

No. RW/NH-34041/62/89-DO II

Dated the 12th January, 1990.

To

All C.Es., PWD of all States/UTs dealing with National Highways and other roads; Director General (Works), CPWD; Director General Border Roads; and National Highway Authority.

Subject: Interim Guidelines for Selection of Consultants for Highway/Bridge Projects on National Highways.

Use of consultants is becoming increasingly necessary for highway/bridge projects on National Highways. This is especially so in the case of bigger projects financed by international lending agencies like the World Bank and ADB. Apart from project preparation, consulting services may also be needed for specialised works such as research studies, traffic planning, bridge rehabilitation, construction supervision, etc.

2. The process of engaging the consultants involves a number of steps like Prequalification, Preparation of Terms of Reference, Invitation of Consultancy Proposals, Selection of the most suitable Consultant, Negotiations and finally award of the work. The entire exercise calls for a defined selection procedure to be followed.

3. With the above objectives in view, this Ministry has formulated "Interim Guidelines for Selection of Consultants" which are enclosed. These are focussed specifically on feasibility studies and project preparation, but are also applicable equally to other specialised jobs with necessary adaptation.

4. It is requested that the Interim Guidelines may be adopted with immediate effect in respect of consultancy services required for N.H. projects. Following points may please be kept in view in this regard:

- (i) Ministry's prior consent should be obtained when the need for any consulting services is envisaged;
- (ii) Prequalification and selection of consultants will have to be done normally through an Evaluation Committee set-up by the Ministry unless the State PWD is so authorised (see paras 5.6.1 and 11.1 of the Guidelines);
- (iii) Under emergent situations, the prequalification step could be omitted and proposals invited from select list of consultants in consultation with the Ministry. However, this will be done only exceptionally; and
- (iv) In due course, the Ministry intends to make a panel of consultants for different types of assignments so that the selection process is expedited.

5. Considering that a number of steps are involved in selection of a consultant (see para 4 of the Guidelines), the whole process needs to be carried out expeditiously. An indication of the total time period that might be taken and how this could be compressed, is given in para 14 of the Guidelines.

6. The Guidelines are interim at this stage and the Ministry will appreciate any suggestions to improve and refine them further.

Annexure to Circular No. RW/NH-34041/62/89-DOII dated 12.1.90

INTERIM GUIDELINES FOR ENGAGING CONSULTANTS FOR PREPARATION OF HIGHWAY PROJECTS (CONCERNING ROADS, BRIDGES, TRAFFIC PLANNING, OTHER SPECIAL STUDIES ETC.)

1. INTRODUCTION

1.1 In development of the highway system, a variety of projects would need to be conceived, evaluated, prepared and implemented. The projects may differ in scope but in each case, project conception, evaluation and preparation as a group of activities is as important as the actual implementation itself. Reason is that at initial stage when technical feasibility and economic viability of the projects are established, detailed field investigations are done, designs are developed, and cost estimates and implementation schedules are settled, these have a strong bearing on the quality and timely implementation of the project.

1.2 Accuracy and comprehensiveness of the surveys and investigations merit particular emphasis in project preparation. Objective presentation of the various project details in a systematic manner is equally important since the project document forms the very basis for technical, administrative and financial sanction of the work besides being vital for smooth implementation on the ground.

1.3 Towards achieving the objective of well conceived projects for incorporating innovative technology, and completing the work within the stipulated time, engagement of consultants possessing requisite expertise, knowhow, manpower and infrastructural support assume great relevance. Expenditure on such consultancy services is generally marginal compared to the total cost and will well pay for itself in several ways such as formulation of technically sound and economically viable projects, realistic cost estimation, innovative and cost effective designs, possibility of implementation without time/cost over-runs, etc.

1.4 The process of engaging a consultant involves a number of steps like prequalification, preparation of Terms of Reference (T.O.R.); invitation of consultancy proposals, selection of the most suitable consultant negotiations and final award of the work. The sequence involved is given in para. 4.1. The entire exercise will be considerably facilitated if appropriate selection procedures are followed. These guidelines have been prepared with this in view and contain recommendations about the method of selection of consultants for preparation of miscellaneous highway projects (concerning Roads, Bridges, Traffic Planning, Special Studies, etc.).

2. TYPE OF CONSULTANCY ASSIGNMENTS

2.1 General

Highway projects can vary widely in scope. One category is construction of new roads. Second is improvement of existing roads involving widening and/or strengthening, geometric improvements, reconstruction of weak/narrow cross-drainage structures, etc. A third type is specialised works such as design of improved intersections including interchanges, traffic safety works, high embankments, long span bridges, rehabilitation of distressed bridges, remedial measures for failed embankments/hill slopes, etc. Under the fourth category fall some special studies such as integrated transportation planning for an area, management of pavement systems, identification of expressway corridors etc.

2.2 Preinvestment or Feasibility Studies

2.2.1 For each of the work categories above, the first step would be to establish the need, justification, technical feasibility and economic viability of the project, in order to facilitate administrative decision to go ahead with the same. This is usually done through preinvestment or feasibility studies. In cases where need for the project is obvious and a decision has already been taken to go ahead, feasibility studies could be dispensed with and action taken straightway for project preparation.

2.2.2 The basic objective of a feasibility study is to examine possible alternatives through preliminary engineering studies and establish the need, justification and economic viability of the selected option. For example, in respect of improvements to an existing road, *inter alia* this will involve traffic studies covering O-D surveys at bypass locations, traffic projections, inventorisation of the road and road structures for identifying inherent deficiencies, preliminary surveys for improvements of geometrics, selection of suitable alignments for bypasses, preliminary pavement/overlay designs, rough cost estimates within a tolerance of $\pm 20\%$, economic evaluation of the improvement proposals, time scheduling of the construction etc. In short, results of the study are comprehensive enough for the authorities to take administrative decision whether to go ahead with the project.

2.3 Project Preparation

2.3.1 This is the second stage of operation which comes into play after the feasibility of taking up the project has been established and the administrative agency has taken the decision on the basis of preinvestment studies (vide para 2.2) to go ahead with its implementation. The work involved consists of detailed engineering, realistic cost estimation and other connected items relevant to preparation of the required working details and drawings for implementation. Besides other tasks, this will involve detailed surveys and investigations, geo-technical exploration, soil and material surveys, traffic studies, preparation of detailed designs and drawings, complete cost estimates, work specifications and tender documents for invitation of bids for construction work. This phase of work, i.e. project preparation, is a forerunner to technical approval and financial sanction of the project.

2.3.2 For administrative convenience and continuity of services, it will be usually preferable to engage the same consultant for both components of consultancy services, i.e. preinvestment (or feasibility) studies, and project preparation. Logic for this is that a firm which has carried out preinvestment study for a project, and is otherwise technically qualified to undertake the project preparation, will be in a better position to do so and also ensure consistency in basic technical approach especially in respect of the project cost on which the investment decision was based. If a different firm is chosen for detailed engineering, the cost and technical parameters of the final project could materially differ from those indicated at the preinvestment stage, thus posing problem in decision-making besides entailing delays in project formulation.

2.3.3 It will, therefore, be desirable to stipulate in the Letter of Invitation asking for consultants' proposals that the consultancy services would be for the complete package in two steps viz. feasibility study and project preparation (detailed engineering). It should, however, be made clear that satisfactory completion of feasibility study would be a pre-requisite for start of the second stage work, i.e. project preparation.

2.4 Special Studies

2.4.1 For projects involving special studies like development of transportation plan for an area, design of intersections/high embankments etc., an initial feasibility study will not be required, and the work on project could proceed straightway. For such cases, experience of the consultancy firm on similar works, and competence of the projected personnel for performing the job, will be crucial factors in the selection of the firm.

3. TYPES OF CONSULTING FIRMS

3.1 For purposes of these guidelines, consulting firms include, *inter alia*, consulting partnerships, private limited companies, public companies or corporations, government-assisted firms, government corporations, public sector organisations, training institutions, groups of associations of consulting firms, universities, and associations of practicing professionals.

3.2 Some consulting firms are a part of or are closely affiliated with other concerns e.g. construction firms or manufacturers of different products. Such firms will be acceptable if their qualifications and experience are otherwise suitable. But in the event of their selection, to ensure professional values, they must undertake to restrict their role to that of consulting services alone, implying an automatic disqualification for them and their associates from participating in that job in any other capacity (e.g. construction).

3.3 The above conditions apply also to "engineering firms" which undertake turnkey contracts.

4. PROCEDURE FOR ENGAGING CONSULTANTS FOR FEASIBILITY STUDIES AND PROJECT PREPARATION

4.1 The sequential steps involved in the selection process for consultancy services are as under:

- (a) Prequalification;
- (b) Preparing the Terms of Reference (TOR) for the assignment;
- (c) Making a broad estimate of Consultant's inputs in terms of time and the key personnel required on the basis of TOR;
- (d) Laying down the selection procedure;
- (e) Issuing letters of invitation (LOI) to short-listed Consultants to submit proposals;
- (f) Selection of the most suitable Consultant; and
- (g) Finalising contract negotiations with the selected firm.

4.2 Unless otherwise stated, TOR and LOI should be got vetted from the Ministry of Surface Transport (Roads Wing) before these are sent to the shortlisted consultants.

4.3 The various components of selection process are discussed further on in detail.

5. PREQUALIFICATION

5.1 Selection of Consulting firm for a particular project begins with preparation of "Short-list" of potential firms through the process of prequalification. Alternatively, if a prequalified panel of consultants is available, the same could be used and prequalification exercise dispensed with.

5.2 In case of emergent works, the prequalification process could be omitted with approval of the Ministry. In that event, a select list of consultants suited to the assignment under consideration can be drawn in consultation with the Ministry of Surface Transport (Roads Wing), and detailed proposals for feasibility studies/project preparation invited from them.

5.3 Basic objectives of prequalification are:

- (i) to confine invitation of consultancy services from firms possessing proven capability in the relevant field of work;
- (ii) to facilitate competition between well-qualified firms leading to selection of the one most suitable among them;
- (iii) to engage firms to come up with innovative new ideas in their proposals;
- (iv) to restrict the submission and evaluation of consultancy proposals to a manageable number; and
- (v) to enable a meaningful comparison and evaluation of the various proposals received.

5.4 For prequalification exercise, "letter of interest" could be sought through press advertisement, or by writing directly to firms known to have the necessary expertise, or a combination of the both. The advertisement (typical example for road upgradation project is given in *Annexure I*, which could be suitably modified for project-specific needs) should give only a brief outline of the proposed assignment, and not call for proposals *per se*. Firms should be asked first to submit a statement of capability and experience of key personnel, availability and details of inhouse computer and back-up services like survey and investigation equipment, previous experience on similar studies, back up of any other associates, etc. From the date of publication of advertisement to the closing date, at least 30 days should be allowed for replies.

5.5 Prequalification advertisement should be published in at least four National papers besides Indian Trade Journal and one regional paper if considered necessary. Moreover, it should be brought out in the magazine "Indian Highways" published by the Indian Roads Congress.

5.6 Evaluation of Pre-qualification Offers

5.6.1 For evaluating the pre-qualification offers to arrive at a shortlist of Consultants for the project under consideration, an Evaluation Committee would be set up by the Ministry. Alternatively, if the Ministry authorises, the above Committee could be set up by the Project Implementation Agency (State PWD/National Highway Authority/CPWD/DGBR/Local body etc.) An indicative composition of such a Committee is given below:

- | | |
|---|--------|
| (i) Chief Engineer (Roads) in the Roads Wing | Member |
| (ii) Chief Engineer (Bridges) in the Roads Wing | Member |
| (iii) Chief Engineer of the Project Implementing Agency dealing with the project under consideration. | Member |

Note: The above composition could be suitably restructured, as deemed appropriate by the Ministry, depending upon the project magnitude, complexity, importance and other related attributes. For example, in respect of specialised studies, or for projects of very large magnitude, the Evaluation Committee may include Ministry's ADG(R)/ADG(B) instead of the Chief Engineer. The Chief Engineer (Traffic & Transportation) may substitute for (ii) above for traffic and transportation projects, etc.

5.6.2 The following marking system for shortlisting of the Consultants is suggested for normal run of projects:

Details of Component	Marks
(i) Structure and organisation of the firm	5
(ii) Financial Status	5
(iii) Qualifications and experience of key personnel	55
(iv) Previous experience in similar assignments	25
(v) Availability of in-house computer and back-up services	5
(vi) Any additional points, e.g., possession of modern and more accurate equipment, innovative design package etc.	5

The above weightages could, however, be suitably modified commensurate with the project characteristics. These, as also the other evaluation criteria, should be decided by the Evaluation Committee in advance before actual receipt of offers from the Consultants. Guidelines for assigning marks for evaluation of prequalification offers in respect of a typical highway improvement project are given in *Annexure II* (These are meant for guidance of the Committee and are not to be disclosed to the Consultants).

5.6.3 While evaluating the personnel, higher weightage for the in-house experts than those proposed to be inducted from outside Organisations should be assigned. In addition, if some expert(s) is/are shown in the personnel list by two or more firms, such firms will be liable to suitable action against them. This could be either in the form of negative marking or rejection of their offer. The precise details in regard to the above two points will be appropriately decided by the Committee before actual receipt of Consultants' offers.

5.6.4 For aiding evaluation process, summary particulars including various components of the marking system, should be prepared on a suitable Format by the Project Implementing Agency for the offers received.

5.6.5 The Chief Engineer of the Project Implementing Agency who has called for the prequalification offers should furnish the following documents to the Ministry of Surface Transport (Roads Wing):

- (i) One copy each of the prequalification offers; and
- (ii) Three copies of summary particulars of the Consultants (as per para 5.6.4).

5.6.6 The Evaluation Committee should evaluate the offers on the basis of marking system referred to in para 5.6.2 above and finalise a 'Shortlist' of Consultants considered suitable for inviting detailed proposals from them. While finalising the shortlist, due consideration should

also be given to the magnitude of consultancy works already in hand with the prospective Consultants vis-a-vis their capacity to handle additional work commensurate with their infrastructural resources.

5.6.7 The 'shortlist' should be limited normally to a maximum of six firms, while it will be desirable to have at least three. In case the shortlist comes to less than three, the time limit for submission of prequalification offers could be extended, or alternatively proposals invited afresh.

6. TERMS OF REFERENCE (TOR)

6.1 TOR enunciate the client's requirements as well as modalities of the assignment which the Consultant would be expected to carry out. These are prepared initially for issue to shortlisted consultants, for them to submit their proposals covering the methodology of work, schedule of activities, reporting and manpower deployment, etc. After selection of the Consultant, the TOR as issued by the Project Implementing Agency in the first instance should be reviewed and modified based on the Consultants' comments during the contract negotiations. The TOR in the final form as modified should form an integral part of the contract which governs the work to be performed by the Consultant. These should, therefore, be as clear, precise and comprehensive as the type of assignment demands. Being crucial to success of the assignment, TOR should be reviewed and finalised with utmost care so that nothing important and relevant is left out. The Consultant's proposal which does not form part of the contract, is not a legal document, and should be discarded after the appropriate elements of the proposal have been incorporated into the contract.

6.2 TOR serve the following three purposes:

- (i) to inform the prospective Consultants of the objectives and intended scope of the work;
- (ii) to define the spread of Consultants' services for purposes of contract to be negotiated with the selected firm; and
- (iii) to confirm agreement between the client and the firm on the objectives and scope of the proposed assignment.

6.3 Normally, the TOR should contain the following:

- (i) background of the assignment;
- (ii) a precise statement of the objectives of the assignment;
- (iii) the scope, coverage and timing of the required services;
- (iv) the inputs (in terms of data, local services, support and facilities) to be provided by the client;
- (v) particulars of output required of the consulting firm (i.e. reports, inception report, final project report, field/geotechnical data, forecasts, design, drawings, specifications, tender documents etc.); and
- (vi) reporting and time schedule, etc.

6.4 TOR should explain the scope and form of the assignment with all the clarity possible, to obviate different interpretations. For preparation services including detailed engineering, the definition and coverage of the Consultants' tasks are largely dictated by the complexity of the project. If a preinvestment study has been conducted prior to detailed engineering, design standards and other criteria would normally have been settled. If such a study has not been undertaken, comprehensive coverage of the design parameters to be adopted will have to form part of the TOR. Further, use of any specific equipment, service or facility, if considered necessary must be clearly brought out in the TOR.

6.5 A Consulting firm appointed for any study shall be wholly responsible for the accuracy of the data and reliability of the output. In case any discrepancies are noticed during or subsequent to completion of the Consultancy assignment, including those observed during staking out, necessary modifications/reconciliations will have to be done by the Consultant without claiming any extra payment on this account. Consultants' responsibilities in this regard are clearly brought out in para 7 of the sample TOR (*Annexure III-A*).

6.6 While the client should supervise, review and approve the Consultant's work, modifications, if necessary, in the final documents prepared by the Consultant may be made only after due consultation with the firm.

7. BROAD ESTIMATE OF CONSULTANTS' INPUTS

7.1 A broad estimate of Consultants' inputs in terms of time involvement of the Key Technical Personnel should be made by the Project Implementing Agency in respect of proposed consulting assignment. This could be based on the perceived requirements of assignment in terms of level and type of personnel, and time required to be devoted in the field and office.

7.2 Since bid price for the assignment is also to be taken into account in the selection of consultants, the Letter of Invitation should normally include approximate man-months of Key Personnel (comprising team leader and experts incharge of individual sub-disciplines) expected to be required for the assignment. Providing man-months information is considered sufficient for the firms to get a good idea of the envisaged scope of work.

7.3 The rough cost estimate for the overall consultancy services should include cost of time inputs of key and other personnel, expenditure on travel and per diem, usage of office and engineering equipment, field investigation and testing, printing, stationary, vehicles and computer usage, overheads, contingencies and other physical inputs required for the services. The framing of these details will however be left to the Consultants, and would be reflected in their bid price, i.e. financial proposal. The reasonableness of these details will have to be appropriately assessed in the course of contract negotiations.

8. SELECTION PROCEDURE

8.1 Two types of selection procedures are available:

- (i) based wholly on the technical proposal, by calling the firm ranked first for negotiation as regards the fees to be paid; and
- (ii) involving a combination of both technical and financial proposals.

8.2 The relevant details of the selection procedure to be adopted for the project under consideration should be clearly mentioned in the Letter of Invitation.

8.3 For the normal run of highway projects under consideration, it is preferable to follow the evaluation procedure (ii) as indicated in para 8.1 above so that a technically competent proposal which is also reasonably competitive from financial angle, is finally chosen. The precise procedure to be adopted will be decided by the Ministry of Surface Transport (Roads Wing) in advance and incorporated in the Letter of Invitation.

8.4 Proposals must be evaluated on technical grounds whether or not price is to be a criterion for selection.

8.5 Where the selection procedure involves an evaluation of both technical and financial proposals, {(ii) of para 8.1}, a two-stage procedure, with technical evaluation being completed prior to opening any financial proposals, shall be followed.

8.6 Technical proposals will be evaluated using the following five principal criteria, with respective numerical ratings given as a guide:

	Marks
(i) Firm's experience in the field of assignment;	15
(ii) Adequacy of the proposed work plan;	25
(iii) Qualifications, competence and expertise of key personnel proposed to be employed on the project;	50
(iv) Availability of equipments/instruments; and	5
(v) Computer facilities (hardware and software)	5
Total	100

The above weights are suggested in respect of Consultancy Services for normal highway improvement projects. However, the relative importance of the above categories will vary with the type of assignment.

8.7 In the selection procedure based on evaluation of both technical and financial proposals, a score of 60 marks or more for the technical score will be deemed as satisfactory and the financial bids will be opened only for such proposals.

8.8 Overall Rating

8.8.1 The overall rating of Consultants' proposals will be determined on the basis of a weightage system, with weightages for technical and financial proposals fixed in relation to principal characteristics of the services required. In the case of normal run of projects, like improvement of existing highways, construction of new roads or construction of conventional bridges, etc., technical score shall be given a weight of 70 per cent with financial proposal as 30 per cent.

8.8.2 For special studies/projects, which involve complex and highly technical parameters like long span bridges, bridge rehabilitation projects, high embankments, research schemes, etc., a higher weight for the technical scope ranging between 80 to 90 per cent may be assigned. The exact magnitude may be judiciously decided in relation to the complexity of the candidate project, in consultation with the Ministry of Surface Transport (Roads Wing).

8.9 In case the evaluation procedure (i) as defined in para 8.1 above, based wholly on the technical proposal, is adopted, only the financial proposal of the consultant ranked first from the technical angle should be opened and examined for contract price negotiations. Only after the negotiations with the highest ranked firm fail and it is decided to reject his proposal, the financial bid of the next ranked consultant should be opened and negotiations commenced, and so on till a successful contract is negotiated. After the negotiations with the selected firm have been completed and a contract agreement drawn, the un-opened bids of the remaining shortlisted firms should be returned by the Project Implementing Agency.

9. LETTER OF INVITATION (LOI)

9.1 The letter of invitation is a package of information sent to the shortlisted Consultants inviting them to submit responsive proposals. The letter should provide all the relevant information available, and generally cover the following:

- (i) A brief description of the assignment and its objectives;
- (ii) A copy of the Terms of Reference (T.O.R.);
- (iii) A copy of the supplementary information to the Consultants containing instructions about the information to be presented in the proposals including sample formats for manning schedule, activity schedule and curriculum vitae of Consultant's key personnel proposed for employment on the job;
- (iv) Visit requirements to the client's office and to the site (at Consultant's own cost and non-reimbursible);
- (v) Agency personnel whom the consultant should meet;
- (vi) Details of selection procedure - method and criteria of selection, weighting system for technical and price scores;
- (vii) Level of effort - the estimated number of man-months of key personnel;
- (viii) Time allowed for proposal submission - a minimum of about 45 days to be stipulated;
- (ix) Relationship with manufacturers or contractors;
- (x) Proposal submission - when, where and how the proposal should be submitted;
- (xi) Names and addresses of the other invited firms;
- (xii) A statement to the effect that (a) if firms do not have all the necessary in-house expertise, they should feel free to enter into joint ventures with other firm(s) to make up a complete team; and (b) a firm's name may only appear once (i.e. a firm may not be a joint venture partner in more than one consortium);
- (xiii) Validity period of the proposal (normally stipulated as 90 days reckoned from the last of submission of proposal), during which time the Consultants would maintain, without change, the personnel proposed for the assignment and their quoted price;
- (xiv) Likely dates of negotiation and commencement of the assignment;
- (xv) Classification that the cost of framing the proposal, site visits and negotiations for the contract is not reimbursible as a direct cost of the assignment;
- (xvi) Consultant's tax status and tax liability in respect of the remuneration of the consulting services;
- (xvii) Proposal to be submitted in five copies (one original and four copies)

9.2 A sample letter of invitation for a typical highway improvement project is at *Annexure III*. This is indicative only and should be suitably modified as per needs of the specific project. The letter draws reference to the T.O.R. and the Supplementary Information for Consultants which are to be attached to it. Samples of these two attachments are given in *Annexure III-A* and *III-B* respectively. Suggested format of curriculum vitae for key members of Consultant's team is at *Annexure III-C*, manning schedule at *Annexure III-D*, and for activity schedule at *Annexure III-E*.

10. SUBMISSION OF PROPOSALS BY CONSULTANTS

10.1 The shortlisted Consultants must submit their technical and financial proposals, complete in all respects by the due date, duly taking into account the provisions of the TOR, supplementary information for consultants and other details indicated in the LOI.

10.2 The technical proposal and the financial bid should be submitted in double cover with the technical proposal and the price bid sealed in separate envelopes, to be clearly marked "Technical Proposal" and "Financial Bid" for proper identification. In accordance with the prescribed two-stage procedure for proposal evaluation, the technical evaluation will be completed prior to any financial proposals being opened and compared.

10.3 The financial proposals submitted should provide a detailed price breakup taking into account the various budget items related to the study. The cost should cover all foreign and local costs of the consultancy services including those related to the personnel, field surveys and data collection, testing, travel, per diem, equipment, detailed engineering designs and drawings, project report, office supplies, attending meetings and related expenses, vehicle and computer usage, printing, stationery, overheads, contingencies etc.

10.4 The period of validity of the proposals should be 90 days from the stipulated last date for receipt of the proposals, during which the consultant will maintain without change, the personnel proposed for the assignment and their quoted price.

11. SELECTION PROCESS

11.1 For evaluating the technical and financial proposals and recommending the most suitable proposal for consideration by the Project Implementing Agency, a Proposal Evaluation Committee shall be constituted by the Ministry. Alternatively, if the Ministry so authorises, the above Committee could be set up by the State PWD. Its composition should be on the same lines as suggested for the evaluation of prequalification offers (see para 5.6.1).

11.2 Technical Evaluation

11.2.1 A consensus approach by the Committee for allocating marks and arriving at results in technical evaluation of the proposal is recommended.

11.2.2 Detailed break-up of the weightages for evaluating technical proposals is suggested in *Annexure-IV* for the guidance of the Evaluation Committee (not to be disclosed to the Consultants). The same could be appropriately modified by the Proposal Evaluation Committee, as per project needs. However, all the scoring criteria must be decided by the Evaluation Committee and the same forwarded to the MOST (Roads Wing) prior to receiving the Consultants' proposals.

11.2.3 While evaluating the personnel, higher weightage for the in-house experts than those proposed to be inducted from outside organisations should be assigned. In addition, if same expert(s) is/are shown in the personnel list by two or more firms, such firms will be liable to suitable action against them. This could be either in the form of negative marking or rejection of their offer. The precise decision in regard to the above two points will be appropriately taken by the Committee before actual receipt of Consultants' offers.

11.2.4 Personnel evaluation sheet to be used for rating of technical personnel together with illustrative computational methodology and suggested rating scale are shown in *Annexure - V*.

11.2.5 **Experience:** The experience of the firm is normally given less weight than for personnel because the prequalification procedure has already been gone through. In the evaluation, the firm's experience is usually considered in relation to specific aspects of the project having a bearing on the technical proposal, e.g. bridge design, pavement evaluation, geotechnical investigations etc.

11.2.6 **Work plan and methodology:** Work Plan is also given relatively less weight than the personnel because the TOR already spell out in detail the scope, coverage and methodology of the work. The firm's work plan should be examined for their understanding the nature of assignment for innovative ideas, and whether the approach proposed is a professional one covering all the tasks mentioned in the TOR.

11.2.7 Personnel

- (i) Since the success of an assignment largely depends on the capability, expertise and experience of the technical personnel, scrutiny of their curriculum vitae needs special attention. Among the personnel, the Team Leader plays a major part in satisfactory completion of the work and his suitability should, therefore, be given a critical look.
- (ii) To assess the qualifications and experience of proposed personnel, the curriculum vitae of key members in each discipline should be included with the proposal in the format given in *Annexure III-C*. These should be reviewed and the individuals rated with respect to the following two criteria:
 - (a) General qualifications - This includes education and training, membership of professional organisations and professional attainment, length of experience, type and level of position held, time with the firm etc; and
 - (b) Adequacy for the project - suitability to perform the duties for the particular assignment considering appropriate capabilities, skills and experience.

It is recommended that a weight of 30% be assigned to (a) above while 70% could be given to (b).

11.2.8 All categories should be marked on a scale of 100 and then multiplied by their weights. A passing grade of 60 should generally be set for each category, so that acceptable marks will range between 60 and 100. Consistency in applying the marking system should be the aim. This has special significance since price is a selection factor and absolute marks, not ranking, are taken into account in the second stage of evaluation.

11.2.9 The minimum level of acceptability should normally be set at 60 per cent. Final scores should be computed on the basis of average weighted scores of each evaluation category, i.e. firm's general experience, work plan, personnel and equipment/computer facilities, in accordance with the break-up of marks indicated in the foregoing paras. Any proposal with technical score of less than 60 should be rejected. For aiding evaluation process, appropriate personnel evaluation sheets and summary evaluation sheets based on the above weightages may be prepared by the Project Implementation Agency.

11.2.10 The firm with the overall highest weighted score, based on a combined rating of technical proposal and financial bid, should be selected and called for contract negotiations. In case more than one firm has the identical maximum score, the one with the highest technical score should be selected for award of the assignment and invited for negotiations.

11.2.11 A brief report on the evaluation process and results thereof shall be prepared by the Evaluation Committee with respect to the finally selected firm to be invited for negotiating the contract. The Report should indicate the salient points to be discussed with the firm during negotiations.

12. CONTRACT NEGOTIATIONS

12.1 Following decision about the winning proposal, the selected firm is invited for contract negotiations. The invitation in this regard should mention any additional information the firm is required to bring for negotiation, as well as any major reservations the client has regarding the work plan, staffing, other inputs, etc. so that the Consultant could pre-consider possible adaptations. If the draft contract was not forwarded to the firm with the Letter of Invitation, it should be sent to them at this time.

12.2 The objective of negotiations is to arrive at a mutually advantageous and clearly defined relationship conducive to smooth, proper and timely conduct of the work. The salient items to be discussed during negotiations are mentioned below. Amongst these, the work plan, staffing, client's inputs etc. should be taken up first before going into financial negotiations, as indicated below:

(i) Work Plan

Any suggestions made by the Consultants to improve the TOR should be discussed. The Consultant's proposal will not form part of the contract. Hence any acceptable suggestions must be suitably incorporated in the TOR. After the negotiations, the Consultant's proposal will have no legal status. Any difficulty with the Work Plan and methodology proposed by the Consultant should be resolved before finalising the TOR. Any ambiguities in the codal provisions and engineering practices etc. should also be settled before hand. As a result, there should be an agreed text of objectives and scope of work in the final TOR (see paras 2 and 3 respectively in Annexure III-A).

(ii) Staffing

Regarding staffing, clarifications should be obtained from the Consultant about the role of each key member of team. Staff substitution by the firm is undesirable at any point of time and particularly between receipt of the proposal and commencement of the work. However, if the proposed validity has elapsed, staff substitution may be discussed during negotiations and agreed upon provided the qualifications of substitute candidates are found suitable for the assignment. Consultant's bar chart on activity scheduling should be reviewed and agreed upon. Once the contract has been signed, the assigned staff may not be replaced except for very good reasons (e.g. sickness). During the assignment, if substitution becomes inevitable because of ill-health, or if one or more staff prove to be unsuitable for the job, the firm should withdraw him (them) and substitute by other suitable staff acceptable to the client. The competence of appropriate replacement staff would need to be established and the change should have the client's approval.

(iii) Client's Inputs

The data inputs to be normally supplied by the client would comprise traffic census data, road inventory data, foundation/other details of existing bridges, quarry charts, current schedule of rates etc. The other inputs could be counterpart professional staff to be assigned by the client for supervising and coordinating the Consultant's work in accordance with the contract. All these as also any facilities/help to be provided to the Consultant by the client should be finalised during negotiations.

(iv) Price Bid

(a) Negotiations on price are customary where the selection of the Consultant has been made wholly on the basis of his technical proposal. Where, however, price has been a factor in selection (i.e. for two-stage procedure based on composite rating of technical proposal and financial bid), there should normally be little scope for price reduction for obvious reasons, more so when any negotiation downwards is likely to be at the expense of quality. Such a practice should therefore be avoided and at best the price break-down and other back-up details furnished by the consultant may be sorted out for any inconsistencies/distortions.

(b) In respect of financial negotiations for the proposal selected on the basis of technical rating alone, the Consultant should be asked to render supporting back-up details based upon which the costs of different components of the consultancy project (as stipulated in para 8 of the sample LOI) have been arrived at. These would help in evaluating the reasonableness or otherwise of the price bid, and in negotiating a fair cost for the consultancy services. While assessing the price, due consideration for overheads, contingencies and price escalation should also be accorded.

(c) The payment schedule linked with the physical progress of the work should also be finalised during negotiations.

12.3 Successful contract negotiations should end with the joint concurrence between the Project Implementing Agency and the selected Consultant to a draft contract agreement.

13. Soon after the successful completion of negotiations with the selected firm and drawal of a contract agreement with them, the Project Implementing Agency should notify other shortlisted firms that they were unsuccessful for the consultancy services.

14. TIME FRAME FOR ENGAGING CONSULTANTS

14.1 Considering that a number of steps in engaging a consultant are involved, the entire exercise should be completed expeditiously. From this angle, the following time schedule should be adhered to:

Steps involved	Cumulative Time from start
(i) Invitation of letters of interest for prequalification (through press or otherwise)	½ month
(ii) Receipt of offers for prequalification	1½ month
(iii) Evaluation of offers and finalisation of shortlist	2 months
(iv) Finalisation of TOR and issue of Letters of Invitation to shortlisted Consultants for submission of detailed proposals.	2½ months
(v) Receipt of proposals	4 months

(vi)	Evaluation of proposals and selection of Consultant	4½ months
(vii)	Contract negotiations and sanction of consultancy estimate	5½ months
(viii)	Award of Work	6 month

- Note: 1. The above time schedule is indicative only and is easily subject to reduction commensurate with the needs/priority of the specific study.
2. In case of emergent works, steps (i) to (iii) above can be omitted. The select list of consultants can be drawn in consultation with the Ministry of Surface Transport (Roads Wing) and step (iv) initiated straightaway. In addition, time period for receipt of proposals (step (v)) and subsequent activities could be appropriately shortened so that the entire selection process is completed within three months.

Annexure I

*Interim Guidelines for Engaging Consultants***Sample Advertisement For Letters of Interest For Prequalification Of Consultants**

Government of

Survey, Investigation and Project Preparation for Upgradation of Section (km — to —) of N.H. No.....

1. Letters of interest are invited from qualified and experienced consulting firms who wish to be considered for prequalification to undertake survey, investigation and project preparation for upgradation of

Section (km. — to —) of N.H. No...

2. The scope of the proposed Consultancy Services will comprise:

- determination of the techno-economic feasibility and economic viability of four-laning or any other suitable alternative for the study section to cater to traffic needs for the design period and evolve the most cost-effective solution (pre-investment study);
- project preparation for the selected alternative, including field surveys and investigation, geo-technical exploration at bridge and high embankment sites, soil and material surveys and evaluation, detailed engineering designs, drawings and cost estimates for the proposed improvement works in accordance with standard codes, specifications and sound engineering practices in vogue in India;
- preparation of work and performance specifications and tender documents for invitation of bids for construction work; and
- to draw programme for implementation of project on the ground.

3. The consultancy work should be completed within twelve months (or specify period as desired) of the award of work.

4. Consultants, who are interested in being considered for the assignment should submit information in support of their capability and experience appropriate to the envisaged project i.e. structure of the firm, financial status, qualifications and experience of key personnel, details of previous experience on similar consultancy works, availability and details of in-house computer and back-up services like survey and investigation equipment and instrumentation, and foreign experts/associates assistance.

5. Letters of interest accompanied by supporting details should be submitted to the Chief Engineer, National Highways ... PWD, ... (give address here) by (give date here).

6. It may be noted that this notice is not a request for submission of project proposals. Based on a review of the Letters of Interest, a short list of Consultants considered suitable for the assignment will be prepared. The Consultants thus prequalified will then be invited to submit detailed proposals for the work.

Annexure II

*Interim Guidelines for Engaging Consultants***Guidelines for assigning marks for Evaluation of Prequalification offers for a typical highway improvement project****1. Structure and Organisation of the firm (5)**

This could be categorised as very good, good, satisfactory and unsatisfactory based on information supplied by the Consultants and 5, 4, 3 and 1 marks assigned respectively.

2. Financial Status (5)

Same as 1 above.

3. Qualifications and Experience of Key Personnel (55)

The expertise of personnel could be sub-divided into following components and marks assigned out of those shown against each, commensurate with the level of competence/experience in the field of assignment:

	Marks
(i) Survey and investigations	10
(ii) Laboratory testing and geo-technical studies	6
(iii) Traffic engineering and transport economics	10
(iv) Pavement and geometric design	12
(v) Bridge design	10
(vi) Estimating, specifications and bidding documents	7
Total	55

4. Previous Experience of Firm in Similar Assignments (25)

Marks could be sub-divided into:

- | | | | |
|-------|--|-------|----------|
| (i) | Feasibility studies | Marks | 4 |
| (ii) | Survey, investigations and geo-technical studies | | 5 |
| (iii) | Traffic studies and transport economics | | 4 |
| (iv) | Project preparation for roads (including specifications & bidding documents) | | 7 |
| (v) | Project preparation for bridges (including specifications and bidding documents) | | 5 |
| | | | <hr/> 25 |

Total

5. Availability of in-house Computer and Back-up Services (5)

- | | | | |
|------|---|-------|---------|
| (i) | Availability of in-house computer | Marks | 2 |
| (ii) | Back-up services (survey & investigation equipment and related instrumentation) | | 3 |
| | | | <hr/> 5 |

Total

Assign 2 marks to firms having in-house facility and 1 mark to those without. For back-up services, assign marks dependent upon level of adequacy.

6. Any Additional Points (5)

Marks could be awarded in case of any special/additional attributes of the firm as testified by them. These could be possession of more accurate survey equipment such as Distomats, pavement evaluation equipment like FWD, Deflectograph, availability of computer facilities for auto plotting, or special innovative designs.

Notes: (i) The break-up of marks given above is suggestive only and could be suitably modified by the Evaluation Committee in relation to the project attributes and requirements, before the Consultants' offers are received. For special studies, the marking system in paras 3-6 would vary depending on the type of assignment. For example, for a transportation study, experience on transportation studies, transport economics and the availability of the needed computer packages would need more weightage and some of the items in paras 3 and 4 would not be applicable. The same would apply to any special assignment for bridge design, or say maintenance management.

(ii) The above guidelines are meant for guidance of the Project Implementing Agency and are not to be disclosed to the Consultants.

(iii) Subgroupings for evaluation of key personnel and firm's experience (3 and 4) may be appropriately reduced/pruned by the Committee commensurate with project attributes and needs, before the offers are received.

Annexure III

Interim Guidelines for Engaging Consultants Sample Letter of Invitation to Prequalified Consultants

No.....

Date.....

To

Subject: Consultancy Services for Feasibility study and project preparation for improvement to to section of NH in

Sir,

1. I am directed to inform that you have been shortlisted on the basis of details furnished by you in response to our advertisement inviting offers for shortlisting in connection with the above work.

2. You are hereby invited to submit technical and financial proposals in separate sealed envelopes for the above work for evaluation, and if selected, for negotiations which might ultimately lead to a contract between your firm and this Department.

3. The main objective of the proposed consultancy services is the preparation of a detailed project with the related documents for improving to section of National Highway No in the State of with the most appropriate proposals which are technically feasible and economically viable. Inter alia, this will include:

- (i) conducting feasibility studies for determining the optimal improvement measures for catering to traffic expected over a design period of 15 years and to establish the economic viability of such proposals;
- (ii) preparing a project of the needed improvement works after detailed field surveys, investigations, etc.; and
- (iii) preparation of work specifications and bid documents fit for tendering as also document for prequalification of contractors.

4. To enable you to submit a proposal, enclosed please find:

- (i) Terms of Reference, (T.O.R.), vide Annexure III-A.
- (ii) Supplementary information for Consultants (Annexure III-B) including suggested formats for curriculum vitae of key personnel (Annexure III-C), manning schedule (Annexure III-D), and activity schedule (Annexure III-E).

5. In order to obtain first hand information about the assignment and the local conditions, it is considered desirable that a representative of your firm visits the site. For this purpose, this Department has organised a site visit on For taking part in this, your representative should reach the office of the Executive Engineer, Division, at 9.00 hrs on You may also get any further information from Shri S.E. PWD, Tel (O) (R).

6. Your technical and financial proposals should duly take into account the provisions of the T.O.R. and the supplementary information for consultants. The proposal shall be submitted in double cover with the technical proposal and financial proposal sealed in separate envelopes, which are clearly marked 'Technical Proposal' and 'Financial Proposal' for proper identification.

7. Evaluation of the proposals will be based on a two-stage procedure with technical evaluation being completed first prior to any financial proposals being opened. Technical proposal will be evaluated using the following criteria:

	Marks
(i) Firm's experience about the type of assignment	15
(ii) Work plan	25
(iii) Qualifications and related experience of key personnel assigned to the project	50
(iv) Equipment/Instruments proposed for use	5
(v) Computer facilities	5
Total	100

It is upto the Evaluation Committee to suitably sub-divide the marks for the above items for individual attributes.

A score of 60 marks or more for the technical proposal will be deemed as satisfactory and the financial bids will be opened only for such proposals. The overall rating will be determined on the basis of a weightage system, in the ratio of 70 per cent for technical score and 30 per cent for the financial proposal.

8. Financial proposal, to be submitted in a separate sealed envelope, should provide a detailed price breakdown which should take into account the various budget items related to the work, for example:

(i) Key personnel	Rs.....
(ii) Other personnel	Rs.....
(iii) Travel/per diem	Rs.....
(iv) Equipment/Testing charges	Rs.....
(v) Postage, stationery, and other consumables	Rs.....
(vi) Computer time charges	Rs.....
(vii) Head Office expenses	Rs.....
(viii) Overheads	Rs.....

9. It is broadly assessed that about man months of key technical personnel would be required for successful completion of the proposed consultancy assignment. However, you should feel free to submit your financial proposal on the basis of man months and other budget items which you consider more appropriate for successful completion of the assignment.

10. You may please note that the Department may decide to stop the work upto the feasibility stage and not to proceed with project preparation, etc. For meeting such situations you may please quote in your financial bid a separate price for completing the feasibility studies and give an undertaking that you will be prepared to take up this work-item alone as decided by the Department.

11. The period of validity of your proposal will be reckoned as 90 days from the stipulated last date for receipt of proposals that is, during which you will maintain without change the personnel proposed for the assignment and your quoted price. The Public Works Department (State) will make its best efforts to select a consulting firm within this period.

12. Please note that the cost of preparing the proposal and of negotiating the Contract including field visits etc. is not reimbursable as a direct cost of the assignment.

13. Assuming that the Contract can be satisfactorily concluded by, you will be expected to commence the assignment by (date).

14. You may please note that invitation to submit proposals has also been sent to five other firms. These firms including yours are:

- (1)
- (2)
- (3)
- (4)
- (5)
- (6)

15. You may send your proposals individually, or jointly with any other firm whether included in the above short-list or not. In case of joint submission, a letter executed by both the parties agreeing to work jointly for the assignment should be enclosed with your proposal. Please note that in case an individual expert or a firm is shown to be associated with more than one firm submitting the proposals, all such firms may be liable to disqualification.

16. Your proposal in five copies (original and four copies) should be delivered to Shri... at the address..... on or before (date). Proposals delivered after that date will not be considered.

17. Please note that the remuneration you will receive from this contract will be subject to the normal tax liability in India.

18. Please also note that PWD.... is not bound to select any of the firms submitting proposals.

19. We would appreciate your informing us by telex/telegram in regard to the following:

- (a) your receipt of this letter of invitation;

(b) whether or not you will be submitting a proposal; and

(c) when submitting the proposal, the date and mode of delivery of the proposal.

20. The telegraphic address of this office is and the telex number is

Yours faithfully

ANNEXURE III-A

INTERIM GUIDELINES FOR ENGAGING CONSULTANTS

TERMS OF REFERENCE FOR THE PROPOSED CONSULTANCY SERVICES* FOR IMPROVING TO SECTION OF N.H. NO. IN THE STATE OF**

1. Introduction

1.1 The Project Road under consideration for improvement is an important section of NH between (km.....) and (km) in the State of The road having a length of ...km. traverses rich agricultural and mineral bearing areas having high potential for agricultural and industrial development and are the main cities/towns falling along the road.

1.2 The road at present has a two-lane carriageway. Seven day traffic counts at four locations along the road during the month of199. showed that the present average daily traffic on the road varies between and indicating the need for widening the road to 4-lanes. The number of commercial vehicles plying on the road is of the order of per day, and there are indications that many of the trucks are heavily over-loaded. The road pavement is in a poor condition, and is being maintained through frequent patching, pothole repairs etc.

1.3 The road is highly congested in reaches passing through the towns and At each location, the average delay to vehicles is of the order of 30 minutes. Further, the road crosses a double track railway line at km through level crossing which also adds up to the delay.

1.4 The project road being an important link in the trunk road system, it is considered desirable that the road be widened to 4-lanes along with other improvement works including bypasses/railway over-bridges where necessary for catering to the needs of traffic for a design period of 15 years.

2. Objectives

2.1 The main objectives of the consultancy services are:

- (i) to conduct feasibility studies for determining the optimal improvement measures for catering to traffic expected over a design period of 15 years, and to establish the economic viability of such proposals (feasibility study),
- (ii) preparing a project of the needed improvement works after detailed field surveys, investigations, etc; and
- (iii) preparation of work specifications and bid documents fit for tendering as also document for pre-qualification of contractors.

3. Scope of Consultancy Services

3.1 The scope of the consultancy services can be divided into three stages, namely, feasibility study, project preparation and tender documents. Though each stage has its own objectives to fulfill, some of the activities of one may overlap the other. The activities to be carried out by the consultant under each stage are brought out hereunder.

3.2 Feasibility Study

The activities to be performed by the Consultant will include, but may not be restricted to, the following:

- (i) Review of all available reports/information about the Project road and the project influence area and assess the impact, on demand for transport, of the development plans in the influence area.
- (ii) Analyse the traffic census data collected by the Department for the past five years at four locations along the project road. Conduct O-D Surveys for ascertaining the pattern of commodity movement along the road, as also at.... and for establishing the need for bypass. Conduct additional 3-day traffic counts at locations considered necessary for giving a complete picture of traffic flows.
- (iii) Sub-divide the project road into an appropriate number of homogeneous sections in accordance with uniform traffic volume.
- (iv) Conduct loadometer survey at a suitable location on the project road for one day to capture the spectrum of axle loads of trucks and to determine the vehicle damage factor (VDF). For buses, the VDF may be taken as 0.5.
- (v) Assess the possibilities of traffic diversing from other modes and other road routes, taking into account transport costs, seasonal accessibility etc.
- (vi) Project traffic expected on the road, section by section, in stages of 5 years, taking into account factors such as past trends, growth in vehicle population, population and income growth rates, elasticity of transport demand in relation to income etc.
- (vii) Conduct inventory of the road and road structures. Evaluate the present condition of the pavement by visual rating and roughness index measurements by bump integrator. Evaluate the strengthening needs of the existing pavement by conducting pavement deflection studies.
- (viii) Investigate all the existing bridges and culverts on the project road to determine their condition, adequacy of waterway openings, load capacity, and finally the need or otherwise of their widening or reconstruction.

Notes: 1. *** This is a sample TOR for a project of 4-laning NH Section. For actual cases, details will vary depending on individual situation and TOR would need to be appropriately modified as per project needs.

2. This sample TOR includes work on both feasibility study and project preparation. In case the requirement is only for one of these items, the contents should be modified accordingly.

- (ix) Based on the results of the O-D surveys, the condition of the existing road link and other related factors, establish the need or otherwise for bypass at ... and...
- (x) Establish and recommend appropriate design standards for the proposed improvements and prepare typical drawings such as those for typical cross-sections, curve improvements, intersections etc. Also prepare preliminary alignment drawings for the recommended bypass locations.
- (xi) Prepare rough cost estimate within a tolerance of $\pm 20\%$ for the proposed improvement works.
- (xii) Conduct economic evaluation of the proposed improvement works on the lines recommended in IRC:SP:30, and calculate EIRR for the various sections and for the project road as a whole. The construction period may be taken as ... years beginning...., and the evaluation should be for a horizon period of 15 years.
- (xiii) Conduct sensitivity analyses for the cases:
 - (a) Costs increase by 15%
 - (b) Benefits decreased by 15%
 - (c) A combination of (a) and (b)
- (xiv) On completion of the feasibility study, prepare draft feasibility report in three volumes having following broad coverage:
 - (a) Main Report covering the study methodology, traffic studies, cost estimates, economic analysis, conclusions and recommendations.
 - (b) Design Report-Covering road inventory, survey and investigation data, proposed design standards and specifications, preliminary designs covering pavement, culverts, bridges etc.
 - (c) Drawing-containing location map, typical cross-sections, typical drawings for bridges, culverts, junctions etc.

3.3 Project Preparation

The activities to be performed by the consultant will, inter alia, cover the following:

- (i) Conduct an accurate instrument survey of the area for collecting all information for designing all improvement works, and establish horizontal controls on the ground for the final centre line of the road through reference pillars fixed in concrete, and vertical controls through a series of Bench Marks all along the road. All surveys and investigations should be as per recommendations contained in IRC:SP:19.
- (ii) Study the drainage, both surface and sub-surface, of the area and make recommendations about improving the same.
- (iii) Conduct a detailed soils and materials survey for purposes of pavement design and for ascertaining the location, availability and suitability of road construction materials.
- (iv) Conduct geo-technical investigations at locations where bridges/high embankments are proposed.
- (v) Based on the detailed surveys and investigations, prepare detailed working drawings on the pattern recommended by the relevant standards of IRC including those for road inter-sections, traffic guiding/control devices, wayside amenities, plantation scheme etc.
- (vi) Prepare Bill of Quantities for the proposed improvement works and detailed cost estimates. The rates should be based on the current schedule of rates, and for items not covered by the schedule, the same should be accompanied by rate analysis.
- (vii) Prepare an assessment of the impact of the proposed works on the environment.
- (viii) Assist the client in the preparation of land acquisition plans by supplying information about the position of the final centre line of the road as soon as this is finalised.
- (ix) Involvement during execution for correction/modification of designs/drawings, if so required, as a result of any deviations at site.
- (x) Formulate repair plan and carry out rating in respect of existing bridge structures.
- (xi) Prepare draft report on project preparation in four volumes as follows:
 - (a) Main Report covering the methodology, details of all the field surveys and investigations, details of proposed improvements, environmental impact assessment etc.
 - (b) Design Report covering design of pavement, bridges, culverts, road intersections, retaining walls, traffic guidance systems, roadside appurtenances etc., as also details of the material surveys conducted by the Consultant.
 - (c) Bills of Quantities and detailed cost estimates.
 - (d) Drawings Folder-containing working drawings for all the proposed improvement works on the lines and to the scales recommended by the relevant IRC Standards.

3.4 Specifications and Bid Documents

The specifications for the various items of works should be as per the Ministry's Specifications for Road and Bridge Works (latest revised edition). For any item not covered in the above book, the consultant should propose the appropriate specifications. The Conditions of Contract should also be on the lines of the model document prepared by the Ministry of Surface Transport for application to all National Highway works. These should also include equipment planning, scheduling of various construction activities and maintenance plan (manual) etc.

4. Reports and Documents

The Consultant shall submit to the client the following reports and documents at the time and in the number of copies indicated against each:

- (i) Progress report in adequate detail indicating the physical progress of the various items of work, for each month, to be submitted latest by the 10th of the following month, in five copies.
- (ii) Draft Feasibility Report, in three Volumes at the end of three months from start of work. This should be submitted in five copies.
- (iii) Final Feasibility Report, in three Volumes and in 10 copies, to be submitted within one month of the receipt of comments of the client on the draft report. This will incorporate all revisions deemed relevant following receipt of the comments and any further discussions with the client.
- (iv) Draft Reports on project preparation, in four volumes to be submitted within 9½ months of start of work. This should be submitted in five sets.
- (v) Final Reports on project preparation, in four volumes and in 25 copies, to be submitted within one month of the receipt of the comments of the client on the draft reports.
- (vi) Specifications and bid documents, in 25 sets to be supplied to the client within 15 days of submission of the final report on project preparation.

5. Time Schedule

The work in all respects, i.e. feasibility study, project preparation and bid documents, shall be completed within a period of 12 months from the date of signing the agreement between the client and the consultant. Scheduling of the work within this period is indicated below which should be adhered to:

Activity	Period w.e.f. date of agreement
(i) Mobilisation	1 month
(ii) Submission of draft feasibility Report (5 copies)	3 months
(iii) Approval of Feasibility Report by client	3½ months
(iv) Submission of Final Feasibility Report (10 copies)	4½ months
(v) Submission of draft detailed project report covering project preparation (5 copies)	9½ months
(vi) Approval of detailed project report by the client	10½ months
(vii) Submission of Final detailed project report (25 copies)	11½ months
(viii) Submission of fair copies of specifications and bid documents (25 sets)	12 months

6. Payment Schedule

Payment schedule for performing the work shall be as follows:

(i) Within one month of signing the agreement between the client and the Consultant	15%
(ii) On receipt of draft feasibility report	15%
(iii) On receipt of interim report on detailed engineering on completion of field surveys and investigations (6 months after signing of agreement)	25%
(iv) On receipt of draft project report (project preparation)	25%
(v) On receipt of approved bidding documents	20%

7. Responsibility for Accuracy of Project Proposals

The consultant shall be responsible for accuracy of the data collected, and the designs, drawings and estimates prepared by him as a part of the project. He shall indemnify the client against any inaccuracies in the work which might surface out at the time of ground implementation of the project, including staking out, and for this purpose he shall furnish bank guarantee for an amount to the extent of 20% of the total consultancy fees to be received by him. In such cases, the consultant will be responsible to correct the drawings including any resurveys/ investigations (including correcting the layout etc.) as required. The bank guarantee furnished shall be valid for a period of two years from the date of submission of the final detailed project report. The final instalment of 20% of the fees (see para 6.v) shall be released only on receipt of this bank guarantee.

8. Facilities and Data to be provided by the Client

The client would make available, on specific request, the following data/information free of cost. The client, however, is not responsible for the veracity or accuracy of the data supplied, and it is for the consultant to verify the same through his own data collection process.

- (1) Traffic census data for the past five years at locations, viz, km km km, and km
- (2) Inventory data of the road collected during the year
- (3) Foundation and other details of bridges at km, km, km, and km constructed in the last five years. Copies of these cannot be supplied, but the same can be inspected in the Office of Executive Engineer, Division on prior intimation.
- (4) Quarry chart showing the location of quarries/gravel sources along the road.
- (5) A copy of the current schedule of rates (year) for the PWD Circle in which the project road falls.

Interim Guidelines for Engaging Consultants
SUPPLEMENTARY INFORMATION FOR CONSULTANTS

Proposals

1. Proposals will be evaluated according to criteria given in the Letter of Invitation and should include the following information:
 - (a) A brief description of the firm and an outline of recent experience (in the last 5 years) on projects of similar nature.
 - (b) Any comments or suggestions of the consultants on the Terms of Reference, and a description of the manner in which the consultants would plan to execute the work.
 - (c) The composition of the team of key personnel which the consultants would propose to provide in Consultancy services and the tasks which would be assigned to each team member.
 - (d) Curriculum vitae of the individual staff members to be assigned to the work and of the Team Leader who would be responsible for supervision of the team. The curricula vitae should follow the format given in Annexure III-C.
 - (e) Estimates of the total time-effort that could be provided for the services, supported by bar-chart diagrams showing the man months for each expert. A sample of a suitable bar chart is given in Annexure III-D. Similarly, the time duration envisaged for each major activity should be enclosed. A sample chart for a highway improvement project is given in Annexure III-E for guidance.
2. Five copies of the proposals should be submitted to the Chief Engineer, National Highways..... P.W.D.
3. In preparing the proposal, the consultants should give particular attention to the followings:
 - (a) Members of the team should have the requisite experience under conditions similar to those prevailing in India. A good working knowledge of English is essential for personnel working on this assignment. Reports shall be in English.
 - (b) The key personnel comprising the consultant's team must be drawn from the permanent staff of the firm.

Contract Negotiations

4. The following information is given to acquaint the consultants with the manner in which the P.W.D. negotiates a contract with a consulting firm. Negotiations normally commence on a Monday, and depending on the nature and size of the assignment, may take from two to five days. The aim is to reach agreement on all points, with the consultants and the P.W.D. initialling a draft contract by the conclusion of negotiations.
5. Negotiations commence with a discussion of the consultant's proposal, the proposed work plan, staffing and any suggestions they may have made to improve the terms of reference, the work programme, staffing pattern and manning schedule, the activity schedule and reporting schedule. Once these matters have been agreed, financial negotiations will take place.
6. Having selected a firm partly on the basis of an evaluation of key personnel presented in the firm's proposal, the client expects to negotiate a contract on the basis of the experts named in the proposal and, prior to contract negotiations, will require assurances that these experts can, in fact, be made available. As the expected date of mobilization is given in the letter inviting proposals, the client will not consider substitutions after contract negotiations except in cases of unexpected delays in the starting date or incapacity of an expert for reasons of health or his leaving the service with the consultant. The desire of a firm to use an expert on another project will not be accepted for substitution of personnel.
7. The consultants should note that the client for this study will be the P.W.D., Government of Payment to the consultants will be made in accordance with an agreed schedule.

ANNEXURE III-C

Interim Guidelines for Engaging Consultants

SUGGESTED FORMAT OF CURRICULUM VITAE FOR MEMBERS OF CONSULTANT'S TEAM

Name -----

Profession -----

Years with Firm ----- Nationality -----

Proposed Position on Team -----

Key Qualifications:

(Under this heading, give outline of staff member's experience and training most pertinent to assign work on proposed team. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use upto half a page).

Education:

(Under this heading, summarise college/university and other specialised education of staff member, giving names of schools, dates attended and degree obtained. Use upto a quarter page).

Experience Record:

(Under this heading, list all positions held by staff member since graduation, giving dates, names of employing organisation, title of positions held and location of assignments. For experience in last ten years, also give types of activities performed and client reference, where appropriate. Use upto three quarters of a page).

Languages:

(Indicate proficiency in speaking, reading and writing of each language by "excellent", "good", "fair", or "poor").

Signature of Staff Member _____

Date _____

ANNEXURE III-D*Interim Guidelines for Engaging Consultants***SUGGESTED FORMAT FOR MANNING SCHEDULE OF KEY PERSONNEL FOR A HIGHWAY IMPROVEMENT PROJECT**

Sl. No.	Name of Expert	Position in Team	Duration-Months												Man-Months
			1	2	3	4	5	6	7	8	9	10	11	12	

Total: _____

- Notes: 1. Show only for key personnel.
 2. Show duration by solid line for continuous inputs and by broken line for staggered inputs.

ANNEXURE III-E*Interim Guidelines for Engaging Consultants***SUGGESTED FORMAT FOR ACTIVITY SCHEDULE FOR A HIGHWAY IMPROVEMENT PROJECT**

Sl. No.	Activity	Duration (months)												Total duration (months)
		1	2	3	4	5	6	7	8	9	10	11	12	
1.0	Feasibility Study													
1.1	Road/Bridge Inventory													
1.2	Traffic Studies													
1.3	Pavement Evaluation													
1.4	Preliminary Design													
1.5	Rough Cost Estimate													
1.6	Economic Evaluation													
1.7	Draft Feasibility Report													
1.8	Final Feasibility Report													
2.0	Project Preparation													
2.1	Ground Surveys and Investigation													
2.2	Materials Survey & Pavement Design													
2.3	Geo-tech. Investigation for Bridges and High Embankments													
2.4	Environmental Impact Assessment													
2.5	Draft Project Report & Draft Drawings													
2.6	Final Project Report & Final Drawings													
2.7	Tender Documents													

Note: The activity items are suggestive only, and will vary depending on scope of the project.

ANNEXURE IV*Interim Guidelines for Engaging Consultants***GUIDELINES FOR ASSIGNING MARKS IN THE EVALUATION OF TECHNICAL PROPOSALS FOR CONSULTANCY SERVICES FOR A TYPICAL HIGHWAY IMPROVEMENT PROJECT****1. Firm's Experience (15) to be subdivided into:**

	Marks
(i) Feasibility studies in the related field	2
(ii) Field surveys, investigation and geo-technical studies	2
(iii) Traffic engineering & transport economics	2
(iv) Highway/pavement design & detailing	4

(v) Bridge design & detailing	3
(vi) Estimating, Specifications & Tender Documents	2
	<u>15</u>

2. **Work Plan (25) to be sub-divided into:**

(i) Understanding of the study requirements and the services to be offered, and coverage of scope of work listed in TOR	5
(ii) Quality of approach and methodology proposed, including clarity, soundness and practicability of methods	7
(iii) Innovativeness and originality	3
(iv) Suitability and practicability of work programme	5
(v) Manning and activity scheduling	3
(vi) Presentation of proposal	2
	<u>25</u>

3. **Personnel (50) to be sub-divided into:**

(i) Team leader	12
(ii) Field Survey/geotechnical expert	8
(iii) Traffic Engineer	5
(iv) Transport Economist	5
(v) Highway Engineer	11
(vi) Bridge Engineer	9
	<u>50</u>

4. **Equipment/Instruments (5)**

Depending on the adequacy of equipment/instruments with the Firm (e.g. soil and material testing lab, drilling and other equipment for sub-surface investigation, etc.), marks may be assigned out of total 5 marks. Assign higher marks for in-house availability of modern and more accurate/rapid evaluation equipment such as Distomat for survey, FWD/Deflectograph for pavement evaluation, electrical resistivity meters and echo sounding equipment for sub-surface investigation, etc.

5. **Computer Facilities (5)**

Marks may be assigned depending on availability of computer facilities for this assignment. Higher weightage to be given for in-house availability of computer-aided and drafting facilities.

Notes: (i) The break-up of marks given in 1 to 3 above is suggestive only, is meant for guidance of the Proposed Evaluation Committee, and is not to be disclosed to the Consultants. These could, however, be appropriately modified as per project attributes and needs, before the Consultants proposals are received.

(ii) Subgroupings for evaluation of firm's experience, work plan and personnel (1 to 3) may be suitably reduced/pruned by the Committee as per project characteristics and needs, before receiving the proposals.

Note: In assigning marks to the individual experts, 30% weight be given to general qualifications and 70% for adequacy of the individual for the tasks assigned in the project (Typical example of personnel evaluation is at Annexure V).

ANNEXURE V

Interim Guidelines for Engaging Consultants

Project: Feasibility Study and Project Preparation for Improvement/Upgradation Cuttack - Bhubaneswar Section of NH-5 in Orissa

CONSULTANTS PROPOSAL - PERSONNEL EVALUATION SHEET

Position or Expertise	Max. Weight	Name	Age	General Qualification a/ 30%		Experience Related to Project a/ 70%		Overall	
				Rating	Percentage Applied (1)	Rating	Percentage Applied (2)	Rating 1 + 2	Weight b/
(1) Team leader	12			E	30	G	56	86	10.32
(2) Field Survey/Geotechnical Expert	8			G	24	A	42	66	5.28
(3) Traffic Engineer	5			G	24	G	56	80	4.00
(4) Transport Economist	5			A	18	G	56	74	3.70
(5) Highway Engineer	11			G	24	G	56	80	8.80
(6) Bridge Engineer	9			A	18	A	42	60	5.40
Total	50								<u>37.50</u>

(a) Percentage and criteria to be discussed and agreed upon by the Evaluation Committee

(b) Weighted overall rating results to be transferred to Summary Sheet

Rating: Excellent = 100
Good = 80
Adequate = 60
Marginal = 0