

**GOVERNMENT OF MEGHALAYA  
OFFICE OF THE CHIEF ENGINEER (NH), P. W. D. (ROADS)  
LOWER LACHUMIERE: MEGHALAYA, SHILLONG.**

Email:cenhwbmitp@gmail.com

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**REQUEST FOR EXPRESSIONS OF INTEREST  
(Consulting Services – Quality Based Selection (QBS))**

**INDIA: MEGHALAYA INTEGRATED TRANSPORT PROJECT (MITP).  
Project ID: P-168097**

**Assignment Title: Consultancy services for DPR Preparation of Urban Roads (Town roads) in the State of Meghalaya under the World Bank Meghalaya Integrated Transport Project(MITP).**

**Reference No: IN-PWD-218511-CS-QBS**

The Government of Meghalaya has applied for financing from the World Bank toward the cost of the Meghalaya Integrated Transport Project and intends to apply part of the proceeds for consulting services.

The consulting services (“the Services”) include

- i. Preparation of cost-effective engineering design for construction/ upgradation/ rehabilitation of roads with green and climate resilient technologies. The work to include to provide proposal along with cost estimate for improvement of the deficiencies in the existing geometry including deficiencies in the road safety measures provided on the road within available road width, as per IRC specifications.
- ii. Preparation of cost-effective designs for rehabilitation/ reconstruction/ construction of the existing/ proposed structures (culverts, minor bridges, major bridges and other structures).
- iii. Preparation of cost estimate of rehabilitation/ reconstruction of the existing protection works along the road including design and cost of the new protection works, if any, required, along the road.
- iv. Preparation of plan and profile of the existing roads, covering all the existing features within the existing Right of Way (ROW).
- v. Preparation of inventory of roads, bridges (culverts, minor bridges, major bridges and other structures) and protection structures as per IRC guidelines/ specifications.
- vi. Preparation of detailed layer-wise thickness of the existing crust of the roads at a distance of 200m c/c.
- vii. Preparation of plan and profile of the existing/ proposed new roads with latest technology as per IRC specifications.
- viii. Preparation of existing drainage plan of the existing roads, design and cost estimate for the rehabilitation and augmentation of the existing drainage as per IRC specifications.
- ix. Identification and cost estimate of some suitable places for providing roadside amenities like bus stops, passing places, parking places, huts for road maintenance staff and any other provisions as per the direction of the employer.

- x. Preparation of designs and cost estimate of the local streams joining the road from the hill top including proper disposal of the discharge in the nearby cross drainage structures.

The Meghalaya Public Works Department (R&B), Government of Meghalaya (PWD) 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 short listing criteria are:

- Experience of the consulting firm of last 7 years (Especially for Design of Urban Roads).
- Turn-over of the existing firm of last 5 consecutive financial year, from the year of REOI.
- Experience of the firm of last 7 years in preparing the cost-effective designs and cost estimates of bridges over river/roads in hill areas specifically in North-Eastern States of the India.
- Qualifications and Experience of the key personnel of the consultancy firm.

The TOR for the activity is also enclosed.

The employer intends to engage the services of a consultant for the aforementioned works.

The attention of interested Consultants is drawn to paragraph 3.17 of the World Bank’s *Procurement Regulations for IPF Borrowers, July 2016- Revised November 2017 and August 2018* as amended from time to time [under IBRD Loans and IDA Credits & Grants] by the World Bank Borrowers, setting forth the World Bank’s policy on conflict of interest.

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 Based Selection (QBS) method set out in the Consultant Guidelines of the World Bank.

Further information can be obtained at the address below during office hours i.e., 11:00 am to 03:00 pm.

Expressions of interest must be delivered in a written form to the address below (by e-mail or by post/courier) on or before **14.03. 2021 at 4.00 PM.**

Attn: B.P. Marak,  
O/o The Chief Engineer PWD (Roads), Meghalaya Shillong.  
Lower Lachumiere, Shillong-793001, Meghalaya.  
Office Mobile No.: 8787375062  
E-mail: cenhwbmitp@gmail.com

## TERMS OF REFERENCE

### **DPR Preparation of Urban Roads (Town roads) in the State of Meghalaya**

#### **1. Introduction**

Meghalaya is a relatively small hilly state situated in the North-East region of the country. It is lagging in development as compared to rest of the country due to its poor transport infrastructure, difficult hilly terrain and climatic conditions, tenuous communication, poor market access, low agriculture productivity, and low level of industrialization.

Government of Meghalaya has received a loan from the World Bank (IBRD) under its Meghalaya Integrated Transport Project (MITP) for the up gradation of the transport infrastructure in the State. Meghalaya Integrated Transport Project (MITP) has the objective of improving transport connectivity and efficiency, and enhancing transport sector management in Meghalaya. For the management & administration of the project, a dedicated Project Management Unit (PMU) has been established in MIDFC at Shillong, headed by a Project Director and supported by other staff responsible to implement the project.

MITP includes rehabilitation / up-gradation / improvement of existing roads including that of urban roads of major towns of the State and construction of missing links / bypasses / Bridges in the State of Meghalaya. The Public Works Department (PWD) of the Government of Meghalaya is the implementing agency for improvement / rehabilitation / improvement of roads and construction of bridges under the World Bank funded MITP. With this background, PWD wishes to engage a reputed and experienced consultant for preparation of Detailed Project Reports including designs with innovative technology for up-gradation / Rehabilitation / improvement of existing Urban Roads within the towns of JOWAI, SHILLONG, WILLIAMNAGAR and NONGSTOIN of the State.

#### **2. Objective of the DPR Consultancy Services**

**2.1** Urban roads have a heterogeneous mix of traffic. These include the pedestrians including people with disabilities, and fast moving vehicles like two wheelers (motorcycles / scooters), three wheelers, cars and public transport vehicles. The space occupied by each of these vehicles, accelerations and deceleration characteristics and possible maximum speeds by each user is variable. Therefore space allocation to different vehicles has to be carefully ensured to achieve a smooth and safe flow of traffic. Our National Urban Transport Policy also clearly outlines the concept of “EQUITABLE ALLOCATION OF STREET SPACE”. Design of urban roads should take into account the guidelines and space standards for barrier free Built environment for disabled and elderly persons issued by the Central Public Works Department (CPWD) on behalf of the Ministry of Urban Development, Government of India. Today urban roads have to be adapted to the concept of the universal design in all its totality. The roads need to be “barrier free ‘ and accessible by ‘all’” including people with disabilities. Disabilities may be, (i) **Non-Ambulatory** (Confined to wheeled chairs) (ii) **Semi-Ambulatory** (Walk with difficulty or insecurity, using braces or crutches, amputees etc.) (iii) **Sight** (Total blindness or impairments affecting sight to the extent that the individual functioning in

public areas is insecure or exposed to danger), and (iv) **Hearing** (Deafness or hearing handicaps that might make an individual insecure in public areas). As such the urban roads should be designed for people and not for vehicles. The National Urban Transport Policy-2006 also lays emphasis on designing the cities for people and not for vehicles.

**2.2** To prepare cost effective engineering designs and cost estimates (detailed project reports) for up gradation / rehabilitation / improvement of existing deficient road geometrics including gradient , if possible , within the available width , rehabilitation / widening / reconstruction or new construction of culverts , bridges , drains and other roads related structures like retaining walls / Breast walls , longitudinal / cross drains , improvement of junctions / intersections / pedestrian crossings / pedestrian signals / pedestrian refuge islands / Universal accessibility-- tactile paving / Universal accessibility--Curb ramp and slope ramp and road side facilities like Bus Stops , street lights , on street parking , parking bays , utilities & services , street furniture , traffic calming measures / speed breakers , raised footpath for pedestrians , market platform for petty vendors at selected places based on the availability of the land / space , toilet blocks etc. and making good the deficiencies of road safety measures especially at crossings / hospitals / schools / colleges / worship places / cultural centers / busy shopping areas , foot bridges (pedestrians bridge / pedestrian overpass or pedestrians overcrossing of Steel Structure / RCC Structure) , and providing dedicated cycle lanes especially near and around educational institutions for the use of school going kids/ children / students with design of intersection for cyclists etc .within the width available . Design shall take into account the guidelines contained in the Code of Practice for design of Urban Roads issued by the Ministry of Urban Development, Government of India

**2.3** To limit the design parameters / geometric design within the guidelines of the master plan (development plan) of the town, if any.

**2.4** To introduce latest innovative and green & climate resilient technologies in the designs.

**2.5** The objective of the services is to provide high quality professional and engineering services for the preparation of DPRs of the candidate roads under the project.

### **3. Scope of the Consultancy Services**

#### **Task-1: Incorporation of plan and profile of the existing roads in the DPR.**

The topographical surveys will be provided by the Public works Department in soft copy to the Consultant. The Consultant shall design the roads as per the requirements prescribed in the Code of Practice for design of Urban Roads issued by the Ministry of Urban Development, Government of India / relevant IRC Specifications / guidelines for hills and try to best-fitting within the available/existing land width. No land / existing buildings acquisition is going to take place under the project.

#### **Task-2: Traffic Surveys and Road and Bridge Inventory**

The Public works Department has already collected the required data from the field. The Consultant shall utilize the collected inventory information in the DPR wherever applicable. The Consultant is free to request for any additional information regarding the Traffic Survey, Road and Bridge Inventory from the Public Works Department, Meghalaya.

#### **Task-3: Soil and Material testing Report**

The Public works Department has already collected the required data from the field. The Consultant shall utilize the same in the DPR wherever applicable. The Consultant is free to request for any additional information regarding the Soil and Material Survey from the Public Works Department, Meghalaya.

#### **Task-4: Pavement design**

The Public works Department has already designed the pavement (i) Flexible pavement for new missing links as per IRC: 37-2012 (Guidelines for the design of flexible pavements), and (ii) overlay for strengthening of the existing flexible pavement on the basis of falling weight deflectometer (FWD) as per IRC -115 (Guidelines for Structural Evaluation and Strengthening of Flexible Pavements using falling weight deflectometer technique), the same will be made available to the consultant by the PWD, Meghalaya. The Consultant shall use the same in the DPR wherever applicable. The Consultant is free to request for any additional information from the Public Works Department, Meghalaya regarding pavement design / composition of the pavement for innovation purpose / utilization of the suitable local materials for cost saving / for the purpose of making the pavement climate resilient.

#### **Task-5: Roadside drainage plan**

The Consultant shall collect the existing drainage plan from the Public Works Department, Meghalaya to design and provide cost estimate for the rehabilitation and augmentation of the existing drainage as per actual site requirements and in accordance with the IRC relevant guidelines.

Proposals for drainage of urban stretches shall adequately address the specific needs of protection against erosion, quick disposal, and maintenance.

The design and drawings of the drainage system should show drain location, section, specifications, and outfall locations with details of outfall structures.

#### **Task-6: Safety Measures like Road Signs, Road Markings and other traffic safety devices**

The Consultants shall undertake road safety audit of each road / lane / link in light of the standard guidelines (international / national) and also contained in the Code of Practice for design of Urban Roads issued by the Ministry of Urban Development, Government of India / relevant IRC Specifications / guidelines , propose provision along with designs and specifications of road signs, pavement markings, crash barriers, railings, delineators, overhead signs, raised footpaths, foot bridges, traffic calming measures in commercial / shopping congested areas / near and around educational institutions / community buildings / hospitals and cycle lanes , and speed breakers etc. The proposals shall be accompanied with design and drawings showing locations and specifications.

#### **Task-7: Evaluation of existing protection works and designs of new protection works**

The Consultant shall evaluate the soundness of the existing protection works like retaining walls, breast walls, slope pitching etc. along with the remedial measures.

The Consultant shall work out the new protection works with proper justification and design of the same.

#### **Task-8: Engineering designs**

**(A) General for smooth and safe flow of traffic:**

The Consultant shall prepare cost-effective engineering design for up gradation/ rehabilitation / improvement of roads and structures (culverts, bridges, drains and other structures) with green and climate resilient technologies. The work to include providing proposal along with cost estimate for improvement of the deficiencies in the existing geometry including deficiencies in the road safety measures provided on the road within available road width, as per IRC specifications / Code of Practice for design of Urban Roads issued by the Ministry of Urban Development, Government of India. The scope of works to be incorporated in the design shall be as briefed under clause -2(Objective of the DPR Consultancy Services) above.

PWD Meghalaya will identify the landslide and flooding prone locations / areas and conduct geo-physical investigation and recommend the protection measures including applying bioengineering solutions. The same along with specifications will be made available to the Consultant by PWD Meghalaya for evaluating the cost of the measures and including the same in the project report. Consultant will build the cost in the estimate of the work.

**(B) For barrier free access to the Disabled persons:**

The National Urban Transport Policy- 2006 lays emphasis on designing the urban areas for people and not for vehicles. Therefore the roads need to be “barrier free “ and accessible by ‘all’ including people with disabilities. Disabilities may be, (i) **Non-Ambulatory**, (ii) **Semi-Ambulatory**, (iii) **Sight**, and (iv) **Hearing**. As such the urban roads should be designed for people and not for vehicles. All the provisions like universal accessibility –tactile paving / Universal accessibility---Curb ramp and slope ramp etc required for disabled and elderly people as contained in guidelines and space standards for barrier free Built environment for disabled and elderly persons issued by the Central Public Works Department (CPWD) on behalf of the Ministry of Urban Development, Government of India / best international / national practices shall be ensured in the design.

**Task-9: Provision of utilities under the walkways / shoulders / raised footpaths:**

The Consultant with the support of PWD, Meghalaya shall make necessary provisions for utilities under the walkways / shoulders / raised footpaths (in the shape of chambers / ducts / pipes of appropriate diameter etc.) for different utilities like electric line, water pipe line, storm water pipe line, telephone line, optical fiber line etc. with proper documented consent of the concerned utility owners of the Government of Meghalaya in the cost estimate.

**Task-10: Preparation of deferent links / segment wise Encumbrance Plan of all the urban roads of the town:**

The Consultant with the survey data made available by the PWD, Meghalaya, shall prepare a detailed encumbrance plan of each road (link / segment wise) of the town. Format for capturing this data may be finalized with PWD, Meghalaya.

**Task-11: Cost Estimate**

The Consultant shall prepare cost estimate of up gradation / rehabilitation/ improvement of the existing roads and of the new links, if any under the project.

The Consultant shall work out the analysis of rates based on the current schedule of rates of PWD and the data book published by the IRC on behalf of the Ministry of Roads and Highways, Govt. of India (latest edition).

**Task-12: Preparation of town wise Bill of Quantities along with Technical Specifications**

The Consultant shall prepare town wise Bill of Quantities along with Technical Specifications, as decided by PWD, separately.

**Task-13: Preparation of standalone (town wise) Bidding Document**

To attract medium size contractor from the sub region, the Consultant shall prepare bidding documents (town wise) following the World Bank procurement guidelines and Standard Bidding Documents (SBD).

**4. Total Time for Assignment**

The total time period for completion of the study including submission of final Designs DPR, drawings and Bill of Quantities town wise along with Technical Specifications, quality assurance plan, bidding documents & encumbrance plans etc covered under the scope of services is **six months** from the date of commencement of services notified by the Client / Employer. List of towns along with length of urban roads covered under this consultancy services is annexed at **Annexure-I** of this TOR.

The client shall ensure to give approval of draft reports, proposals, etc. submitted by the Consultant, in reasonable time so as not to delay the performance of the Consultant's services.

**5. Inputs to be provided by the PWD / PMU (MIDFC)**

**5.1** (i) Lead Chart showing locations of quarries and copy of the Schedule of Rates of PWD, Government of Meghalaya.

(ii) Provide help in procuring required data about the rivers / nalas from the concerned departments of Government of Meghalaya.

**6. Consultancy Team**

- (i) The Consultant shall form a multi-disciplinary team for undertaking this assignment. The consultant's Team shall be manned by adequate number of experts and technical staff with requisite qualification and experience for the assignment.
- (ii) The tentative list of Key personnel to be fielded by the consultant as per the client's assessment is given in **Annexure-II**. The key personnel are required to be available for the period of assignment.
- (iii) The Design Consultant should arrange for his office accommodation as required at Shillong, capital city of the State of Meghalaya including electricity & water and watch & ward facilities. Accordingly, provision shall be made in the financial proposals.

- (iv) The Design Consultant should provide for their own all the logistics, consumables, furniture's, furnishers, Computers, Laptops and equipment, software etc. required for proper completion of the work. Accordingly, provision shall be made in the financial proposals.
- (v) No provision for the purchase of vehicles shall be made by the consultants in the financial proposals. For transportation cost, the consultants shall make provision for the rental of vehicles including running and maintenance charges towards transportation in their financial proposals. Accordingly, provision shall be made in the financial proposals.

**7. Reports and Documents to be submitted by the Consultant**

- (i) All reports, documents and drawings are to be submitted separately town wise for each of the roads of each town.
- (ii) The reports and documents to be submitted by the consultant to the client are described in the following paragraphs.

**A. Detailed Project Report (DPR)**

The draft DPR shall be submitted for each town. The final DPR should contain following chapters:

- (i) Main Report
- (ii) Design Report
- (iii) Materials Report
- (iv) Technical Specifications
- (v) Rate Analysis
- (vi) Cost Estimates
- (vii) Bill of Quantities
- (viii) Drawing Volume

The Consultant shall give presentation to the Department for the Draft DPR and incorporate the inputs/observations raised by the Department in the Final DPR. The Final DPR town wise consisting of sections i to viii above incorporating all modifications and revisions as per the comments of the PWD on the draft DPR shall be submitted within one month of the receipt of comments.

**8. Deliverables and Payment Schedule**

The Consultant shall be paid consultancy fee as a percentage of the contract value as per the schedule given below:

S. No.	Description	Criteria	Payment
1	On Submission of town wise Draft DPR along with (i)Technical specifications, (ii)cost estimate with detailed analysis of rates, (iii) Encumbrance plan of each road (	Within two months from the date of commencement for any one town and thereafter with an interval of one month for next town. (within five months time all	70% (payment to be released on pro-rata basis of each town covered i.e. @ 17.50 % for



<b>S. No.</b>	<b>Description</b>	<b>Criteria</b>	<b>Payment</b>
	link / segment wise ) , (iv) standalone bidding document , and (v) quality assurance plan .	the four towns are to be completed )	each town )
2	On approval of town wise Final DPR and Bill of Quantities along with (i) Technical specifications, (ii) cost estimate with detailed analysis of rates, (iii) Encumbrance plan of each road (link / segment wise), (iv) standalone bidding document, and (v) quality assurance plan.	Within one month from the date of communication of comments by the Client / Employer on the draft DPR for any one town and thereafter with an interval of one month for next town. (within six months time from the commencement date all the four towns are to be completed )	30% (payment to be released on pro-rata basis of each town covered i.e. @ 7.5 % for each town )
		<b>Total</b>	100%

The Consultant shall submit all the documents / reports in soft copy as well as hard copy as below:

- (i) All the Draft DPRs along with the required details in 3 sets in hard copy only.
- (ii) All the Final DPRs along with the required details in 6 sets in hard copy and two sets in soft copy only.

## Annexure-II/1

### Manning Schedule

(This is an indicative list of manpower schedule expected to be required. The consultants can suggest changes in the proposal)

Sl. No.	Key Personnel	Total Project assignment(six months)
1	Highway Engineer-cum-Team Leader	6 months
2	Procurement cum Contract specialist	3 months
3	Structural Engineer for structures / drainage	4 months
4	Quantity Surveyor / Documentation Expert	5 months
5	Road safety Expert	4 months
6	Urban Planner	2 months
7	Surveyor	6 months

**Total = 30 person-months**

## Qualification and Experience Requirement of Key Personnel

**1. Senior Highway Engineer-cum-Team Leader**

<b>i)</b>	<b>Educational Qualification</b>	
	Essential	Graduate in Civil Engineering
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	Min. 10 years
	b) Experience in Highway projects	Min. 5 years in Planning, project preparation and design of Highway projects. Experience of urban roads and also of hills roads will be preferred.
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

**2. Surveyor**

<b>i)</b>	<b>Educational Qualification</b>	
	Essential	Diploma in Civil Engineering or Diploma in Surveying
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	Min.5 years in Roads / Highway Projects.
<b>iii)</b>	<b>Age Limit</b>	50 years on the date of submission of proposal

**3. Structural Engineer for bridges and drainage**

<b>i)</b>	<b>Educational Qualification</b>	
	a) Essential	Graduate in Civil Engineering
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	Minimum 10 years
	b) Experience in Highway projects	Min. 05 years in design of bridges/ structures
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

**4. Road Safety Expert**

<b>i)</b>	<b>Educational Qualification</b>	
	a) Essential	Graduate in Civil Engineering
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	<b>Min. 10 years</b>

	b) Experience in Highway Projects	Min. 3 years as Road Safety Auditor on Highway / Road projects (National Highways / State Highways ) Experience of Hills Roads will be preferred.
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

### 5. Quantity Survey or Documentation Expert

<b>i)</b>	<b>Educational Qualification</b>	
	Essential	Graduate in Civil Engineering
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	Min. 15 years
	b) Experience in Highway Projects	Min. 5 years in Preparation of Bill of Quantities, Contract documents and documentation for roads / highway projects
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

### 6. Urban Planner

<b>i)</b>	<b>Educational Qualification</b>	
	Essential	Graduate / post graduate in Country & Town Planning from a reputed institution
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	Min. 10 years
	b) Experience in Highway Projects	Min. 5 years in planning / modernisation of existing transport infrastructure in Urban settlements / areas.
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

### 7. Procurement cum Contract Specialist

<b>i)</b>	<b>Educational Qualification</b>	
	a) Essential	Graduate in Civil Engineering from a reputed institution.
<b>ii)</b>	<b>Essential Experience</b>	
	a) Total Professional Experience	<b>Min. 20 years</b>
	b) Experience in Highway Projects	Min. 15 years in the Roads & Highways Sector out of which at least 7 years as Contract / Procurement Expert. He / She should have worked as Contract / Procurement Expert in at least two projects funded by multilateral financing institutions like World Bank / ADB.
<b>iii)</b>	<b>Maximum Age Limit</b>	50 years on the date of submission of proposal

**Proposal of Urban Roads under World Bank funded MITP**

<b>Sl. No</b>	<b>Name of road</b>	<b>Length in Km</b>
1	Rehabilitation / improvement of Roads in Shillong Town.	13.04
2	Rehabilitation / improvement of roads within Jowai Town .	33.973
3	Rehabilitation / improvement of roads within Nongstoin Town.	21.372
4	Rehabilitation / improvement of Roads in Williamnagar Town.	13.287
	<b>Total</b>	<b>81.672</b>