

**GENERAL TERMS OF REFERENCE (TOR) FOR CONSULTANCY SERVICES FOR  
PREPARATION OF DETAILED PROJECT REPORT FOR DOUBLE LANING OF ROAD IN  
LOWER DIBANG VALLEY DISTRICT OF ARUNACHAL PRADESH**

**Name of Work:** Preparation of DPR for “C/o Double Lane By-pass Road from DFO Wildlife Office Point (NH-315) to Eze Bridge Point (NH Junction near Park) at Roing in Lower Dibang Valley District Arunachal Pradesh (Length – 9.00 km)”.

**1. Background:**

The PWD Roing Division, Roing Arunachal Pradesh has been entrusted with the implementation of the Double Lanning of this Road Project in Roing, Lower Dibang Valley District, Arunachal Pradesh. The Department intends to engage qualified MoRTH-Empanelled Consultants for which the General Terms of Reference (TOR) have been framed as under. This is to cater to the preconstruction activities related to the survey and preparation of segmental strip plans and Detailed Project Report (DPR) supported by geometric design and working drawings of the road fit for Land Acquisition (RoW) including forest diversions and other appurtenances like cross-drainage structures, road protection works, pavement etc.

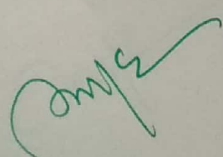
**2. Project Information:**

The Road Project is located in Roing, the District Headquarter of Lower Dibang Valley District of Arunachal Pradesh and is an existing road of ODR Standard, which will require substantive improvement through new alignment and fresh formation works for up-gradation to Double Lane configuration. The existing formation width is generally 5.95 meters with carriageway width of 3.75 meters; but in certain stretches road formation may not be visible in absence of proper maintenance. However, since the road was constructed long back, in many places the carpeted surface has worn away and sections of the existing road will require substantive re-grading including reconstruction of road formation and re-alignment as per 2-Lane NH standards. There are locations, where re-alignment with fresh earth cutting/filling will be required for avoiding sharp jigs and curves and areas prone to land-slides. For the purpose of Double Lanning, a uniform ROW of 45.00 metres for open area and 30.00 metres for built-up areas shall be required for which additional land beyond the present formation width shall be acquired. Cross-drainage works, road protection structures and drains will have to be constructed afresh to suit latest specification of Roads & Bridges of MoRTH. In many stretches longitudinal gradients shall have to be corrected to conform to NH standards. Most stretches of the alignment shall pass through plain and rolling terrain in Lower Dibang Valley District of Arunachal Pradesh.

**3. Objective:**

The primary objectives are as under:

- (i) To conduct road survey using Total Station for the designated road stretch and evolve the best possible alignment of the proposed Double Lane Road connecting all possible obligatory points considering construction economy.
- (ii) To evolve Strip Plan @ one kilometre of the proposed road after finalizing the best possible alignment and indicate therein all the infrastructural assets/utilities that are required to be shifted and relocated. A way-side land use pattern indicating the design chainages is also required to be evolved.



- (iii) To prepare the detailed engineering working design and drawings of proposed road, culverts, protection works and other road appurtenances and prepare Detailed Project Report fit for obtaining sanction of the project from MORTH as per the latest MoRTH specification of Roads & Bridges.

#### 4. Scope of the Consultancy Services:

The scope of the consultancy service is to:

- (i) Conduct preliminary and detailed survey including reconnaissance, preliminary survey, pegging, final survey etc. through Total Stations as per IRC: 52 and IRC: SP: 48 with up to date correction slips.
- (ii) Collect inventory data and to conduct condition survey of roads, culverts etc. as per IRC SP:19 2001 and compile the information in the proforma given in appendix of IRC SP: 19-2001 and in an acceptable computerized data base format.
- (iii) Prepare the best possible horizontal and vertical alignment of the road after attending to aspects of re-grading of the existing surface and proposals of realignment of the road requiring fresh cutting/filling.
- (iv) Prepare strip plan showing the existing road land width (distinctly marked), utility services (both above and below ground level), trees, electric poles, telephone poles, water pipeline, sewer line, culverts, junctions, telephone cables, adjoining land use, encroachment etc. in digitized format. The strip plan should indicate existing and proposed alignment and utilities as described above may be indicated in respect the final alignment of the road.
- (v) Determine the composition and thickness of existing pavement and carry out condition survey of the existing road appurtenances.
- (vi) Conduct representative CBR test on the existing sub-grade as per IRC: 37 in alternate kilometres.
- (vii) Do drainage studies indicating general drainage pattern, HFL, water level, seepage flow, etc and prepare drainage design as per IRC guidelines.
- (viii) Do investigation for naturally occurring materials and identify suitable quarries for road construction materials including leads.
- (ix) Conduct tests for the physical strength characteristics of aggregate materials as per relevant IRC standard.
- (x) Prepare Detailed Design of road complete in all respect including the geometric design of road, pavement, culverts and road protection works etc. Overlay design of pavements wherever necessary may be suggested after conducting Benkelman Beam Test as per IRC: 81. The pavement profile should correspond to the specifications of Double Lane NH Standards.
- (xi) Prepare detailed working drawings good for construction using MX, CAD, other suitable software etc., containing all details required for execution of the project.
- (xii) Prepare the Detailed Project Report of the Road Project covering the aspects indicated above for the purpose of obtaining sanction from the Central Ministry and in accordance with Road Ministry's guidelines.

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- (xiii) Prepare Bill of Quantities and estimate on current Schedule of Rates (SOR) of the Arunachal Pradesh PWD which shall form part of the Detailed Project Report. Wherever necessary, rate analysis be adopted to arrive at workable costs.
- (xiv) Assist the Department in appraising MoRTH about the aspects covered in the Detailed Project Report in clarification and obtaining sanction.
- (xv) Assist the Department in Pre-Bid Meeting for replying to queries raised by the Prospective Bidders pertaining to provisions and concepts adopted in the Detailed Project Report (DPR).
- (xvi) Prepare sector wise forest / wildlife proposals for diversion of forest land (Forest Clearance) for construction of project road and Ministry of Environment and Forests (MoEF) approval in consultation with the Department.
- (xvii) Prepare cost estimate of compensation assessment of various private / public assets for submission to Road Ministry in consultation with Department.
- (xviii) Prepare EPC document of the project estimate fit for approval of PWD Roing Division.
- (xix) To remain associated with the Department during the execution of the Road Projects for clarification of the survey and road design data to the Road Developers in consultation with the Department during the period of construction.

#### **5. Sequencing of Report Preparation:**

The project preparation activities will be split into stages as brought out below. Each stage will cover a set of activities and shall be followed with a detailed report in respect of each stage. Time schedule in respect of all such activities will be indicated. Consultant shall be required to complete the same to the satisfaction of the client in all the different stages of study with the time frame indicated in the schedule of submission. The stages are:

##### **Stage I : Inception Report.**

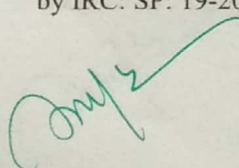
A comprehensive inception report shall cover the following:

- (i) Survey and investigation methodology.
- (ii) *Project engineering*
- (iii) Schedule of works indicating various activities.
- (iv) Key persons to be engaged in the projects.

##### **Stage II : Preliminary Project Reports.**

The preliminary project report shall cover the following:

- (i) Alignment plan, longitudinal plan and representative cross section of formation work.
- (ii) Existing Road inventory and pavement condition assessment in standard format prescribed by IRC: SP: 19-2001.



- (iii) Draft Strip Plan after finalization of the alignment.
- (iv) Draft DPR containing the survey data, interpretation of the tests and investigations conducted, pavement profile, design of pavement and other road structures, quarry location with lead, and preliminary cost estimation.

In nutshell the preliminary report shall be prepared as per the guidelines for preparation of project report contained in IRC: SP: 19 -2001 covering the points mentioned above which need approval of the client (PWD Roing Division) for further Detailed Project Preparation.

**Stage III : Final Report.**

On conveying of approval on the **draft report** by the Department (PWD Roing Division), the **final report** of the project shall be prepared incorporating the modifications and corrections suggested by the Department. The detailed final project report shall be prepared as per the guidelines given in IRC: SP: 19-2001, Para 17 covering the relevant points of reports, estimate and drawings.

**6. Services and Facilities to be provided by the Govt.:**

The Department shall provide the facilities like, topographical maps and detailed statistics of the area as available in the Department. Further, the Department shall share all available information of the proposed road with the consultant. The Department shall also arrange inner line passes and paid accommodation for staff of the consultant involved in this consultancy job. The financial proposal of the consultant appointed is deemed to be inclusive of all other incidental charges to the survey, study and preparation of the projects reports.

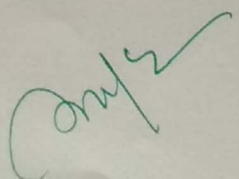
**7. Reports:**

The consultants shall furnish to the client the following report and documents. All reports and documents shall be in English.

- (i) Inception report - 3 copies
- (ii) Draft report - 3 copies
- (iii) Final report - 7 copies in A-2 size (including one soft copy CD)

**8. Schedule of Services:**

- (i) Submission of inception report - 30 days from the date of start.
- (ii) Submission of draft report - 30 days from the date of approval of inception report.
- (iii) Submission of final report - 30 days from the date of approval of draft report.



## 9. Payment Schedule:

Payment schedule for the work will be as follows:

- |       |                            |   |  |
|-------|----------------------------|---|--|
| (i)   | Mobilisation advance       | - | Nil.   |
| (ii)  | Submission of Final Report | - | 90% of contract amount   |
| (iii) | Approval of Final Report   | - | 10% of contract amount which will be kept as Security Deposit till completion of the project |

Any under-prepared, incomplete/inadequate or part submittal shall be deemed as invalid submittal. The adequacy of the submittal shall be determined at the sole discretion of the client/Executive Engineer PWD Roing Division. Client will, generally accord approval within 30 (thirty) days of submission of reports.

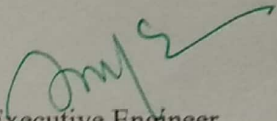
The Payment to the consultant will be subject to sanction of the competent authority and availability of fund.

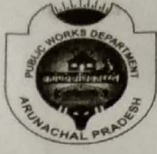
## 10. Performance security:

Within 21 days of the letter of (EOI) acceptance, the consultant shall deliver to the employer a performance security in the form of bank guarantee for an amount equivalent to 5% of the contract price valid for 5 (five) months.

## 11. Responsibility for Accuracy of Project Reports:

The consultants shall be responsible for accuracy of all the data used in project preparation and estimates prepared by him as part of the project. He shall indemnify the client against any inaccuracies in the job/work. For this purpose, the bank guarantee of 5% submitted as Performance Security shall be released on accord of "**in principle approval**" of the DPR by PWD Roing Division or one year after submission of the final DPR conforming to latest MoRTH Specifications of Roads & Bridges, whichever is earlier.

  
Executive Engineer,  
PWD Roing Division, Roing.



## GOVERNMENT OF ARUNACHAL PRADESH

OFFICE OF THE EXECUTIVE ENGINEER

ROING DIVISION: PWD: A.P

ROING

email id :- eeroing-pwd-arm@nic.in

eeroingpwd@yahoo.in

### NOTICE INVITING EXPRESSION OF INTEREST (EOI)

The Executive Engineer, PWD Roing Division, Roing invites Expression of Interest (EOI) from the Empanelled Consultants of MoRTH having experience in Highway Consultancy for the following work:

1	Name of work	Preparation of DPR for "C/o Double Lane By-pass Road from DFO Wildlife Office Point (NH-315) to Eze Bridge Point (NH Junction near Park) at Roing in Lower Dibang Valley District Arunachal Pradesh (Length - 9.00 km)
2	Period of completion	3 (Three) months

The General Terms of Reference (TOR) and other details can be obtained from the Office of the Executive Engineer PWD Roing Division, Roing on any working days from 10.10.2018 to 20.10.2018 from 10:00 am to 4:00 pm in person or may apply through email at [eeroing-pwd-arm@nic.in](mailto:eeroing-pwd-arm@nic.in)

Executive Engineer,  
PWD Roing Division, Roing.

Dated 5/10/18

No. RD/DRG-1/2018-19/ 2572-77

Copy to:

1. The Commissioner, PWD, Govt. of Arunachal Pradesh, Itanagar.
2. The Chief Engineer, PWD, Eastern Zone, Itanagar. This is with reference to letter No. CEAP(EZ)/SADA-3/2018-19/972-74 dated 7.08.2018 wherein it was directed to call Quotation for Consultancy Services from MoRTH-Empanelled List of Consultants for the By-pass Road.
3. The Superintending Engineer, PWD Tezu Circle, Tezu.
4. IT Section, PWD Eastern Zone, Itanagar for uploading the NIQ at Zonal Office website on or before 10.10.2018.
5. The Deputy Commissioner, Lower Dibang Valley District, Roing.
6. Office Notice Board.

Executive Engineer,  
PWD Roing Division, Roing.