

**DRAFT**  
**Terms of Reference**

**Consultancy Services of “Project Management Consultant” (PMC)**  
**Gujarat State Highway Project-II (GSHP-II)**

**A BACKGROUND**

Gujarat, the western most state of India, has about 18590 km of State Highways, 20811 km of Major District Roads, 10588 Km of Other District Roads and 20889 Km of Village Roads, which are being maintained and managed by the Roads and Buildings Department (R&BD), Government of Gujarat, primarily via the Department’s Project Implementation Unit (PIU). These road improvement and maintenance programs are financed from general state tax revenues and GOI’s fiscal transfers. The Government of Gujarat (GOG) also borrows from international financial institutions, such as the World Bank, and domestic development banks for the purpose of road development in the state. R&BD also maintains a network of @ 1300 km of National Highways under contract with the Ministry of Shipping, Road Transport and Highways of Government of India (GOI).

The State Government, herein after called “Employer”, has prepared a Second Gujarat State Highway Project (hereinafter called “**GSHP-II**”) for the improvement of its road network with assistance of World Bank (herein after called “WB”). It has made request to the WB through Government of India for this assistance. The WB and the employer are now engaged in preparing the project. The project would be appraised by Government of India sometime in mid 2013. Then after loan negotiation with the WB would follow. WB readiness filter requires putting in place a project management consultant before Loan negotiation. In view of this, it is intended to invite proposals for the Project Management Consultant services (PMC) from eligible consultants.

**B Project**

The project involves three components. These are the civil works component, an institutional / governance strengthening / reform component and a road safety component. The size of project is about Rs 36000 million. The project period would be about 5 years. Tentative scheduling of project activities is as per Annexure I.

Note: The details in Annexure I are indicative only and are liable to change at PIU's discretion.

### Civil Works Component

This component would involve civil works and allied consultancies. Civil works consist of improving of @ 1000 km of state roads. The improvement works will consist of four laning, widening to two-lane from the existing deficient two lanes, single-and intermediate-lane carriage way width, and pavement strengthening with / without paved/hard shoulders, and in limited way realignments. Repair / rehabilitation / new construction of Cross Drainage Structures en-route would also be involved. The works will be carried out in phases during about five years of project life. Estimated cost of the civil works is **@Rs.24400 million**. The mode of procurement would be ICB and NCB. Mode of execution would be Item rate, BOT (toll) and BOT (annuity). Bidding process would involve post qualification of bidders in case of Item rate type contracts and Prequalification of bidders in case of OPRC and BOT mode of execution. Bidding Documents, mostly in lines with latest WB standard documents with some changes as agreed between the WB and Employer would be followed. In absence of WB standard bidding document, bidding document agreed between WB and the Employer would be followed. Mostly Ministry of Surface Transport, GOI specifications and other guidelines given in various publications of Indian Road Congress / Indian Standards of Bureau would be followed.

#### Phase I works:

@ **500 km** of road improvement is envisaged in this phase. @**325 km** of roads would be widened and strengthened.@**175 km** of roads would be rehabilitated. Barring one corridor of 66 km, the rest corridors would be improved through contracts on item rate basis. More details are given in Annexure II. A map depicting these roads is given in Annexure III. The estimated costs of these works would be @ **Rs.11230 million**. DPR including bidding documents are ready for these works. Invitation of bids for these works are likely to be in mid – 2013. These works will have construction period in the range of 12 to 30 months.

Supervision consultant will be engaged for construction and its allied activities in respect of supervision of these works. RFP for the same is being separately invited. Procurement of this consultancy would follow the prevailing latest guidelines of WB. Supervision consultant tenancy would be

stipulated till the end of defect liability period, which is 12 months after completion of construction.

Site preparedness activities for these roads are underway. It is expected that the major portion of site preparedness would be over by the time the PMC is in place.

In respect of the Mehsana – Himatnagar corridor of @ 66 km length in Phase I works, development of four laning is envisaged on 'green' concept and its execution on BOT (modified annuity mode). DPR of this corridor is also ready. The proposed form of Concession agreement is under GOG consideration of approval. It will have the usual provision of getting financial closure before work can start. The prequalification process for this work is also expected to start from mid-2013. The concession period would be of about 15 years inclusive of @ 30 months of construction period. The concession agreement for this corridor would have a provision for a separate Independent Engineer (not PMC).

For rehabilitation works, Quality Assurance / Technical Audits (QA/TA) would be involved till the end of the Defect Liability Period (DLP) period. The construction period of such works would typically be 12 to 15 months and the DLP period would be 12 months. Detailed Project Reports (DPRs) for these works are ready. Bid documents are also ready and bids are being invited separately.

Post-construction user satisfaction / perception surveys would be required in respect of all civil works. For user perception survey for Phase-I works a separate Consultant is being engaged. PMC will be required to carry out user perception survey of Phase-II works and user satisfaction survey of Phase-I & Phase-II.

NGO services (other than PMC) would be hired to ensure transparency and compliance in R&R activities with relevant GOI and WB guidelines. Bids for the same are being invited separately.

### Phase II works

@ **502 km** of road improvement is envisaged in Phase II. This phase will involve @ **318 km** of strengthening and widening and @ **114 km** of rehabilitation. Barring one corridor of @ 129 km, the rest widening and strengthening would be on Item rate basis. Under rehabilitation, this phase might have @ 3 roads which are to be improved under OPRC type contracts

while remaining under item rate type contracts. The cost of civil work is @ **Rs. 13186 millions**. Annexure II gives further details of corridors of improvements under this phase.

Design consultant would be employed for preparing DPRs and bid documents in respect of the ‘widening and strengthening’ corridors and also for ‘rehabilitation’ corridors chosen for OPRC. The DPRs and bid documents for remaining ‘rehabilitation’ corridors will be prepared by PIU. Supervision consultants will be engaged for construction supervision and its allied activities.

**Quality Assurance & Technical Auditing** (QA/TA) of the rehabilitation works will also be required, and shall be arranged by PMC. The proposed QA/TA requirements are outlined at Annexure IV.

Site is yet to be fully defined in want of detailed designing. However PIU has started site readiness as is feasible in absence of detailed designs. PMC will have a role in assisting monitoring of site preparedness.

Corridor of @ 129 km, Bagodara – Dhandhuka – Vertej is envisaged to be four lanes employing innovative financing. Feasibility of this corridor was done earlier in 2008 and the same is being updated. The concession agreement for this corridor will also have provision of Independent Engineer (IE). As R&R activities commenced before its proposal for inclusion in WB portfolio, some retrofitting on R&R front would be required to be done by NGO appointed for the phase I work. Expected investment by a concessionaire would be @ **Rs.11000 million**. Site preparedness for this corridor is underway. PMC might have a small role in assisting PIU for monitoring of the progress of site readiness. User satisfaction and perception surveys will be carried out for these also.

The services of the PMC consultants would be required until the DLP end.

#### Institutional & Governance Strengthening / Development

Several consultancy services of varying size are planned for the implementation of this component, which will be guided by (respectively) **Institutional Development** and **Governance & Accountability** Action Plans (IDAP and GAAP). Procurement action to finalize and launch the more substantial consultancies is underway at different stages. Execution of these consultancy assignments would take place over almost the entire GSHP-II period, and the PMC shall assist the R&B Dept in the

mobilization and management of these consultancies, as well as in monitoring the overall progress and results of the IDAP and GAAP implementation programs.

#### IT-ICT-MIS Improvements & Support

The R&B Dept has engaged a consultant to prepare an IT-ICT-MIS resources / capacity assessment and 'gap analysis', to provide a basis for possible GSHP-II funding of enhancements to present IT-ICT-MIS resources and facilities in the R&B Dept. That consultant is expected to report by July 2013 on their 'gap' and 'needs' findings and to provide recommendations for a combination of software and hardware procurements with associated user-training measures. The PMC shall assist the PIU in the decided procurement actions, in implementing the planned IT-ICT-MIS enhancements and in management of R&BD-centered IT-ICT-MIS functions and operations, including staff training and capacity-building measures.

#### Road Safety

A comprehensive WB 'road safety management capacity' review of Gujarat state was carried out over 2011-2012 and identified a range of important interventions, involving policy reforms and multi-sectoral capacity-building measures affecting the R&B Department, Transport Department, Home Department (re. Police), Health Department and Education Department. Conjoined actions will be deployed on a 'demonstration corridors' project (DCP) which is identified in form of 2 sections aggregating length of 30 km of Dahej – Valia road. Baseline surveys on this corridor are in progress and should be completed in mid-2013. The planned DCP also involves training, procurement of goods/equipment and design / monitoring of safety interventions for the demonstration corridor/s, requiring some specialized consultancies.

#### Project Performance Monitoring

A **Project Agreement** for GSHP-II will be established between the WB and the Government of Gujarat, *inter alia* stipulating certain covenants for project governance, milestones and outcomes. These shall be monitored by the PMC, including via a Project-specific 'performance monitoring indicators' matrix that will be determined between the WB and the GOG before Project launch.

### **C Objective of Consultancy**

The objective of this consultancy is to efficiently manage the project through assistance to PIU of the employer and to the employer such that envisaged each and every activity of the project is completed in agreed timeline, within budgeted cost frame and in full compliance with the WB guidelines and applicable Employer's acts, rules and regulations. The objective is also to ensure compliance to loan agreement

covenants and to achieve agreed-upon project monitoring indicators in stipulated time frame.

#### **D Implementation Mechanism**

The Employer has established the Project Implementation Unit (*PIU*) in Gandhinagar, under the overall responsibility of the Project Director (Chief Engineer), World Bank Project and headed by a Superintending Engineer (SE), who also heads the R&BD Environmental Management unit. The SE is braced with two Executive Engineers, Financial Controller, Environmental cum Social Expert and other staff stationed in Gandhinagar. Three regional offices, each headed by an Executive Engineer supported with junior level engineers and other non technical staff, have been opened in Rajkot, Vadodara and Mehsana. An 'Officer on Special Duty' of SE rank based within the GOG Secretariat and supported by technical and non technical staff, has also been assigned for this project. The CE / Project Director has charge of overall project administration.

The PIU will be the main interface between the Employer and consultant / concessionaire / contractor. The PIU will conduct its business as per authorization under various agreements with contractor / consultant / concessionaire and under rules and regulations of the Employer.

## **Section-II**

### **Detailed Scope of Consultancy**

The PMC shall be responsible for effectively leading and taking initiative to manage, execute and implement the project. PMC will be responsible in advising, assisting and acting on behalf of the PIU / the Employer when so authorized, for the effective management of the Project. The PMC would be responsible for effecting Project completion within agreed timeline and cost frame. The quality of Project Management should be of the standard expected under the Project Agreement with the WB. The scope of the PMC services shall also involve design services in a limited extent and providing PIU with certain human resource and support for the PIU's functioning, as detailed hereinafter. Overall the scope of the PMC services shall be as indicated herein but not limited thereto.

#### **(1) Preparation stage of Project**

- (i) Acquaint with all the work done and reports / documents prepared for this project pre PMC placement.
- (ii) Documenting, on soft and hard media, work done and expenditure made prior to PMC placement for ready reckoning for future recourse e.g. implementation completion reports.
- (iii) Assist PIU in monitoring site-readiness for the civil works of phase I.
- (iv) Assist PIU in site readiness works of Phase-II
- (v) Assist PIU in site readiness for Road Safety demonstration corridor
- (vi) Assist PIU for R&R retrofitting that would be done by NGO
- (vii) Study user perception report for Phase I works and take follow up actions for removing implementable design gaps, enhancing implementable design features and choking out needs for users satisfaction surveys.
- (viii) Acquaint with baseline surveys and reports in respect of demonstration corridor.
- (ix) Conduct user perception surveys and prepare report in respect of Phase II works for appropriate inputs in design and establishing base for user satisfaction surveys.
- (x) Carry out / assist PIU for other activities required for preparation of project.
- (xi) Assist PIU in preparing papers / documents / presentations for Loan negotiation.

## **(2) Designs / DPRs**

PMC shall carry out designs and design reviews observing the best engineering practices. PMC shall also prepare designs, review DPRs following best engineering practices. WB guidelines and Employers rules and regulations, IRC publications, Indian Bureau of Standards and any other developed countries standards shall be followed in the order of appearance here above. When a set of standards is followed for design, the review shall normally follow that set of standards. Design / design review and DPRs shall have to cater to site requirements, construction amenability and least life cycle cost aspects.

- (i) Assist in the review process of DPRs of phase I works falling within CSC purview and advice / assist PIU on actions required on review done / suggestion made by CSC.
- (ii) Review DPRs of rehabilitation works included in Phase I and advice / assist PIU on actions required on review done.
- (iii) Design and DPR preparation of rehabilitation (not covered under OPRC) corridors in phase II and demonstration corridor.
- (iv) To assist the client in reviewing and finalizing of designs and DPRs received by PIU from consultants(in respect of OPRC, PPWCS Phase II, and other minor that may crop up)

## **(3) Procurement:**

The PMC will be responsible for coordination of procurement of civil works, goods, and consultants under the project and ensuring that procurement is carried out in compliance with the procedures / project scheduling / procurement plan agreed with the WB. The tasks of the procurement activities will include but not be limited to the following. The indicative list of envisaged procurement is as per Annexure-I.

- (i) Assist PIU in undertaking procurement related activities / processes in accordance with the procurement plan, which provides the estimated costs and basis for the procurement methods for each procurement item under the Project as per prevailing World Bank guidelines.
  - (a) Assist PIU for all internal approvals
  - (b) Prepare / Assist PIU in finalization , as the case may be, of all the papers / documents required for procurement e.g. REOIs, EOIs,



TORs, RFPs (inclusive of Bidding Documents), addenda, Evaluation reports, Concession / contract agreement , LOA

- (c) Take up / assist PIU in finalizing, as the case may be, procurement processes e.g. uploading various invitations, prebid meetings, pre-bid responses and addenda, evaluation and evaluation reports, seeking clarifications from bidders, negotiations & minutes thereof, WB approvals (in case of pre review), WB clarification (in case of post review), LOA, Agreement signing, Financial closures in case of BOT projects.
- (ii) Assist PIU in finalizing technical specifications developed for procurement of goods and equipments.
- (iii) Assist PIU in handling all procurement related complains and redressal.
- (v) Maintain all records relating to procurement (both physical and soft media).
- (v) Maintain a detailed record of project complaints and their redress.
- (vi) Periodically update the procurement plan in agreement with the WB to reflect the actual project implementation needs.
- (vii) Prepare procurement implementation reports in accordance with the reporting requirement acceptable to WB.

#### **(4) Monitoring / Execution of project**

Monitoring entire project development and progress for efficient management and advising and assisting PIU in taking necessary actions for quality completion of the project would be PMC responsibility.

##### **a. Project overall**

- i. Monitoring project development against agreed scheduling
- ii. Monitoring physical and financial progress
- iii. Monitoring project development goals against stipulated goals in project indicator framework

- iv. Updating / revising project scheduling, developmental goals, physical and financial achievements
- v. Assist PIU in Forward physical and financial Planning
- vi. Reporting monthly project status to PIU and Quarterly project status report to WB through PIU.
- vii. Assisting PIU in dealing with RTI compliance, Audit, Public relations (including media reports) and Compliant redress.
- viii. Assist PIU in scrutiny of invoices raised.

**b. Civil works**

- i. Take up QA / TA of rehabilitation works (other than OPRC and not included in packages of S&W). Indicative TOR for QA/TA is as per Annexure IV.
- ii. Assist PIU in monitoring and removing left over land acquisition, tree cutting and utility shifting.
- iii. Assist PIU in monitoring / execution of all civil works including maintenance during contract period of civil works.
- iv. Assist PIU in planning of civil works
- v. Advising and assisting PIU on finalizing all proposals required to be put up by CSC / IE / NGO / Road Safety Expert to PIU under their agreements with PIU.
- vi. Assist PIU to deal with performance deviation by contractors / concessionaires.
- vii. Advise and assist PIU in minimizing disputes / claims.
- viii. Advise and assist PIU in DRB meetings

- ix. Advise and assist PIU in defending Employer's stand
- x. Examining all reports submitted by CSC / IE / NGO / Road Safety Expert and advising PIU on required actions.
- xi. Advising and Assisting PIU on monitoring maintenance compliance of roads after DLP and payment during maintenance guarantee period.
- xii. Advise and assist PIU in monitoring all the activities related to multi- sector road safety interventions.
- xiii. Assist and advise PIU on encumbrance removal / utility shifting during construction period.
- xiv. Assist PIU in monitoring the activities of E-MAP, Tribal Development Plan(TDP) and HIV/AIDS prevention plan implementation

**c. Consultancies**

- i. Assist PIU in monitoring progress of consultancies / IEs.
- ii. Assist PIU in forward planning for consultants' / IEs' outputs
- iii. Advising PIU on finalizing all proposals put up by consultants / NGOs / IEs (including VOS, replacements).
- iv. Advise and assist PIU in avoidance of disputes/claims.
- v. Advise and assist PIU in defending Employer's stand
- vi. Examining all reports submitted by consultants and advising PIU on required actions.
- vii. Monitor the activities of consultants / NGOs and assist PIU to deal with performance deviation by consultants /NGOs.

**(1) For Design Consultant project preparatory works consultant Phase-II**

- (a) To assist the client in reviewing and finalization of all the documents to be prepared / prepared by the separate consultant of project preparatory works.
- (b) Reviewing and finalizing various kinds of survey data including traffic survey, Special count and origin and destination survey, axle load survey, and all other survey related to traffic, Socio economic survey road inventory survey, social and environment Base line survey, engineering surveys etc.
- (c) Reviewing and finalizing all design data, GEO technical investigation data, Social Impact Assessment (SIA) and Environment Impact Assessment (EIA) reports.
- (d) Reviewing and finalizing all detailed project reports (DPRs) including specification, BOQ, Drawings, Contract data, Conditions of contracts etc.

**(2) IE for Mehsana Himatnagar & Bagodara – Bhavnagar & OPRC**

- a. All applicable actions mentioned above
- b. To assist the employer for administration of contracts with IEs.

**(3) NGO Phase-I, Phase-II and Impact Assessment**

- a. All applicable actions mentioned above
- b. Assist PIU in whole grievance redressal process of PAP
- c. Assist PIU in process of public disclosures

**(4) To assist the client for various IDAP / GAAP consultancies**

All applicable actions mentioned above

- (a) Assist the PIU in reviewing, finalization and/or clearance of various reports from IDAP / GAAP consultants.
- (b) Assist the PIU in scheduling and facilitating requested meetings of these consultants with the Employer, with GOG officials and/or other major stakeholders as per the consultants' work program and agreed activities.

- (c) Assist the PIU in providing any other facilitations required to be provided by the Employer for these consultancies.
- (d) Assist the PIU in providing various kinds of materials / documents agreed to be given to the various consultants.

**(5) All consultancies related to Road Safety**

- a. Assist PIU in the following preparations for the ‘demonstration corridor’ works under the Project:
  - Final review/validation of the safety audit recommendations and the iRAP risk assessment report.
  - Review of the designs/DPRs
  - Review and ensure compliance with work-zone safety standards.
  - Procurement for external independent safety audits at each phase.
- a. Assist PIU in organizing the meetings of RS Project Steering Committee (PSC) and Working Group (WG) members whenever required.
- b. Assist PIU in obtaining document / material / information from other stake holders related to multi sector road safety like Transport Department, Home Department, Health Department, Education Department (stake holders)
- c. Assist PIU in monitoring stake holders activities on the demonstration corridors
- d. Assist the PIU in reviewing and finalization of various reports / deliverables from the consultant/s
- e. Prepare notes, reports , presentation , minutes of meetings etc. for PSC and working group as and when required by the PIU
- f. Assist PIU in implementation of approved recommendations of consultant/s
- g. Assist PIU in management of the Demonstration Corridor Program, particularly in the civil works and all DCP procurement activities and related M&E responsibilities

**(6) Post construction / consultancy**

- I. Take up user satisfaction surveys for all the road improvement works involved in the project.
- II. Take up performance report of completed civil works

- III. Assist PIU in making final payment
- IV. Assist PIU in obtaining early discharge certificates from civil works contractors / concessionaires
- V. Assist PIU in ensuring maintenance compliance of civil works and payment.

**(7) Other activities related to the Project**

- (i) Efficient Documentation both on paper media and soft media
- (ii) Assist PIU in handling RTI applications *and assessment of RTI compliance.*
- (iii) Assist PIU in handling audit observations including preparation of detailed of reply on Audit Para, factual note
- (iv) Assist PIU in handling complaints / representations
- (v) Assist PIU in handling references from Quality control / Vigilance Commissioner/ MLA /MP / GoI / WB
- (vi) Assist PIU in important Correspondence with the WB and GOI
- (vii) Presenting project status during WB missions and GOI / GOG meetings as well as to prepare power point presentation on the same as per requirement.
- (viii) To assist the client in monitoring and evaluation including updating the indicators of result framework of the project.
- (ix) Assist PIU in arranging and conducting monthly progress review / coordination meetings and to prepare its minutes of meeting
- (x) Preparing overall progress report of the project including status of Physical and financial progress of all the civil works and consultancy services, NGO services, IE services, claims

from contractor, complaints / references through any mechanism and from anyone and of all other activities related to project for the bank and the client in consultation with client and CSC including monthly progress report and quarterly progress report.

(xi) Prepare quarterly status report of various references/ complaints received through various mechanisms like complaint handling, quality control, vigilance commission / MLA / MP / GoI/ WB etc.

(xii) Prepare borrower's performance report

**(xiii)** To assist PIU in periodically updating the project website

(xiv) Prepare final completion report of project as well as QA/TA of rehabilitation works

### **Location & Duration of the Services and Deliverables**

The PMC will have to establish its main office in Gandhinagar. The R&BD and its PIU are not able to provide any accommodation for the PMC office, hence the selected Consultant will be responsible for making his own arrangements for accommodation for the office of the Team Leader and all associated staff stationed in Gandhinagar as well as for his at-site staff. The Consultant should also make his own arrangements for office furniture, equipment, stationeries, photocopiers, communication facilities like telephones, web connections, facsimiles, etc. including maintenance thereof and vehicles for transportation of office staff, etc. (including operation, maintenance, insurances and repairs thereof).

The PMC services will be carried out over the entire loan implementation period **plus 12 months, i.e. over 72** months in total. The Consultant shall submit the inception report no later than 4 weeks after signing the PMC contract. The Inception Report details the deployment of the personnel and the approximate time of their mobilization, which is coordinated with the project implementation plan. The Consultant will no later than the **10<sup>th</sup>** of each month, after receiving reports **from the various consultants** submit a combined summary report of the progress of all ongoing sub-projects and consultancies, and recommendations on how to deal with problematic issues. PMC must also file quarterly Progress Monitoring Report (PMR) with the Bank through PIU. The targets and approximate duration of various tasks/deliverables of PMC consultancy are scheduled below:

All the deliverables required in hard copy shall be submitted in six copies and those which are to be submitted in soft copy shall be submitted in two copies. The documentation done under this assignment shall be given in external hard disk of capacity (not less than 1 TB) to be supplied by PMC. The PMC shall ensure that every submission made under this consultancy shall be copied on this external hard disk at the time of submission.

The following are the key deliverables to be submitted by consultant.

- (1) Inception report/s
- (2) Documentation of all works done related to project prior to placement of PMC, in hard and soft copy
- (3) Final Report regarding action for removing implementable design gaps , enhancing implementable design features based on User perception report and baseline survey done by the other consultant and chocking out parameters for user satisfaction survey of Phase-I works
- (4) The user satisfaction survey documents and final reports for Phase-I works
- (5) The user-perception survey documents and final report - including chocking out parameters for user satisfaction survey - for Phase-II
- (6) The user satisfaction survey documents and final reports for Phase-II works
- (7) Papers / documentation /presentation for loan negotiation
- (8) Action required reports after reviewing DPRS of Phase-I
- (9) Monthly progress report on Quality Assurance and Technical Audit(QATA) of rehabilitation works
- (10) Quarterly progress report on QATA of rehabilitation works
- (11) Reports of comments for finalizing the designs, designs drawings and all other Documents related to DPRS received by PIU from consultants
- (12) Reports of comments for finalizing each report submitted by ***all the consultants engaged under the project***
- (13) Reports of comments for finalizing each document related to PPP based works submitted by the other consultant
- (14) Notice inviting REOIs, EOIs, RFPs, ICB/NCB tenders
- (15) REOIs, EOIs, TORs, RFPs addenda for various consultancy services
- (16) Contract agreement, LOA for Phase-I works
- (17) Bid Evaluation reports, negotiation, contract agreement, LOA for various consultancies
- (18) Bid Evaluation reports, contract agreement, LOA for Phase-II works
- (19) Monthly progress report containing following details in consultation with Team leader of respective consultant
  - (i) Physical and Financial progress of each work and consultancy services



- (ii) Status of each work and consultancy(Work done against work supposed to be done along with details of actions required to meet with work plan if any with respect to work plan)
- (iii) Details of RTI applications
- (iv) Details of complaints and redressing
- (20) Quarterly progress report containing following details in consultation with Team leader of respective consultant
  - (i) Physical and Financial progress of each work and consultancy services
  - (ii) Status of each work and consultancy(Work done against work supposed to be done along with details of actions required to meet with work plan if any with respect to work plan)
  - (iii) Status of complaints and redressing
  - (iv) Status of RTI applications
- (21) Notes, Reports, Presentation and minutes of PSC and WG meetings and road safety related works
- (22) Minutes of meetings on monthly progress review of each work and consultancy services
- (23) Performance reports of completed works of up gradation and rehabilitation
- (24) Notes/reports required for any approval from GOG/GOI / WB
- (25) Six monthly report revising project development goals against stipulated goals
- (26) Quarterly Procurement implementation Report
- (27) Mid-term review report
- (28) Complete documentation till the project completion or completion of the PMC assignment, whichever is earlier
- (29) Final report of project completion containing details of each work and consultancy services and goods/ equipments purchased under the project
- (30) Borrowers performance report for implementation completion report to be prepared by WB
- (31) Final report on QATA of rehabilitation works

### **Contract management framework**

Project Director on behalf of the Employer will take responsibility for managing the Consultant's work and for ensuring delivery on the project. The Project Director will assign a project team to engage regularly with the Consultant for efficiently completing the various delivery items. Frequent meetings with the Consultant at the employer's office are foreseen during the period of services. The project team will meet at least monthly and the Consultant will report progress to these meetings. During the entire period of services, the Consultant shall interact closely with the Employer to receive input and provide information.

### **Data, services, and facilities to be provided by the employer**

The following and any other such data, available with the Employer shall be provided to the PMC: models of past RFQ, RFP, a Concession Agreement and Schedules prepared by a Consultant of the Employer.

### **VI Staffing**

- 1 The PMC must have relevant international-standard experience and expertise, and be familiar with local conditions and laws. Staff nominated by the selected PMC must be confirmed as available to do the scheduled work.
- 2 The total indicative man-months requirement of key professional staff inputs is about **520 (13\*40=520)**.
- 3 The key professional staff required for execution of the PMC services are:

#### **(A) For the PMC team:**

- Team Leader cum Infrastructure Expert
- Deputy Team Leader cum Project Management Expert
- Senior Highway Engineer cum Project Planning expert(s) with relevant Indian experience in project management
- Senior Bridge / Structural Engineer
- Senior Quality cum Material Expert
- Procurement cum Contract Management expert(including PPP project)
- IDAP & GAAP Facilitator / Coordinator (Public Sector Domain Expert)
- Financial Expert
- Legal expert(Civil Contracts & Agreements)
- Senior Environment Expert
- Road Safety Expert
- Social Development Specialist
- IT-ICT Manager

The indicative Man months of key professionals are as per Annexure VI

#### **(B) For Utilization in / by PIU:**

- (i) Financial Controller
- (ii) Environmental Expert
- (iii) Social Expert
- (iv) Safety Expert
- (v) Land Acquisition Expert
- (vi) Records Management Specialist

All these experts (immediately above) must have experience of not less than 5 years in their respective fields and preferably have worked on similar World

Bank -aided project/s in a similar capacity for not less than 1 year, desirably at State level in India. Deployment of these abovementioned officers would be need-based, as/when required by the PIU and they will have to work in / from the office of PIU. The Land Acquisition expert would have intermittent inputs aggregating to @ 30 months. Working conditions will have to at least match with those of a junior-level government gazette officer.

- 4 The PMC is required to deliver the services from a location in Gandhinagar, in close interaction with the Project Director, the SE-PIU and other Project-concerned senior officers of R&BD.
- 5 The key personnel shall be supported by adequate support staff; for example, there may be a need for more than one highway engineer.
- 6 The mobilization and demobilization of key PMC professionals whose requirement is intermittent will be resolved in consultation with PIU. All endeavors shall be made by the Consultant to account for reasonably accepted variation in project activity and to complete the assignment in the quoted man months. The Consultant shall accordingly decide the qualifications and deployment of the support staff.
- 7 The selected Consultant shall also provide two (2) data operators for deployment in the PIU office, to support PIU operations and needs there.
  - a. One data operator shall have knowledge of Gujarati language.
  - b. Both must have basic computer operation and all Microsoft Office software knowledge.
  - c. Data punching speed should not be less than 30 words per minutes.
  - d. The PMC shall provide communication and other facilities for the abovementioned human resources deployed in PIU.
- 8 The proposed key and other personnel need to be available during loan implementation period according to the manning schedule agreed in the negotiations with the employer. The PIU / Employer must approve beforehand any replacements in the PMC team of key professional staff.
- 9 Only the CVs of the abovementioned key professional staff will be evaluated at the time of evaluation of technical proposal.

## **Required Qualifications & Experience of Key Personnel:**

- **Team Leader cum Infrastructure Expert:**

The Team Leader cum Infrastructure Expert of this consultancy assignment should possess a Post Graduate Degree in Civil Engineering and shall have long experience in management of infrastructure project with various financing and procurement arrangements, economic and financial analyses of bids, supervision of highway engineers, understanding of the bidding and contract documents, FIDIC 2010 documents and overseeing (project) consultancies.

He should have at least 20 years of professional experience, out of which he should have worked as Team Leader/Project Manager or equivalent for minimum *of* 5 years on supervision/construction of Highway Projects, involving flexible and rigid pavements. His experience should include international assignments of at least *of* 5 years having handled highway projects of similar or large size and complexity in developed countries and about 6 years on similar projects in developing countries, including in Asia. The candidate should have a proven record of managerial capability through directing/ managing of major civil engineering works, including projects of a similar magnitude and various kinds of consultancy services. He should have worked for period of about 8 years in projects incorporating the FIDIC Conditions of Contract. He shall have worked for a period of @2years in projects incorporating **FIDIC2010** Condition of Contracts. Knowledge of international ‘ best practices ’ in latest conditions of contract, construction, contract management and modern highway construction technology as well as consultancy services is important. He should have previously worked as Team Leader or in similar capacity on at least two Project Management works of major road projects of Two-laning/four laning/expressway costing more than US\$ 100 Million or at least **150** km length of the project.(which includes at least 100 km of w&s works and 50 kms of strengthening works ) The candidate shall be conversant with the documents in several times of project delivery methods (OPRC, design-bid-build) design-build-Finance-operate-and-maintain (DBFOM), and PPP like BOT and Annuity mode. He should have at least five years of experience as Team Leader or equivalent of in above said kind of projects. He should have wide experience of monitoring the PPP projects and various kinds of consultancy services.

- **Deputy Team Leader cum Project Management Expert:**

The Deputy Team Leader of this consultancy assignment should possess a Post Graduate Degree in Civil Engineering and having MBA Degree HR development/ graduate level degree of Institutional Development. He shall have long experience in management of infrastructure project with various financing and procurement arrangements, economic and financial analyses of bids, supervision of highway contracts, understanding of the bidding and contract documents, FIDIC 2010 documents and overseeing (project) consultancies. He shall have good enough experience of institutional development and HR development.

He should have at least 12 years of professional experience, out of which he should have worked as Team Leader/Project Manager or equivalent for minimum of 5 years on supervision/construction of Highway Projects, involving flexible and rigid pavements. His experience should include international assignments of at least of 5 years having handled highway projects of similar or large size and complexity in developed countries and about 4 years on similar projects in developing countries, including in Asia. The candidate should have a proven record of managerial capability through directing/ managing of major civil engineering works, including projects of a similar magnitude and various kinds of consultancy services. He should have worked for period of about 5 years in projects incorporating the FIDIC Conditions of Contract. He shall have worked for a period of @1years in projects incorporating **FIDIC2010** Condition of Contracts. Knowledge of international ‘ best practices ’ in latest conditions of contract, construction, contract management and modern highway construction technology as well as consultancy services is important. He should have previously worked as Team Leader or in similar capacity on at least two Project Management works of major road projects of Two-laning/four laning/expressway costing more than US\$ 100 Million or at least **100** km length of the project.(which includes at least **70** km of w &s works and **30** km of strengthening works ) The candidate shall be conversant with the documents in several times of project delivery methods (OPRC) design-build-Finance-operate-and-maintain (DBFOM), and PPP like BOT and Annuity mode. He should have at least five years of experience as Team Leader or equivalent of in above said kind of projects. He should have wide experience of monitoring the PPP projects and various kinds of consultancy services. Experience in Project Management ‘capacity development’ in the roads sector is also desirable.

- **Senior Highway Engineer cum Project Planning Expert**

He shall be at least post graduate in Civil Engineering with 10 years of Professional experience out of which 7 years as full time on site project manager for Administrator and supervision of High way contracts of similar size and complexity as of the proposed contract. He shall have at least 5 years of experience of similar kind of assignment in Developed and Developing country outside of India with FIDIC conditions of contract. He shall have at least three years of experience in complex project planning and shall have knowledge of latest project planning software. He shall have also thorough knowledge and experience in highway designs having flexible and rigid pavements of at least 3-4 such projects and fully familiar with international ‘best practices’. Experience in pavement & sub grade investigations including deflection tests and in design of pavement rehabilitation & strengthening is necessity. The person must have experience in designing appropriate cost effective pavements making best use of locally available materials.

He shall have knowledge and experience to carry out the design approval of EPC and or PPP type contracts. He shall have detailed knowledge of various kinds of bid document and its evaluation, contract negotiation and contract agreement.

He should have adequate experience in using project management tools such as MS-Project or Primavera in preparing catch up work program, resources scheduling and critical path assessment and also in evaluation of EOT claims from the Contractor. Knowledge of FIDIC conditions of contract is desirable.

- **Senior Bridge cum Structural Engineers:**

The candidate will be a graduate in the field of Civil Engineering and Post Graduation in Structural Design/ Engineering. He will have relevant professional experience of at least 10 years. Out of which he should have worked for at least 5 years on bridge construction projects including design, drawing and construction of bridges. He should have at least 5 years experience in rehabilitation/ repair/ maintenance of bridges. He should have also experience in structural design, drawing and construction of minor bridges and all kinds of CD works. He should have experience of design, drawing and construction of at least 2 pre stress bridges.

- **Senior Quality cum Materials Engineer (Team Leader's Office):**

The candidate will be at least a Post Graduate in civil Engineering and preferably with post graduate qualification in Highway/Geo-technical Engineering. He should have minimum 10 years of relevant professional experience, out of which, he should have worked for at least 5 years as Material Engineer/Geo-technical Engineer in Highway construction projects. He should have handled at least 2 similar highway projects costing not less than US\$ 50 Million as Material Engineer/ Geo-technical Engineer. The candidate must be familiar with properties of road construction materials, technical specifications and procedures of all kind of material tests and testing equipment and should have past experience in working on road projects running on expansive soils. He should have experience of working as material engineer on similar projects in developing countries. The candidate should have demonstrated capability of monitoring, organization set up and layout of the various contractor's field laboratories, monitoring the mobilization of the testing equipment to ensure that the laboratories are adequately equipped and capable of performing all the specified testing requirements of the contracts, and monitoring that the setting up of the various contractor's rock crushers and bituminous mixing plants to ensure that the specified requirements for such equipment are fully met. The candidate should have at least five years of experience in flexible pavement and bituminous mix designs, and three years of experience in rigid pavement and concrete mix designs. The candidate should be familiar with establishing Quality Assurance Programs in highway projects. Knowledge of pavement design is essential.

- **Procurement cum Contract Management expert (including PPP project):**

He shall be at least civil engineer having post graduation in Management or MBA with Finance / Project Management. He shall have minimum 15 years of relevant professional

experience out of which he shall have minimum 5 years of experience in various PPP projects funded / aided by the World Bank or any international funding agencies. He shall have experience of procurement and Management of at least 5 green field PPP projects. He should possess a degree in Civil Engineering or Management with at least 10 years of experience in Procurement and Contract Management out of which he should have at least 7 years international experience in procurement and Contract Management. The candidate shall be conversant with the prevailing guidelines of World Bank for the procurement of Consultant works and goods. He shall have thorough knowledge of FIDIC document. He shall have experience in procurement of at least 5 PPP project and processes. The candidate should also have experience in drafting and negotiating agreements with different kinds of service delivery methods. Experience in PPP contracts in the last 5 years would be an advantage. He shall have knowledge and experience of management of various types of contracts like item rate, OPRC and PPP type contracts. He shall have detailed knowledge of preparation of EOI, RFP, BID document, Contract agreement of various kinds of contract and its bid evaluation, negotiation and contract agreement.

- **IT-ICT Manager:**

He shall be a B.Tech / B.E. graduate with specialization in Computer Science, Information Technology, Information Systems or the equivalent. He shall be fully knowledgeable in current IT hardware and software matters as well as ICT communications / connectivity matters, particularly as relevant to technical and business information management requirements in the public sector context in India. He shall have extensive professional experience (at least 10 years) and adequate professional skill in the implementation, operation and management of IT and ICT assets and facilities and in the facilitation of IT-based activity monitoring systems for program management purposes, preferably in public sector contexts. He shall have skills and experience in framing the necessary policies, operating rules and processes for the administration, security and performance monitoring of the IT-ICT resources of a major organization having widely-dispersed operations and user-groups. He shall have completed at least 2 major similar projects related to IT-ICT-MIS integration and related capacity-development in India's public sector.

- **IDAP & GAAP Facilitator / Coordinator (India Public Sector 'Domain Expert'):**

He shall have Graduate qualification in a field of Engineering or Management or Administration (or equivalent), with minimum 10 years of professional experience. He shall have significant senior-level experience in agency management, development, public relations / communications and leadership functions in India's public sector context, desirably at State Government level. He shall have proven capacity for high-level oversight, coordination and facilitation of complex strategies / programs. He shall have significant experience in the implementation of public sector 'institutional strengthening', capacity-building and/or reform programs. He shall have effective oral and written



communication, briefing and reporting skills; and sound inter-personal, liaison, presentational and teamwork skills.

- **Financial Expert:**

He shall possess an MBA degree (or equivalent) in Finance. He must have a minimum of 10 Years of Experience, including at least 3 years in international-standard roles / responsibilities, and at least 5 years in the financial analysis field. He shall be conversant on infrastructure project finance and able to carry out financial modeling and analysis. He shall have sound previous experience in performing financial analysis and planning functions and activities in India's public sector, preferably in relation to large-scale infrastructure investment and/or infrastructure asset management financing matters.

- **Legal Expert (Civil Contracts and Agreements):**

Graduate qualifications in Law, preferably with additional specialization in Corporate Law and Legislative drafting. He must have minimum of 10 Years of experience in practicing law. The candidate shall be conversant with the Indian and international documents for PPP projects. The candidate shall have experience in drafting and negotiating of PPP agreements from legal aspect. He should have served as legal expert in Transaction Advisory services for a minimum of 3 PPP projects in the road sector. He shall have extensive experience as legal professional and practitioner in public, administrative and/or contract law; and sound knowledge and experience of India's legal framework, processes practices as these relate to public legislation, statutes, Rules and/or Orders affecting the operations of public sector entities. He shall have proven skills at drafting of legal and statutory documents and preparation of related submissions and/or announcements.

- **Senior Environmental Engineer:**

The candidate shall be civil engineer with a post graduate with specialization in Environmental Engineering/ environmental sciences. The candidate shall have at least 10 years of relevant professional experience. Experience in implementation of EMP in at least 5 externally aided/FIDIC based major highway projects is essential. He should have about 6 years of work experience related to environmental issues. He should have adequate experience in implementing EMPs and organizing training to Contractor's and Employer's staff. He should be familiar with requisite procedures involved in obtaining Environmental & Forest clearances for project roads passing through protected forest, reserve forests, national parks or sanctuaries, CRZ etc. He should be familiar with the best practices adopted in the environment management in the developing countries. He should have also through knowledge about green highway construction.

- **Road Safety Engineering Specialist:**

The candidate will be at least a Graduate in civil engineering with post-graduation specialization in Highway Engineering and additional specialist training and qualifications



directly relevant to engineering aspects of traffic and transport safety in roads design / construction / management. He shall have at least 15 years of relevant professional experience, including at least 5 years directly in the Road Safety field, both in developed countries and in under-developed countries in Asia. He shall have extensive international-standard experience and skills in roads design, construction and management, with current specialisation in all the road and traffic safety engineering aspects of works project planning / design / implementation. He shall have significant experience in execution of Road Infrastructure Safety 'audits' and in preparing Road Safety Audit -based engineering mitigation measures. He shall have sound knowledge of contemporary road safety engineering 'best practice' and be soundly familiar with (i) current policies, standards and/or guidelines relating to road design and construction in India and (ii) current 'safe road & traffic engineering' concepts and approaches demonstrated elsewhere that may be brought into application in Gujarat state.. He must have proven skills at staff capacity building and training in this field; and have completed at least one major similar assignment in a comparable 'developing country' context.

- **Resettlement & Rehabilitation (R&R) Expert:**

The candidate shall have Masters Degree or equivalent qualification in Social Sciences (sociology / social work / economics / geography / planning / public administration and management) with at least 10 yrs total professional experience, out of which, 5 years experience shall be in working as social/ resettlement expert for major Civil Engineering Projects including Highway Projects. The experience of working as Social Expert for Major Highway Projects is desirable. The knowledge of World Bank's prevailing guidelines and/or policies related to R&R is essential. Experience in legal analysis of land records is desirable. Experience in qualitative & quantitative analysis of data, participatory consultation is essential. He should have through knowledge of prevailing land acquisition Act, states jantri values as well as current draft land Acquisition and Resettlement Act as well as state's R&R policy etc. He should have through knowledge of complete procedure of private and Government land acquisition up to the award stage. The candidate shall have at least 3 years experience in implementation of HIV/AIDS prevention plan.

**Tentative Major Project Activity Schedule ( Various Consultancy Services)**  
**Annexure-I**

Consultancy	Pre Procurement		Procurement		Contract Period	
	From	To	From	To	From	To
<b>IDAP/GAAP 1</b>	Oct-12	May-13	May-13	Nov-13	Nov-13	Oct-16
<b>IDAP/GAAP 2</b>	Oct-13	Jan-14	Jun-14	Mar-15	Mar-15	Feb-18
<b>IDAP/GAAP 3</b>	Jan-14	Sep-14	Sep-14	Jun-15	Jun-15	May-18
<b>IDAP/GAAP 4</b>	Jan-15	Nov-15	Nov-15	Aug-15	Aug-15	Jul-17
<b>NGO 1</b>	Oct-12	Apr-13	May-13	Aug-13	Aug-13	Aug-16
<b>NGO 2</b>	Jan-14	Jun-14	Jul-14	Oct-14	Oct-14	Oct-17
<b>OPRC consultant</b>	Jun-14	Aug-14	Aug-14	Jan-15	Jan-15	Nov-15
<b>CSC 1</b>	Oct-12	April-13	April-13	Aug-13	Sep-13	Dec-16
<b>CSC 2</b>	Dec-14	Feb-15	Mar-15	Nov-15	Dec-15	Apr-18
<b>Design Consultant (PPWCS for Phase-II)</b>	Jan-13	Sep-13	Sep-13	Apr-14	Apr-14	Jun-15
<b>IE 1(Mehsana-Himatnagar)</b>	Jan-13	Apr-13	Apr-13	Nov-13	Nov-13	IE will continue beyond Nov-19
<b>IE 2(Bagodara-Bhavanagar)</b>	Jan-13	Jan-14	Jan-14	Jan-15	Jan-15	IE will continue beyond Nov-19
<b>IE 3 (OPRC)</b>	Feb-15	Nov-15	Nov-15	Apr-16	Apr-16	IE will continue beyond Nov-19
<b>Road Safety</b>	Jun-14	Dec-14	Dec-14	Jul-15	Jul-15	Jun-18

Note: The above details are indicative only and are liable to change at PIU's discretion.

**Tentative Major Project Activity Schedule (Civil Works)**

Civil Works	PreProcurement		Procurement		Contract Period	
	From	To	From	To	From	To
<b>Civil Works Phase-I( Widening, Strengthening &amp; Rehabilitation)</b>	Completed		May-13	Oct-13	Oct-13	Apr-18
<b>Civil Works Phase-II( Widening, Strengthening, Rehabilitation)</b>	May-14	Sep-14	Sep-14	Feb-15	Jun-16	Beyond PMC
<b>Civil Works OPRC</b>	Jun-15	Dec-15	Dec-15	May-16	May-16	Beyond PMC
<b>Civil Works Four Laning of Mehsana-Himatnagar</b>	Completed		May-13	Dec-13	Dec-13	Beyond PMC
<b>Civil Works Four Laning of Bagodara-Bhavnagar (Innovative Finance)</b>	May-13	Jun-14	Jun-14	Feb-15	Feb-15	Beyond PMC
<b>Civil Works Demonstration Corridor</b>	Dec-13	Jun-14	Jun-14	Oct-14	Oct-14	Dec-15

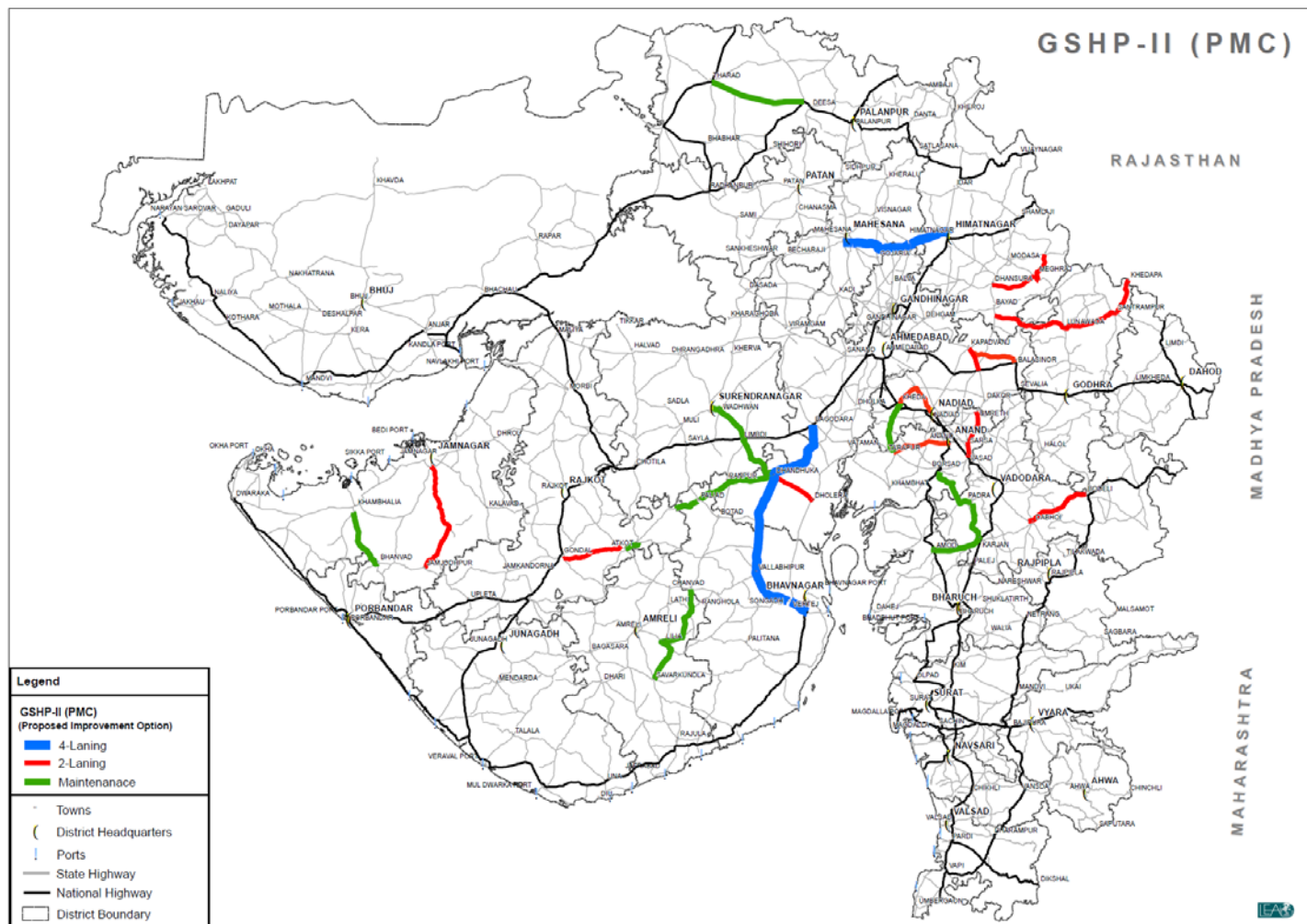
Note: The above details are indicative only and are liable to change at PIU's discretion.

## (A) Gist of road improvement works under GSHP – II

## Annexure –II

Pkg. No.	Road	Improvement	Approx. Length, Km	Const. Period in
<b>Phase-I(Upgradation and Rehabilitation)</b>				
GSHPII/comb/NCB/	Gondal-Atkot	W&S, 2 Laning	35.62	20
	Part of Atkot-Paliad	Rehabilitation	15.80	
		<b>Total</b>	<b>51.42</b>	
GSHPII/comb/NCB /	Dabhoi-Bodeli	W&S, 2 Laning	38.80	24
	Amod-Dabhoi(part section Amod to NH-8	Rehabilitation	28.00	
		<b>Total</b>	<b>66.80</b>	
GSHPII/NCB /	Umreth-Vasad (including Kapadvanj-Ladvel7 Km)	W&S, 2 Laning	41.26	18
GSHPII/NCB /	Mehsana-Himmatnagar	4 Laning	66.15	24
GSHPII/ NCB/	Dhansura-Meghraj Up to Border	W&S, 2 Laning	43.26	18
GSHPII/NCB/	Bayad-Lunawada	W&S, 2 Laning	44.23	18
GSHPII/NCB/	Lunawad-Khedapa (Border)	W&S, 2 Laning	56.48	18
GSHPII/NCB/	Karjan -Borsad	Rehabilitation	<b>55.15</b>	18
GSHPII/NCB/	Tharad-Deesa	Rehabilitation	<b>46.58</b>	18
GSHPII/NCB/	Savarkundla-Dhasa	Rehabilitation	<b>46.58</b>	18
		<b>Total Phase-I</b>	<b>501.22</b>	
<b>Phase-II Upgradation and rehabilitation</b>				
	Bagodara-Bhavanagar	4 lanning	<b>129.30</b>	36
	jamanagar-mewasa(link up to Bhanvad-Jamjodhpur)	W&S,2Laning+HS	<b>68.20</b>	24
	Tarapur-Anand Road	W&S, 2Laning+PS	<b>34.60</b>	18
	kheda-Nadiad	W&S, 2Laning+PS	<b>29.70</b>	18
	kapadvanj-Balasinor	W&S, 2Laning+PS	<b>29.45</b>	18
	Dhandhuka-Dholera	W&S, 2 Laning	27.00	18
		<b>Total</b>	<b>318.25</b>	
	Bhanvad-Khambhaliya	Rehabilitation	<b>34.20</b>	18
	Surendranagara-Limbdi	Rehabilitation	<b>22.10</b>	12
	Limbdi-Dhandhuka	Rehabilitation	<b>34.65</b>	18
	Kheda-Tarapur	Rehabilitation	<b>21.80</b>	12
	Dhandhuka-Paliad	Rehabilitation	46.00	18
	Thard-Dessa	Rehabilitation	25.00	12
		<b>Total</b>	<b>183.75</b>	
		<b>Total-Phase-II</b>	<b>502.00</b>	
		<b>Total-Phase-I &amp; II</b>	<b>1003.22</b>	
	Ankleshwar-Valiya Road	Road Safety	<b>21.90</b>	
	Bharuch-Dehgam Road	Demonstration Corridors	<b>9.10</b>	

# Annexure-III



**TOR of QATA**

**QATA will be the part of scope of PMC**

**BACKGROUND**

The state of Gujarat has about 18590 km of State Highways, 20811 km of Major District Roads, 10588 Km of Other District Roads and 20889 Km of Village Roads, which are being maintained and managed by the Roads and Buildings Department (R&BD), Government of Gujarat. These road's improvement and maintenance programs are financed from general state tax revenues and GOI's fiscal transfers. The Government of Gujarat (GOG) also borrows from international financial institutions, such as the World Bank, and domestic development banks for the purpose of road development in the state. R&BD also maintains a network of 3233 km of National Highways under contract with the Ministry of Shipping, Road Transport and Highways of Government of India (GOI).

In 1997, GOG had decided to undertake a major improvement program for its SHs. As a part of that strategy, the State Government through the R&BD, undertook a World Bank-financed road project, the Gujarat State Highway Project (GSHP- I; Loan: USD 280 million, closed December 31, 2007) through which about 1800 km of state roads have been improved. In order to take this effort forward, the State Government has now mooted a Second Gujarat State Highway Project (GSHP-II). This is likely to be at an estimated cost of Rs. 3000 crore (US\$ 0.6 billion, approximately, considering exchange rate as 1 US\$ = 50 INR). The GSHP-II is expected to cover up-gradation, maintenance and improvement of the identified core road network.

An Updated Strategic Options Study (USOS) was carried out by R&BD in the year 2005-2006 and revalidated the same in 2010 for the State Core Road Network. The state R&BD, has prioritized about 1600 km of State Roads for Upgradation and Maintenance. WB readiness filter requires putting in place a project management consultant before Loan negotiation. In view of this, it is intended to invite RFP for the project management consultancy from the eligible consultants. As a part of the Project Management Consultancy (PMC), the Consultant shall assist R&BD during implementation of project in respect of Quality Control & Technical Audit of the works in accordance with the objectives detailed below.

**Objectives**

The main objectives of the consultancy services are:

- To ensure achieving high quality in construction works to be executed under road rehabilitation program.
- To ensure that all the works carried out under this program fully comply with engineering designs, technical specifications, drawings , established codes & sound engineering practices and contract documents.
- To provide technical audit and advisory services for the works executed under the road rehabilitation program.
- To strengthen the technical capabilities & promote technology transfer to the engineer's of R&BD through on job training and technical audit/ advisory services.

- To strengthen the capabilities of the local contracting industry by encouraging expansion, acquisition of modern equipment and introduction of new technologies, process and procedures.
- Guidance in the construction of trial sections by the contractors and performance monitoring.
- To ensure that IRC mandated Environmental Mitigation measure are adhered to during construction.

The primary responsibility for day to day supervision of works will be of the R&BD and the consultant role will be to assist the R&BD in respect of Quality assurance and Technical Audit of works.

### **Scope of Consultant's Services**

The scope of consulting Services will include the following:

1. Assist in interpretation of the drawings and Technical Specifications etc. as and when required by the R&BD.
2. Review Contractor's detailed works program and suggest modifications where required.
3. Review the suitability of Contractor's superintending and key personnel and suggest modifications where required.
4. Review the Construction methodology proposed by the contractor for execution of works in order to ensure that the same is satisfactory in respect of technical requirements, project implementation schedule, environmental aspects and safety of the works, property, personnel & general public.
5. To assist R&BD in approval of the field-testing laboratories set up by the various contractors in respect of its facilities, adequacy, arrangements, equipment and laboratory staff etc.
6. Review suitability of source and quality of construction materials on the basis of inspections, test results/ manufacturer's certificates etc.
7. Develop forms and procedures in order to ensure implementation of a proper Quality Assurance system on all activities and aspects of the project.
8. Review the quality assurance/ control system & procedures being followed by the contractor and the R&BD staff.
9. Witness at least 10% of the Quality Control tests being conducted by the staff of the Contractor in the contractor's field-testing laboratory. The consultant will also conduct some tests independency in the field-testing laboratory.
10. Assist the R&BD on matters connected with quality assurance/control aspect of works in order to ensure the quality of work and its conformity with the standards & specifications prescribed in the contract.
11. Assist the R&BD during inspection of the construction equipment such as Hot mix Plant, paver finisher, rollers, bitumen distributors, chip spreader and other related machinery in order to assess their suitability for the works. The consultant will check the calibration of the hot mix plant. Assist the R&BD during periodical inspection of the equipment to be conducted.

12. During course of inspection if any item of the work is found substandard or unacceptable, the consultant would inform the R&BD the rectification required in writing, giving full justification thereof with necessary supporting data.
13. The consultant will assist R&BD to inspect the work on completion before taking over and indicate to the R&BD any rectification required and outstanding work to be carried out by the contractor prior to issuance of certificate of completion by R&BD, and will indicate any defects to be rectified during defect liability period.
14. Provide on job training to the R&BD engineers involved with the works to the strengthen their technical capabilities and promote transfer of technology
15. Recommendations regarding methods and procedures for the evaluation and the system for monitoring of the conditions of the road after completion.
16. Ensure / review that the contractors are adhering /following IRC mandated environmental mitigation standards/ practices.

### **Task to be carried out under the Consultancy Services**

#### **Detailed Tasks**

##### **Task 1: Team Mobilization and Project Start-up**

Team Leader will introduce team members with the concerned officials of the R&BD and will hold meetings to discuss the following:

- Rules and responsibilities of all parties in the project setup and lay out the rules and guidelines for implementation of the project.
- Status on award of contract for various sections
- Reporting system and contact for various sections
- Setting up of consultant's project office
- Issuing of Project Reports, Contract Documents and other background information related to the project

##### **Task 2: Review of Available Documents**

Before the start of each contract package, consultant will undertake study of Detailed Project Report and other available documents with particulars relevance to design, specifications and methodology for executing the work and project schedule. Consultant shall also review the contract Agreements for understanding the responsibilities vested with the Contract involved in the project.

##### **Study of Contract Agreement between the R&BD and the Contractors**

The understanding of these contract provision is very important in the overall success of the project. It is very important to have this Agreement absolutely clear and specific in all aspects, and adequately robust to cope up with the requirements for the successful completion of Project. The provisions of the achievements of the milestones and the penalties, the procedure for dispute resolution, if arises are absolutely vital for the success of the Project.



### **Task 3: Review of Field Testing Laboratories**

The laboratory and all facilities thereby will be supplied through the Construction Contracts by the Contractors. The list of equipment being provided will be available to the Team Leader by the Client. The Team Leader with the assistance of Sr. Quality Assurance Engineer will check the field laboratory set up of Contractors against this list and report any discrepancies or additional equipment necessary.

### **Preparation of Quality Assurance Plan**

The Consultant in discussion with the R&BD, shall prepare a Quality Assurance Plan (QAP), which will detail, Consultant's Plan to conduct the various activities and measures/procedures to keep a check on the quality of the products.

The quality Assurance Plan and Quality Control procedures will be continually checked by the Consultant's supervisory staff to oversee work is completed according to specifications or accepted international practices.

The main considerations that should weigh with preparation of an overall Quality Assurance Plan are:

- Clearly defining the objectives,
- Enumerating the activities involved
- Incorporating the requirements of quality in each activity and providing for a fail-proof safeguard, if any,
- Laying down the surveillance plan, checks for each apprehended lapse and omission,
- Establishment of corrective action and continuous improvement process.

The Consultants shall also develop forms and procedures for proper implementation of Quality Assurance Plan. They shall, inter alia, include the following:

- Procedure for storing of materials to be used in permanent works
- Type, frequency and procedure of tests for different kinds of materials and related pavement works
- Inspection and test plans including requirement for witnessing
- Requirements for record keeping
- Norms and procedures for control of process related to laying of bituminous concrete, surface regularity for pavement and concrete structures
- Acceptability criteria for works and workmanship
- Organization of materials from stockyards during laying and finished works
- Procedures for monitoring of compaction equipment and field compaction
- Procedures for monitoring/inspection of bitumen plants during production, laying and compaction
- Procedures for monitoring bituminous concrete production, laying and compacting
- Formats for recording and compilation of test data
- Reporting system for test results and for actions to be taken in respect of quality

- Other aspects as specifically required/modified to suit to prevailing site conditions and other agencies.
- Safety of the public and the work forces

#### **Task 4: Quality and Technical Audit**

All Test and Controls before, during and after execution of the works will be preliminary defined beforehand and agreed leading to an organized systematic Quality Control.

The Consultant will review the laboratory setup of the Contractor including the calibration of equipments. A comprehensive Testing Program and standardization of forms for testing purpose will be set up. Typical standard sheets will be produced for all the test required. They shall, inter alia, include the following:

- The type of test to be performed,
- Demands of specifications in relation to materials or final product,
- The person responsible for testing,
- The periodicity and frequency of the test (Volume of works, daily, weekly, before execution, etc.)
- The standard and limits to be observed.

The consultant shall ensure that the Contractor maintain systematic documentation of all testing as per the forms that will be developed by the consultant.

The consultant's team will audit the quality reports maintained by the Contractor and will also witness 10% testing of material. Where necessary, testing in other laboratories will be arranged by the Contractor and monitored by the Consultant.

The **Source of materials** will also be reviewed and test reports of quarry material will be audited to assess their engineering properties. For all pre-fabricated and ready mix items, certificated from manufacturers will be audited to verify that that the items meet the project requirement and specifications.

The Consultant will **develop procedures to audit various items of construction** and ensure that all concerned persons understand and implement these procedures with special emphasis on proper testing before any element is covered up. If during inspections the Consultant finds improper materials have been used or if tests fail to meet the requirement of the specification, the consultant will notify R&BD.

The Consultant will regularly inspect all the work site to ensure, on the basis of first hand observation that works are being executed according to plans and specification and to provide on the job training to local supervision personnel. If any deficiencies in quality are observed during site visits, remedial measures will be initiated on the spot.

Supervisory personnel will be educated in proper techniques to inspect/test for the particular problem and to prevent repetition.

### **Task 5: Environmental Impacts of Works**

The Consultant will be constantly alert to environmental concerns and recommendations in the Environmental Assessment plans prepared as part of the Project. Apart from the measures built in to the project, the Consultant will pay particular attention to proper handling of rain run-off during construction and to air pollution from dust and exhaust fumes from Contractor's equipment and pollution due to improper disposal of waste, human and machine. The Consultant will ensure that precautions for safeguarding the environment are observed by the Contractor as per the IRC Specifications for Road and Bridge Works. The Consultant will give particular attention to environmental impacts resulting from project activities, such as:

- Noise and pollution levels
- Contamination of soil/ground water by construction wastes/fuel and lubricants,
- Damage/loss of vegetation due to contamination of soils or water
- Transport and dumping of waste material
- Clearing of trees and plants during construction.
- Soil erosion and sedimentation

In case of observed or potential environment degradation, we will prepare recommendations to the R&BD for mitigation measures.

### **Task 6: Training and Technology transfer**

The objective of training consists in upgrading the capabilities of the R&BD's engineers and technicians in-charge of project implementation in view of their future management duties of similar works, is to be used as an opportunity and a vector to transfer Technical know-how. Training in this field will be particularly useful at this stage in view of the magnitude of R&BD's Highway Development Program.

The training session will be conducted by Sr. Quality Assurance/Control Engineers proposed in the key staff of the Consultant's team. The methodology adopted will be based on our skills and experience with training and technology transfer in other road construction projects, particularly in India.

The Consultants will hold training session as follows:

One session each at Rajkot and Vadodara will be held during the progress of the work. The point covered will be mainly to focus attention on the main important items of works and test parameters thereof.

Thereafter sessions of training will be held at one suitably located laboratory in each of the 2 sectors of the region wherein the actual tests to be carried out and their methodology will be explained to the R&BD personnel concerned.

Similar session will later be held specifically for bitumen works, the tests involved registers to be kept etc.

### **Task 7: Carry out final Inspection**

After completion of the construction, the Consultant will make an inspection of the entire project or parts of the project with representatives of R&BD & the Contractors. All defects, imperfections, and faults will be notified to the R&BD and in turn R&BD instruct the Contractor for rectification of the defects. Upon completion of all rectification a Final Inspection will be performed with the representatives of R&BD and the Contractor.

-Following final inspection of the project and the correction of all identified deficiencies on the project, the consultant shall recommend R&BD to issue the Project Completion Certificate.

### **Task 8: Defects Liability Period**

During this period the Consultant will make at least one visit per month of each work to verify the behavior of the roads and note defects. If necessary, the Consultant will notify the R&BD. In assessing any possible defect that may appear, care will be taken to differentiate between a “construction defect”, which is the Contractor’s responsibility to correct and “normal wear and tear”, which is a maintenance item.

Following each inspection, a report detailing the observed defects will be prepared and discussed with the R&BD and the Contractor involved. A solution to the problems will be determined in consultation with the R&BD and the Contractor.

At the end of the Defects Liability Period the Consultant will make a final inspection with the R&BD and the representative of the contractor and certify to the R&BD that all is well and that the Contractor may be released from further obligation as per provision for contract.

### **Task 8: Reporting Requirements**

Reports required to be submitted in six copies each of, hard & soft copy include the following:

- Monthly reports on the activities progress and major issues and the observations by the Field Engineer.
- Final audit report containing road wise detailed report of quality and other relevant information.
- Final Road wise quality – certificate covering overall view of quality and all items.

The Proposed schedule for submission of various reports is as follows:

Sr. No.	Report	Time of Submission
1	Quality Assurance Manual for the entire project covering type and nature of QC tests to be conducted, acceptance criteria, frequency of tests, Standard observation sheets and documentation.	Within 15 days from commencement of services.
2	Monthly reports on the activities in progress and major issues and the observations of the consultant's engineers.	For every month by 20 <sup>th</sup> date in following month.
3	Final completion report including status of audit notes, NCR and its disposal and status of quality control Tests conducted along with required frequency and results of QC tests.	Within one month after completion of consultancy assignment.
4	Certificate regarding Quality of work executed for each activity of work and individual road.	Within one month after completion of work.
5	Recommendations regarding methods and procedures for evaluation and the system for monitoring the condition of roads after completion	Within one month after completion of consultancy assignment.

### **Road Included in the Program**

The roads included Rehabilitation program are indicated in Table-1 below.

**TABLE-1**

Sr. No.	Package Code	Project Corridor/s	Length in Km.
1	GSHP-II/NCB/	Tharad-Dessa	29.89
2	GSHP-II/NCB/	Savarkundla-Dhasa	46.58
3	GSHP-II/NCB/	Karjan-Borsad	55.15
4	GSHP-II/NCB/ (Phase-II)	Bhanvad-Khambhaliya	34.20
5	GSHP-II/NCB/ (Phase-II)	Tharad-Dessa	25.00

**Annexure V**  
**TERMS OF REFERENCE**  
**PREPARATION OF GUJARAT SAFER CORRIDOR DEMONSTRATION**  
**PROGRAM UNDER GSHP-II**

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**A. PROJECT BACKGROUND AND OBJECTIVES**

The World Bank and the Government of Gujarat agreed to review the road safety situation in Gujarat and a road safety management capacity review (RSMCR) involving World Bank experts and the senior management of the responsible governmental agencies for road safety in Gujarat was conducted during October 2011.

The RSMCR was provided by the World Bank Global Road Safety Facility, supported by the Road Safety in Ten Countries (RS10) Program that is funded by Bloomberg Philanthropies. The review has been aligned with the World Bank's preparation of the Second Gujarat State Highway Project (GSHP-II) in association with the Roads and Building Department which will include a road safety component.

The purpose of the review was to reach agreement on an operational framework of a GSHP-II road safety component which would help to establish a robust road safety management system aimed at bringing Gujarat's challenging road safety outcomes under control.

Key findings of the review and recommendations for the road safety project component were set out in an Interim Report (21.12.11) which was forwarded to the Gujarat agencies. These were discussed and a broad-based consensus in support of the findings and recommendations was achieved in a road safety workshop in Gujarat in February 2012 and in subsequent meetings. Against the background of an unsuccessful recent attempt to put a State plan into place agencies acknowledged the need for pragmatic next steps. Agencies indicated their support for creating a road safety component which, with the help of international mentoring and national assistance, could simultaneously implement best practice multi-sectoral interventions in identified high-risk corridors, assist with State road safety policy development priorities, and strengthen related institutional management delivery capacity in identified areas across agencies.

It was agreed that the road safety project under GSHP-II will consist of the following components:

1. A fully resourced project steering committee to lead and manage components 2,3 and 4.
2. Multi-sectoral interventions in targeted high-risk, high-volume demonstration corridor(s)
3. Conduct of a formal review of existing institutional arrangements and recommend preferred options for a State Lead Agency role
4. Policy reviews of agreed road safety priorities, e.g. amongst topics of driver standards, heavy commercial vehicle safety, safe infrastructure design, deterrent policing and penalty frameworks and vehicle safety.

The GoG formed a Project Steering Committee which held its first meeting on July 2, 2012. The Project Steering Committee consists of Secretary/Principal Secretary of the R & B, Transport, Home and Education Departments. A working Group was also formed whose members represent the Project Steering Committee Departments. The meeting resulted in a request to R & B Department to discuss separately with each department of the project steering committee, come up with an action plan and report back to the Committee.

## **B. SCOPE OF WORK**

The scope of work consist of the following:

1. Assist each Department of the Working Group to indentify a plan of interventions for the Safe Corridor Demonstration Program. This will include drafting the TOR for any necessary TA for detailed preparation of the interventions.
2. Assist the Working Group in developing detailed implementation, procurement and monitoring & evaluation plans for the Safe Corridor Demonstration Program taking into consideration each Department's plan.
3. Assist GoG in developing a TOR for the Project Steering Committee and the Working Group as it related to deliver scopes 1 and 2, This will also include identifying suitable opportunities for inter-agency coordination and tinning with other international agencies on enhancement knowledge in road safety management and experience sharing.

## **4. DELIVERABLES/SPECIFIC OUTPUTS EXPECTED FROM CONSULTANT**

The deliverables consist of the following:

1. A Safe Corridor Demonstration Program document containing the following:
  - Detailed multi-departments interventions implementation Plan
  - Procurement Plan
  - Monitoring & Evaluation Plan
2. TOR for the Project Steering Committee and Working Group as it related to the preparation , implementation and supervision of the Safe Corridor Demonstration Program.

The consultant should work with all Departments of the Working Group and report back to the Project Steering Committee. He/She should take into consideration the comments of the Project Steering Committee members before finalizing the deliverables. His/her day to day work and coordination of activities will be managed by R & B Department.

## **5. SPECIFIC INPUTS TO BE PRESENTED BY THE CLIENT**

The World Bank will facilitate contact with R & B Department and assist in travel making arrangements to Gujarat. It is expected that 30 days will be needed to complete this work.

## **6. SPECIAL TERMS & CONDITIONS / SPECIFIC CRITERIA**

The consultant should have at least 15 years of working experience in coordinating the development and implementation of multi-sectoral road safety interventions. He/She should have working experience across various State Government Departments, preferably in Indian context.

## **7. SPECIAL TERMS & CONDITIONS / SPECIFIC CRITERIA**

The consultant should have at least 15 years of working experience in coordinating the development and implementation of multi-sectoral road safety interventions. He/She should have working experience across various State Government Departments, preferably in Indian context.

Details of Man months of Key professional and their Sub professional staff

Annexure VI

Sr. No	Name of Key Professionals	Man month		Sub Professional staff for following Key Professionals	Man month
1	Team Leader cum Infrastructure Expert	56			
	Deputy Team Leader cum Project Management Expert	56			
3	Senior Highway Engineer cum Project Planning expert(s) with relevant Indian experience in project management	45	1	Senior Highway Engineer cum Project Planning (s) with relevant Indian experience in project management	56
4	Senior Bridge / Structural Engineer	16	2	Senior Bridge / Structural Engineer	24
5	Senior Quality cum Material Expert	28	3	Senior Quality cum Material	84
6	Procurement cum Contract Management expert(including PPP project)	28	4	Procurement cum Contract Management expert (including PPP project)	65
7	IDAP & GAAP Facilitator / Coordinator (Public Sector Domain Expert)	28	5	IDAP & GAAP Facilitator / Coordinator (Public Sector Domain Expert)	65
8	Financial Management Expert	20	6	Financial Controller	56
9	Legal expert (civil contract and consultancy Agreement)	18	7	Land Acquisition Specialist	36
10	Senior Environment Expert	21	8	Senior Environment Expert	56
11	Road Safety Expert	24	9	Road Safety Expert	56
12	Social Development Expert	21	10	Social Development Expert	56
13	IT-ICT Manager (Expert)	12	11	IT-ICT Manager (Expert)	56
		373	12	Account officer	56
			13	Office manager	56
			14	Records Management Specialist	
					<b>18</b>
	<b>Total Man Month</b>	<b>373</b>		<b>Total Man month</b>	<b>740</b>