EPI invites the offers in two bid system in sealed envelopes from consultants with EPI for Rendering the engineering, design, ground surveying drawings, soil testing & consultancy services for preparation of DPR for construction / improvement of two lane road **Sansari-Killar-Thirot** between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh.

The brief Scope of Work is engineering, design, surveying, drawings and preparation of DPR’s for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh. The work including design surveying drawings, soil testing, technical feasibility, technical specification, detailed measurement, BOQ, Analysis of Rates, bid documents, detailed specification etc. and getting clearances from respective authorities.

The technically and financially sound Consultants who fulfill the following requirements are eligible to participate. No JV / Consortium are allowed.

Experience of having successfully completed similar works during last 7 years ending 01.10.2015.

**A) TECHNICAL**

Should have done at least one similar works of same nature. Similar works means preparation of DPR of any:

a) Four lane National Highways/State Highways of 48 KM length.

   OR

b) Major District Road / two lane of 48 KM length in Hilly terrain.

**B) FINANCIAL**

a) Turnover: The average annual turnover of the bidder during last three financial years ending 31.03.2015 should be minimum Rs. 1.00 crores towards consultancy fees, duly certified by Chartered Accountant.

b) They should be financially sound to take up projects with proven track record and have positive net worth as on 31.03.2015.

c) Should not have incurred any loss in more than two years during the immediate consecutive last five financial years ending 31.03.2015. Copies of balance sheet/certificate from Chartered Accountant to be submitted.
The tender documents comprising of following are available on the website of EPI i.e. www.epi.gov.in and CPP Portal i.e. www.eprocure.gov.in and can be downloaded.

1. Notice Inviting Tender  
2. Brief of Project (Annexure-I)  
3. Scope of Work (Annexure-II)  
4. Price Bid (Annexure-III)  
5. Agreement of Engineering & Consultancy (Annexure-IV)  
6. Acceptance of Tender Condition (Annexure-V)

Documents to be furnished by the Consultant:

b) Turnover Statement for the past five years ending Financial Year 2014-15.  
c) Approach & Methodology (not more than 10 pages).  
d) All the tender documents are to be submitted duly signed & stamped.  

Consultant fulfilling the eligibility criteria may submit their offer in two separate envelops. Technical and financial bid will be opened as per time and date as mentioned in the tender documents. The representative of the consultants may remain present during the opening of technical and financial bids, if they desire so.

Tender document shall be issued by and submitted to:

Executive Director (BDD)  
ENGINEERING PROJECTS (INDIA) LTD.  
Core-3, Scope Complex,  
7 Institutional Area, Lodhi Road,  
New Delhi-110003 TEL NO. 011-24368273, FAX NO, 011-24363426

Email: gupta.sk@epi.gov.in

Tender documents available for sale from - 16.10.2015  
Last date & Time for submission of tender - 02.11.2015 - upto 3:00 PM  
Opening date & time of tender - 03.11.2015 - at 4:00PM

The complete tender documents are available on the websites of the EPI & CPP Portal and the same can be downloaded by intending bidders directly. Alternatively tender documents can also be purchased from the Executive Director (BDD). The tender fee of Rs. 2500/- (Rupees two thousand five hundred only) (non-refundable) by the crossed demand draft favoring “Engineering Projects (India) Ltd.”, payable at New Delhi shall be submitted by the bidder along with their bid in Envelop-1.

EPI reserves the right to accept any tender or reject any or all tenders or annul this tendering process without assigning any reason and liability whatsoever and to re-invite tender at its sole discretion. The corrigendum, extension, cancellation of this NIT, if any, shall be given on the EPI’s website www.epi.gov.in only. The intending tenderers are requested to visit EPI’s website regularly for this purpose.
**Brief of Project**

<p>| | | |</p>
<table>
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</table>
| 1. | **Title** | Preparation of conceptual plans and preliminary project report and after that Detail Project Report for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh.  

   i) Road  
   ii) Drainage, landscaping  
   iii) Water Supply Works  
   iv) Any other work required to complete the project |

The consultant is required to carry out detailed survey at site for planning, design, drawings and DPR’s for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh. The work including design surveying drawings, soil testing, technical feasibility, technical specification, detailed measurement, BOQ, Analysis of Rates, bid documents, detailed specification etc. and getting clearances from respective authorities. |

| 2. | **Earnest Money Deposit** | NIL |

| 3. | **Tender Fee** | Rs. 2500/- (Rupees two thousand five hundred only) (non-refundable) by the crossed demand draft favoring “Engineering Projects (India) Ltd.”, payable at New Delhi. |

| 4. | **Completion Time** | i) The design and preparation of DPR work should be completed within 90 days.  

   ii) For various clearance such as forest department, wild life sanctuary, environment etc. 60 days. |

| 5. | **Brief Description of Project** | Construction / improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh. |

| 6. | **Design Parameters** | Entire work shall be carried out in accordance with the following specifications:  

   I) MORTH/MOST Specifications.  
   II) Indian Road Congress Codes.  
   III) CPWD Specifications.  
   IV) Bureau of Indian Standards (BIS).  
   V) Procedure and quality standards specified by the ULB.  
   VI) Relevant – IS code. |
<table>
<thead>
<tr>
<th></th>
<th>Project Information</th>
<th>Road is situated between Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) of Border Roads Organization (BRO) in Himachal Pradesh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Scope of work</td>
<td>The consultant shall do all detailed survey and investigations that are required for planning, design and construction of the project such as topographic survey, hydraulic and drainage survey, subsurface investigation, material survey, traffic survey, finalization of alignment etc. This will include preparation of DPR including technical feasibility, soil investigation, technical specification, design drawing, detail of measurement, BOQ, analysis of rates, bid documents, detailed specification etc. for road, electric lines, lines, drainage and further detail as per Annexure-II.</td>
</tr>
<tr>
<td>9.</td>
<td>Type of Bid submission</td>
<td>Two bid system</td>
</tr>
<tr>
<td>10.</td>
<td>Price bid</td>
<td>The form of Price Bid duly filled in lump - sum basis in words and figures as per Annexure-III to be submitted with superscription “Price Bid”.</td>
</tr>
<tr>
<td>11.</td>
<td>Validity of Offer</td>
<td>120 days</td>
</tr>
<tr>
<td>12.</td>
<td>Address for submission</td>
<td>The Executive Director (BDD) Engineering Projects (India) Limited Core – 3, Scope Complex 7, Institutional Area Lodhi Road, New Delhi – 110003</td>
</tr>
</tbody>
</table>
Name of Work: Rendering the Engineering, Design and Consultancy services for preparation of Detailed Project Report for construction / improvement of road Sansari-Killar-Thirot between chainage km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh.

NIT No. DLI/BDD/BRO/01 dated 14.10.2015

“SCOPE OF WORK”

Annexure-II :
SCOPE OF WORK

The scope of work involves rendering the engineering, design & consultancy services for preparation of a detailed project report for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh.

I. Road works
II. Drainage work
III. Bridges / culverts work
IV. Retaining wall
V. Any other works required for project

The consultant is requested to carry out the detailed survey site plan along with design, surveying, drawings and DPR's for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh. The work including design surveying drawings, soil testing, technical feasibility, technical specification, detailed measurement, BOQ, Analysis of Rates, bid documents, detailed specification finalisation of alignment etc, including environmental clearance & wild life sanctuary clearance and getting clearances from respective authorities.

The general Scope of Services shall cover but not limited to the following major works:

1. Survey and soil investigations.
   1.1 Topographical survey and the survey of all existing services and other structure existing in and around the site using total stations and GPS.
   1.2 Prepare the proposal for permission from the State Forest Deptt. / MoEF/ or any other authority, regarding carrying out construction of roads.

   The surveyed reference points shall be transferred on to the ground as under:

   Bench Mark / Reference pillar of size 15 cm X 15 cm X 45 cm shall be cast in RCC of grade M 15 with a nail fixed in the centre of the top surface. The reference pillar shall be embedded in concrete up to a depth of 30 cm with CC M10 (5 cm wide all around). The balance 15 cm above ground shall be painted yellow. The Bench Mark Pillar/ Reference Pillar shall be provided as per requirement.

2.0 Geotechnical Investigation and Sub-soil Exploration

2.1 The Consultant shall carry Geotechnical investigations and subsurface exploration for the development works as necessary for design of the works in line with the relevant codes and conduct all relevant field and laboratory test on soil and rock samples.

2.2 Investigation of required sub-grade and sub-soil characteristics and strength for road and embankment design and sub soil investigation

2.3 Soil strata and Bearing capacity for building works.

2.4 Discharge of water source for a minimum period of 3 years. The relevant data (as available and applicable) may be obtained from the concerning department.
2.5 Classification of hard and soft rocks for hill road projects.

2.6 Analysis and interpretation of field & laboratory test data for the preparation of Geotechnical investigation report including recommendation of type of foundation for structures.

3.0 **Meteorological data**

All meteorological data records as per relevant codes shall be collected from the concerned authorities and accordingly will be taken into account.

4.0 **Design of Structures/works**

4.1 Submission of the draft concept design and make presentation of the scheme and there after modification of the draft concept plan taking into account the consults suggestions etc. of the client and the department.

4.2 The detailed designs of various Infrastructures works are to be submitted by the consultant.

4.3 The Infrastructure works shall be designed for loading as per relevant Codes.

4.4 The consultants shall furnish the detailed design and drawing for suitable protection works wherever required.

4.5 All relevant design parameter shall be incorporated. The consultant shall also incorporate safety provision as per relevant specification.

5.0 **Detailed design of different Infrastructure works.**

The consultant is to carryout detailed designs, preparation and submission of drawings for the following:

5.1 **Road and Pavement:**

5.1.1 Detailed design of road, its x-sections, horizontal and vertical alignment and design of embankment, and road safety features.

5.1.2 The detailed design for geometric elements shall cover, but not be limited to the following major aspects:

   - Longitudinal profile
   - Cross-sectional elements
   - Junctions and intersections

5.1.3 Detailed design of pavement.

5.1.4 Detailed design of shoulders/footpaths.

5.2 **Design of Embankment**

5.2.1 The embankment design should provide for maximum utilization of locally available materials.
5.2.3 To carry out detailed analysis and designs for embankments based on relevant codes.

5.4 Drainage & landscaping.

5.4.1 Detailed design and working drawing for storm water drainage system of complete drainage network.
   i) The requirement of roadside drainage system and the integration of the same with main drainage system shall be worked out for the project site.
   ii) The drainage system should show locations of turnouts/outfall points with details of outfall structures fitting into natural contours.
   iii) Preparation of specifications & BOQ.

5.4.2 Cross drainage structures including culvert etc. over tributaries/ channels/ nallah, roads crossings, if any.

5.4.3 The Consultants shall work out plan for planting of trees, horticulture, floriculture on the land of the right-of-way or any other area with a view to beautify and making the environment pleasant.

5.8 Standards and Codes of Practices

5.8.1 All activities related to field studies, design and documentation shall be done as per the latest guidelines/ circulars of (i) State Public Works Department Specification / CPWD (ii) MoRT&H and relevant publications of the Indian Roads Congress (IRC) (iii) Bureau of Indian Standards (BIS) (iv) National Building Codes (v) Procedure and quality standards specified by State Urban Local Bodies (vi) Relevant IS code.

6.0 Environment Impact Assessment

Environmental Impact Assessment shall be carried out by the Consultant meeting the requirements of the Government of India or State govt. etc

6.1. Environment impact assessment or initial environment examination be carried out in accordance with guidelines for infrastructure projects as applicable.
   1. To carry out the preliminary environmental screening to assess the direct and induced impacts due to the project.
   2. To ensure to document baseline conditions relevant to the project with the objective to establish the benchmarks.
   3. To assess the potential significant impacts and identify the mitigate measures to address these impacts adequately.
   4. To analysis of alternatives incorporating environmental concerns. This should include with and without scenario and modification incorporated in the proposed project due to environment considerations.
   5. To give special attention to the environmental enhancement measures in the project
   6. To prepare the bill-of-quantities (BOQ) and technical specifications for all items of work in such a way that these may be readily integrated to the construction contracts.
   7. To prepare the application forms and obtain forestry and environmental clearances from the respective authorities including the State Pollution Control Board (SPCB) and the Ministry of Environment & Forests (MOEF). The consultants will make presentation, if required, in defending the project to the MOEF Infrastructure Committee.
   8. To identify and plan for plantation of the suitable trees in accordance with guidelines.

6.2 Reporting Requirements of EIA

The consultant would prepare the reports as per the requirement of the authority, as applicable, with contents as per the following:

- Executive Summary
- Description of the Project
Environmental setting of the project.
Policy, legal and administrative framework. This would include mechanisms at the states and national level for operational policies. This would also include a description of the organizational and implementation mechanism recommended for this project.
Typical plan or specific designs for all additional environmental items as described in the scope of work.

7 Estimation of Quantities and Project Costs

7.1 The consultant shall prepare detailed estimates for quantities considering designs and project cost including the cost of environmental and social safeguards proposed based on MORTH Standard Data Book and market rate for the inputs, State PWD, CPWD schedule of rates. The estimation of quantity shall be based on detailed design of various works of the projects viz: survey & field investigations, jungle clearance & cutting of trees, construction of road (as per type required), retaining wall, earth filling, earth/rock cutting, pipe culverts/slab culvert/bridges as required, cost of land acquisition, cost of compensatory afforestation, charges for survey and other incidental costs to prevent damages to the ecosystem, cost of security cover on actual requirements, other enabling works, provision of contingencies, local charges, agency charges etc. all as required for assessing the completion, shifting of utilities, ascertain the modalities for conveying out maintenance for a period of 5 years and estimation of the maintenance cost year wise.

7.2 The Consultant shall make detailed analysis for computing the unit rates for the different items of works. The unit rate analysis shall duly take into account the various inputs and their basic rates, suggested location of plants and respect lead distances for mechanized construction. The unit rate for each item of works shall be worked in terms manpower, machinery Staff and materials.

8 Time Period for the Service

8.1(a) A total of 90 days is completion time for the scope of services from the date of handing over of site. The final reports, drawings and documentations should be completed within this time schedule.
(b) 60 days for getting clearance from Forest department, Wild life department, Environment etc.

8.2 BRO/EPI shall arrange to give approval on all sketches, drawings, reports and recommendations and other matters and proposal submitted for approval by the Consultant in such reasonable time as not delay or disrupt the performance of the Consultant’s services.

9.0 Schedule of Submission

Consultants shall be required to complete, to the satisfaction of the EPI / BRO, all the different stages of study within the time frame indicated in the schedule of submission pertaining to Reports and documents for becoming eligible for payment for any part of the next stage.

9.1 Strip Plan

The Consultants shall submit the following documents (04 sets) within a period of 45 days after the commencement of services:

Details of the centre line of proposed alignment along with proposed right-of-way limits for various road sections.
Strip plans and cross-sections showing the positions of different Infrastructure works and services indicating clearly the position of infrastructure works.

Details for various clearances such as environment Wild Life Sanctuary and forest clearances;

Separate strip plan showing of each infrastructure work in consultation with the concerned local authorities;

The proposed plans should clearly show right–of–way (ROW) and pertinent plans topographic details including major trees, fences and other installations etc. and prepare necessary details for submission to the Service Departments;

9.2 Submission of Preliminary Project Report (PPR) – 8 sets

9.2.1 The PPR (8sets) shall be submitted within 30 days from the date of commencement of services. The report shall be prepared separately for each construction and shall contain the following.

Detailed GAD for different infrastructures and alignment plan based upon project requirement and geotechnical investigations and preliminary design calculations.

Number and location of proposed culverts and other structures, if any. Preliminary costs.

9.2.2 The basic data obtained from the field studies and investigations and input data used for the preliminary design shall be submitted in a separate volume.

9.2.3 The Preliminary PR incorporating comments, revisions and modifications suggested by EPI/BRO shall be submitted within 7 days of receiving comments from them.

9.3 Detailed Project Report (DPR) - 6 Sets.

9.3.1 The draft DPR shall be submitted within 45 days from the date of commencement of services and shall consist of Main Report, Design report, Materials Report, Engineering Report, Protection work Design Report, bid documents and drawings.

9.3.2 The DPR consultant should ensure detailed project preparation incorporating Quality audit and safety audit requirement in design and implementation.

9.3.3 The DPR consultant shall examine the feasibility of the construction and appropriate construction methodology shall need to be evolved as available working area.

9.3.4 Drawings shall be prepared.

9.3.5 Wherever required, consultant will liaison with all concerned Govt. agencies including but not limited to Electricity deptt., Irrigation Deptt., Water Resources Deptt., District Development Authority, PWD, Municipality Department, Police Department, Revenue Department, Traffic Police, and secure all clearances. Consultant will also obtain ‘NO Objection Certificate’ from Ministry of Environment and Forest.

Reports

Volume-I, Main Report:

The report will present the project background, details of surveys and investigations carried out, analysis and interpretation of survey an investigation data, designs, cost estimation, aspects, economic and commercial analysis and conclusions.
The report shall also include maps, charts and diagrams showing locations and details of existing features and the essential features of improvement and upgrading.

The basic data obtained from the field studies and investigations and input data used for the preliminary design shall be submitted in separate volume as an Appendix to Main Report.

The Report shall also include the project clearances from various concerned Govt. agencies that matter for project implementation.

**Volume- II, Design Report:**

This volume shall contain design calculations, supported by computer printout of calculations wherever applicable. The Report shall clearly bring out the various features of design standards adopted for the study. The design report will be in two parts. Part I shall primarily details with the design of road features and pavement composition while Part II shall deal with the design of cross drainage and drainage network structures, external electrical works, water supply network, over head tanks, sumps, detail design of CETP etc. The sub-soil exploration report including the complete details of boring done, analysis and interpretation of data and the selection of design parameters shall be included as an Appendix to the Design Report.

The detailed design for all features should be carried out as per relevant codes. However, the report should clearly bring out the details of these aspects and standards adopted.

Consultant shall also include the diversion of existing nallah and construction of culverts etc.

Consultant has to submit the final design to client’s deptt. for proof checking.

Proof checking will be done with concerning of the deptt. by I.I.T. and other Govt. Institute but the cost will be borne by the consultant.

**Volume-III, Materials Report:**

The materials Report shall contain details concerning the proposed borrow areas and quarries for construction materials and possible sources of water for construction purposes. The report shall include details on locations of borrow areas and quarries shown on maps and charts and also the estimated quantities with mass haul diagram including possible and use with leads involved, the details of sampling and testing carried out and results in the form of important index values with possible end use thereof.

The material Report should also include details of sampling, testing and test results obtained in respect physical properties of sub grade soils. The information shall be presented in tabular as well as in graphical representations and schematic diagrams. The Report shall present soil profiles along the alignment.

The material Report should also clearly indicate the locations of areas / availability of material with problematic soils. Recommendations concerning the improvement of such soils for use in the proposed construction works, such as stabilization (cement, lime, mechanical) should be included in the Report.
The Report shall also suggest various steps that the client has to take to own such sources for exploitation purposes for the project implementation phase.

**Volume- IV, Technical Specifications:**
Specifications adopted for designing different infrastructure development works.

**Volume- V, Rate Analysis:**
This volume will present the analysis of rates for all items of works. The details of unit rate of materials at source, carriage charges, any other applicable charges, labour rates, machine charges as considered in arriving at unit rates will be included in this volume.

**Volume- VI, Cost Estimates:**
This volume will present the contract package wise cost of each item of work as well as a summary of total cost.

**Volume- VII, Bill of Quantities:**
This volume shall contain the package-wise detailed Bill of Quantities for all items of works.

**Volume-VIII, Drawing Volume:**
All plan and profile drawings will be prepared in appropriate scales. In addition, this volume will contain drawings for the following.

- a. Horizontal Alignment and Longitudinal Profile.
- b. Cross section @ 25 m interval along the alignment within ROW
- c. Typical cross section with details of pavement structure.
- d. (i) Typical cross section with network of sewerage system and sewer pumping station.
  (ii) Typical cross section with network of water supply system including over head water tanks and sumps.
  (iii) Detailed drawing of protection works.
- e. GAD of culverts.
- f. Detailed drawings of bridges, Culverts, Drains etc. suiting to project requirement.
- g. All drawings will be prepared in A2 size sheets. The format for plan, cross section and profile drawings shall be finalized in consultation with the concerned EPI / BRO officers. The drawings shall also include details of all BM and reference pillars, HIP and VIP. The co-ordinates of all points should be referenced to a common datum, preferably, GTS referencing system. The drawings shall also include the locations of all traffic safety features including traffic signals, signs, markings, suiting to project requirement.

9.3.6 The consultant shall submit the soft copies of the DPR including all drawings in Auto Cad-Latest format.
10.0 Interaction with EPI

10.1 During entire period of services, the consultant shall interact continuously with EPI and provide any clarification as regards methods being followed and carry out modification as suggested by EPI. A programme of various activities shall be provided to EPI and intimation shall be given to EPI regarding start of key activities as boring, survey etc. so that inspections of EPI officials could be arranged in time.

10.2 The EPI officers and other Government officers may visit the site at any time, individually or collectively to acquaint themselves with the field investigation and survey works.

10.3 The consultant shall be required to send 3 copies of concise fortnightly Progress Report by the 5th day of the following fortnight to the designated officer at his Head Quarter so that progress could be monitored by the PWD. These reports will indicate the dates of induction and de-induction of various key personnel and the activities performed by them. Frequent meeting with the consultant at site office or in EPI Site office or at Delhi Office are foreseen during the project.

10.4 All equipment, software, and books etc. bought for this project shall be listed to the client through progress Report and handed over to the client free of cost at the end of the project.

11.0 Data and Software:

11.1 The CD diskettes containing all basic as well as the processed data from all field studies and investigations, report appendices, annexure, documents and drawings shall be submitted to EPI / BRO at the time of the submission of the Final Report. The data can be classified as follows:-

i. Engineering Investigations and Studies : Material Investigation including test result for sub grade soil. Traffic Studies (Traffic surveys), Sub-soil Exploration Hydraulic data for culverts, new construction requirement etc. in MS EXCEL or any other format which could be imported to widely used utility packages.

ii. Topographic Surveys and Drawings: All topographic data would be supplied in (x,y,z) format along with complete reference so that the data could be imported into any standard highway design software. The drawing files would be submitted in Auto Cad latest format.

iii. Rate Analysis: The consultant shall submit the rate analysis for various works items including the data developed on computer in this relation so that it could be used by the Authority later for the purpose of updating the cost of the project.

iv. Reports: All report shall be submitted in electronic media besides required number of Hard copies as stipulated above.

v. Design Report – All design data & design calculation shall be submitted in soft copy as well as hard copy to EPI / BRO.

11.2 Software:

The consultant shall also hand-over to EPI all CD containing any general software including the financial model that has been specified developed for the project.
11.3 The CD diskettes should be properly indexed and a catalogue giving contents of all floppies and printouts of the contents (data from field studies topographic data and drawings) should be handed over to EPI at the time of submission of the Final Report.

12.0 Responsibility for Accuracy of project Documents.

12.1 The consultant shall be responsible for accuracy of the data collected, by him directly or procured from other agencies/authorities, the designs, drawing, estimates and all other details prepared by him as part of these services. He shall indemnify the EPI / BRO against any inaccuracy in the work that might surface during implementation of the project. The consultant will also be responsible for correcting at his own cost and risk, the drawings including any re- survey/investigations and correcting layout etc. if required during the execution of the services.

12.2 The consultant shall be fully responsible for the accuracy of design and drawings of the various structures. All the design and drawings for structures including all their components shall be fully checked by a senior Engineer after completion of the designs. All drawings for structures shall be duly signed by the (a) Designer, (b) Senior Checking Engineer and (c) senior structure Expert. The design and drawings not signed by the three persons mention above shall not be accepted. The consultant shall indemnify the EPI / BRO against any inaccuracy/ deficiency in the design and drawings of the structure noticed during the construction and even thereafter and the EPI /BRO shall bear no responsibility for the accuracy of the designs and drawings submitted by the consultants.

13.00 OTHERS

(a) DPR must be prepared keeping in view that the following aspects/ Parameters must be covered:

- Traffic Survey
- Traffic Volume
- Origin & destination commodity movement survey
- Turning movement survey
- Axle load survey
- Speed delaying survey
- Pedestrian / Animal cross traffic survey
- Truck terminal survey
- Traffic demand estimate
- Engineering survey and investigation
- Topographic survey
- Details of utilities services and other physical factors
- Roads & Pavement investigation.
- Sub grade characteristics and Strength.
- Investigation for Bridges, Culverts, and other structures.
- Hydraulic & hydrological investigation
- Geotechnical investigation & subsoil exploration.
- Material investigation
- Detailed design of Road Payment, bridge structures and tunnels.
- Design of Embankments/ Retaining wall
- Drainage system
- Arboriculture and landscaping
- Economic and financial analysis
- Quality assurance plan
• Land Acquisition Report.
• Any other important aspect required for DPR.

(b) In addition to above, following points in Hilly road are to be considered:

• Design of tunnels, if required
• Design of protective works, slope stabilization measures, erosion control measures, land slide control/protection measures, snow drift control etc.
• Inventory and condition survey for tunnels, if required
• Detailed design of road considering and incorporating specific aspects related to hill region like terrain, topographic conditions, extreme weather conditions, altitude effects.
• Design of scenic overlooks/watering points etc.
• All activities related to field studies, design and documentation shall be done as per the latest guidelines of MORT&H and relevant publications of Indian Road Congress (IRC)/ Bureau of Indian Standards (BIS) for Hill Roads.
• The consultant should make indepth study of available geological and metrological maps of the area.
• Cross sections shall be taken at every 25 meters in case of Hilly roads and at points of appreciable changes in soil conditions. While taking cross sections, soil conditions shall be recorded.
• Locations of crust failure along with their causes.
• Conditions of camber/cross fall/super elevations etc., whether affected by subsidence.
• Extent of slope erosion on hill and valley side.
• Wherever practicable /feasible hairpin bends and steep gradients shall be avoided by realignments, provision of structures or any other suitable provisions.

(c) Additional Parameters for Safety:

• Safety and operational implication of proposed alignment and junction strategy with particular references to expected road users ad vehicle types likely to use the roads.
• Width options considered for various sections, departures from standards and action taken, provision of pedestrians/cyclists and intermediate transport.
• Visibility, New/Existing road interface, safety Aids on steep hills.
• Lighting, signs/Marking

(d) Land Acquisition Report

1. The Land acquisition report shall be prepared and submitted for each section separately. The report shall include detail schedules about acquisition of land holdings as per revenue records and their locations in a strip plan and also the costs as per district authorities. Details shall be submitted in land acquisition proforma. The land acquisition report shall be submitted in both Hind and English languages.

2. The land acquisition report should be prepared in consultation with affected persons, non-governmental organisations and concerned government agencies and should cover land acquisition and resettlement plan and costs of resettlement and rehabilitation of such affected persons. It should also include plan of compensating a forestation, its land requirement with specific locations and cost involved for undertaking all activities in this regard.
3. While preparing land acquisition report, consultant is required to cover the following:

i. Consultant is required to prepare all Land Acquisition papers (i.e. all necessary schedules as per L.A. act) for acquisition of land either under NH Act or State Act.

ii. strip plan indicating the scheme for carriageway widening, location of all existing utility services (both over- and underground) and the scheme for their relocation, trees to be felled and planted and land acquisition requirements including schedule for LA: reports, documents and drawings arrangement of estimates for cutting of trees and shifting of utilities from the concerned department.

iii. The Consultants should make an in-depth study of the available land width (ROW) topographic maps, satellite imageries and air photographs of the project area and other available relevant information collected by them concerning the existing alignment. Consultant himself has to arrange the required maps and the information needed by him from the potential sources. Consultant should make efforts for minimizing land acquisition.

iv. The information collected during reconnaissance and field surveys shall be shown on a strip plan so that the proposed improvements can be appreciated and the extent of land acquisition with L.A schedule, utility removals of each type etc. assessed and suitable actions can be initiated. Separate strip plan for each of the services involved shall be prepared for submission to the concerned agency.

vi. The consultant shall prepare Land Acquisition Plan and assist BRO/EPI in acquisition of land under various Acts.

vii. A matrix of scheduled activities linked to land acquisition procedures to indicate clearly what steps and actions will be taken at different stages and the time frame.

viii. Details of the centre line of the proposed widened NH along with the existing and proposed right-of-way limits to appreciate the requirements of land acquisition.

ix. The strip plans and land acquisition plan shall be prepared on the basis of data from reconnaissance and detailed topographic surveys. The Report accompanying the strip plans should cover the essential aspects as given under:

- Kilometre-wise Land Acquisition Plan (LAP) and schedule of ownership thereof and Costs as per Revenue Authorities and also based on realistic rates.
- Details of properties, such as buildings and structures falling within the right-of-way and costs of acquisition based on realistic rates.
- Kilometre-wise Utility Relocation Plan (URP) and costs for relocation per civil construction package as per concerned authorities.
- Kilometre-wise account in regard to felling of trees of different type and girth and value estimate of such trees based on realistic rates obtainable from concerned District forest office.
- Consultant will provide all kind of necessary liaison and support for acquisition of required land.
AGREEMENT FOR CONSULTANCY SERVICES

This agreement made at New Delhi on ..........................day of ..........................

Between the Engineering Projects (India) Limited (EPI), having its Northern Regional Office at Core-3, Scope Complex,, 7 Institutional Area, Lodhi Road, New Delhi-110003 (hereinafter referred to as the “EPI” which expression shall include its successor and assigns) of one part and M/s ....................... ....

............................................... a firm having its office at ...........................................................

(herinafter called the Consultant) which expression shall, unless repugnant to the context or meaning thereof, include their respective heirs, executors, administrators and assigns of the other part.

WHEREAS, EPI, has been appointed as Construction Agency and has been retained as agent by Border Roads Organizations for the work pertaining to construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh (herinafter referred to as the “Project”)

Now therefore, this agreement witnesses that the said M/s ................................. ............... are hereby Appointed as consultant for rendering consultancy services to EPI for the aforesaid project on the terms and conditions hereinafter mentioned........................... .......................... shall be referred to as “Client” / BRO in this agreement.
Now that agreement witness as under

2.0.0 **Scope of Work as per enclosed Annexure-II**

In consideration of the fees hereby agreed to be paid to Consultant, the Consultant shall provide comprehensiveness consultancy services in project conceptualization covering space utilization functional requirements for preliminary project report, project cost estimate covering all project components, project cost estimation, detail architectural, engineering and service design, detailed project report for roads / utilities, preparation of contract etc. perform the service indicated in Annexure-II.

2.1.0 Undertaking site visits to collect details/data/information required for planning purpose, holding necessary discussion with the Client and EPI and obtaining requirements of Project and attending meetings at site of work or EPI’s Office, Clients office as and when required by EPI.

2.1.1 To arrange detailed survey & soil investigation for the site of the project.

2.1.2 Based on available Master layout plan and interaction with EPI / Client and submission of “cost estimates” indicating specifications to be adopted for various structures / services / facilities etc. and getting necessary approval from client.

2.1.3 Preparation and submission of Concept Plan of the project and obtaining necessary approvals from client and statutory bodies wherever required including preparation, submission of models, photographs and other documents required in connection with approval from client and Statutory Bodies wherever required.

2.1.4 Preparation and submission of preliminary drawings, designs, specifications and preliminary cost estimates for each and every road / bridges / retaining wall allied services etc. including internal & external services complete and including getting necessary approvals from client and Statutory Bodies wherever required.

2.1.5 Preparation and submission of detailed Architectural drawings, designs and specifications for road / bridges / retaining wall allied services etc. for construction and releasing to site including getting necessary approval from client wherever required.

2.1.6 Collection of all data and preparation of Environment Impact Assessment report and getting EIA clearance of the project from concerned authorities of state and Central Government as required.

2.1.7 Preparation and submission of detailed bills of quantities, detailed estimate including preparation and submission of detailed take off calculation sheets, analysis of rates and tender documents for all works covered under clauses
2.1.5 & 2.1.6 including issue of adequate number of tender documents along with necessary drawings for the purposes of inviting tender including giving necessary advice (if required) in deciding the award of work. Separate tender documents may be required to be submitted for different works as decided by EPI. The Associate Consultant will provide market rate justification of each item of bill of quantity on the pattern of CPWD market rate analysis / as per EPI’s requirement at the time of invitation of tender for each package by EPI.

3.0.0 **Payment of Consultancy Fees**

For the Consultancy Services as per scope of the estimated cost* of works for which of work Consultant has rendered the Services including all applicable taxes (excluding service tax). Service tax will be reimbursed extra (if applicable) after submission of documentary proof.

- The payment towards the consultancy fees shall be made on prorate basis subject to following condition whichever is minimum or lowest.
  i) Actual length of Road.
  ii) DPR/preliminary cost approved by BRO.

4.0.0 **Mode of Payment** :-

4.1.0 The schedule for release of payment shall be as below:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Description</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On submission of draft preliminary project report and land acquisition report</td>
<td>20%</td>
</tr>
<tr>
<td>2</td>
<td>On submission of Draft Detailed Project Report and Bidding Documents</td>
<td>30%</td>
</tr>
<tr>
<td>3</td>
<td>On submission of final Detailed Project Report</td>
<td>20%</td>
</tr>
<tr>
<td>4</td>
<td>On approval of Final Detailed Project Report and Final bidding document.</td>
<td>15%</td>
</tr>
<tr>
<td>5</td>
<td>On submission of required project clearance from the concerned agencies and land acquisition.</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Note: 1) DPR shall be prepared as per relevant category of the project MoRT&H / IRC / ISI specifications.

2) EPI shall release running payments as pro-rata basis for various stages depending upon extent of their completion and decision of EPI in this regards shall be final and binding.
5.0.0 TERMS AND CONDITIONS

5.1.1 The Consultant shall furnish performance guarantee on the Performa of EPI i.e. Format no. EPI/MMD/F/17 from a scheduled / nationalized bank to the extent of 5% of the value of total consultancy fees of Consultant within 7 days of the signing of this Agreement. This bank guarantee shall remain valid till execution of work and handing over all works of the project to client by EPI. Incase associate consultant does not provide performance bank guarantee, an amount of 5% of value of total consultancy fee shall be deducted from initial payments for various stages @50% of due payment till deduction of this account reaches 5% of total value of consultancy fee.

5.1.2 5% of the fees payable to Consultant shall be retained from the Running bills as “Retention Money” in addition to the performance guarantee and the performance guarantee shall be released after completion of the project and retention money after the defect liability period to the Consultant.

5.1.3 Notwithstanding what is stated in clause 4.0 above, the payment of fees to the Consultant shall be released only after payment released by the client to EPI.

5.1.4 The Consultant undertakes to modify and make changes in the BOQ and other details, any number of times, till they are finally approved by EPI, Proof Consultant and client and as required for completion, defect liability period and handing over of the project to client, within the fees agreed by the Consultant in Para 3.0 and nothing extra shall be payable to Consultant in this regard.

5.1.5 If at anytime after award/start of work, the client decides to abandon or reduce the scope of work for any reason whatsoever and hence not requires the whole or any part of the works to be carried out, EPI shall give notice in writing to this effect to the Consultant and the consultant shall have no claim for any payment of compensation, or otherwise whatsoever, on account of any profit or advance which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the work. Further the Scope of work may increase or decrease up to any extent.

5.1.6 The consultant shall complete the works within the agreed time schedule. No extension of time for completing the same shall be made owing to any variations made in the works by the orders of the client, unless the client in consequences of such variations extends the time allowed to EPI for the completion of the works, in which case EPI may extend the time for completion under this agreement for a period not greater than the time allowed to EPI for the completion of the whole works.

5.1.7 All documents generated by the Associate Consultant in this Project shall be the property of EPI and the name & LOGO of EPI shall be predominantly displayed on all the documents.
5.1.8 The Consultant shall be fully responsible for evolving safe, economic, technically sound and correct documents and shall ensure that the estimation of the work is carried out based on MORTH / IRC Specification, legislation, other relevant bye-laws and good engineering practices. The bill of quantities and specifications shall be as per MORTH norms / market rate analysis and/or as desired by EPI and/or client.

5.1.9 The consultant shall ensure that all specification, estimates and other documents will be prepared and furnished to suit the particular local condition of the sites in most economic manner.

5.1.10 The statutory deduction of income tax, or other taxes/dues shall be made from the payment released to Consultant from time to time and same are deemed to be included in the Consultants fees and nothing extra shall be payable to consultant in this regard.

5.1.11 This agreement may be terminated at any time by EPI upon one month’s notice in writing being given to Consultant. If the Consultants work is not found to be satisfactory according to the terms of the agreement. In case the agreement is terminated on account of Consultants work not being satisfactory, EPI will get the work done at the risk and cost of the consultant.

5.1.12 EPI reserves the right to increase / decrease the volume or quantum of work without changing the scope mentioned in NIT. Consultants to execute the same at the same rate and terms & conditions.

5.2.1 PENALTY

In case the Consultant fails to complete the work within the contract period or extended period owing to reasons attributable to Consultant, liquidated damages @ 1.0% per week of the total fees subject to a maximum of 10% of the total fees payable shall be levied on the Consultant. EPI shall be entitled to deduct such damages from the dues that may be payable to the Consultant.

5.2.2 FORCE MAJEURE CLAUSE

EPI will not be responsible for any delay/stoppage of work due to force Majeure conditions like natural calamities, civil disturbances, strikes, war etc and losses suffered, if any, be the consultant on this account. EPI shall not be liable in any way to bear such losses and no compensation of any kind whatsoever will be payable by EPI to the Consultant.
6.0 **JURISDICTION**

The Courts in New Delhi alone will have jurisdiction to deal with matters arising from the contract, to the exclusion of all other courts.

In witness whereof this agreement has been executed between the parties hereto by their authorized officers in duplicate the day and the year first above written.

For and on behalf of

Engineering Projects (India) Ltd.

WITNESSES:

WITNESSES:
### Annexure-IV

**Engineering Projects (India) Ltd.**  
*(A Govt. of India Enterprise)*

DLI/BDD/BRO/01  
14.10.2015

**PRICE BID**  
*(Envelop-2)*

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Description of Item</th>
<th>Consultancy Services fee to be quoted in Lump Sum for 59 km. length of Road (in figures)</th>
<th>Consultancy Services fee to be quoted in Lump Sum for 59 km. length of Road (in words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Consultancy, Design &amp; engineering services including topographical survey, sub soil investigation, preliminary estimate project report, detailed project report for construction of construction / improvement of roadSansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The payment towards the consultancy fees shall be made on prorate basis subject to following condition whichever is minimum or lowest.
  
  i) Actual length of Road.  
  ii) DPR/preliminary cost approved by BRO.

- **Note:** The Consultancy services fee is inclusive all applicable taxes (excluding service tax), Service tax will be reimbursed extra (If applicable) on submission of documentary proof.
Annexure-V

ACCEPTANCE OF TENDER CONDITIONS

From: (On the letter head of the company by the authorized officer having power of attorney)

To,
Engineering Projects (India) Ltd.

Sub: Tender for appointment of architect for preparation of DPR’s, including design drawings, surveying, soil testing etc. technical feasibility, technical specification, detailed measurement, BOQ, Analysis of Rates, bid documents, detailed specification etc. for construction/improvement of road Sansari-Killar-Thirot between km.40.00 to 70.00 and km. 96.00 to 125.00 (Net length 59.00 kms) for Border Roads Organization (BRO) in Himachal Pradesh.

NIT No. DLI/BDD/BRO/01 Dated 14.10.2015

Dear Sir,

1. This has reference to above referred tender. I/We are pleased to submit our tender for the above work and I/We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work.

2. I/We are eligible to submit the bid for the subject tender and I/We are in possession of all the documents required.

3. It is clarified that after unconditionally accepting the tender conditions in its entirety, it is not permissible to put any remark(s) / condition(s) (except unconditional rebate on price, if any) in the price bid enclosed in Envelope-2 and the same has been followed in the present case. In case, this provision of the tender is found violated at any time after opening Envelope-2, I/We agree that my / our tender shall be summarily rejected.

Yours faithfully,

(Signature of the Tenderer and Seal of Tenderer)

Date: ....................