social safeguards.
- iii. Evaluate existing policies, manual and guidelines
- iv. Customize structured training plan and learning materials focusing on key technical areas like advanced survey methods, design technology, pavement management and maintenance, green highway, Environment and Social safeguards, climate resilience, ITS & informed mobility, GIS-based planning tools, road safety engineering, AIIB ESS and FIDIC contract management, in consultation with DoR.
- v. Conduct capacity-building workshops and study tours (domestic and overseas) along with logistical arrangements, in coordination with the AIIB.
- vi. Provide on the job training to DoR technical persons as deputed by Development Cooperation Implementation Division (DCID), DoR for at least 400 man-days.

All the training schedule, national workshops and overseas trips shall be agreed with the AIIB and DoR in advance. The Consultant should also prioritize technology transfer during other components of the Assignment, through regular interaction and on-the-job training to DoR staff ensuring knowledge and best practices are effectively shared. The consultant shall include the cost for capacity building in their financial proposal.

Component-4: Project Delivery Strategy (PDS) and Tender & Contract Documentation

The Consultant shall perform the following key tasks:

- i. Develop a comprehensive Project Delivery Strategy (PDS) (including a Procurement Plan (PP)). The PDS shall provide the basis and justification for procurement decisions, including the Recipient's procurement objectives (including the proposed procurement approach, market engagement plan, evaluation methodology, stages of evaluation, specific Rated Criteria and their proposed prioritization and weightings, optimal contract forms (DB, EPC or concession, etc.), application of Sustainable Public Procurement, etc.) and justification for the selection methods in the PP.
- ii. Prepare complete tender documents (including the evaluation criteria and contract forms) using AIIB's Standard Procurement Documents (SPDs) appropriate for the type of procurement involved or suitable SPDs of other Multilateral Development Banks (MDBs), subject to agreement with AIIB.
- iii. Integrate ES requirements into the tender documents ensuring that environmental and social mitigation measures (including those from the ESIA/ESMP, RP, GAP, LMP, SEP, ESMPPF, LARPF (Land Acquisition and Resettlement Planning Framework), IPPF, etc.) are fully incorporated into the design, cost estimates, construction methodology, and tender documents (specifications, drawings, BoQ, etc.) and appropriately reflected in contract clauses.

Component-5: ESIA/ESMP, Resettlement Plan, SEP, GAP, LMP and IPP Report of road section

The Consultant shall prepare and updating of the Environmental and Social Impact Assessment/Environmental and Social Management Plan, Resettlement Plan, Stakeholder Engagement Plan, Labor Management Procedure, Gender Action Plan, and other environmental and social safeguard instruments in alignment with the Project's Environmental and Social Management Planning Framework and the Bank's Environmental and Social Standards in the Bank's "*Environmental and Social Framework*", dated February 2016, as amended February 2019, May 2021, November 2022 and June 26, 2024, and national regulatory requirements of the Recipient, AIIB's ESF and ESSs , relevant international good practices including WBG's EHS Guidelines and aligned with Nepal's environmental legislation including the Environment Protection Act/ Regulations, DoR's ESMF and other relevant requirements. The ESMFP and other ES documents prepared during preparatory phase already contain preliminary assessments and mitigations as well as recommendations and guidance regarding the scope, methods and tasks regarding the detailed ESIA/ ESMP and RP. The consultant is required to be informed by this, build upon, follow and make use of these while conducting the detailed and site-specific ES assessment. As part of following national legislation, the Consultant should conduct environmental and social assessments as guided by EPA (Environment Protection Act)-2019 and EPR (Environment Protection Regulation)-2020, and prepare Supplementary EIA Report on the basis of approved EIA report-2026, and also prepare EMP, SMP, RP and relevant safeguard plans. The tasks will be as follows:

- i. Prepare Supplementary EIA Report (with official translation as necessary) on the basis of approved EIA report-2026
- ii. Prepare and Review ES documents (ESMPF, SEP, LMP, GAP, LARPF, etc) prepared during preparation phase, and identify gaps. Prepare or update the ES instruments including: ESIA/ ESMP, RP, SEP, LMP, GAP, IPP etc
- iii. Integrate ES mitigation and enhancement measures into technical designs, project costs, and tender documents, including the Bill of Quantities (BoQ).
- iv. Conduct secondary document review, site visits, observation, sampling and stakeholder consultations to collect/update relevant baseline information on the physical, biological, chemical, socioeconomic and cultural environment (building on documents prepared during preparatory phase and following the guidance and recommendations).
- v. Conduct a comprehensive Environmental and Social Impact Assessment (ESIA) that includes assessment of Biodiversity, Critical Habitat Assessment (CHA), Cumulative Impact Assessment (CIA), climate change and develop mitigation strategies to safeguard the biodiversity, habitats and local communities of the study corridor. The ESIA assessment shall include predictive noise modelling, air quality dispersion modelling, water quality analysis modelling, including ground water and other relevant analyses for both construction and operation phases, with particular focus on impacts at sensitive receptors such as settlements, schools, hospitals, and cultural or religious sites.
- vi. Identify and document applicable legal and regulatory requirements, including a permitting register and a compliance matrix covering Government of Nepal requirements, AIIB requirements, and relevant international standards.
- vii. Incorporate ESIA and ESMP requirements into project documents, including ESHS specifications, mitigation measures, monitoring requirements, and contractual provisions for inclusion in detailed design, tender documents, and works contracts.
- viii. Identify and assess environmental and social impacts, explore design alternatives, and propose appropriate mitigation measures (following mitigation hierarchy) for impacts, and prepare and/ or update site-specific ES management plans such as Community Health and Safety Plan

- (CHSP), Occupational Health and Safety (OHS) Plan, Traffic Management Plan, Waste Management Plan, Biodiversity Management Plan, Cultural Heritage Management Plan, Emergency Preparedness Plan, etc. accordingly.
- ix. Assess and compare reasonable project alternatives, including the "No Project" option, alternative alignments, design standards, construction methods, and material sources. The analysis shall consider environmental and social risks and impacts, land acquisition and resettlement implications, biodiversity and ecosystem impacts, community health and safety, climate resilience, technical feasibility, lifecycle costs, and overall sustainability.
 - x. Carry out census and socio-economic surveys, gender/vulnerability/indigenous people assessment, cadastral survey (using total station where necessary) and valuation (loss and land acquisition assessment), and compensation framework of affected populations.
 - xi. Purchase the latest cadastral map (preferably digital version) from the concerned offices at their own cost and that shall be submitted to the DoR along with the project reports and shall be the property of the DoR.
 - xii. Carry out socio economic survey for Indigenous People Planning Framework for the development of IPP.
 - xiii. List out the potential projects along the corridor for the Community Development.
 - xiv. Assess potential socio-economic and resettlement impacts, and develop a Resettlement Plan (RP) including entitlement matrix, compensation plan, income and livelihood restoration strategy and implementation plan.
 - xv. Conduct stakeholder consultations following the SEP and meeting AIIB's ESF requirements. Support the Department of Roads (DoR) in organizing public hearings as per the requirements of the Environment Protection Regulations of Nepal and ensure that these consultations also satisfy Nepal and ES requirements on stakeholder engagement, including consultation with vulnerable and disadvantaged groups. Prepare consultation report documenting the consultation activities and feedback.
 - xvi. Integrate the environmental and social findings and recommendations into the technical design, cost estimates, and bid documents. Appropriate measures to avoid, minimize, mitigate, or offset adverse environmental and social impacts shall be incorporated into the detailed engineering designs. To ensure effective coordination, the Consultant shall conduct regular meetings, data sharing, stakeholder consultations, workshops, and dialogue sessions as required.
 - xvii. Identify and assess potential sources of construction materials, including quarry sites and borrow areas. Conduct field investigations and laboratory testing to determine the quality, quantity, and suitability of materials for various construction activities and also analyze the possible impacts and mitigation measures.
 - xviii. Prepare detailed engineering designs and drawings for road pavement structures, retaining and slope protection works, drainage and cross-drainage systems, bridges, intersections, flyovers, noise barrier walls, and all other components necessary for a safe, efficient, resilient, and inclusive road network. The designs shall follow sound engineering practices and incorporate the environmental and social mitigation measures identified in the ESIA/ESMP.
 - xix. Ensure one harmonized EIA/ESIA process, to the extent possible, to meet both AIIB and GoN requirements efficiently.
 - xx. Make a common approach for the project, which will apply to Associated Facilities funded by multilateral or bilateral agencies and GoN. During the project's preparation and implementation phases, the environmental and social risk assessment and management requirements will be

fully integrated and considered. The Consultant shall identify possible auxiliary facilities required for the construction, operation, and maintenance of the proposed project. These facilities shall be considered as integral components of the project and included in the environmental and social assessment.

Other than the tasks specified above, the DoR and AIIB may require the Consultant to perform relevant tasks consistently with the project scope, for example considering road segments, bridges & viaducts, and tunneling works as specialized works while designing work packages under different implementation modalities.

4 DURATION OF THE SERVICES

The Assignment will be carried out over a period of 18 months from the date of commencement of works. The timeline of the services and the commencement of activities is anchored on the receipt of the notice to proceed, a turnaround period on submission of deliverables shall be considered in the timeline.

5 REPORTING REQUIREMENTS

Within the scope of this Assignment, the Consultant will prepare and submit the following reports in required format and copies agreed with DoR and AIIB.

5.1 Reporting Requirement for Feasibility and Detailed Design of Road and Bridge/Viaduct

The Assignment shall be implemented over 18 (Eighteen) calendar months from the commencement date. The Contract type will be Lump Sum Contract. The Consultant's reporting requirements are basically divided into five Parts as:

S. N.	Description	Expected Duration
Component-1	Feasibility Study Report Preparation of Siddhartha Highway (Butwal-Pokhara)	18 calendar months from the commencement of services
Component-2	Detailed Design Report Preparation of Butwal to Pokhara Section of Siddhartha Highway as identified from the Feasibility study in component-1.	
Component-3	Institutional Strengthening & Capacity Building	
Component-4	Project Delivery Strategy (PDS) and Tender & Contract Documentation	
Component-5	ESIA, Resettlement Plan, SEP, GAP, LMP and IPP Report of road section	

The Consultant shall submit the reports in minimum five hard copies and one soft copy in specified manner and as enumerated in Table: Reports and Submissions.

The Consultant shall initially submit three copies of documents/reports as draft in ring/spiral binding form. After approval from the Client, the Consultant shall submit five copies of each report in book binding form. The Consultant shall sign and stamp on all the pages of Design documents, drawings, estimates, rate analysis, investigation report etc., before submitting it to the Client. All the reports shall also be submitted on electronic copy compatible with respective program on which they are prepared.

All the alignments, including bridges, shall be tracked on GPS and shall be submitted on compatible format. The Consultant shall also produce posters in appropriate paper size of each road and bridge showing detailed plan, profile and other relevant information.

The consultant shall introduce E&S review and feedback mechanism at key stages of reports (e.g., inception, alignment selection, intermediate design, and draft DPR) to ensure that agreed E&S recommendations are systematically incorporated into the plan/design.

5.2 Reports and Submissions

Table-1: Reports and Submissions

No.	Preparatory Outputs	Submission Deadline (no. months/days after the commencement date)	No. of Copies
Component-1: Feasibility Study Report Preparation of Siddhartha Highway (Butwal-Pokhara Section)			
i	Inception Report	1 months	3
ii	Feasibility Study Report Preparation of Siddhartha Highway (Butwal to Pokhara) Section – Draft Report	4 months	3
	Comments from Client on Draft Report	30 days after draft report submission	
iii	Feasibility Study Report Preparation of Siddhartha Highway (Butwal to Pokhara) Section – Final Report	6 months	5
Component-2: Detailed Design Study Report Preparation of Butwal to Pokhara Section of Siddhartha Highway as identified from the Feasibility study in Component-1.			
i	Draft Report: Based on the selected concept and standards, prepare and submit Draft Detailed Design Reports of the selected road and concept design report of bridges, Viaducts and Tunnels, Drawings, geological/ geotechnical, hydrological, construction material, rate analysis, cost estimate, draft tender documents with specification. Also, the Detailed Design should take into consideration the assessment reports on environmental and social issues along the road and bridges (to be done by a separate consultant). Also, the Draft Report shall be submitted incorporating all the recommendations from ESIA report.	14 months	3
ii	Resettlement Plan, SEP, GAP, LMP and IPP Report of road section -Draft Report	12 months	3

No.	Preparatory Outputs	Submission Deadline (no. months/days after the commencement date)	No. of Copies
	Comments from Client on Draft Report	30 days after draft report submission	
iii	Final Report: Based on the review, feedback and comments provided on the Draft, finalize and submit the Final Detailed Design Report of the selected road and concept design report of bridges, Viaducts and Tunnels, the drawings, geological/ geotechnical, hydrological, road safety audit, construction material, rate analysis, cost estimate, tender documents with specification. The final report shall also include the animated video showing the existing road/ bridges improved with the proposed design. Including the updated drone information, they need to update based on final design.	17 months	5
Component-3: Institutional Strengthening & Capacity Building			
i	Institutional Strengthening & Capacity Building Report-Draft	8 months	3
	Comments from Client on Draft Report	30 days after draft report submission	
ii	Institutional Strengthening & Capacity Building Report-Final	10 months	5
Component-4: Project Delivery Strategy (PDS) and Tender & Contract Documentation			
i	Project Delivery Strategy (PDS) - Draft	14 months	3
	Comments from Client on Draft Report	30 days after draft report submission	
	Project Delivery Strategy (PDS) - Final	15 months	5
ii	Complete Contract Documents of Different contract packages-Draft	15 months	3
	Comments from Client on Draft Report	30 days after draft report submission	
iii	Complete Contract Documents of Different contract packages-Final	17 months	5
Component-5: ESIA/ ESMP and Resettlement Plan (RP)			
i	Resettlement Plan, SEP, GAP, LMP and IPP Report of road section -Final Report	15 months	5

No.	Preparatory Outputs	Submission Deadline (no. months/days after the commencement date)	No. of Copies
ii	Monthly Progress Report	Expected within one week of the end of each calendar month	2
iii	ESIA Report- Draft	11 months	3
	Comments from Client on Draft Report	30 days after draft report submission	
iv	ESIA Report- Final	13 months	5
v	Supplementary EIA Report-Draft Report	12 months	20
	Comments from Client on Draft Report	30 days after draft report submission subjected to comments from respective stakeholders	
vi	Supplementary EIA Report-Final Report	17 months	7
vii	Wildlife/Biodiversity Conservation plan report-Draft	11 months	3
	Comments from Client on Draft Report	30 days after draft report submission subjected to comments	
viii	Wildlife/Biodiversity Conservation plan report-Final	13 months	5

5.3 Environmental and Social Impact Assessment Report

The ESIA report shall be prepared conforming to the AIIB's requirements as well as in compliance with Environment Protection Act, 2019 and Regulations, 2020. The indicative contents of the ESIA are as follows:

- Executive Summary
- Project Description
- Legal and Institutional Framework
- Analysis of Alternatives and Design Measures
- ESIA Approach and Methodology
- Environmental and Social Baseline Data
- Stakeholder Engagement and Public Consultations
- Gender Analysis and Actions
- Environmental and Social Risks and Impacts and Mitigation Measures
- Environment and Social Management Plans
- Labor and Working Conditions

- Monitoring Plan
- Institutional Arrangements
- Grievance Redress Mechanism (GRM)
- Appendices

The draft ESIA will also include site specific ESMP, RP, Occupational Health and Safety Plan, Community Health and Safety Plan, GESI Plan, Labour Management Procedures, SEP, GAP, and any other additional management and mitigation plans identified based on results from the ESIA exercise. The Draft ESIA report shall be submitted in 9 months from the date of contract signing. The final Report shall be submitted within 18 months after the date of contract signing.

5.4 Resettlement Plan

The RP will outline detailed census of project affected people (PAP) and revised entitlement framework addressing compensation for displaced PAPs (households, businesses, and informal settlers), with focus on additional assistance for vulnerable groups (e.g., Indigenous Peoples, women-led households). The key elements of RP will be as follows:

- Description of the project.
- Objectives of the resettlement program.
- Legal and institutional framework
- Land acquisition, involuntary resettlement and livelihood restoration risks and potential impacts.
- Census survey and baseline socioeconomic studies.
- Eligibility criteria
- Valuation of and compensation for losses
- Entitlement Matrix
- Additional Support Requirement
- Stakeholder engagement, disclosure and consultations
- Grievance redress mechanism.
- Livelihood Restoration Program
- Implementation schedule
- Costs and budget
- Monitoring and evaluation
- Implementation Arrangements
- Reporting

The Consultant shall submit Draft RP along with Draft ESIA Report for review and comments by AIIB and DoR. After receiving the comments, the Consultant shall submit the final RP with Final ESIA Report.

5.5 Establish formal E&S–engineering integration checkpoints

The consultant shall introduce structured review and feedback checkpoints at key stages (e.g., inception, alignment selection, intermediate design, and draft DPR) to ensure that E&S findings and recommendations are systematically incorporated into the plan/design, with any deviations appropriately documented and justified. In addition to regular interactions, feedback and working sessions between the technical and ES team, the consultant shall, at the minimum, organize dedicated joint E&S and engineering review sessions / workshops where the engineering design is reviewed alongside the E&S findings and recommendations.

5.6 Institutional Strengthening Report

The Institutional Strengthening Report should provide review of current DoR capacity, training need assessment, the conduct of capacity building activities, effectiveness of the training, participant evaluation and recommendations for sustaining capacity beyond the current project. The final report will be submitted within 18 months after the date of contract commencement date. The training plan & schedules, presentations, and handbooks should be completed and submitted prior to the commencement of formal training sessions to DoR and AIIB.

5.7 Project Delivery Strategy (PDS) and Tender & Contract Documentation

The Consultant shall prepare, finalize and submit the PDS and complete set of tender & contract documents for each contract package using the standard templates accepted by DoR and AIIB. The documents shall incorporate the evaluation criteria, eligibility requirements, Employer requirements, environmental and social safeguard measures, cost-estimates, BoQ, standard specifications, contract clauses, etc.

The contents of the reports are indicative minimum; the Consultant shall include any other elements that are considered essential to ensure the best quality of the reports. Details of reporting obligations will be finalized during submission of Inception Report.

6 CONSULTANT'S QUALIFICATIONS FOR SHORTLISTING

The Assignment will be implemented by a consultant (a consulting firm or an association of consulting firms) with appropriate qualifications and experience to execute the services. Consultants may form joint ventures (JVs) or engage sub-consultants to strengthen their qualifications and experience, however, a consultant shall not submit more than one Expression of Interest (EoI), either as a single entity or as a JV partner. Maximum number of partners in a JV is three.

Selection will be conducted through International Open Competitive Selection (IOCS) - Quality and Cost Based Selection (QCBS) procedures. Please refer to Annex-3 for the Minimum Criteria and Scoring Criteria of the EoI evaluation.

7 STAFFING REQUIREMENTS

The Consultant shall employ engineers and other professionals who shall be competent and qualified to carry out the duties specified. It is estimated that about 39 person-months of International Key Experts, 83 person-months of national Key Experts and 45 person-months of non-key experts will be required indicatively as mentioned in table-2.

The working team should consist of the key and non-key experts as listed below, in compliance with the following minimum academic qualification and experience requirements as mentioned in table-3.

Table-2: Experts' Input

A.1 PROFESSIONAL EXPERTS WITH INTERNATIONAL EXPERIENCE

Position	Quantity	No. of Person-Months	Total Person-Months
Key Experts			
K-1: Team Leader /Senior Highway Engineer	1	18	18
K-2: Senior Geologist	1	5	5
K-3: Senior Procurement Specialist	1	3	3
K-4: Senior Bridge/ Structural Engineer	1	4	4
K-5: Senior Tunnel Engineer	1	4	4
K-6: Senior Transport Economist	1	2	2
K-7: Senior Road Safety Specialist	1	3	3
Sub-Total (International Experts Input)			39

A.2 NATIONAL KEY AND NON-KEY EXPERTS

Position	Quantity	No. of Person-Months	Total Person-Months
National Key Experts			
K-8: Procurement Specialist	1	3	3
K-9: Highway Engineer	1	14	14
K-10: Bridge/ Structural Engineer	1	14	14
K-11: Geotechnical Engineer	1	5	5
K-12: Hydrologist	1	11	11
K-13: Senior Environmental Specialist	1	14	14
K-14: Senior Social Development /Resettlement Specialist	1	12	12
K-15: Biodiversity/Wildlife Expert	1	5	5
K-16: Training and Capacity Building Specialist	1	5	5
Sub-Total (National Key Experts Input)			83
National Non-Key Experts			
NK-1: Geologist	1	5	5

Position	Quantity	No. of Person-Months	Total Person-Months
NK-2: Material Engineer	1	3	3
NK-3: Road Safety Specialist	1	4	4
NK-4: Transport Economist	1	3	3
NK-5: Electro-Mechanical Engineer	1	3	3
NK-6: Social Development/Resettlement Officer	1	12	12
NK-7: Civil Engineer	1	15	15
Sub-Total (National Non-Experts Input)			45

Notes:

The above experts' composition and estimated total person-months are the Client's estimates. The Consultant is advised to assess their own requirements and propose their own experts' composition and experts' input requirements for efficient performance of their job as per the Terms of Reference. If the proposed consultant's team is found to be inadequate or not sufficient during the performance of the services, then additional staff should be provided by the Consultant at their own cost.

Table -3: Staffing Requirements and Minimum Qualifications

1	K-1: Team Leader/Senior Highway Engineer (TL) The Team Leader/Senior Highway Engineer (TL) will take the overall responsibility for the Feasibility Study, Detailed Engineering Design and Environmental Assessment of the project in accordance with the Terms of Reference and also for the conduct and the co-ordination of all professional inputs. S/He will be responsible to the Project Director (PD)/DCID. S/He will assist and advise the PD, Project Coordination/ Unit (PCU), and Project Team members on all aspects of the Project implementation. S/He will also maintain contact and liaison with the related Project offices, Units of DoR, Federal offices to ensure that the project is implemented in accordance with the Government's / DoR's policies and objectives. The Team Leader will be leading the team of experts for all the work and required to coordinate for the Component-1, Component- 2 and Component- 3, Component-4 & Component-5. TL shall be responsible for overall implementation of Project.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Highway /Transportation /Construction Management/ Engineering Management/ Project Management or related field.	
ii.	Experience	
	Total general Experience	Minimum: 15 years Preferable: 25 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 20 years
	Experience in the Proposed Field of Expertise	Requirements: - Worked as a team leader in minimum 5 relevant projects (At least one in Europe/America and one in South Asia) - Shall have international experience of detailed design of two road projects outside the native country as Team Leader/ Project Manager. - Experience of detailed design of two road projects in size equal or more than US \$2.00 million as Team Leader /Project Manager/ Highway Engineer. - Shall have experience of detailed design of minimum two road projects (double lane or more) of length $\geq$ 75 km each.

		Shall have experience of feasibility study minimum two road projects (double lane or more) of length ≥ 75 km. Note: (Only those projects shall be taken into consideration having experience greater than or equal to one year.)
iii.	Language	Communicate fluently in English Language

2	K-2: Senior Geotechnical Engineer Geotechnical Engineer will assist/ coordinate with the Team Leader to perform all aspects of geotechnical activities in feasibility study and detailed design of road and bridges including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Geotechnical Engineering/Engineering Geology	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as geotechnical engineer for detailed design of at least 5 no. of bridges - Shall have experience as geotechnical engineer for detailed design of minimum two road projects of length ≥ 75km each - Shall have experience as geotechnical engineer for detailed design of at least one road tunnel.
iii.	Language	Communicate fluently in English Language

3	K-3: Senior Procurement Specialist The Procurement Specialist shall be responsible for preparing the PDS, PP and the tender documents in accordance with AIIB's Procurement Policy, Directive and GoN's.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Highway /Transportation /Construction Management/ Engineering Management/ Project Management or related field.	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field of Procurement Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Minimum experience of preparation of International tender/ contract documents for 3 projects of similar nature of Road / Bridge works having minimum contract value of USD 40 million. - Experience of working with the Multilateral Development Banks (ADB/WB/AIIB etc.)
iii.	Language	Communicate fluently in English Language

4	K-4: Senior Bridge/ Structural Engineer Bridge/ Structural Engineer with International Experience will have the overall responsibility for the feasibility study and detailed design of the bridges/viaducts/structures along the alignment including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Minimum: Bachelor's degree in civil engineering Preferable: Master's degree in Bridge Engineering/Structural Engineering	
ii.	Experience	
	Total Experience	Minimum: 15 years

		Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience of detailed design of at least 5 no. of bridges outside native country. - Shall have experience of detailed design of at least 5 no. of bridges of length $\Rightarrow$ 50m. - Shall have experience of detailed design of at least 2 no. of Viaduct/Bridge with Total length $\Rightarrow$ 200m - Shall have experience of feasibility study of at least 5 no. of bridges.
iii.	Language	Communicate fluently in English Language

5	K-5: Senior Tunnel Engineer Tunnel Engineer with International Experience will have the overall responsibility for the feasibility study and concept design of the tunnel along the alignment including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Highway /Transportation /Tunnel Engineering or related field	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge/Tunnel Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: Shall have experience of detailed design of at least 3 no. of tunnels having minimum length $\Rightarrow$ 500m outside native country.

		Shall have experience of feasibility study of at least 2 no. of tunnel works.
iii.	Language	Communicate fluently in English Language

6	K-6: Senior Transport Economist Transport Economist shall be responsible for evaluating the economic viability of the highway project. The expert will conduct traffic demand forecasting, cost-benefit analysis (CBA), and socio-economic impact assessments, ensuring that the project's benefits justify the costs.	
i.	Educational Qualification	
	Minimum: Bachelor's Degree in Civil Engineering/ Economics Preferable: Master's Degree in Transport Economics/ Transportation Engineering	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field	Minimum: 10 years of experience in economic project appraisals and transport investment risk optimization Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as Transport Economist for design of at least 2 no. of highway projects. - Specific experience in economic analysis for road sector investments using HDM-4, minimum 2 assignments.
iii.	Language	Communicate fluently in English Language

7	K-7: Senior Road Safety Specialist Road Safety Expert shall be overall responsible for the design work related to traffic safety and will coordinate with other experts while performing road safety-related tasks as required.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering/Highway Engineering Preferable: Master's degree in Transportation Engineering/ Highway Engineering/ Traffic Engineering	

ii.	Experience	
	Total Experience	Minimum: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 8 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience of road safety works in at least 3 nos. of road projects of length ≥ 75km in detail design phase as road safety specialist. - Shall have experience of road safety audit in at least 2 nos. of road projects - Shall have experience of road safety works in at least 2 nos. of road intersection as road safety specialist.
iii.	Language	Communicate fluently in English Language

8	K-8: Procurement Specialist The Procurement Specialist shall be responsible for preparing tender documents in accordance with the AIIB's Procurement Policy, Directive and GoN's. The Procurement Specialist (National) shall assist the International Procurement Specialist and the Team Leader for preparing necessary documents.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in civil engineering Preferable: Master's degree in Engineering/ Contract Management/ Construction Management/ Law/ related field	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field of procurement	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: Minimum experience of preparation of international tender/ contract

		documents for 3 projects of Road / Bridge works having minimum contract value of USD 40 million.
iii.	Language	Communicate fluently in English Language

9	K-9: Highway Engineer Highway Engineer will assist/ coordinate with the Team Leader to perform the feasibility study and the detailed engineering design of the highway including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Highway/Transportation or related field	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience of pavement design works in at least 3 no. of road projects with Bituminous/Concrete Pavement. - Shall have experience of detailed design of minimum two road projects of length ≥ 75 km each.
iii.	Language	Communicate fluently in English Language

10	K-10: Bridge/ Structural Engineer Bridge/Structural Engineer will assist/coordinate with the Team Leader and Bridge/ Structural Engineer (International) to perform the feasibility study and the concept design of the bridges/viaducts including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering	

	Preferable: Master's Degree in Bridge Engineering/Structural Engineering	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as Bridge/ Structural Engineer in at least three contracts related to detailed design of highway bridges/Viaducts. - Shall have experience of detailed design of at least 5 no. of bridges/Viaducts (two lane width bridges/Viaducts of each with Total length $\geq 100\text{m}$).
iii.	Language	Communicate fluently in English Language

11	K-11: Geotechnical Engineer Geotechnical Engineer will assist/ coordinate with the Team Leader and Geotechnical Engineer (International) to perform all aspects of geotechnical activities in feasibility study and detailed design of road and bridges including assistance in Environmental and Social Study.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering Preferable: Master's Degree in Geotechnical Engineering	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements:

		▪ Shall have experience as geotechnical engineer for detailed design of at least 5 no. of highway bridges. ▪ Shall have experience as geotechnical engineer for detailed design of minimum two road projects. ▪ Shall have experience as geotechnical engineer for detailed design/Feasibility study of at least one road tunnel. ▪ Shall have experience as geotechnical engineer for analysis and detailed design of slope failure.
		Preferable: ▪ Experience in a greater number of Projects in above two sub-criteria.
iii.	Language	Communicate fluently in English Language

12	K-12: Hydrologist Hydrologists shall be responsible for analyzing and managing the water-related aspects of the highway project during both the feasibility and detailed design phases including assistance in Environmental and Social Studies, with specific focus on bridge design during the detailed design phase. The expert will assess river flow, flood risks, and watercourse behavior to ensure that bridge structures are designed to withstand hydrological forces such as high-water levels, flooding, and scouring.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering /Hydrology Preferable: Master's degree in Hydrology/ Water Resource Management or related Engineering.	
ii.	Experience	
	• Total Experience	Minimum: 15 years Preferable: 20 years
	• Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	• Experience in the Proposed Field of Expertise	Requirements:

		▪ Shall have experience as hydrologist in at least two contracts related to detailed design of highway bridges. ▪ Shall have experience of hydrological analysis for detailed design of at least 3 no. of highway bridges of each with Total length =>75m).
iii.	Language	Communicate fluently in English Language
13	K-13: Senior Environmental Specialist Senior Environmental Specialist shall be responsible all the tasks related to environmental assessments, analyses and regulations, as per the requirement of the Government of Nepal and AIIB. He/She shall be leading the E&S activities of the project, shall coordinate with the experts ensuring integration of E&S considerations into the engineering design and DPR, and serving as the primary focal point for E&S matters.	
i.	Educational Qualification	
	Minimum: Master's degree in Environmental Engineering/ Environment Science or related field	
ii.	Experience	
	• Total Experience	Minimum: 15 years Preferable: 20 years
	• Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	• Experience in the Proposed Field of Expertise	Requirements: ▪ Experience of preparation of EIA/IEE/ESIA for three road projects as an Environmentalist/ Environmental Safeguard Specialist or similar position. ▪ Experience of leading in preparation of ESIA for at least three Road Projects including one MDB funded project (AIIB/World Bank/ADB etc.)
iii.	Language	Communicate fluently in English Language

14	K-14: Senior Social Development/Resettlement Specialist Senior Social Development/Resettlement Specialist shall be responsible for managing social impact assessments and resettlement planning for the highway and bridge project. The specialist will evaluate potential social impacts on local communities, develop resettlement action plans to ensure appropriate compensation as per the rules of Government of Nepal and engage with stakeholders as required.	
i.	Educational Qualification	
	Minimum: Master's degree in Social Science/ Anthropology/ Sociology/ Rural Development/ Economics or related field	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Field, Road/Bridge Works	Minimum: 10 years Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Experience of preparation of EIA/IEE/ESIA for 3 road projects as a Social Safeguard/ Development Specialist or similar position. - Experience of implementation of EIA/IEE/ESIA in two Donor funded Road Projects (World Bank/ADB/JICA/AIIB etc) as a Social Safeguard Specialist or similar position.
iii.	Language	Communicate fluently in English Language

15	K-15: Biodiversity/Wildlife Specialist Social Development/Resettlement Specialist shall be responsible for managing social impact assessments and resettlement planning for the highway and bridge project. The specialist will evaluate potential impacts on sensitive areas like forests, protected zones, river corridors, wetlands etc. Also, the expert shall ensure that road development minimizes harm to ecosystem, wildlife and natural habitat while complying with environmental regulations and safeguards of Bank's standard.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Wildlife Biology/Environment science/Environmental management/Forestry/Zoology/Ecology.	

	Preferable: Master's degree in Wildlife Biology/Environment science/Environmental management/Forestry/Zoology/Ecology.	
ii.	Experience	
	Total Experience	Minimum: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 8 years
	Experience in the Proposed Field of Expertise	Requirements: - Experience of preparation of EIA/IEE/ESIA for 3 road/bridge/tunnel projects as an environment/wildlife/Biodiversity expert. - Experience in design/ implementation of 2 linear infrastructure project as a wildlife/Bio diversity expert.
iii.	Language	Communicate fluently in English Language

16	K-16: Training and Capacity Building Specialist Training and capacity building Specialist shall be responsible for identifying the current gaps in capacity of DoR personnel, carrying out training needs and propose improved organizational structure and functional arrangements	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Engineering, Human Resource Development, Education, Management or public Administration. Preferable: Master's degree in Engineering, Human Resource Development, Education, Management or public Administration.	
ii.	Experience	
	Total Experience	Minimum: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 8 years
	Experience in the Proposed Field of Expertise	Requirements: Experience of conducting training as Training of Trainers (TOT) for 3 groups of various disciplines.

		Experience in carrying out training need of 2 public organizations.
iii.	Language	Communicate fluently in English Language

17	NK-1: Geologist The Geologist shall be responsible for analyzing and managing the geological aspects of the highway/Tunnel/bridge projects during both the feasibility and detailed design phases including assistance in Environmental and Social Study. The geologist will also coordinate with other experts to identify sources of construction materials, and provide guidance on mitigating geological hazards like landslides, soil liquefaction, and subsidence as well as assess fault lines and seismic activity to identify potential risks and determine the suitability of the terrain for construction.	
	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering/ Engineering Geology or related Engineering discipline Preferable: Master's degree in Geology or related Engineering discipline	
	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Fields	Minimum: 10 years of experience in engineering geology, rock mass classification (RMR/Q-system), joint mapping, and sub-surface core-logging related to Roads, Bridges, Viaducts and Tunnels works. Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as geologist in at least 3 contracts related to detailed design of highway with length ≥ 75km. - Shall have experience as geologist for detailed design of at least 3 no. of highway bridges (two or more lane width bridges).
	Language	Communicate fluently in English Language

18	NK-2: Material Engineer Material Engineer shall be responsible for evaluating and selecting appropriate materials for the highway and bridges. The materials engineer will conduct assessments of potential construction materials and determine their suitability based on local availability, cost, and performance characteristics.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering or related field. Preferable: Master's degree in Geotechnical/ Material Engineering or related field	
ii.	Experience	
	Total Experience	Minimum: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 8 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as material engineer in at least 3 contracts related to detailed design of highway with length ≥ 75 km. - Shall have experience as material engineer for detailed design of at least 5 no. of highway bridges
iii.	Language	Communicate fluently in English Language

19	NK-3: Road Safety Specialist Road Safety Specialist shall be overall responsible for the design work related to traffic safety and will coordinate with other experts while performing road safety-related tasks as required.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Civil Engineering/Traffic Engineering Preferable: Master's degree in Transportation Engineering/ Highway Engineering/ Traffic Engineering	
ii.	Experience	
	Total Experience	Minimum: 10 years

	Experience in Related Field, Road/Bridge Works	Minimum: 8 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience of road safety works in at least 3 nos. of road projects of length ≥ 50 km each in detail design phase as road safety specialist. - Shall have experience of road safety audit in at least 2 nos. of road projects
iii.	Language	Communicate fluently in English Language

20	NK-4: Transport Economist Transport Economist shall be responsible for evaluating the economic viability of the highway project. The expert will conduct traffic demand forecasting, cost-benefit analysis (CBA), and socio-economic impact assessments, ensuring that the project's benefits justify the costs.	
	Educational Qualification	
	Minimum: Bachelor's Degree in Civil Engineering/ Transport Economics/ Transportation Engineering Preferable: Master's Degree in Transport Economics/ Transportation Engineering/Engineering Economics.	
	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Fields	Minimum: 10 years of experience in economic project appraisals and transport investment risk optimization Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: - Shall have experience as Transport Economist for design of at least 2 no. of highway projects . - Specific experience in economic analysis for road sector investments using HDM-4, minimum 2 assignments.
	Language	Communicate fluently in English Language

21	NK-5: Electro-Mechanical Engineer	
	Electro-Mechanical Engineer shall be responsible for Design of street lighting, intersection signal etc. Identification of Electric poles, transformers, wires etc. for relocation with close coordination with related electricity offices. Prepare estimate for relocation requirements.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Electrical Engineering Preferable: Master's Degree in Electrical Engineering	
ii.	Experience	
	Total Experience	Minimum: 15 years Preferable: 20 years
	Experience in Related Fields	Minimum: 10 years as electrical engineer Preferable: 15 years
	Experience in the Proposed Field of Expertise	Requirements: Shall have experience as electrical engineer in at least 5 nos. of projects
iii.	Language	Communicate fluently in English Language

22	NK-6: Social Development/Resettlement Officer	
	Social Development/Resettlement officer shall assist the Team Leader and Social Development/Resettlement Expert for managing social impact assessments and resettlement planning for the highway and bridge project.	
i.	Educational Qualification	
	Minimum: Bachelor's degree in Social Science/ Anthropology/ Sociology/ Rural Development/ Economics or related field Preferable: Master's degree in Social Science/ Anthropology/ Sociology/ Rural Development/ Economics or related field	
ii.	Experience	
	Total Experience	Minimum: 5 years Preferable: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 3 years Preferable: 5 years

	Experience in the Proposed Field of Expertise	Requirements: Experience of preparation of EIA/IEE/ESIA for 3 road projects as a Social Safeguard/ Development Officer or similar position.
iii.	Language	Communicate fluently in English Language

3	NK-7: Civil Engineer Civil Engineer will assist/coordinate with the Team Leader and Bridge/ Structural Engineer (International) and Highway Engineer to perform the feasibility study, the concept design of the bridges/viaducts as well as the DPR preparation of the feasible alignment.	
i.	Educational Qualification	
	Minimum: Bachelor degree in Civil Engineering Preferable: Master's Degree in Bridge Engineering/Structural Engineering/Highway Engineering	
ii.	Experience	
	Total Experience	Minimum: 5 years Preferable: 10 years
	Experience in Related Field, Road/Bridge Works	Minimum: 3 years Preferable: 5 years
	Experience in the Proposed Field of Expertise	Requirements: Shall have experience as Bridge/ Road Engineer in at least three projects related to detailed design of highway bridges/Viaducts.
iii.	Language	Communicate fluently in English Language

7 REFERENCE DATA, LOCAL SERVICES, AND FACILITIES TO BE PROVIDED BY THE CLIENT

The Client will provide the Consultant with the following facilities and assistance:

- (i) Access to previous DPR report, preparation study report, scoping report/ToR and other information required to perform the assigned tasks;
- (ii) Counterpart staffs to work with the Consultant;
- (iii) Provide the Consultant and each of the personnel with work permits and other documents as necessary;

- (iv) Assist in obtaining necessary visa and getting clearance through customs for the international personnel, if any; and
- (v) Issue to officials and representatives of the Government/MOPIT/DoR all such instructions as may be necessary or appropriate for the prompt and effective implementation of the services.

8 CONSULTANT'S OBLIGATIONS

The Consultant shall be required to form a multi-disciplinary team for this Assignment. The Consultant's Team shall be managed by adequate number of experts with relevant experience in the execution of similar assignments. Office space, housing accommodation, office and field equipment, transportation and other facilities for experts, and for the technical support staff should be provided by the Consultant as needed to carry out the services.

The Consultant shall provide a multifunction printer, offering standard print, copy, and scan functionalities (A4/A3 size paper) with color Platen or Duplexing Automatic Document Feeder (RADF), color touch panel, output of 20-30 pages per minute for both color and black and white, Standard 2 x 550-sheet cassettes + 100-sheet bypass tray, Standard Wi-Fi, Ethernet, and USB connectivity to the DCID, DoR and shall be the property of DCID, DoR.

All costs associated with the field survey and stakeholder consultations, including any travel, accommodation, and subsistence for the Consultant's staff, shall be included in the Consultant's lump sum remuneration. The Consultant shall submit the financial proposal accordingly. All costs associated with the field survey/geotechnical investigations should be included in financial proposal. The specification of other facilities is set out in Annex-4 and Annex-5.

9 CONTRACTUAL ARRANGEMENTS

The Consultancy Services contract will be with DCID, DoR, as per the standard contract terms and conditions in the Request for Proposal.

10 SCHEDULE OF PAYMENTS

The payment process for the Assignment will be on deliverable submission basis, as per table-4 given below:

Table-4: Payment Schedule

S.N.	Deliverables	% Payment	Remarks
1.	Inception Report	12	
2.	Feasibility Study Report of Butwal-Pokhara Section – Draft Report (Component 1 of the Objective)	10	
3.	Feasibility Study Report of Butwal-Pokhara Section – Final Report (Component 1 of the objective)	6	After approval of Final Report
4.	Concept Design of Tunnels-Draft Report	5	
5.	Concept Design of Tunnels-Final Report	3	After approval of Final Report
6.	Concept Design of Bridges and Viaducts-Draft Report	5	
7.	Concept Design of Bridges and Viaducts-Final Report	3	After approval of Final Report
8.	Detailed Engineering Design of road Section including Preliminary Geo-Technical Study and Design for Road slope Disaster – Draft Report	16	
9.	Resettlement Plan, SEP, GAP, LMP and IPP Report of Road Section-Draft Report	8	
10.	Detailed Engineering Design of road Section including Preliminary Geo-Technical Study and Design for Road slope Disaster – Final Report	8	After approval of Final Report
11.	Resettlement Plan, SEP, GAP, LMP and IPP Report of road section – Final Report	4	After approval of Final Report
12.	ESIA reports-Draft Report	5	
13.	ESIA reports-Final Report	3	After approval of Final Report
14.	Supplementary EIA Report-Draft Report	5	
15.	Supplementary EIA Report-Final Report	3	After approval of Final Report
16.	Project Delivery Strategy (PDS) and Tender Document-Draft Report	2	
17.	Project Delivery Strategy (PDS) and Tender Document-Final Report	2	After approval of Final Report
	Total	100	

ANNEX-1
List of Bridges

SN	Bridge Name	Chainage (Km)	Bridge NO.	Length (m)	Width		Span No.	Bridge Type		
					C W	Total Width		Super/STR	Sub./ST	Foundation
1	Chidia Khola	28+240	46/H010-003	21	6.8	7.7	1*21	RCC/T(3B)	Concrete	Shallow
2	Dovan Khola	31+990	43/H010-004	19.5	6.5	7.7	1*19.5	RCC/T(3B)	Concrete	Shallow
3	Bhoot Khola	32+700	43/H010-005	21.7	9.2	10.2	1*21.75	RCC/T(3B)	S.Masonry	Shallow
4	Dumre Khola	33+990	43/H010-006	10.2	6.8	7.7	1*10.20	RCC/T (3B)	S.masonry	Shallow
5	Aam Khola	34+710	43/H010-007	14	6.5	7.7	1*10.20	RCC/T(3B)	S. Masonry	Shallow
6	Jimire Khola	35+000	43/H010-008	10.4	6.7	7.6	1*10.40	RCC/T(3B)	S. Masonry	Shallow
7	Jhumsa Khola	35+580	43/H010-009	51.2	6.7	7.6	1*51.0	PSC/T(3B)	Concrete	Shallow
8	Sisne Khola	36+380	43/H010-010	21.2	6.5	7.5	1*21.20	RCC/T(2B)	S.masonry	Shallow
9	Dumre Khola	47+710	43/H010-011	29.2	6.6	7.6	1*29.20	RCC/T(2B)	S.Masonry	Shallow
10	Angha Khola	81+080	43/H010-012	29.15	6.7	7.6	1*29.15	RCC/T(2B)	Concrete	Shallow
11	Ramdi Pul	85+850	43/H010-013	29.1	6.8	7.7	1*29.10	RCC/T(2B)	Concrete	Shallow
12	Upsa Khola	86+850	43/H010-014	19.8	6.8	7.7	3(1*19.8+2*8)	RCC/T(2B)	Concrete	Shallow
13	Kaligandaki	87+170	43/H010-015	106	6.7 2	7.6	1*93.60	ST/Truss	Concrete	Shallow
14	Karadi Khola	107+200	41/H010-016	13.9	6.7	7.6	1*13.90	RCC/T(3B)	Concrete	Shallow
15	Galaudi Khola	111+390	41/H010-017	15.5	6.7	7.6	1*15.5	RCC/T(3B)	S. Masonry	Shallow
16	Madhi Khola	111+641	41/H010-018	11.85	6.7	7.6	1*11.85	RCC/T(3B)	Concrete	Shallow
17	Dhade Khola	117+200	41/H010-019	6.8	6.8	8	1*6.80	Slab/BR	S.Masonry	Shallow
18	Gedi Khola	118+100	41/H010-020	6.5	6.7	7.8	1*6.50	Slab/BR	S.Masonry	Shallow
19	Mirdi Khola	120+240	41/H010-021	87.6	6.7	7.6	3*29.20	RCC/T(2B)	Concrete	Shallow
20	Aarmadi Khola	121+770	41/H010-022	93.9	6.7	7.6	1*38.4+3*18.5	RCC/T(2B)	Concrete	Shallow
21	Chang-changdi	124+825	41/H010-023	8.85	6.7	7.6	1*8.85	Slab/BR	S.Masonry	Shallow
22	Khadi Khola	127+910	41/H010-024	13.75	6.7	7.6	1*13.75	RCC/T(3B)	S.masonry	Shallow
23	Gyabdi Khola	129+010	41/H010-025	8	6.8	7.6	1*8.00	Slab/BR	S.masonry	Shallow
24	Hardas Khola	135+000	41/H010-026	13.8?	6.7	7.6	1*13.80	RCCT(3B)	Concrete	Shallow
25	Jyadh Khola	136+660	41/H010-027	9	6.8	7.6	1*9.0	Slab/BR	S.masonry	Shallow
26	Sumare Khola	140+240	41/H010/028	13.8	6.7	7.6	1*13.8	RCC/T(3B)	S.masonry	Shallow
27	Rang Khola	141+440	41/H010/029	55.4	6.7	7.6	3*18.45	RCC/T(3B)		Shallow

SN	Bridge Name	Chainage (Km)	Bridge NO.	Length (m)	Width		Span No.	Bridge Type		
					C W	Total Width		Super/STR	Sub./ST	Foundation
									Concrete	
28	Araudi Khola	146+870	41/H010/030	29.10	6.7	7.6	1*29.10?	RCC/T(2B)	Concrete	Shallow
29	Bad Khola	148+230	41/H010/031	38.5	6.7	7.6	1*38.50	RCC box girder	Concrete	Shallow
30	Budi Khola	149+230	41/H010/032	15.5	6.7	7.6	1*15.5	RCC/T(3B)	Concrete	Shallow
31	Chhore Khola	159+240	41/H010/033	6.6	8.5	9.7	1*6.60	Slab/BR	S.masonry	Shallow
32	Phedi Khola	161+040	41/H010/034	20.3	6.7	7.6	1*20.3	RCC/T(3B)	Concrete	Shallow
33	Besare Khola	163+040	41/H010/035	8.7	6.7	7.6	1*8.70	Slab/BR	S.masonry	Shallow
34	Dharadi Khola	163+750	41/H010/036	8.5	6.7	7.6	1*8.5	Slab/BR	S.masonry	Shallow
35	Mulabari Khola	164+000	41/H010/037	9.8	6.8	7.6	1*9.8	Slab/BR	Concrete	Shallow
36	Phosre Khola	168+960	39/H010/038	12.9	8.5	9.7	1*7.80	Slab/BR	S.Masonry	Shallow
37	Thulunga Khola	169+000	39/H010/039	11.6	6.8	7.7	1*11.6	Slab/BR	S.Masonry	Shallow

ANNEX-2

List of Standard

A. Enforceable Engineering Design Codes & Standards

1. Geometric & General Road Design

- i. Nepal Road Standard (NRS), 2070 (Second Revision)
- ii. Nepal Rural Road Standard (NRRS), 2071
- iii. IRC:37 (Latest Revision) - Guidelines for the Design of Flexible Pavements
- iv. IRC:58 (Latest Revision) - Guidelines for the Design of Plain Jointed Rigid Pavements
- v. AASHTO Policy on Geometric Design of Highways and Streets
- vi. AASHTO Guide for Design of Pavement Structures

2. Bridges, Viaducts & Tunnels

- i. IRC:6 (Latest Revision) - Standard Specifications and Code of Practice for Road Bridges (Section II: Loads and Load Combinations)
- ii. IRC:112 (Latest Revision) - Code of Practice for Concrete Road Bridges
- iii. NFPA 502 / PIARC Guidelines

B. Approved Software Applications & Native File Deliverables

- i. 3D Geometric Modeling
- ii. Mechanistic-Empirical Pavement Design
- iii. Structural Analysis (Bridges/Retaining Structures) by using SAP2000, STAAD. Pro, or MIDAS Civil
- iv. Geotechnical Tunnel Analysis by using PLAXIS 2D/3D or Rocscience Phase2/RS3

ANNEX-3

A. Minimum Qualification Criteria:

S.N.	Criteria	Compliance	Conclusion
1	Corporate Registration: Minimum 10 years since establishment (applicable to each partner in a JV)	Yes/No	Pass/Fail
2	JV Agreement in case of JV/Intent to form JV	Yes/No	Pass/Fail
3	Power of Attorney in case of JV	Yes/No	Pass/Fail
4	Compliance with AIIB's Policy of Prohibited Practices (The Consultant shall submit a duly signed and sealed declaration confirming its commitment to comply with the Asian Infrastructure Investment Bank (AIIB) Policy on Prohibited Practices.)	Yes/No	Pass/Fail
5	In case of a Single Entity: (i) Proven expertise and prior experience in DPR/Detail Design/Design review of at least one road project with tunnel outside its home country (any length) with contract value of minimum 1.5 million USD; and (ii) Proven expertise and prior experience in preparation of environmental and social assessments and associated instruments (e.g., ESIA/ESMP, RP, LMP, EIA/IEE) for MBD or Donor funded highway projects. In case of a JV: For one partner: i) Proven expertise and prior experience in DPR/Detail Design/Design review of at least one road project with tunnel outside its home country (any length) with contract value of minimum 1.5 million USD; and ii) Proven expertise and prior experience in preparation of environmental and social assessments and associated instruments (e.g., ESIA/ESMP, RP, LMP, EIA/IEE) for MBD or Donor funded highway projects. For each partner: Proven expertise and prior experience in DPR/Detail Design/Design review of at least one road project (any length) with contract value of minimum 1.0 million USD.	Yes/No	Pass/Fail

B. Scoring Criteria

Details of the Scoring Criteria	
Description of Criteria	Marks out of 100
B.1) Core Business of the Consultant	10

B.2) General Experience of the Consultant	15
B.3) Specific Experience Related to the Assignment	70
B.4) Technical, Managerial and Organizational Capability of the Consultant	5
B.1) Core Business of the Consultant	Maximum 10 marks
Active Years in Consulting Services	As consultant
a. Number of active years in consulting services	≤10= 0 marks
b. Number of active years in consulting services	≥20= 10 marks
B.2) General Experience of the Consultant	Maximum 15 marks
Experience in preparation of DPR/Feasibility Level Design/Design Review of road projects.	1.0 marks for each project, max 5 marks
Experience in preparation of DPR/Feasibility Level Design/Design Review of road tunnel projects.	1.0 marks for each project, max 5 marks
Experience in preparation of DPR/Feasibility Level Design/Design Review of bridge/viaduct projects.	1.0 marks for each project, max 5 marks
B.3) Specific Experience Related to the Assignment	Maximum 70 marks
B.3.a. Specific Experience	Maximum 50 marks
Experience in preparation of Feasibility Level Design of road projects (at least 75 km)	2.0 marks for each project, maximum 10 marks
Experience in preparation of DPR Level Design of road projects (at least 75 km)	2.0 marks for each project, maximum 10 marks
Experience in preparation of DPR/ Feasibility Level Design/Design of bridge/viaduct projects (at least 200m length bridge/viaduct)	2.0 marks for each project, maximum 10 marks
Experience in preparation of DPR/Feasibility Level Design/Design of road tunnel projects (at least 500m length tunnel)	2.0 marks for each project, maximum 10 marks
Experience in preparation of EIA/IEE report on road/tunnel projects	2.0 marks for each project, maximum 10 marks
B.3.b. Experience for Multilateral Development Banks (MDB) funded projects	Maximum 20 Marks
Experience in preparation of DPR/Feasibility Level Design/Design Review of Road/Bridge/Tunnel/Railway projects funded by MDBs, e.g., the World Bank, ADB, AIIB etc.	2.0 marks for each project, maximum 10 marks

Experience in preparation of ESIA and associated instruments (e.g., ESIA/ESMP, RP, IPP, LMP, EIA/IEE) for MDB-financed Highway/Bridge/Railway/Tunnel projects under an applicable MDB environmental and social framework, e.g., World Bank ESF, ADB ESF, AIIB ESF, etc.	2.0 marks for each project, maximum 10 marks
B.4 Technical, Managerial and Organizational Capability of the Consultant	<i>Maximum 5 marks</i>
Technical capability- Professional staff in the organization relevant to the Assignment	
a. Number of inhouse Professional Staffs	≥20≤50= 2 marks
b. Number of inhouse Professional Staffs	>50= 5 marks
Notes on Minimum Qualification and Scoring Criteria	
Note 1: The above information must be supported with copies of respective certificates.	
Note 2: Consultants are allowed to form a JV to enhance their qualifications and experience.	
Note 3: Maximum number of partners in a JV: Three.	
Note 4: A consultant shall not submit more than one EoI, either as a single entity or as a JV partner.	
Note 5: The EoI of the Consultant will be rejected if any Firm associated in JV has been debarred by the AIIB.	
Note 6: In between marks will be given on prorata basis.	
Note 7: Completed or substantially completed projects will be considered for evaluation.	
Note 8: Previous experience work as a sub-consultant will not be considered for evaluation.	
Note 9: The completed or substantially completed projects within the last ten (10) years counted from the EoI submission deadline shall be considered for evaluation.	
Note 10: Minimum total score to be shortlisted is 60 out of 100.	
Note 11: If more than six consultants secure the minimum total marks, only the first six highest consultants will be shortlisted. If more than one consultant secures equal total score, preference will be given to the consultant with higher score in the criteria B.3.a. Similarly, the second preference will be given to B.3.b criteria.	
Note 12: If a consultant has completed more than one job (road, bridge, viaducts, tunnels) in a single package/contract, each job shall be considered for evaluation.	

ANNEX-4

OFFICES

Provision of Offices and Accommodation for the Consultant

- i. The consultant shall acquire and provide office space at Kathmandu (within 3 Km radius of DCID Office). The consultant shall provide furniture, fittings, equipment and materials in order to provide fully functioning and usable facilities and to provide the consultant's staff with the necessary resources for the administration, detail study and reporting of the works. Offices shall be designated as Office Type-1.
- ii. The complete office facilities shall include the provision of the land, covered parking facilities for vehicles, renting of the buildings and all other necessary appurtenance such as drainage systems, fences, utilities, etc.
- iii. The office shall have sufficient numbers of rooms for experts during the Service.
- iv. After providing the offices and equipment the consultant shall maintain them for the duration of the Service.

ANNEX-5 VEHICLES

The type of vehicles the Consultant required to provide for their use shall be as shown below: -

S. No.	Vehicle Type	Nos. to be supplied	Description of Specification
1	<i>Type 1</i>	3	New, or nearly new, five or six door Station Wagon (including one/two rear doors) with a diesel engine of at least 2.2 litre capacity, four-wheel drive, high and low ratio gear box with differential lock, a minimum ground clearance (unladen) of 180mm, Air bags, Air Conditioner, cloth seats, seat belts, locking fuel cap, spare wheel, tool kit, tow rope, jump leads, fire extinguisher and first aid kit.
2	<i>Type 2</i>	5	New, or nearly new, “Double Cab” Pick-Up with a diesel engine of at least 2.0 litre capacity, four wheel drive, Air Bags, Air Conditioner, cloth seats, seat belts, locking fuel cap, spare wheel, tool kit, tow rope, jump leads, fire extinguisher and first aid kit.
3	<i>Type 3</i>	3	New “Off Road” motor cycle with a 4 stroke engine of at least 150 c.c. equipped with panniers and spare tool kit. Included shall be a motor cycle safety helmet meeting the Nepal Road Safety specifications.

- The consultant may propose additional vehicles if necessary, in their financial proposal.
- “Nearly new” means less than 5-year-old and with less than 50,000 km travelled and in general good condition.
- All vehicles shall be fully insured throughout the project period. The cost of vehicle in the financial proposal shall include salary and necessary allowances of the driver, fuel and maintenance costs.
- One Type 1 vehicle shall be supplied to DCID, DoR for the monitoring and supervision of the overall consulting services during the project period.
- Payment shall be made only to those vehicles which conform to the specification.