



Government of Nepal
Ministry of Industry, Commerce and Supplies
Strategic Road Connectivity and Trade Improvement Project (SRCTIP)
Nepal Intermodal Transport Development Board (NITDB)
Kupandole, Lalitpur

Re-Invitation

REQUEST FOR EXPRESSIONS OF INTEREST

(CONSULTING SERVICES – FIRMS)

Date of Publication: 7 June 2021

Loan No./Credit No./ Grant No.:(IDA-66730, IDA-66740)

Assignment Title: Detailed Design and Construction Supervision Services for Infrastructure Development at ICP and ICD in Biratnagar, Birgunj and Bhairahawa
Reference No. : SRCTIP/PCU/NITDB/CS/QCBS-077/078

The Government of Nepal has received financing from the World Bank toward the cost of the Strategic Road Connectivity and Trade Improvement Project (SRCTIP), and intends to apply part of the proceeds for consulting services.

The consulting services ("the Services") include Detailed Design and Construction Supervision Services for Infrastructure Development at ICP and ICD in Biratnagar, Birgunj and Bhairahawa for 2 Years and 9 Month.

The NITDB 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. The shortlisting criteria are:

- Business objective and expertise of the firm
- Corporate capacity of the firm over the last 5 years
- General work experience of the firm over the last 10 years
- Similar work experience of the consulting firm and its complexity over the last 10 years
- Organization Capacity

The attention of interested Consultants is drawn to Section III of the Procurement Regulations for IPF Borrowers, July 2016, revised November 2018 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest. A Consultant will be selected in accordance with the Consulting firm Selection method set out in the Procurement Regulations.

Consultants may associate with other firms in the form of a joint venture or a sub consultancy to enhance their qualifications. A Consultant will be selected in accordance with the Quality Cost Based Selection method set out in the Procurement Regulations.

Further information, including the TOR, can be obtained at the address below during office hours or its website. Expressions of interest must be delivered in a written form to the address below in person or by email by 21 June 2021.

Nepal Intermodal Transport Development Board (NITDB), Kupandole Lalitpur, Nepal

Attn: Executive Director

Tel: +977-1-5550236; Fax: +977-1-5550218

E-mail: nitbktm@nitdb.gov.np; Web: www.nitdb.gov.np

Note: REoI notice for this procurement was initially published in national newspaper Gorkhapatra on 3rd May 2021, Firms who applied in this REoI notice will be included in the shortlisting process.


Government of Nepal
Ministry of Industry, Commerce & Supplies
Nepal Intermodal Transport
Development Board
2054



Government of Nepal
Ministry of Industry, Commerce & Supplies
Nepal Intermodal Transport Development Board
Kupandole, Lalitpur

STRATEGIC ROAD CONNECTIVITY AND TRADE IMPROVEMENT PROJECT (SRCTIP)
IDA-66730, IDA-66740

REQUEST FOR EXPRESSION OF INTEREST

REOI No.: **SRCTIP/PCU/NITDB/CS/QCBS-077/078**

**Detailed Design and Construction Supervision Services for
Infrastructure Development at ICP and ICD in
Biratnagar, Birgunj and Bhairahawa**

Date of issue: 3rd May 2021



Government of Nepal
Ministry of Industry, Commerce & Supplies
Nepal Intermodal Transport
Development Board
2051

REOI Invitation

*Government of Nepal
Ministry of Industry, Commerce and Supplies
Strategic Road Connectivity and Trade Improvement Project (SRCTIP)
Nepal Intermodal Transport Development Board (NITDB)
Kupondole, Lalitpur*

**REQUEST FOR EXPRESSIONS OF INTEREST
(CONSULTING SERVICES – FIRMS)**

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Further information, including the TOR, can be obtained at the address below during office hours or its website. Expressions of interest must be delivered in a written form to the address below in person or by email by 20 May 2021

Nepal Intermodal Transport Development Board (NITDB)
Kupandole Lalitpur, Nepal
Attn: Executive Director
Tel: +977-1-5550236; Fax:+977-1-5550218
E-mail: nitbktm@nitdb.gov.np; Web: www.nitdb.gov.np



TERMS OF REFERENCE

Detailed Design and Construction Supervision Services for Infrastructure Development at ICP and ICD in Biratnagar, Birgunj and Bhairahawa

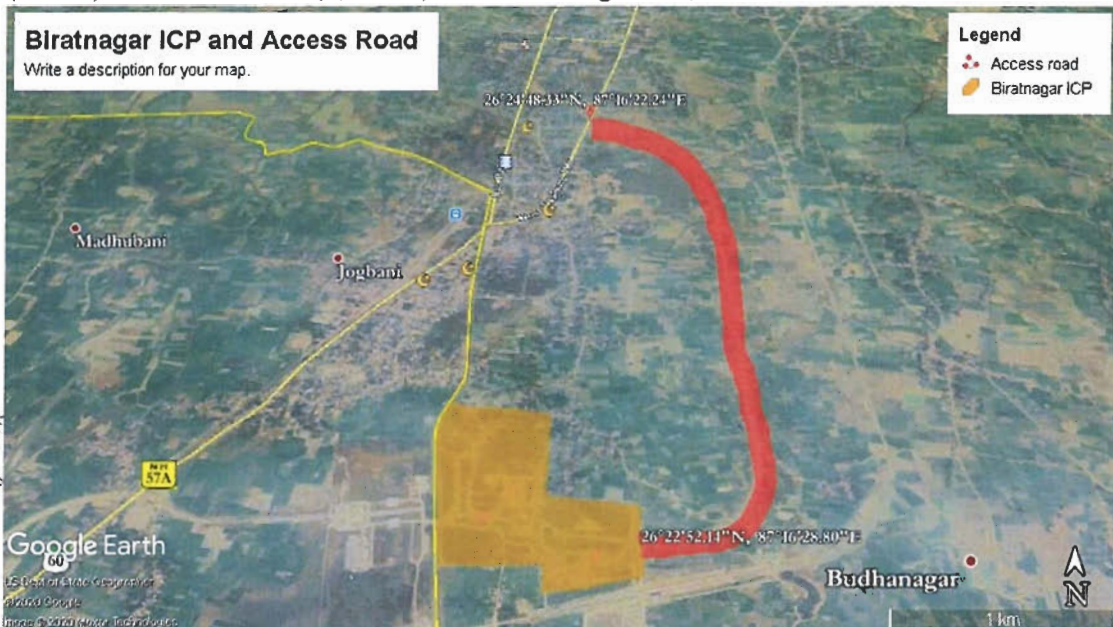
1. BACKGROUND AND CONTEXT

Government of Nepal with financial support from the World Bank has launched the Strategic Road Connectivity and Trade Improvement Project (SRCTIP) with the objective to improve efficiency and safety of select transport infrastructure, improve efficiency of cross-border trade, and strengthen capacity for strategic road network management. The outcome of the project will be measured through (a) reduction in travel time, vehicle operating costs and annual fatalities related to road crashes on the roads being improved or upgraded; (b) reduction in the time taken for goods transit at a major border crossing point; (c) reduction in time taken for sanitary and phyto-sanitary clearances in export of selected agricultural commodities; (d) increase in the percentage of Core Road Network in “good” condition.

Component 1 of the project aims to (i) reduce the time taken for goods transit at selected border crossing points; (ii) improve capacity and efficiency for sanitary and phyto-sanitary (SPS) management at selected locations and for targeted products; and (iii) enhance capacity for managing trade. This component comprises three sub-components: (a) Augmentation of physical infrastructure, equipment, inspection and related border transit management systems that are required to absorb increasing traffic and trade volumes at key border crossing points; (b) Augmentation of equipment and training, and construction and/or renovation of laboratory buildings at key border locations; (c) Knowledge and capacity building.

Using a part of the resources availed through SRCTIP, Nepal Intermodal Transport Development Board (NITDB) wants to solicit proposal from interested qualified consulting firms for Detailed Design and Construction Supervision services to:

- i. widen 4.5 km access road from Koshi Highway to the Biratnagar Integrated Check Post (ICP) from the existing 2 lane to 4 lanes; and develop a parking yard (45,000m²), an inspection shed (200m²) and a warehouse (2,000m²) at the Biratnagar ICP;

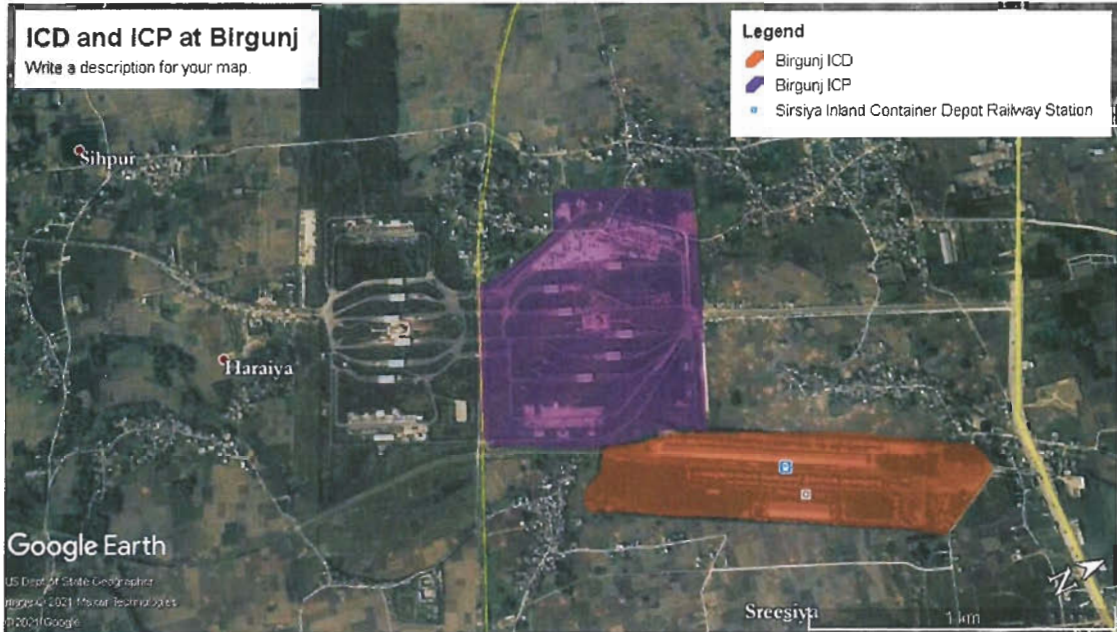


- ii. develop a parking yard (40,000 m²), an inspection shed (200 m²) and a warehouse (2,000 m²) at Birgunj ICP;



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- iii. extend the container yard (10,000 m²) at Birgunj ICD;



- iv. carry out extension works of the parking area (38,000 m²), a compound wall and related structures, and to improve drainage at the Bhairahawa ICD.



All the above infrastructure will be developed on the land parcels for which Government of Nepal has freehold ownership.

The services are broadly divided into the following parts:

Part-1: Detail survey and design of parking area, inspection shed and warehouse in Biratnagar and Birgunj ICP; Detail survey and design of the access road widening to Biratnagar ICP, a container yard in Birgunj ICD, as well as extension of the parking area for Bhairahawa ICD

Part-2: Environmental and Social (E&S) Screening, and E&S Scoping, as well as the Initial Environmental Examination (IEE), Environmental and Social Management Plan (ESMP) of the proposed works at the Biratnagar, Birgunj and Bhairahawa ICPs as per the Project ESMF for SRCTIP, Environment Protection Act 2019 and the Environmental and Social Standards of the World Bank. This will include consultations and scoping exercises as



needed. The required instruments to be ascertain through screening process as required by the Project's Environmental and Social Management Framework (ESMF). The EIA/ ESIA is not included in the scope of work. Environmental Screening (ES) is ongoing at present. If the ES determines EIA/ ESIA is required for a subproject/ activity/ part, this part will be dropped from the scope at the Request for Proposal stage.

Part-3: Construction supervision of the designed infrastructure at Biratnagar, Birgunj and Bhairahawa as well as monitoring for effective implementation of Environmental and Social Management Plans (ESMPs), ESIA and measures required by other social and environmental instruments and applicable regulations and standards.

There will be a period with of no input from the Consultant upon end of Part-1 and Part-2 and before start of Part-3. The Consultant's financial proposal shall clearly quote for services under these parts.

2. OBJECTIVE

Objective of the assignment is to carry out detailed design and supervision of construction work of (i) parking area, inspection shed, warehouses in Biratnagar and Birgunj ICP, (ii) extension of container yards in Birgunj and Bhairahawa ICDs, and (iii) widening of access road to Biratnagar ICP.

3. SCOPE OF WORK

The tasks are grouped under 3 parts: Part-1 and Part-2 are to be done simultaneously. There will be a period with no input from the consultant once Part-1 and Part-2 are completed and until the construction Contractors are onboard. Part-3 shall start thereafter.

3.1. Part-1 Tasks

The tasks to be performed in Part-1 shall include the following:

3.1.1. Assemble a preliminary baseline

- a) Collect information about the site including GIS maps, Google maps, geological maps, remote sensing, land use maps, contour maps, land ownership papers, water courses/ water bodies, forest/ trees/ vegetation, cultural sites, available reports on the facilities to be developed, their neighbourhood and the accesses to the nearest motorable road.
- b) Record the present land use of the parcels being developed and the users. Ascertain ownership details of any privately owned parcel within the area to be developed. Identify the present uses and users which would be affected by the planned development. Also identify areas in and around the subproject site that is likely to be water-logged/ inundated, stream, water bodies, flooding spots, etc
- c) For the access road to Biratnagar ICP: conduct 7-day traffic count, axle load survey and determination of design traffic and design loading.
- d) Geological Conditions: Analyse the geological condition including seismicity and associated hazards of the proposed locations as well as groundwater. Collect available geological, geomorphological, and geotechnical maps and data related to groundwater reserve and water table variations.
- e) Climate Conditions: Collect climate condition baselines such as rainfall, humidity, temperature and visibility and analyse these conditions.
- f) Biological Conditions: Collect and analyse baseline conditions for aquatic and terrestrial flora and fauna in the vicinity of the facilities being developed, including especially any

endangered species or others with conservation or protective status as per IUCN Red List as well as national legislation. Forest, trees, and vegetation and any protected species as well as NTFP including herbs. Characterize the natural habitats in the project area that they depend on. Record the number, age, size and species of trees standing on the land parcels being considered.

- g) Noise level and air quality: Collect and test samples for air quality (measurement of PM10, PM2.5 and SPM at terrestrial) and noise levels at and around the locations where the planned facilities will be developed.
- h) Collect basic demographic and socioeconomic information on the local populations in the vicinity of the facility.
- i) Identify and describe the known physical cultural resources (historical, religious, or architectural) as well as socially sensitive areas like schools, hospitals, *bazaars*, temples, and recreational areas within the land parcels being developed and the adjoining parcels.

3.1.2. Preliminary tasks

- a) Topographical survey covering the land parcels being developed, the adjoining parcels and the accesses connecting these to the nearby motorable road. Also cover utilities and the storm water drainage to the nearest natural watercourse in the topographical survey. Identify spots/ areas that are prone to waterlogging/ inundation, and flooding. Establish permanent benchmarks at appropriate spacing to control the survey.
- b) Leveling survey with spot levels at 10 m spacing with accuracy to draw contours with 0.1 m interval covering at least the area mentioned above. Divide the area to be developed into 5m x5m squares and prepare a list of coordinates (x, y, z) of the corners of each of the squares.
- c) Conduct hydrological investigation study covering the area to be developed, adjoining land parcels as well as the nearest natural water course. Assess the adequacy of the existing cross-drainage structures considering 50-year return period. Prepare site specific drainage management plan comprising of longitudinal drainage, culverts, subsoil drainage system, drains to the nearby natural water courses and minimum elevation of pavement.
- d) Adequate Geological /Geotechnical investigations (with 4 numbers of 20 m deep borehole for each warehouse, one 10 m borehole for each box culverts (both existing and to be designed), one 10 m borehole per 5,000 sq. m. for other works) and all required field and laboratory testing of sub-soil condition for design of proposed structures and pavements.
- e) Construction material survey to identify the source, quality (including laboratory testing), and quantity of the construction materials and location of the borrow pits and the quarries; identify disposal area for the dispose of surplus materials. Locate the identified sources in a map.

3.1.3. Environmental, Social Assessment and Safety Considerations

The following sections should be read together with the previous sections including scope of work and objective.

- a) Referring, the GoN EPA 1999 and EPR 2020, pertaining to the Rule 3- Schedule 2 the Biratnagar and Birgunj subproject may IEE study and Birahawa subproject may require BEnvironmental Study pertaining to the Rule 3- Schedule 1 based on the initial findings of draft screening report. In the process of finalization of the Screening Report, this needs to be reassessed and reconfirmed considering the scope of work, nature of infrastructure, area of construction and further consultation with the stakeholders and hence confirmed what

level of assessment is needed (BES, EA/IEE, ESIA/EIA etc).The Screening also need to confirm the eligibility of subproject/ activity using the exclusion criteria defined in the Project ESMF, The specific task to be performed and not limited to are as follows:

- i. The proposed road upgrading works for Biratnagar subproject is likely to influence travel speed, travel modes, traffic composition particularly at road intersections, or traffic patterns, and anticipated to results in new or changed road safety risks, need to be assessed in detail.
- ii. It is reported that the Birat palace- the archeological heritage site reported to be located adjacent to ICP and chance find procedure is likely to be triggered. The eligibility assessment need to check this aspect as per the ESMF. Extent of damage to a cultural, historical, and archeological heritage site need to be assessed in detail and confirmed.
- iii. Disturbance to existing natural drainage system in the Biratnagar subproject due to the formation of 4 lane embankments- likely to exacerbate inundation issue in the neighborhood and safe discharge of runoff water to the adjacent water body in India.
- iv. The waterlogging/ inundation and stagnant water may give rise to vector-borne diseases such as Malaria, encephalitis, dengue, etc. which are prevalent in the plain area of Nepal need to be assessed and drainage management plan need to be prepared.
- v. It is evident from the draft screening report that there are multiple village access roads bisecting the road leads to the ICP, where the intersection improvement may be assessed for pedestrians, local motorized and non-motorized transportation system. Hence, it becomes necessary to assess and plan for the modified vehicular and non-motorized traffic patterns during the design stage to address these issues.
- vi. Universal access foot over-bridge for crossing the road especially near schools or health center or community market center etc. need to be assessed.
- vii. All-weather underpass crossing for domesticated animals and non-motorized transportation system in village area such as Bullock/horse cart, human pulled rickshaw, auto-rickshaw, and bicycle, etc.
- viii. Embankment's slope destabilization and soil erosion; Potential impacts caused by Bitumen or Asphalt plant operation; Damage to common property resources etc. need to be assessed.
- ix. Impacts from the establishment of Laboratory such as RBPRL and safe disposal & management before discharging it to natural water bodies or to the ground need to be assessed in detail.
- x. In Birgunj subproject inundation related issues during wet season and drainage management to safely drain the surface runoff to nearby Sirsiya Khola, the existing natural water body need to be assessed in detail.
- xi. Sanitation and waste management situation inside Birgunj and Bhairahawa ICP/ICD and adequacy of toilets and bathroom and their status and functionality and adequacy of resting place for drivers and helpers need to be assessed in detail.
- xii. Intersection improvement and traffic safety at Birgunj and Bhairahawa ICP/ICD need to be assessed in detail.
- xiii. Inundation related issues during wet season and drainage management by constructing canal about 1.5 km. to safely drain the surface runoff in to the nearby Danda Khola, the existing natural water body for the Bhairahawa subproject need to be assessed in detail.

- b) The design should take into consideration all probable impacts to the environment, local communities, minimize land-take and displacement, and the health and safety of both workers and surrounding communities by the proposed works, and the design should avoid, minimize or mitigate such impacts and risks, with inclusion of appropriate measures in the design. Also best utilize the information collected during baseline assessment under heading A.
- c) Site Specific ESMP, in required by the Project ESMF, be prepared before proposing the tipping or quarry sites. This should include volume of mass which could be accommodated into or quarried from such sites and associated risks (for example, disruption of natural drainage pattern, community health and safety risk (etc.) as well as measures to be implemented for closer of the sites/ restoration Mass balancing concept shall be incorporated during finalization of tipping site. The tipping sites should be protected. Environmentally safe practice of tipping and quarrying shall be elaborated in the Specifications and included in the works BOQ.
- d) All other mitigation measures should likewise be fully reflected in designs, specifications and associated construction cost estimates, as appropriate. The Consultant shall follow the Project ESMF, World Bank Environmental and Social Standards and EHS (Environment, Health and Safety) Guidelines, COVID-19 guideline for construction prescribed by the WHO as well as environmental guidelines and standards as per local laws. Where the World Bank and the GON standards differ, the higher standard shall be adopted, unless a specific justification can be made to the contrary.
- e) Conduct rapid social screening/assessment to determine the existing socioeconomic and ethnic characteristics of the area of direct influence. In particular, determine the potential for displacement and resettlement and the presence of Indigenous People who hold interest in the area. The outcome of this assessment may inform detailed social assessment to inform final drawings and social management plans (i.e. resettlement plans and Indigenous People Plan).
- f) Based on the rapid social assessments, determine the potential for enhancing the development outcomes of the facilities being developed by linking their design and operation to existing or potential community-driven economic activities.

3.1.4. Designs and Drawings

The infrastructure is to be designed focusing on quality, safety for all users with emphasis on vulnerable users, climate resilience, environment friendly, and mechanism for prompt response to incidents. The design should integrate the environmental concerns/ issues/ impacts related to risks of waterlogging/ inundation/ flooding etc as well as traffic safety and congestions, particularly at road intersections.

- a) Preparation of at least 3 conceptual design options with preliminary cost estimates for:
 - i. Birgunj ICP
 - Around 40,000 sq. m. of parking area with other structures
 - Around of 2,000 sq. m. of warehouse
 - An inspection shed of around 200 sq. m.
 - ii. Birgunj ICD
 - A container yard of around 10,000 sq. m. with other structures
 - iii. Biratnagar ICP

- Widening of the existing 4.5 km access road from Koshi Highway to the ICP from the existing 2-lanes to 4-lanes,
 - Around 45,000 sq. m. of parking area with other structure
 - Around 2,000 sq. m. of warehouse
 - An inspection shed of around 200 sq. m.
- iv. Bhairahawa ICD
- Parking area of around 38,000 sq. m.
 - Compound wall and other structure around the parking area
 - Drain to the nearby natural watercourse
- b) Specifically, for the access road to Biratnagar ICP:
- i. Determine the strength of the existing pavement through insitu and laboratory tests,
 - ii. Design for widening of the access road embankment, including retaining and slope protection measures to get 4 lanes (divided 2-lanes in each direction with footpath) as per Nepal Roads Standards,
 - iii. Design pavement for the envisaged loading pattern including prevention of any differential settlement between the existing and widened parts,
 - iv. There are 3 numbers of single-cell 2mx2m box culverts and 1 number of double-cell 2mx2m box culverts along the access road. The design part needs to extend these to the new embankment width. Identify and design additional cross-drainage structure, longitudinal drainage, sub-surface drainage and flood protection measures for the ICP and the access road, including need for wildlife passes.
 - v. Perform Detailed Design Stage Road Safety Audit following Department of Roads corresponding guidelines on the access road as well as discuss the audit findings with the employer and other stakeholders.
- c) Based on the approved design option, detailed design with specifications and cost estimate shall be prepared.
- d) The drawings shall provide adequate details for construction, bar-bending schedule, splicing schedule and detailed material estimation considering the available steel sections in Nepal or nearby Indian cities.
- e) The designs shall include RCC or prefabricated structures as well as asphalt or concrete/block pavement as appropriate while ensuring low maintenance cost.
- f) The design for building and shades shall focus on energy efficiency while ensuring industry standard for indoor and outdoor illumination.
- g) Ensure industrial standard fire-safety through choice of material, fire-warning and firefighting system.
- h) Construction planning to minimize displacement and disruption to use of existing facilities, enhance construction safety and achieve uniform work progress. This includes preparation of resource-based construction schedule including the required equipment giving consideration for continued operation of the ICP.
- i) The road and other pavement improvement works are to be designed as per the present standards and specifications used by corresponding government departments (Department of Roads for road widening and other pavement works, Department of Urban Development and Building Construction for buildings and sheds). The consultants are encouraged to make further enhancement through good international experience/practices.

- j) The design shall consider special requirements of the female and disabled users.

3.1.5. Getting Approval of Development Plans

- a) For all the developments, drawings as required by local municipalities and filling of forms in order to get applicable municipal approval shall be prepared.
- b) The Consultant will be responsible for applicable Municipal Approval of the development plans from the corresponding municipalities.

3.1.6. Preparation of Bid Documents

- a) The unit rates of required work items shall be based on the approved District Rates and government approved norms. International best practice shall be used for work items not covered by the government approved norms.
- b) The specifications document published by Department of Roads “Standard Specifications for roads and Bridge Works” shall be the Standard Specifications. A Special Specifications volume needs to be prepared as appropriate to suit the proposed design.
- c) The Engineer's Estimates shall be prepared with sufficient accuracy to prepare bidding documents. The packaging of the works shall be done ensuring adequate competition among bidders and overall economy.
- d) Standard Procurement or Bidding Document appropriate to the relevant package shall be used to prepare bidding documents for each contract package.

3.2. Part-2 Tasks

3.2.1. Initial Environmental Examination for development works at Birgunj ICP, Birgunj ICD, Bhairahawa ICD and Biratnagar ICP and Access Road

(Note: Environmental Screening is ongoing for the Biratnagar ICP and Access Road. If the ES determines EIA/ ESIA is required, this part (Biratnagar ICP and Access road) will be dropped from the scope at the Request for Proposal stage).

Scoping for IEE

- a) Conduct environmental and social screening and scoping as per the Project ESMF for SRCTIP, Environment Protection Act 2019 and the Environmental and Social Standards of the World Bank.
- b) During Screening, verify that Exclusion Criteria as specified in the ESMF have been adhered to.
- c) Verify the applicable laws, regulations, and World Bank Environmental and Social Standards which will apply to the proposed development activities, and their requirements.
- d) Produce Screening Reports and Scoping Reports, if required, including a TOR for the subsequent IEE.
- e) Conduct screening, and if necessary, determine, the scope for resettlement planning including preliminary estimates on the number of potential impacted persons and structures

IEE Study

- a) Conduct IEE including an ESMP as per EPA 2019, rules and guidelines detailing it, Project ESMF and WB ESF ESS requirements.
- b) Hold public consultations, as required in the country legislations and World Bank ESS and Project ESMF. Incorporate feedback into the report. Conduct Social Assessment and prepare Resettlement Action Plan if required in accordance with the World Bank standards.
- c) Timely furnish additional data to the authority approving the IEE report and perform the activities specified by the authority as a prerequisite for approval of the report. Get the necessary government approval on the report.
- d) Support NITDB/MOICS to ensure timely public disclosure of draft and final IEE, ESMP, Communication Plan and Grievance management system (as well as RAP if required), including summary information in Nepali.

3.3. Part-3 Tasks

Part-3 shall start when construction Contractors are onboard. The tasks to be performed shall include the following:

3.3.1. Pre-construction activities

- a) Check the Performance Guarantee and insurance certificates submitted by the contractor for adequacy as well as ensure their timely renewal up to the duration required.
- b) Scrutinize and approve the contractor's Detailed Work Program including contractor's resource planning.
- c) Scrutinize and approve construction methods proposed by the contractor, modify as necessary and monitor environmental and social safeguard requirements provisioned in ESIA and ESMP.
- d) Scrutinize and approve the contractor's EMAP and its regular /monthly updates and implementation
- e) Scrutinize, approve and enforce the contractor's Quality Management Plan. Issue instructions to the contractor as required in accordance with the contract specification and the plan.
- f) Check the request for mobilization advance and the bank guarantee received against the advance amount to be disbursed.
- g) Assess and enforce, as per standard Construction Management System, the adequacy of contractor's mobilization and inputs in terms of materials, equipment, construction machinery, workers and funds.

3.3.2. Construction supervision

- a) Provide construction supervision services to ensure that the construction is achieved in scheduled time period, within budget and the works is carried out in complete compliance with the approved engineering designs, technical specifications within the terms of the contract documents of the works and sound engineering practices.
- b) Administer the civil works contracts, issue design, drawings, instructions as appropriate in accordance with the contract provisions.
- c) Prepare and issue (or approve the submitted drawings) construction drawings with sufficient details to permit contractors to carry out construction work effectively and



unambiguously and with highest standards of quality. Review and approve Shop Drawings and Method Statements. Modify/ adjust designs as required by site conditions.

- d) Supervise and monitor construction of all project components including continued verification for adherence to Design, Specification, to environmental documents including BES, EA//IEE, ESIA/EIA, EMAP and ESMF, Work Schedule, Quality Management Plan, Insurance policies, and condition of Contracts. Make written communication immediately whenever a breach is detected.
- e) Check measurements for works completed and in-progress and verify bills for payments to the contractors.
- f) Interpret the technical specifications, where required.
- g) Maintain detailed records of measurement of the completed works, correspondence, detailed diaries, photographs, workers, equipment and other daily site records on ambient conditions and contractor's resources at the site and their use including other documents concerning relevant events and activities. Certify entries in the Site Register maintained by the Contractor.
- h) Regular monitoring /supervision for the resource mobilization including recording the mobilized labor, material and equipment.
- i) Verify if the works are being executed as per the contract drawings, specifications and instructions issued. Issue non-compliance or non-conformity notice to the Contractor in case of violation/deviation from the contract and instruct on corrective measures.
- j) Attend all sampling and quality assurance tests. Ensure that the tests are conducted at the prescribed frequencies and are resulting in specified results. Take corrective action in case of the failed results.
- k) Attend third party inspections, as necessary, and provide certification on the quality of the supplies based on such inspections.
- l) Coordinate with relevant authorities for necessary planning and implementation of works.
- m) Review, check and certify Interim Certificates for progress payments, verify the quantities for such certificates and recommend the Employer for payment upon making adjustments against deductibles (retention, sub-quality works, repayment against advances, VAT, taxes, liquidated damages, and so on) and with special emphasis on minimizing the time taken from receiving the interim certificates to disbursement against it.
- n) Conduct health and safety orientations, daily Tool-Box Meetings and weekly Site Meetings with the Contractor.
- o) Conduct monthly Progress Review Meetings with the Contractor and the Employer. Issue meeting minutes indicating on the actions to be taken.
- p) Prepare monthly progress reports containing at the least:
 - i. A detailed Gantt chart showing actual progress
 - ii. A "S" curve showing overall progress against the planned targets.
 - iii. An earned value analysis to determine actual earned value achievement.
 - iv. Identified constraints/hindrances that attribute to delay of works.
 - v. A record of quality control tests conducted, failed results and the passing results.
 - vi. A record of material, equipment, and workers at site.
 - vii. Degree of compliance to the Environmental and Social requirements as stated in the site-specific ESMP, BES or EA/IEE or ESIA/EIA, etc as well as Project ESMF.

- viii. Record of grievances received and their resolution
- ix. Status of work zone safety and record of accidents at site.
- x. A record of communications with the Contractor and the Employer.
- q) Instruct the Contractor to submit corrective measures or a revised program to keep pace with the anticipated progress and inform the Employer on measures adopted.
- r) Review, analyze and make recommendations on claims, if any and provide contractual advice to the Employer in case of disputes.
- s) Provide necessary technical support to the Employer on its project management, including risk management, cost control, scheduling, monitoring and reporting.

3.3.3. Environmental and Social Monitoring

- a) Ensure compliance with all Health, Safety and Environmental policies, legislation, and codes of practice.
- b) Ensure compliance to the ESMP as well as relevant provisions/ measures described in BES, or EA/IEE or ESIA/EIA and Project ESMF.
 - i. Verify that the Contractor has obtained all necessary statutory clearances and fulfilled all other applicable pre-construction requirements.
 - ii. Monitor and regularly report compliance with the measures and actions described in the in BES, or EA/IEE or ESIA/EIA and Project ESMF
 - iii. Support the Employer in providing orientation to the Contractor on the ESMP requirements for the project and to ensuring that the Contractor has adequate understanding and expertise to implement all EHS requirements throughout the life of the construction period.
 - iv. Monitor the functioning of the Grievance Management System with respect to its adequacy as a mechanism for receiving, cataloguing, and responding to any community concerns with environmental and social management aspects.
 - v. Monitor and report on the implementation of other social management plans including Resettlement plans and IPPs if applicable.
 - vi. Provide technical guidance and support contractors to apply corrective measure for any non-compliance with EHS requirements.

3.3.4. Post-Construction Services

- a) Issue instruction to the Contractor to correct any defects during the Defects Notification Period (DNP).
- b) Supervision of works during the DNP.
- c) Ensure that the Contractor removes all installations and surplus materials and leaves the site in clean condition, including carrying out site restoration and remediation as per the EMP.
- d) Issue Final Acceptance Certificate.
- e) Prepare As-Built Drawings.
- f) Prepare Final Completion Report.

4. DURATION OF THE SERVICES

The anticipated duration of the Consultancy Services is as follows:

- a. Part-1 and Part-2 Tasks
 - 9 months
- b. A period of no-input from the Consultant until the works Contractors are at site
 - about 6 months
- c. Part-3 Tasks: Construction Supervision
 - Supervision of construction activities: 24 months
 - Monitoring and rectification during DNP: 12+1 months

5. TEAM COMPOSITION

5.1. Expert Inputs

148.5 person-months of key expert input is estimated to carry out the assignment. The consultants are advised to assess their requirement and propose their own expert as well as staff composition and inputs for efficient performance as per the Terms of Reference. If the proposed consultant's team is found inadequate or not sufficient during the performance of the services, then additional staff shall be provided by the consultant at their own cost.

Position	Number	Input (Person Months)			
		Part-1	Part-2	Part-3	Total
Key Experts					
Team Leader/ Transportation Engineer		6.00	3.00	27.00	36.00
Structural Engineer		5.00	-	3.00	8.00
Pavement Engineer		5.00	0.25	2.25	7.5
Geotechnical Engineer		3.00	0.25	1.00	4.25
Electrical Engineer		1.75	-	1.5	3.25
Material/ QC Engineer		2.00	0.25	6.00	8.25
Environmental Specialist		2.00	9.50	6.00	17.5
Social Safeguard Specialist		2.00	5.75	6.00	13.75
Resident Engineer		-	-	50.00	50.00
Non-Key Experts					
Architect/ Landscape Planner		1.25	-	0.25	1.5
Hydrologist		2.50	0.25	1.5	4.25
Water, Sanitation and Firefighting Expert		1.00	-	1.00	2.00

Note:

The above list of experts and estimated person month is for reference only. The Consultant is responsible to review the required services and may propose own requirements for experts and support staff required to complete the proposed services in satisfactory manner. Financial proposal should include all the direct and indirect costs for personnel, equipment and other requirements necessary to execute the services as elaborated in the TOR.

5.2. Qualification Requirement

A. Team Leader

- Qualification: Master's degree in Transportation Engineering or other relevant field.
- Experience: Minimum 15 years of general experience in designing, constructing and contract management of roadworks /transport infrastructure. 5 years of specific experience in construction management of Highways, Feeder Roads or ICD complexes.

B. Architect/ Landscape Planner

- Qualification: Bachelor's degree in Architectural Engineering, relevant master's degree preferred
- Experience: Minimum of 5 years of experience in architectural design of buildings and landscape planning, specific experience of architectural design of steel structure of comparable size will be an advantage

C. Structural Expert

- Qualification: Bachelor's degree in Civil Engineering, master's degree in Structural Engineering.
- Experience: Minimum 10 years of general experience in structural design and construction of civil engineering structures, 5 years of specific experience in structural design of RCC and steel structures.

D. Pavement Design Expert

- Qualification: Bachelor's degree in Civil Engineering, relevant master's degree preferred.
- Experience: Minimum 10 years of general experience in design and construction of highway or airport pavements, 5 years of specific experience in construction of asphalt and concrete pavements.

E. Geotechnical Expert

- Qualification: Master's degree in Geo-technology or Geology.
- Experience: Minimum 5 years of general experience in sub-soil exploration and laboratory analysis, 3 years of specific experience as Material/ Quality Control Engineer in Civil Engineering works.

F. Hydrologist

- Qualification: Bachelor's Degree in Civil Engineering, master's degree in Hydrology or equivalent
- Experience: Minimum of 5 years of general experience in preparation of hydrographs of watersheds, forecasting of rain runoff, and forecasting of flood discharge of rivers. Minimum of 2 years of specific experience in hydrological analysis for bridge and culvert design.

G. Electrical Expert

- Qualification: Bachelor's degree in Electrical Engineering, relevant master's degree preferred.
- Experience: Minimum of 5 years of experience in design of power supply system and indoor/ outdoor electrification with dedicated transformer and 3 phase power supply.

H. Materials Engineer

- Qualification: Bachelor's degree in Civil engineering, with master's degree in Material engineering, Geotechnical Engineering or equivalent.
- Experience: Minimum 5 years of experience in material testing and quality control for civil construction works, 2 years of specific experience as Material/ Quality Control Engineer in a roads project.

I. Water, Sanitation and Firefighting Expert

- Qualification: Bachelor's degree in Civil Engineering, relevant master's degree preferred.
- Experience: Minimum of 5 years of experience in construction/ maintenance of water supply and sewage/ waste-water disposal systems, 2 years of specific experience in designing and construction of firefighting system.

J. Resident Engineer (2 numbers)

- Qualification: Bachelor's degree in Civil Engineering, master's degree in Construction Management/ civil engineering fields preferred.
- Experience: Minimum 10 years of general experience in execution of civil engineering works of comparable size. 5 years of specific experience as Resident Engineer in a infrastructure project.

K. Site Engineer (3 numbers)

- Qualification: Bachelor's degree in Civil Engineering, master's degree in Construction Management preferred.
- Experience: Minimum 7 years of general experience in execution of civil engineering works of comparable size. 5 years of specific experience as Site Engineer in a highway or pavement improvement project or RCC/Steel structural work.

L. Environmental Specialist)

- Qualification: Master's degree in Environmental Engineering or Environment Science or related subject.
- Experience: 7 years of general experience in environmental/ social monitoring, ESIA/IEE for construction projects, 5 years of specific experience as Environmental Expert in conducting EIA/IEE, drafting EMP and environmental/ social monitoring as per World Bank/ ADB guidelines.

M. Social Safeguard Specialist

- Qualification: Master's degree in Sociology/ Social Science or related subject.
- Experience: 7 years of general experience in social monitoring, ESIA/IEE for construction projects, 5 years of specific experience as Social specialist in conducting EIA/IEE, drafting EMP and environmental/ social monitoring as per World Bank/ ADB guidelines.

6. REPORTING OBLIGATIONS

The Consultant shall submit 5-hard copies and a soft copy of reports as follows:

S.N.	Report	Number	Submission Deadline
1	Inception Report	1	2 weeks from award
2	Duly approved environmental and social screening and scoping report for Biratnagar ICP access road	1	2 months from award
3	Development Options Study Report (separate for Biratnagar ICP, Biratnagar ICP access road, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	5	3 months from award
4	Draft Detailed Design Report including drawings rate analysis and cost estimate (separate for Biratnagar ICP, Biratnagar ICP access road, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	5	5 months from award
5	Environment and Social Management Plan (separate for Biratnagar ICP, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	4	5 months from award
6	Bidding Document with tender drawings set as well as final Detailed Design Report (separate for Biratnagar ICP, Biratnagar ICP access road, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	5	6 months from award
7	Monthly Progress Report (one report for all locations combined)	32	1st week of successive month
8	As Built Drawings (separate for Biratnagar ICP, Biratnagar ICP access road, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	5	within last month of DNP
9	Final Completion Report (separate for Biratnagar ICP, Biratnagar ICP access road, Birgunj ICP, Birgunj ICD and Bhairahawa ICD)	5	within a month after completion of all works packages
10	Special highlighted report	12	as and when requested by the Employer

7. GENERAL OBLIGATIONS

7.1. The Consultant's Obligations

In addition to the key-experts listed in Section 5 above, all field-based experts, support staff, home-based experts, equipment and other inputs are considered to be costed and included in the Technical and Financial Proposals. Once the contract is awarded, the Consultant shall avail all technical, non-key technical, administrative and support staff as well as all logistical support to complete the assignment.

The Consultant is responsible to provide living and Office working spaces for all its experts and other staffs, transportation and insurance obligations for its experts and other staff. The consultant shall establish field offices at Biratnagar, Birgunj, and Bhairahawa during the construction supervision phase (ie; Part 3). The offices of the consultant shall be located near the respective Employer's offices for better communication.

7.2. The Employer's Obligations

The Employer shall provide a counterpart to facilitate the Consultant's activities, communication with the Employer, other government agencies and the World bank.

The Employer shall avail whatever information it has on the ownership of land parcels to be developed and their present use as well as past reports relevant for the development.

Municipality charges for approval of building plans shall be covered by the Employer.

