No.844-W/510 (S&C)/Tender / RFP. Dated:- 7th September, 2020

ADDENDUM NO.3 TO REQUEST FOR PROPOSAL

FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR CONSTRUCTION OF NEW DOUBLE LINE TRACK FROM KARACHI TO HYDERABAD ON PUBLIC PRIVATE PARTNERSHIP MODE.

This addendum is being issued to provide amendments / clarifications to the above mentioned Request for Proposal (RFP). This addendum shall be deemed to form the part of the Request for Proposal (RFP).

Request for Proposal (RFP).

1. The earlier Request for Proposal which was for Feasibility Study and Transaction Advisory Services for Construction of New Double Line Track from Karachi to Hyderabad on Public Private Partnership mode is now amended as under:-

   Feasibility Study and Transaction Advisory Services for Construction and Operation of new Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP mode.

2. The request for proposal which was fixed for 8th September, 2020 is extended and new date for submission for Request for Proposal is 30th September, 2020 and date for pre-bid conference for amended RFP will be held on 19th September, 2020 at 14:00 Hrs in Committee Room No.2 Pakistan Railway, Headquarters Office Lahore.

(Syed Asif Mateen)
Chief Engineer / Survey & Construction)
Pakistan Railways, Headquarters Office,
Empress Road, Lahore.
Ph.(042-) 99201625,
E-mail: aensandc@gmail.com

PAKISTAN RAILWAY
HEADQUARTERS OFFICE, LAHORE PAKISTAN

C O R R I G E N D U M NO.3

FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR CONSTRUCTION & OPERATION OF NEW DOUBLE LINE TRACK FROM KARACHI TO HYDERABAD ON PUBLIC PRIVATE PARTNERSHIP MODE.

The earlier Request for Proposal which was for Feasibility Study and Transaction Advisory Services for Construction of New Double Line Track from Karachi to Hyderabad on Public Private Partnership mode is now amended as under:-

Feasibility Study and Transaction Advisory Services for Construction and Operation of new Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP mode.

To ensure healthy competition, the amended Feasibility Study and Transaction Advisory Services for Construction and Operation of new Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP mode, the date for submission of proposal now fixed on 30th September, 2020 instead of 8th September, 2020 not later than 14:00 Hours and open on same date at 14:30 hours. A pre-proposal conference shall be held on 19th September, 2020 at 14:00 Hours in Committee Room No.2, Pakistan Railway Headquarters Office, Lahore.
Addendum No.3 to the Request for Proposal (RFP), has been issued, which can be downloaded from Pakistan Railway official website: www.pakrail.gov.pk or PPRA's website: www.ppra.org.pk

(Syed Asif Mateen)
Chief Engineer / Survey & Construction)
Pakistan Railways, Headquarters Office,
Empress Road, Lahore.
Ph.(042-) 99201625,
E-mail: aensandc@gmail.com

PAKISTAN RAILWAY

BIDDING DOCUMENTS

FOR

FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR

CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.

SEPTEMBER, 2020

Chief Engineer / Survey & Construction
Headquarters Office, Empress Road
Pakistan Railway Lahore
PH: +92-042-99201625

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SECTION 1: Invitation for Bidding

No.844-W/510 (S&C)/Tender/RFP Date:- 7th September, 2020.

SUBJECT:- INVITATION FOR EXPRESSION OF INTEREST (EOI) FOR FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR:-

CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.

1. On behalf of Pakistan Railway, Government of Pakistan, the Chief Engineer/Survey & Construction invites proposal for:-

   FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR:-

   CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.

   from reputed national and international consulting firms / consortiums / joint ventures, having experience in project finance & economics, contract management & administrative law, procurement management and technical disciplines relevant to the particular project.

2. Consultant will be selected under Quality and Cost Based Selection (QCBS) method and procedures, described in this RFP in accordance with PPRA Rule 2004 and PPRA Procurement of Consultancy Services Regulations 2010.

3. The RFP includes the documents:

   Section 1: General Information
   Section 2: Instructions to Consultants (including Data Sheet)
   Section 3: Technical Proposal – Standard Forms
   Section 4: Financial Proposal – Standard Forms
   Section 5: Terms of Reference

4. It is mandatory for proposals to be prepared using Standard Forms of RFP. Any proposal not prepared according to prescribed format may be rejected. If any information required in the Forms is found missing or written elsewhere, no credit will be given in the relevant section of the evaluation.

5. The Consulting firms / Consortiums / Joint Ventures should submit details of **Three (3)** of their most relevant projects of “Similar Assignments” for Technical evaluation using the prescribed format. Assignments given beyond the given number will not be considered.

"Similar Assignment" means following two parts of assignment:

1. *Part-1-Assignment of Feasibility Study of establishing new rail link. However, as a mandatory requirement at-least one assignment of establishing new rail link completed by the Consultant or Joint Venture or Consortium.*
2. *Part-2-Assignment of Transaction Advisory Services. However, as a mandatory requirement at-least one assignment of Transaction Advisory Services regarding PPP mode (BOT basis or any other suitable mode of PPP) transaction in Infrastructure related projects which has achieved Financial Close.*

For assignment as depicted in Part-1 & Part-2 above, conditions are not necessarily required to be complied by Single firm / Consultant. Above conditions must be satisfied in totality in case of Joint Venture / Consortium. For example if one partner of Joint Venture or Consortium has completed Part-I and another partner completed Part-2, then as a whole it will be considered complied with the definition of "Similar Assignment".

6. CVs of Key personnel's corresponding to the list given in Data Sheet should provide detail of **Five (5)** projects done by each individual in the past. Similar Assignment has been defined above is for the purpose of comparison of the projects completed by the Consulting firms / Consortiums / Joint Ventures. For various professional, similar assignments or relevant experience shall be as per their respective field of specialization.
7. The Consultant can be Single Entity or Joint Venture or Consortium of national and international firms. **The Transaction Advisory Firm must be the lead firm.**
8. The proposal of Consultants / Consortiums / Joint Ventures, is liable to be rejected, if the firm makes any false or misleading statement in the proposal (s).
9. The Technical & Financial proposals are to be submitted in separate sealed envelopes at following address not later than 30th September,2020 till 14:00 Hrs.

Chief Engineer/Survey & Construction,
Pakistan Railway,
Headquarter Office,
<u>Lahore.</u>

General Information

The Consultants / Consortiums / Joint Ventures are required to provide following information which are necessary for further processing:

(a) Whether applied as Single Entity or Consortium or Joint Venture, please specify.

(b) In case of Single Entity, specify the name of Firm and provide the information as per prescribed Form **General-1** attached.

(c) In case of Joint Venture or Consortium, information shall be provided for all partners, as per prescribed Form **General-1** attached.

(d) In case of Joint Venture or Consortium, provide percentage share as proposed for this assignment.

(e) The Consultant or Joint Venture or Consortium are required to provide accurate information on any litigation or arbitration, arising out of the projects completed or in progress over the last five years in the manner as prescribed in the Form **General-2**

(f) The Consultant or Joint Venture or Consortium are required to provide Certificate / Affidavit that their firm is not blacklisted by any Government Department / Authority.

(g) For local firms, National Income Tax number (NTN) and for foreign firms, Tax Registration Number of parent country is required. In case of Consortium or Joint Venture provide NTN / Tax Registration Number of parent country for all partners. (Attach copies of valid tax registration).

(h) For local firms, Registration with Pakistan Engineering Council (PEC) and for foreign firm's relevant registration with relevant Engineering bodies of parent country is required. (Attach copies of valid registration).

(i) The Consultant or Joint Venture or Consortium is required to provide last three years audited reports of accounts of their firms.

(j) The Consultant or Joint Venture or Consortium is required to provide Power of Attorney to sign the proposal.

(k) The Joint Venture or Consortium is required to provide MOU or agreement between the partners for this project.

Form General-1 – Basic Information

1. Name of Firm.
2. Office address in Pakistan.
3. Office address overseas (if applicable).
4. Organization Chart.
5. Telephone & Fax
6. e-mail
7. Contact person
8. Place of incorporation / registration of firm
9. Year of incorporation / registration of firm
10. Country of origin (if other than Pakistan)
11. Type of organization, whether Partnership / Sole Proprietorship / Public Limited Company / Private Limited Company (Attach copy of Memorandum of Article, Memorandum of Association and Registration certificate with Security Exchange or Registrar of Firm).

Note:-

In case of Consortium or Joint Venture above information should be provided for all partners.

Form General-2 - Litigation History

Consultant, including each of the partners of a Consortium or Joint Venture, should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution. A separate sheet should be used for each partner of Consortium or Joint Venture.

Party / Parties of the Claim / Dispute	Nature of Claims / Dispute	Amount of the Claim / Dispute.	Date initiated	Status (Award for or against)

Section 2: Instructions to Consultant

1. Definitions

1.6.1. "Government of Pakistan" means the Government of Pakistan and all its associated departments, agencies, autonomous/semi-autonomous bodies, boards, universities and similar other organizations.

1.6.2. "Employer" means Chief Engineer/Survey & Construction, Pakistan Railway, Headquarter Office, Lahore.

1.6.3. "Consultant" means any Entity or Firm or Consortium or Joint Venture of firms that may provide the services for Feasibility Study & Transaction Advisory Services to the Employer under the Agreement. The Consultant can be Single Entity or Joint Venture or Consortium of national and international firms. In case of Joint Venture or Consortium, Transaction Advisor will be the Lead firm.

1.6.4. "Agreement" means the Agreement signed by the Employer and the Consultant and all the attached documents.

1.6.5. "Data Sheet" means such part of the Instructions to Consultant used to reflect specific conditions.

1.6.6. "Day" means calendar day.

1.6.7. "Instructions to Consultant" means the document which provides Consultant with all information needed to prepare their Proposal.

1.6.8. "Personnel" means professionals and support staff provided by the Consultant or by any Sub-Consultant to perform the services or any part thereof; "Foreign Personnel" means such professionals and support staff who at the time of being so provided had their domicile outside Pakistan; 'Local Personnel" means such professionals and support staff who at the time of being so provided had their domicile inside Pakistan.

1.6.9. "Proposal" means the Technical Proposal and the Financial Proposal.

1.6.10. "RFP" means the Request for Proposal issued by the Employer for the selection of Consultant.

2.1.11"Services" means the work to be performed by the Consultant pursuant to the Agreement.

i. "Sub-Consultant" means any person or entity with whom the Consultant enters into sub-agreement(s) for any part of the Services.

ii. "Terms of Reference" (TOR) means the document included in the RFP which explains the objectives, scope of work, activities, tasks to be performed, respective responsibilities of the Employer & the Consultant, expected results and deliverables of the Assignment.

2.1.14. “Similar Assignment” means

2.1.14.1. Part-1-Assignment of Feasibility Study of establishing new rail link. However, as a mandatory requirement at-least one assignment of establishing new rail link completed by the Consultant or Joint Venture or Consortium.

2.1.14.2. Part-2-Assignment of Transaction Advisory Services. However, as a mandatory requirement at-least one assignment of Transaction Advisory Services regarding PPP (BOT or any other mode of PPP) transaction in Infrastructure related projects which has achieved Financial Close completed by the Consultant or Joint Venture or Consortium.

For assignment as depicted in Part-1 & Part-2, above conditions are not necessarily required to be complied by Single firm / Consultant. Above conditions must be satisfied in totality in case of Joint Venture / Consortium. For example if one partner of Joint Venture or Consortium has completed Part-I and another partner completed Part-2 then as a whole it will be considered complied with the definition of Similar Assignment.

b. Introduction

2.2.1 The Employer named in the Data Sheet will select a Consulting firm or Joint Venture or Consortium (the Consultant) in accordance with the method of selection specified in the Data Sheet. The Consultant can be Single entity or Joint Venture or Consortium of national and international firms. In case of Joint Venture or Consortium, Transaction Advisor will be the Lead firm.

2.2.2 The Consultants are invited to submit a Technical proposal and Financial proposal for consulting services required for the assignment named in the Data Sheet. The proposals should be in separate marked and sealed envelopes. The proposal will be the basis for agreement negotiations and ultimately for a signed agreement with the selected Consultant.

2.2.3 The Consultants should familiarize themselves with assignment conditions and take them into account in preparing their proposals. To obtain first-hand information on the assignment, Consultant is encouraged to visit the Employer before submitting a proposal and to attend a pre-proposal conference as per schedule specified in Data Sheet.

2.2.4 The Consultant should contact the Employer’s representative named in the Data Sheet to obtain information regarding the assignment. Consultant should ensure the official is informed well-ahead of time in case they wish to visit the Employer.

2.2.5 The Consultants shall bear all the costs associated with the preparation and submission of their proposals. The Employer is not bound to accept any proposal and reserves the right to annul the selection process at any time prior to agreement award, without thereby incurring any liability to the Consultant.

2.3 Conflict of Interest

2.3.1 Government of Pakistan policy requires that Consultant provide professional, objective, and impartial advice and at all times hold the Employer's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work.

2.3.2 Without limitation on the generality of the foregoing, Consultant, and any of their affiliates, shall be considered to have a conflict of interest and shall not be recruited, under any of the circumstances set forth below:

2.4 Conflicting Activities

A firm that has been engaged by the Employer to provide goods, works or services other than consulting services for a project, and any of its affiliates, shall be disqualified from providing consulting services related to those goods, works or services. Conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and any of its affiliates, shall be disqualified from subsequently providing goods or works or services other than consulting services resulting from or directly related to the firm's consulting services for such preparation or implementation. For the purpose of this paragraph, services other than consulting services are defined as those leading to a measurable physical output, for example surveys, exploratory drilling, aerial photography, and satellite imagery.

2.5 Conflicting Assignments

A Consultant (including its personnel and sub-consultant) or any of its affiliates shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Consultant to be executed for the same or for another Employer. For example, a Consultant hired to prepare engineering design for an infrastructure project shall not be engaged to prepare an independent environmental assessment for the same project and a Consultant assisting a Employer in the privatization of public assets shall neither purchase, nor advice purchasers of such assets. Similarly, a Consultant hired to prepare Terms of Reference for an assignment should not be hired for this assignment.

a. Conflicting Relationships

2.6.1 A Consultant (including its personnel and sub-consultant) having business or family relationship with a member of the Employer's staff who is directly or indirectly involved in any part of (i) the preparation of the Terms of Reference of the assignment, (ii) the selection process for such assignment, or (iii) supervision of the agreement, may not be awarded an agreement, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Employer throughout the selection process and the execution of the agreement.

2.6.2 The Consultant have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Employer, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of the agreement.

2.6.3 No agency or current employees of the Employer shall work as Consultant under their own Ministries, Departments or Agencies. Recruiting former government employees of the Employer to work for their former Ministries, Departments or Agencies is acceptable provided no conflict of interest exists. When the Consultant nominates any government employee as personnel in their technical proposal, such personnel must have written certification from their Government or Employer confirming that they are on leave without pay from their official position and allowed to work full-time outside of their previous official position. Such certification shall be provided to the Employer by the Consultant as part of his Technical Proposal.

2.7. Unfair Advantage

If a Consultant could derive a competitive advantage from having provided consulting services related to the assignment in question, the Employer shall make available to all Consultants together with this RFP all information that would in that respect give such Consultant any competitive advantage over competing Consultants.

2.8 Fraud and Corruption

2.8.1 Employer requires that Consultants participating in the project to adhere to the highest ethical standards, both during the selection process and throughout the execution of an agreement. In pursuance of this policy, Employer:-

a) defines, for the purpose of this paragraph, the terms set forth below as follows:

(i) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in agreement execution;

(ii) “fraudulent practice” means a misrepresentation or omission of facts in order to influence a selection process or the execution of a agreement;

(iii) “collusive practices” means a scheme or arrangement between two or more Consultants with or without the knowledge of the Employer, designed to establish prices at artificial, noncompetitive levels;

(iv) “coercive practices” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a agreement.

b) will reject a proposal for award if it determines that the Consultant recommended for award has directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the agreement in question;

c) will sanction a Consultant, including declaring the Consultant ineligible, either indefinitely or for a stated period of time, to be awarded a Government of Pakistan agreement, if at any time, it determines that the Consultant has directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for or in executing a Government of Pakistan agreement; and

d) will have the right to require that a provision be included requiring Consultant to permit the Government of Pakistan to inspect their accounts and records and other documents relating to the submission of proposals and agreement performance, and have them audited by auditors appointed by the Government of Pakistan.

e) Consultant, their sub-consultants, and their associates shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Pakistan in accordance with the above. Furthermore, the Consultant shall be aware of the provisions on fraud and corruption stated in the specific clauses in the General Conditions of agreement.

2.9 Only one Proposal

Any alternative proposal, such as one by a firm in sole capacity and another in Consortium or Joint Venture with another firm or as a part of two or more Consortiums or Joint Ventures for the same package will be summarily rejected. In such an event, all the proposals submitted by such Firm and its Consortium or Joint Venture shall be rejected.

2.10. Proposal Validity

The Data Sheet indicates how long Consultant Proposals must remain valid after the submission date. During this period, Consultant shall maintain the availability of Professional staff nominated in the Proposal. The Employer will make its best effort to complete the evaluation within this period. Should the need arise; however, the Employer may request Consultants to extend the validity period of their proposals. Consultants who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal. Consultants, who do not agree, have the right to refuse to extend the validity of their Proposals.

2.11. Clarification and Amendment of RFP Documents

2.11.1 Consultant may request a clarification of any of the RFP documents up to the number of days indicated in the Data Sheet before the proposal submission date. Any request for clarification must be sent in writing or by standard electronic means to the Employer's address indicated in the Data Sheet. The Employer will respond in writing or by standard electronic means and will send written copies of the response (including an explanation of the query but without identifying the source of inquiry) to all Consultants. Should the Employer deem it necessary to amend the RFP as a result of a clarification, it shall do so following the procedure as stated in para below:

2.11.2 At any time before the submission of Proposals, the Employer may amend the RFP by issuing an addendum in writing or by standard electronic means. The addendum shall be sent to all Consultants and will be binding on them. Consultants shall acknowledge receipt of all amendments. To give Consultants reasonable time in which to take an amendment into account in their Proposals. The Employer may, if the amendment is substantial, extend the deadline for the submission of Proposals.

2.12 Preparation of Proposal

2.12.1 The Proposal, as well as all related correspondences exchanged by the Consultant and the Employer, shall be written in the language (s) specified in the Data Sheet.

2.12.2 In preparing Proposal, Consultants are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of a Proposal.

2.13. Technical Proposal Format and Content

2.13.1 The Technical Proposal shall provide the information indicated in the following paras from (a) to (g) using the attached Standard Forms (Section 3).

a) A brief description of the Consultant organization and an outline of recent experience of the Consultant (each partner in case of Joint Venture or Consortium) on assignments of a similar nature is required in Form TECH-2 of Section 3. For each assignment, the outline should indicate the names of Sub-Consultants/ Professional staff who participated, duration of the assignment, agreement amount and Consultant involvement. Information should be provided only for those assignments for which the Consultant was legally engaged by the Employer as a firm or as one of the major firms within a Joint Venture or Consortium. Assignments completed by individual Professional staff working privately or through other consulting firms cannot be claimed as the experience of the Consultant or that of the Consultant associates, but can be claimed by the Professional staff themselves in their CVs. Consultant should be prepared to substantiate the claim of experience if so requested by the Employer.
b) Comments and suggestions on the Terms of Reference including workable suggestions, that could improve the quality/ effectiveness of the assignment; (TECH-3 of Section 3).
c) A description of the approach, methodology and work plan for performing the assignment covering the following subjects: technical approach & methodology, work plan and organization & staffing schedule. Guidance on the content of this section of the Technical Proposal is provided under Form TECH-4 of Section 3.

d) The list of the proposed Professional staff team by area of expertise. The position that would be assigned to each staff team member, and their tasks (Form TECH-5 of Section 3).

e) CVs of the Professional staff (Local) needs to have been recently signed by them with date in blue indelible ink and countersigned by the authorized official of the Consultant. Photo copy or unsigned or countersigned CVs shall be rejected (Form TECH-6 of Section 3). Also provide computerized National Identity Card numbers of Professional staff (if local) or Passport numbers (if foreign).
In case of foreign professionals, CV of foreign professional staff only needs not to be recently signed by them with date in blue indelible link due to spread of COVID-19, moreover, mobile number of foreign professionals shall also be provided in order to help employer to contact directly with the foreign professionals to ensure whether he / she has consented for this assignment with the Consultant / Joint Venture / Consortium.

1. Estimates of the staff input needed to carry out the assignment (Form TECH-7 of Section 3). The staff months input should be indicated separately for home office and field activities.

2.13.2 The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information shall be declared non responsive.

2.14. Financial Proposal

The Financial Proposal shall be prepared using the attached Standard Forms (Section 4). It shall list all costs associated with the assignment.

2.15. Payment of Consultancy Services Fee

2.15.1 The payment shall be made after the submission of each deliverable and its subsequent approval by the Employer. However, on the request of the Consultant, 20% of the deliverable payment will be released upon submission of invoice.

2.15.2 The amount of remuneration will be claimed / paid as per the relevant clause of section-8 of TOR.

2.15.3 5% Retention Money will be deducted from each deliverable payments. Retention Money will be returned after six months of completion of the Feasibility Study and Transaction Advisory Services. Six months starts from the date when Employer issue completion certificate of the project.

2.15.4 The Employer shall make all payments to the Consultant in Pak Rupees. However, the Employer shall have no objection and shall facilitate the remittance in foreign currency of the remuneration of the foreign partner to the extent of services rendered by foreign partner with regard to this assignment.

2.1. Taxes

The Consultant shall be subjected to local taxes on amounts payable by the Employer under the Agreement. The Employer will state in the Data Sheet if the Consultant is subject to payment of any taxes. Payment of all taxes shall be the responsibility of the Consultant.

2.2. Submission, Receipt and Opening of Proposal

2.17.1 The original proposal (Technical Proposal and Financial Proposal) shall contain no interlineations or overwriting, except as necessary to correct errors made by the Consultant themselves. The person who signed the proposal must initial such corrections. Submission letters for both Technical and Financial Proposals should respectively be in the format of TECH-1 of Section 3, and FIN-1 of Section 4.

2.17.2 An authorized representative of the Consultant shall initial all pages of the original Technical and Financial Proposals. The authorization shall be in the form of a written Power of Attorney accompanying the Proposal or in any other form demonstrating that the representative has been duly authorized to sign. The signed Technical and Financial Proposals shall be marked "ORIGINAL".

2.17.3 The Technical Proposal shall be marked "ORIGINAL" or "COPY" as appropriate. The Technical Proposals shall be sent to the address referred to in Data Sheet and the number of copies indicated in the Data Sheet. All required copies of the Technical Proposal are to be made from the original. If there are discrepancies between the original and the copies of the Technical Proposal, the original governs.

2.17.4 The original and all copies of the Technical Proposal shall be placed in a sealed envelope clearly marked "TECHNICAL PROPOSAL" Similarly, the original Financial Proposal shall be placed in a sealed envelope clearly marked "FINANCIAL PROPOSAL" followed by the name of the assignment, and with a warning "DO NOT OPEN WITH THE TECHNICAL PROPOSAL." The envelopes containing the Technical and Financial Proposals shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address and title of the Assignment, clearly marked "DO NOT OPEN, EXCEPT IN PRESENCE OF THE OFFICIAL APPOINTED, BEFORE SUBMISSION DEADLINE". The Employer shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may be case for Proposal rejection. If the Financial Proposal is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for declaring the Proposal non-responsive.

2.17.5 The Proposals must be sent to the address/addresses indicated in the Data Sheet and received by the Employer not later than the time and the date indicated in the Data Sheet, or any extension granted thereof. Any proposal received by the Employer after the deadline for submission shall be returned unopened.

2.17.6 The Employer shall open the Technical Proposal immediately after the deadline for their submission. The envelopes with the Financial Proposal shall remain sealed and securely stored.

2.3. Proposal Evaluation

From the time the Proposals are opened to the time the agreement is awarded, the Consultant should not contact the Employer on any matter related to its Technical and/or Financial Proposal. Any effort by Consultant to influence the Employer in the examination, evaluation, ranking of Proposals and recommendation for award of agreement may result in the rejection of the Consultant Proposal. Evaluators of Technical Proposal shall have no access to the Financial Proposals until the technical evaluation is concluded.

2.4. Evaluation of Technical Proposal

The Evaluation Committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Terms of Reference, applying the evaluation criteria, sub-criteria, and point system specified in Evaluation Criteria in Data Sheet and Appendix-I to Data Sheet and each responsive Proposal will be given a technical score. A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP and particularly the Terms of Reference or if it fails to achieve the minimum technical score indicated in the Evaluation Criteria.

2.5. Public Opening and Evaluation of Financial Proposals.

2.20.1 After the technical evaluation is complete, the Employer shall notify the result of technical evaluation in writing to all participants by clearly mentioning their secured marks. After receiving no objections from the participants within seven days (7) from the issuance of result of technical evaluation. The Employer will notify the date, time and location for opening the Financial Proposal. Consultants’ attendance at the opening of Financial Proposal is optional. The opening date shall be set so as to allow interested Consultants sufficient time to make arrangements for attending the opening.

2.20.2 Financial Proposals shall be opened publicly in the presence of the Consultants representatives who choose to attend. The name of the Consultants and the technical scores of the Consultants shall be read aloud. The Financial Proposal of the Consultants who met the minimum qualifying marks will then be inspected to confirm that they have remained sealed and unopened. These Financial Proposals shall be then opened and the total prices read aloud and recorded.

2.20.3 The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount or between words and figures, the former will prevail. The Evaluation Committee shall correct the quantification indicated in the Financial Proposal so as to make it consistent with that indicated in the

Technical Proposal, apply the relevant unit price included in the Financial Proposal to the corrected quantity and correct the total Proposal cost.

2.20.4 The weightage of Technical and Financial Proposals would be as indicated in Data Sheet.

2.6. Technical Negotiations

2.21.1 Technical negotiations will be held with the successful Consultant (after the issuance of Acceptance Letter) at the address indicated in the Data Sheet. The invited Consultant will as a pre-requisite for attendance at the negotiations, confirm availability of all Professional staff. Failure in satisfying such requirements may result in the Employer proceeding to negotiate with the next- ranked Consultant. Representatives conducting negotiations on behalf of the Consultant must have written authority to negotiate and conclude an agreement.

2.21.2 Technical negotiations will include a discussion of the Technical proposal. The proposed technical approach and methodology, work plan, organization and staffing. The Employer and the Consultant will finalize staffing schedule, work schedule, logistics, and reporting. These documents will then be incorporated in the agreement as “Description of Services”. Special attention will be paid to clearly defining the inputs and facilities required from the Employer to ensure satisfactory implementation of the assignment. The Employer shall prepare minutes of negotiations which will be signed by the Employer and the Consultant.

2.7. Availability of Professional Staff / Experts

Having selected the Consultant on the basis of among other things, an evaluation of proposed Professional staff, the Employer expects to negotiate an agreement on the basis of the Professional staff named in the Proposal. Before agreement negotiations, the Employer will require assurance that the Professional staff will be actually available. The Employer will not consider substitutions during agreement negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or for reasons such as death or medical incapacity. If this is not the case and if it is established that Professional staff were offered in the proposal without confirming their availability, the Consultant may be disqualified. Any proposed substitute shall have equivalent or better qualifications and experience than the original candidate be submitted by the Consultant within the period of time specified in the letter of invitation to negotiate.

2.8. Conclusion of the Negotiations.

Negotiations will conclude with a review of the draft agreement. To complete negotiations the Employer and the Consultant will initial the agreed agreement. If negotiations fail, the Employer will invite the Consultant whose Proposal received the second highest score to negotiate an agreement.

2.9. Award of Agreement

After completing negotiations, the Employer shall award the agreement to the selected Consultant and publish details on the website. The agreement will be executed based on Standard Format of Pakistan Engineering Council (PEC) for large projects (Lump Sum Based).

2.10. Confidentiality

Information relating to evaluation of Proposals and recommendations concerning awards shall not be disclosed to the Consultants who submitted the Proposals or to other persons not officially concerned with the process, until the publication of the award of agreement. The undue use by any Consultant of confidential information related to the process may result in the rejection of its Proposal and may be subjected to the provisions of the Consultant Selection Guidelines relating to fraud and corruption.

2.11. Integrity Pact

The successful Consultant shall sign and stamp the Integrity Pact, as per Standard Format of Pakistan Engineering Council (PEC), in case contract value exceeds Pak Rs.10.000 Million.

2.12. Bankable Feasibility Study

The Feasibility Study should be bankable and acceptable to national/ international financial institutions.

2.13. Time for Completion

2.28.1 Time for completion of the assignment shall be as specified in the Data Sheet.

2.28.2 Mobilization Period, after signing of agreement shall be as specified in the Data Sheet.

2.28.3 Time for completion of the Feasibility Study assignment shall be as specified in the Data Sheet.

2.28.4. Time for completion of the Transaction Advisory Services assignment shall be as specified in the Data Sheet.

Instructions to Consultants

DATA SHEET

Paragraph Reference	
2.2.1	**<u>Name of the Employer:</u>** Chief Engineer / Survey & Construction, Pakistan Railway, Headquarter Office, Lahore, Pakistan. **<u>Method of selection:</u>** QCBS (Quality and cost based Selection) in accordance with PPRA Rule 2004 and PPRA Procurement of Consultancy Services Regulations 2010.
2.2.2	**<u>Name of the assignment is:</u>** FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR:- <u>CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.</u> Financial Proposal to be submitted together with Technical Proposal, however, both should be in separate sealed envelops, clearly marked with name of Assignment and Firm.
2.2.3	**Pre-proposal conference shall be held as per following schedule:** **Date:- 19th September, 2020.** Time: **14:00 Hrs at** Committee Room. No.2, Pakistan Railway, Headquarters Office, Empress Road, Lahore.
2.2.4	Deputy Chief Engineer / Survey & Construction, Pakistan Railway, Headquarter Office, Lahore, Pakistan. Phone: +92-042-99201627,+92-042-99201625 E-mail: aensandc@gmail.com
2.10.1	Proposals must remain valid for ninety (90) days after the submission date
2.11.1	Clarifications may be requested not later than seven (7) days before the submission date.

2.12.1	Proposals shall be submitted in the following language: English.
2.16.1	Withholding / Advance Income Tax will be deducted as per prevailing Government of Pakistan rules.
2.17.3	Consultant must submit one (1) original and two (2) copies of the Technical Proposal and the original of the Financial Proposal.
2.17.5	The Proposal submission address is: The Chief Engineer/Survey & Construction, Pakistan Railway, Headquarter Office, Empress Road, Lahore, Pakistan. Proposals must be submitted not later than the following date and time: **On or before 30th** September, 2020 not later than 14:00 Hrs.
2.29	2.29.1 Time for completion of the assignment shall be **Twelve (12) months** including the mobilization period. 2.29.2 Mobilization Period, after signing of Agreement shall be **fifteen (15) days** 2.29.3 Completion period for Feasibility Study in accordance with TOR is **four (04) months.** 2.29.4 a) Completion Period for Final report of proposed Business / Financial Models in accordance with TORs is **two & half (2.5) months** after completion of Feasibility Study. b) Time for approval of the Project by PPPA is estimated as **two (2.0) months**. During this period, Consultant shall dedicate its staff to assist and coordinate with the Employer for obtaining approval from PPPA. c) Time for preparation of Bidding Documents/RFP including Concession Agreement is **one (01) month** after approval of the project by PPPA. d) Time for completion of evaluation of bids, issuance of Letter of Intent (LOI) to the successful bidder, deal closing and signing of the contract agreement with the successful bidder shall be **two (02) month** after receiving the bids.

2.19.1	Criteria, sub-criteria, and point system for the evaluation of Technical Proposals are: (i) **Company Profile:** 50% (ii) **Project Team:** 40% (iii) **Approach & Methodology:** 10% Description — Points (i) **Company Profile:** **[*100*]** a) Number of similar assignments [60] b) Value of similar assignments [20] c) Organizational structure [10] d) Financial Capability [10] Total = A_1 (ii) **Project Team:** **[100]** 2. Team Leader (Transaction Advisory Expert) [15] 3. Railway Bridges & Structures Expert [5] 4. Railway Alignment Design Expert [5] 5. Railway Train Operation Expert [5] 6. Railway Signaling & Telecommunication Expert [5] 7. Railway Locomotives & Rolling Stock Expert [5] 8. Railway Electric Expert [3] 9. Hydrology Expert [3] 10. Geology & Geotechnical Expert [3] 11. GIS & Topographic Expert [3] 12. Transport Economist & Financial Specialist [4] 13. Environmental & Social Expert [4] 14. Financial Analyst [10] 15. Business Advisor [10] 16. Legal Expert [10] 17. Contract Management Expert [10] Total = A_2 (iii) **Approach & Methodology:** **[*100*]** a) Understanding & Innovativeness [*40*] b) Methodology & Work plan [*60*] Total = A_3 $$\text{Technical Score} = \frac{A_1[50]}{100} + \frac{A_2[40]}{100} + \frac{A_3[10]}{100}$$ The minimum technical score (St) required to pass is: **70** Marks *Further details of Evaluation Criteria are described in Appendix-I to Data Sheet.*

DATA SHEET

2.20.4	Technical = 80% Financial = 20% The formula for determining the financial score is as under: Sf = 100 x Fm / F Sf = The financial score Fm = The lowest price F = The price of the proposal under consideration.
2.21.1	Address for Technical negotiations: Chief Engineer/Survey & Construction, Pakistan Railway, Headquarter Office, Empress Road, Lahore, Pakistan.

<u>Details of Evaluation Criteria</u>

(1) **Company Profile (100 Marks)**

a) <u>Number of similar assignments (60 Marks)</u>

(i) Part-1, New Rail Link related projects (30 Marks)

1st Project	=	50% **(Mandatory)**
2nd Project	=	75%
3rd Project	=	100%

(ii) Part-2, Transaction Advisory related projects (30 Marks)

1st Project	=	50% **(Mandatory)**
2nd Project	=	75%
3rd Project	=	100%

<u>Note:-</u>

i. For Joint Venture / Consortiums, projects will be evaluated in totality.

ii. Similar assignment means three (3 Nos) projects already completed and as mandatory requirement one (1 No) project already completed by the Consultant or Joint Venture or Consortium.

iii. Mandatory Requirements

Part-1 As a mandatory requirement at-least one assignment of establishing new rail link completed by the Consultant.
Part-2 As a mandatory requirement at-least one assignment of Transaction Advisory Services regarding PPP (BOT basis or any other suitable mode of PPP) transaction in Infrastructure projects which has achieved Financial Close completed by the Consultant.

For this assignment, above conditions are not necessarily required to be complied by any single firm / Consultant. Above conditions must be satisfied in totality in case of Joint Venture or Consortium. For example if one partner of Joint Venture has completed Part-1 and another partner completed Part-2, then as a whole it will be considered complied with the definition of Similar Assignment.

b) <u>Value of similar assignments (20 Marks)</u>

10 Marks for each Part-1 & Part-2 as per above.

For completed assignments by Consultants, the consultancy fee shall be compared with Rs.50.00 million (assumed fee for said assignment) separately for Part-1 & Part-2 as per above. The assumed fee is neither an estimated fee nor budgeted fee; it is just for comparison of assignments completed by the Consultants.

80% or more of this assignment	= 100%
50% to 80%	= 80%
Less than 50%	= 60%

Note:-

The value of the assignments completed by the Consultants in the past shall not be updated to cater for the inflation over the period of time while comparing the value of the similar assignments.

c) Organizational structure (10 Marks)

Excellent	=100%
Good	=80%
Satisfactory	=60%

Note:-

1. In case of Joint Venture/Consortium, organization structure will be assessed on totality basis.
2. The firm needs to provide its existing organization structure / details.

i) Financial Capabilities (10 Marks)

Annual Turnover (Pak Rs in Million), average of last three financial years shall be considered.

More than or equal to 300	=	100%
More than or equal to 200 but <300	=	80%
More than or equal to 100 but <200	=	60%
More than or equal to 50 but<100	=	40%
Less than 50	=	20%

In case of Joint Venture or Consortium, average of last three years of each partner will be summed up for evaluation.

(2) **Project Team**

For minimum qualification and experience of project team, refer to Appendix-II to Data Sheet. Each member of Consultant team will be evaluated on the following criteria:-.

i). Education (40%)

MSc or equivalent	=	100%
BSc or equivalent	=	80%

Details of Evaluation Criteria

ii). Experience of Individual Professionals (70%)

Where minimum required experience is 20 years

25 years or more	= 100%
20 to <25 years	= 80%
Less than 20 years	Staff will not be considered for evaluation

Where minimum required experience is 15 years

Twenty years or more	= 100%
15 to <20 years	= 80%
Less than 15 years	Staff will not be considered for evaluation

Where minimum required experience is 10 years

Fifteen years or more	= 100%
10 to <15 years	= 80%
Less than 10 years	Staff will not be considered for evaluation

iii). No. of assignments completed by Professional (30%)

Five or more	= 100%
4 assignments	= 80%
3 assignments	= 60%
2 assignments	= 40%
Less than two assignment	= Zero

Similar project has been defined under definitions for the purpose of comparison of the projects completed by the Consulting firm / Consortium / Joint Venture. For various professionals, similar assignment or relevant experience shall be as per their respective field of specialization.

3) **Approach & Methodology**

Methodology submitted by Consultants will be analyzed by evaluating team in accordance with criteria stated above and graded as under:-

Quality	Grade	Weight
Excellent	A	100%
Good	B	70%
Average/below average	C	50%
Absent	D	0

Methodology will be analyzed based on following:

a) <u>Understanding & Innovativeness</u>

i) What is the depth of the firm's understanding of the requirements and objectives of the assignment in question?

ii) What is the quality of the improvements to the TOR suggested by the consultant to improve the outcome of the assignment?

2 What is the level of identification of potential risks that will affect the execution of the assignment and what is the quality of the mitigation strategies proposed?

b) <u>Methodology & Work Plan</u>

i) How in-depth is the Statement of Work: does it fully cover the scope of the assignment and is it sufficiently developed to ensure assignment completion?

2 How developed is the Work Breakdown Structure (WBS) for the assignment?

iii) How suitable is the Work Plan (staffing schedule): is the resource utilization sufficient and practical?

Appendix-II to Data Sheet

Minimum Qualification and Experience required for each position in Project Team

The Professional's having experience less than minimum specified below shall not be considered.

(Years)

Sr. No.	Position	Min-Qualification	Overall Experience
1	Team Leader (Transaction Advisory Expert)	MBA/CA/M.S Engineering	20
2	Railway Bridges & Structures Expert	B.Sc. Civil Engineering	15
3	Railway Alignment Design Expert	B.Sc. Civil Engineering	15
4	Railway Train Operation Expert	Master in Transportation Planning / Engineering or Retired Railway Officers of Civil or Mechanical Engineering or Traffic & Commercial Group	15 in case of Masters & 20 in case of retired Railway officers
5	Railway Signaling & Telecommunication Expert	B.Sc. in Signaling/ Telecommunication/Electrical/ Electronic Engineering	15
6	Railway Locomotives & Rolling Stock Expert	B.Sc. Mechanical Engineering	15
7	Railway Electric Expert	B.Sc. Electrical Engineering	15
8	Hydrology Expert	M.Sc. Hydrology/Water Resources Engineering/Hydraulics Engineering	15
9	Geology & Geotechnical Expert	M.Sc. Geology / Mining Engineering	15
10	GIS & Topographic Expert	M.Sc/GIS & M.Sc Engineering	10
11	Transport Economist & Financial Specialist	M.A Economics / CA/ACMA/CFA	15
12	Environmental & Social Expert	M.Sc. Environmental Science / B.Sc in Environmental Engineering	15
13	Financial Analyst	M.A Economics / CA/ ACMA/CFA	15
14	Business Advisor	M.B.A /CFA	15
15	Legal Expert (Corporate Law)	Bar at Law / LLB	15
16	Contract Management Expert	M.B.A / LLB /B.S Engineering	15

Note-1: *Minimum qualification of professional at S.No.1, 13, 14, 15 & 16 has been suggested for the guidance of the bidders. However, bidders can quote any other relevant degree as per norms of the country from where such degree has been obtained and it would be considered for acceptance if found appropriate.*

Note-2:

Similar Assignment has been defined in the definition for the purpose of comparison of the projects completed by the Consulting firm/Consortium/Joint Venture. For various professional, similar assignments completed by the professional or relevant experience shall be as per their respective field of specialization.

Section 3: Technical Proposal – Standard Forms

Consultants are required to prepare Technical Proposal as per following format:

TECH-1 Technical Proposal Submission Form

TECH-2 Consultant's Organization and Experience

A Consultant's Organization
B Consultant's Experience

TECH-3 Comments or Suggestions on the Terms of Reference.

TECH-4 Description of the Approach, Methodology and Work Plan for Performing the Assignment

TECH-5 Composition of Team to be deployed for this assignment and Task Assigned

TECH-6 Curriculum Vitae (CV) of Proposed Professional Staff

TECH-7 Staffing Schedule

TECH-8 Financial Capabilities

FORM TECH-1 TECHNICAL PROPOSAL SUBMISSION FORM

(***Please submit on Company's Letterhead***)

To: The Chief Engineer/Survey & Construction,
Pakistan Railway,
Headquarter Office,
Lahore.

SUBJECT:

FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR:-

CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.

Dear Sir,

We, the undersigned, offer to provide the Feasibility Study and Transaction Advisory Services for Construction and Operation of New Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP Mode for Employer, in accordance with your Request for Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed under separate envelopes.

We are submitting our Proposal in association with:__________________________

[*Insert a list with full name and address of each associated Consultant*]

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Agreement negotiations.

We undertake, if our Proposal is accepted, to initiate the consulting services related to the assignment not later than the date indicated in the Data Sheet of the proposal.

We understand you are not bound to accept any Proposal you receive. We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: ______________________________________

Name and Title of Signatory: ____

Name of Firm: ____

Address: ____

FORM TECH-2 CONSULTANT'S ORGANIZATION AND EXPERIENCE

A - Consultant's Organization

Please provide the following of your firm/entity and each associate / partner for this assignment

1. Firm Background and Achievements (min two pages)
2. Organogram.
3. List of Staff with Qualification and Experience.

FORM TECH-2 CONSULTANT'S ORGANIZATION AND EXPERIENCE

B - Consultant's Experience

[*Using the format below, provide information on each assignment for which your firm, and each associate / partner for this assignment, was legally contracted as a corporate entity or as one of the major companies within an association / partnership, for carrying out consulting services* ***similar to the ones requested under this Assignment****.*]

Assignment name:	Value of the Project (in Pak Rs or US$):
Country: Location within country:	Duration of assignment (months):
Name of Employer:	
Start date (month/year): Completion date (month/year):	Value of consultancy services provided by your firm under the agreement (in Pak Rs or US$):
Name of associated Consultants, if any:	Percentage of input provided by associated Consultants:
Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader):	
Narrative description of Project:	
Description of actual services provided by your staff within the assignment:	

FORM TECH-3

Comments or suggestions on the TOR.

(Employer is not bound to accept the suggestion provided by the Consultant. The Consultant is requested not to include any financial impact of the suggestions in the Financial Proposal. Any claim on this account shall not be accepted at the stage of evaluation or after award of contract).

FORM TECH-4 DESCRIPTION OF APPROACH, METHODOLOGY AND WORK PLAN FOR PERFORMING THE ASSIGNMENT

[*Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical proposal divided into the following three chapters:*

iii) Technical Approach and Methodology,
iv) Work Plan
v) Organization and Staffing

1. **Technical Approach and Methodology.**

   In this chapter, you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output and the degree of detail of such output. You should highlight the problems being addressed, their importance and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

2. **Work Plan.**

   In this chapter, you should propose the main activities of the assignment, their content & duration, phasing & interrelations, milestones (including interim approvals by the Employer), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach & methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings and tables etc to be delivered as final output, should be included here.

3. **Organization and Staffing.**

   In this chapter, you should propose the structure and composition of your team. You should list the main disciplines of the assignment, key expert responsible and proposed technical & support staff.

FORM TECH – 5 COMPOSITION OF PROFESSIONAL STAFF TEAM TO BE DEPLOYED FOR THIS ASSIGNMENT AND TASK ASSIGNED

Name of Staff	CNIC No./Passport	Firm	Area of Expertise	Position Assigned
For Foreign Professional Staff				
For Local Professional Staff				

FORM TECH-6 CURRICULUM VITAE (CV) OF PROPOSED PROFESSIONAL STAFF

1. **Proposed Position** [*only one candidate shall be nominated for each position*]: __________

2. **Name of Firm** [*Insert name of firm proposing the staff*]: ______________________________

   ____

3. **Name of Staff** [*Insert full name*]: ____

4. **Date of Birth**: ______________________________**Nationality**: ________________________

5. **CNIC No (**if Pakistani**):**______________________**or Passport No:** ____________________

6. **Education** :

Degree	*Major/Minor*	*Institution*	*Date (MM/YYYY)*

7. **Membership of Professional Associations**: ____

   ____

8. **Other Training** [*Indicate significant training since degrees under 6 - Education were obtained*]:

   ____

   ____

9. **Languages** [*For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing*]:

   ____

10. **Employment Record** [*Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.*]:

Employer	*Position*	*From (MM/YYYY)*	*To (MM/YYYY)*

11. Detailed Tasks Assigned

[*List all tasks to be performed under this assignment*]

12. Work Undertaken that Best Illustrates Capability to Handle the Tasks Assigned

[*Among the assignments in which the staff has been involved, indicate the following information for those assignments that best illustrate staff capability to handle the tasks listed under point 11.*]

1) Name of assignment or project: ______________________________

Year: ______________________________

Location: ______________________________

Employer: ______________________________

Main project features: ______________________________

Positions held: ______________________________

Activities performed: ______________________________

2) Name of assignment or project: ______________________________

Year: ______________________________

Location: ______________________________

Employer: ______________________________

Main project features: ______________________________

Positions held: ______________________________

Activities performed: ______________________________

3) Name of assignment or project: ______________________ Year: ______________________ Location: ______________________ Employer: ______________________ Main project features: ______________________ Positions held: ______________________ Activities performed: ______________________
4) Name of assignment or project: ______________________ Year: ______________________ Location: ______________________ Employer: ______________________ Main project features: ______________________ Positions held: ______________________ Activities performed: ______________________
5) Name of assignment or project: ______________________ Year: ______________________ Location: ______________________ Employer: ______________________ Main project features: ______________________ Positions held: ______________________ Activities performed: ______________________

13. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

____ Date: ______________

[Signature of staff member or authorized representative] *Day/Month/Year*

Full name of authorized representative:

<u>Note:-</u>

a) CVs need to have been recently signed by the Professional staff by them with date in blue indelible ink and countersigned by the authorized official of the firm. Photo copy or unsigned or countersigned CVs shall be rejected.

ii) In case of foreign professionals, CV of foreign professional staff only needs not to be recently signed by them with date in blue indelible link due to spread of COVID-19, moreover, mobile number of foreign professionals shall also be provided.

FORM TECH – 7 PROFESSIONAL STAFFING SCHEDULE[1]

Full Time
Part Time

Year: 2019-20																
No	Name of Staff	1	2	3	4	5	6	7	8	9	10	11	12	Home	Field[3]	Total
1		[Home]														
		[Field]														
2																
3																
For Local Professional Staff																
1		[Home]														
		[Field]														
2																
3																

1. For Professional Staff the input should be indicated individually; for Support Staff it should be indicated by category (e.g: draftsmen, clerical staff, etc.).
2. Months are counted from the start of the assignment. For each staff indicate separately staff input for home and field work.
3. Field work means work carried out at a place other than the Consultant's home office.

FORM TECH-8 FINANCIAL CAPABILITIES

ii) Total Assets = (in Million Pak Rs or US$)

iii) Total Liabilities =

iv) Annual Turnover

For the year		
2016-17	2017-18	2018-19

For assessment purpose average turnover of last three years shall be considered for Joint Venture / Consortium. Average turnover will be summed for evaluation.

(In case of Joint Venture / Consortium please provide above information for all partners and average annual turnover of firm having high value shall be considered)

SECTION 4: FINANCIAL PROPOSAL - STANDARD FORMS

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal.

FIN-1 Financial Proposal Submission Form

FIN-2 Summary of Costs

FIN-3 Breakdown of Cost for Local Component and Foreign Remittance

FIN-4 Breakdown of Remuneration of Staff deployed

1. Consultancy services covering all activities related to detailed engineering of the project.
ii) Transaction Advisory Services for bid process management covering preparation of RFP/bid documents and required assistance to employer in processing and finalizing of bids etc.

FIN-5 Breakdown of Reimbursable Expenses

FORM FIN-1 FINANCIAL PROPOSAL SUBMISSION FORM

(***Please submit on Company's Letterhead***)

[*Location, Date*]

To:

The Chief Engineer/Survey & Construction,
Pakistan Railway,
Headquarter Office,
Lahore.

SUBJECT:- FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES FOR:-

CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.

Dear Sir,

We, the undersigned, offer to provide the Feasibility Study and Transaction Advisory Services for Construction and Operation of New Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP Mode for Employer in accordance with your Request for Proposal and our Technical Proposal. Our attached Financial Proposal is for the sum of [*Insert amount(s) in words and figures*]. This amount is inclusive of all taxes.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Agreement negotiations, up to expiration of the validity period of the Proposal.
No commissions or gratuities have been or are to be paid by us to agents relating to this Proposal and Agreement execution.

We understand you are not bound to accept any Proposal you receive.
We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: ______________________________
Name and Title of Signatory: ______________________________
Name of Firm: ______________________________
Address: ______________________________

FORM FIN-2 SUMMARY OF COSTS

(Pak Rupees)

Item	Cost	
	In Figure	**In Words**
1. Cost of Feasibility Study for Construction and Operation of New Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP Mode.		
2. Cost of Transaction Advisory Services for Construction and Operation of New Double Line Freight Corridor from Karachi (Kemari) to Marshalling Yard (Pipri) on PPP Mode.		
Total (1+2)		

Note:-

1) Cost of Feasibility Study & Transaction Advisory Services should be inclusive of all taxes, overheads and any other cost required to complete the assignment as per TOR.
2) The bid cost is the total of item No.1 & item No.2 as above.
3) Any tax imposed by the Government after submission date of RFP shall be paid separately to Consultant, in addition to accepted Financial Proposal.

Authorized Signature of Consultant

FORM FIN-3 BREAKDOWN OF COST FOR LOCAL COMPONENT AND FOREIGN REMITTANCE

(Pak Rs)

Item	**Amount**		
	Payment of Local Staff & other expenditure	**Payment of Foreign Staff & other expenditure required to be remitted to home country**	**Total**
i. Cost of Feasibility Study for Construction and Operation of New Double Line Freight Corridor from Karachi (Keamari) to Marshalling Yard (Pipri) on PPP			
ii. Cost of Transaction Advisory Services for Construction and Operation of New Double Line Freight Corridor from Karachi (Kemari) to Marshalling Yard (Pipri) on PPP Mode.			
Total (1+2)			

Note:-

a) All payments shall be made in Pak Rupees, however the above breakup is to facilitate the Consultant for remittance of remuneration (in case of foreign Consultant).

b) The bid cost is the total of item No.1 & item No.2 as above.

Authorized Signature of Consultant

FORM FIN-4 BREAKDOWN OF REMUNERATION OF STAFF DEPLOYED FOR FEASIBILITY STUDY AND TRANSACTION ADVISORY SERVICES

Name[2]	**Position**[3]	**Staff-month Rate (PKR)**[4]
Foreign Professional Staff		
		[Home]
		[Field]
Local Professional Staff		
		[Home]
		[Field]

1. Form FIN-4 shall be filled in for the same Professional and Support Staff listed in Form TECH-7.
2. Professional Staff should be indicated individually; Support Staff should be indicated as per category (e.g.: draftsmen, clerical staff)
3. Positions of the Professional Staff shall coincide with the ones indicated in Form TECH-5.
4. Indicate separately staff-month rate for home and field work.

FORM FIN-5 BREAKDOWN OF REIMBURSABLE EXPENSES

(Information to be provided in this Form shall only be used to establish payments to the Consultant for possible additional services requested by the Employer).

N^o	**Description[1]**	**Unit**	**Unit Cost (Pak Rupees)**
	Per diem allowances	Day	
	International Flight[2]	Trip	
	Miscellaneous travel expenses	Trip	
	Communication costs between [Insert Place] and [Insert Place]		
	Drafting , reproduction of reports		
	Equipment, Instruments, materials, supplies		
	Shipment of personal effects	Trip	
	Use of Computers , software		
	Laboratory tests / surveys.		
	Sub agreements		
	Local transportation costs		
	Office rent, clerical assistance		
	Training of Employer' personnel		

a) Delete items that are not applicable or add other items if required.
b) Indicate route of each flight, and if the trip is one-or two-ways.

TERMS OF REFERENCE (TOR)

FOR

FEASIBILITY STUDY AND
TRANSACTION ADVISORY SERVICES

FOR

<u>CONSTRUCTION AND OPERATION OF NEW DOUBLE LINE FREIGHT CORRIDOR FROM KARACHI (KEAMARI) TO MARSHALLING YARD (PIPRI) ON PPP MODE.</u>

SEPTEMBER, 2020

1. INTRODUCTION

The Karachi Port Trust (KPT) ever since the independence of Pakistan has remained the premier sea port of Pakistan and is presently handling around 60% of the seaborne trade of the country. KPT’s existing channel is 11.5 kms long and 13m deep. It has been extended by about 4 kms with approach depth of 16 meters to Pakistan Deep Water Container Terminal (PDWCT). The first phase of PDWCT has been completed comprising four (04) berths out of which 2 are presently in operation.

KPT complex consists of thirty dry cargo berths and three liquid cargo handling berths. Nine dry cargo berths in KPT are being operated by Karachi International Container (KICT) and Pakistan International Container Terminal (PICT). The KPT strategic Planning envisages to establish state of the art facilities to deal with the future port requirements at par with a modern international port. The crux of the concept is swift evacuation of the cargo handled at the sea port via road and or rail which together play a important role for the efficiency of the port.

The KPT improved upon the port efficiency within the bounded area, by terminal based containerized cargo (KICT, PICT & SAPT @ West Wharf, East Wharf and PDWCT respectively) and invested in the port’s basic infrastructure and thus undertook phased reconstruction of 10-17 berths at East wharf & development of Pakistan deep water container port (PDWCP) at Keamari. The South Asia Pakistan Terminal (SAPT) is presently catering for 1.5 million TEUs which is projected to increase to 3.0 million TEU’s with full operation of all berths. This capacity is more than combined capacity of existing container terminals known as KICT and PICT. The existing rail network within KPT area either require rehabilitation or reconstruction to establish rail as a viable option to swiftly move the cargo to Marshalling Yard (Pipri) where other formalities of processing the cargo can be undertaken.

For the purpose of construction of dedicated freight corridor from Karachi Port to Marshaling Yard (Pipri), it is imperative to carry out a comprehensive Technical, Financial and Commercial Feasibility Study alongwith Transaction Advisory Services for the construction and subsequent operation of the project under PPP mode, beside under the same arrangement, an Inland Container Depot (ICD) will be developed at Marshalling Yard (Pipri) on PPP mode which will serve as Extended Gate Facility of Karachi Port Trust.

2. OBJECTIVE

The main objectives are to conduct Technical, Financial & Commercial Feasibility Study and Transaction Advisory Services for new dedicated rail freight corridor to operate shuttle freight trains between Karachi Port Trust (KPT) and Marshalling Yard (Pipri) besides up-gradation / rehabilitation of en-route railway yards. The main objectives are as under:

a) Decongest the port and road infrastructure that has been over saturated for a decade.
b) Decongest the outer connectivity by reducing the traffic intensity from surrounding road ways of KPT that serve as present primary accessibility to the Karachi Port.
c) Improve and bring about the Port efficiency and capacity Terminal Cargo handling within the KPT and the container Terminals i.e. KICT, PICT and SAPT.
d) Utilize and maximize the port infrastructure in terms of existing rail network, its rehabilitation and connectivity.
e) Establish Inland Container Depot (ICD) at Marshalling Yard (Pipri) as Extended Gate Facility of KPT.

3. Scope of Services for Technical and Financial Feasibility Study.

The scope of work for the services comprises, but shall not be limited to preparation of the Feasibility Study for the project, including structuring of the Transaction, preparation & negotiation of the concessionary agreement required to the financing and the financial close of the project for Construction and Operation of dedicated freight corridor from Karachi (Kemari) to Marshalling Yard (Pipri) on PPP basis including any improvements needed at Port Qasim, review of existing rail infrastructure (at ports and at terminals etc), propose up-gradation / reconstruction as required, beside study should also assess the characteristics of existing railway assets and operations on Karachi (Keamari) to Marshalling Yard (Pipri) section along existing ML-1.

For detailed understating of design parameters and in case of any conflict or ambiguity the guiding document will be AREMA manual (latest) for all of the different parts and sections of the study. For areas where AREMA manual is found limited in its elaboration or detail, other well established international codes such as AASHTO, UIC, European Codes or other regional Codes/Manuals can also be followed with approval of the client.

All information, data, procedures, standards etc. provided by the consultant in the various fields and areas of the feasibility study & Transaction Advisory Services shall be properly referenced leaving no ambiguity whatsoever.

3.1 TECHNICAL FEASIBILITY STUDY

3.1.1 Assessment of existing Infrastructure & other allied items and Facilities

Assessment of existing infrastructure & other allied items and facilities within Karachi Port area, Karachi City, Karachi Cantt and other railway yards in the Karachi Metropolitan Area.

3.1.2 Reconnaissance Survey

A. An extensive reconnaissance survey shall be conducted by the Consultant in order to assess the existing conditions and possible alignments passing through the obligatory points. The Consultant can also make use of topographic sheets of Survey of Pakistan for acquiring knowledge of the area.

B. In addition to physical survey of the area the Consultant shall acquire satellite image of the area and make use of it to ascertain the topography and other features in that area.

C. The reconnaissance survey, for minimum three probable alignments will involve rough and rapid inspection of the area in order to ascertain general outline of the topography, both visual and instrumental and various physical characteristics between two predetermined points marked on the maps. The objectives of reconnaissance survey shall generally be:-

i. Acquire the knowledge of physical features of the area such as rivers, streams, channels/canals, bridges, valleys, mountains, cultivated lands, forests, villages/towns, existing roads etc. for deciding an appropriate alignment.

ii. Collect geological information including but not limited to the following points:-

   a) Nature of soil.
   b) Surface formation of the ground.
   c) Dip of the existing rocks.
   d) Hill slopes.

iii. Collect information regarding availability of construction materials, labour and sources of water as permanent facilities for the proposed alignment.

iv. Have an idea about the most probable alignment keeping in view the physical site constraints.

v. Have an idea of rivers, canals and streams, which may cross the proposed alignment for determining suitable bridge sites for these. (Width and depth of flow and direction of flow).

vi. Locate various control points or obligatory points to decide from where the alignment shall pass and from where the alignment shall not pass.

vii. Decide the geometrical features of the alignment i.e. maximum curvature and gradient.

viii. Approximate elevation of the area along the proposed alignment.

3.1.3 Route Selection.

a) The Consultant shall develop at least three potential conceptual level alignments based on the reconnaissance survey of the area. Preliminary profile shall also be prepared for each alignment for the sake of comparison. The Consultant shall carry out SWOT analysis of each alignment, developing evaluation criteria, including construction cost, operational considerations and traffic projections.

b) Thereafter, the Consultant shall submit a Route Selection report to the Employer. Necessary inputs, where needed, shall be made by the Employer. Based on this report the most suitable alignment shall be finalized with the approval of the Employer for subsequent detailed survey.

c) Before finalizing the new alignment, various computer generated alternates with varying degrees of curvature and grades, with computation of corresponding quantities of earth work & cuttings etc shall also be produced by the Consultant to facilitate decision making by the Employer.

3.1.4 Topographic Survey / Plan & Profile of the Entire Corridor

After finalization of the route by the Employer, the Consultant shall carry out topographic survey of the selected route / alignment by ground survey method.

3.1.4.1 Monumentation for the Permanent Control Points

a) The Consultant shall establish Permanent Survey Control Points, to be used as reference system. In this regard Permanent Ground Markers, made of precast concrete, of size 15 cmx15 cmx75 cm or 4 inch dia PVC pipe filled with 1:2:4 PCC duly reinforced with suitable 1 cm dia steel rod or steel nail in the center shall be fixed at every railway station but not more than 10 Kilometer apart.

b) Description of all the monuments along with photographs will be prepared by the Consultant and included in the Report.

3.1.4.2 Horizontal Control

a) Horizontal control for topographic survey shall be established by intermediate traversing. The traverse circuits shall be started and closed on the GPS monuments already established during the above mentioned GPS survey. The transverse monuments measuring 15cm x15cm x75cm shall be fixed at 5 km interval.

b) After verifying the accuracy of traverse circuit at known survey of Pakistan (SOP) control points, the plane control shall be calculated using scale factor. These plane coordinates shall be used for project survey.

c) Azimuths shall be checked by Polaris/Solar observations at 10 to 15 Km interval. The minimum acceptable accuracy of the traverse line shall be 1/10,000 or better.

3.1.4.3 Vertical Control

a) Vertical control shall be provided by double leveling based national datum established by Survey of Pakistan.

b) All the traverse points/ground markers established during horizontal control shall be connected to the leveling net.

c) Vertical mis-closure within the leveling net shall not exceed + 10 K mm where K is the length of leveling line in kilo-meter.

3.1.4.4 Topographic Strip Survey

a) The Consultant shall carry out topographic survey of the approved route. For the portion of approved route falling within Railway Right of Way (ROW) the topographic survey should cover ROW on either side of the track but not less than 50 meter. For the portion falling outside Railway ROW the survey should be for 100 meter on either side of track.

b) The topographic strip survey shall show the position, levels and lines of existing structures and their features, carriage ways, road shoulders, ridges, cliffs, river beds and banks, embankments etc.

c) For bridges angle of skew & up-stream DN. stream bed levels shall be observed for all crossings water courses, canals, channels etc at sufficient spots. Water courses, canals/channel levels will be taken as strings upto 100 meters from the centerline.

d) The important rivers shall be surveyed for a distance of 7.5 Km upstream and 1.5 Km downstream including spill channels etc. Cross-sections of river bed shall be taken at suitable points and their position marked on the plan. The level of highest known flood and ordinary low flood shall be noted on each cross-section. In case it is considered desirable to divert the course of river or stream, the best method of doing so shall be examined in consultation with the Employer and necessary topographic survey and cross-sections be made.

e) Surface Coordinates of selected monuments shall be established by Global Positioning System (GPS) at 10 Km interval and shall be checked with Survey of Pakistan control points in the vicinity of the area of work, intermediate traverse with total station.

f) Survey of Pakistan (SOP) control points or UTM shall be used for carrying out topographic survey. The horizontal and vertical traverse of survey should also be closed on the nearest available control point established during survey of up-gradation of ML-1.

g) Topographic survey of the alignment corridor will be carried out by both DGPS and EDM tachometry method or to use other latest gadgets having more precision. The control points already established will be used for this purpose. Some additional control points will also be established, to facilitate topographic survey works along rivers. The data will be saved in raw form, so that if there is any change in datum the data can be recomputed without any problem.

h) All man-made and natural physical features within route corridor will be surveyed. Ground levels will be surveyed in the shape of cross sections at appropriate interval and cover topographic features as well as ditches, road edges and buildings and installations. The cross sections alignment will be kept perpendicular to center line. The interval will be maximum distance 1 km in straight line and flat area and will be reduced in the reaches where the terrain and / or alignment changes sharply as well as at crossings and in built up areas. The cross section interval will be marked approximately by pacing etc.

3.1.4.5 Plan and Profile of the Entire Corridor

a) The Consultant shall prepare plan and longitudinal profile of digital terrain model for final approved route.

b) Longitudinal profile at the center of the proposed alignment shall be plotted on 1/1000 horizontal and 1/100 vertical or any other suitable scale in consultation with Employer.

3.1.4.6 Marking of Major Track Components and Fixtures

The Consultant shall mark, but not limited to, the following on topographic sheets / drawings showing detailed data of each:

a) Bridges
b) Location (kms) and Bridge Number.
c) Sketch of Bridge.

d) Type of Bridge.
e) Total Span with width of each span.
f) Digital Photograph
g) Curves
h) Location (kms from – to--).
i) Length of Curve.
j) Degree / Radius of Curve.
k) Circular or Transition.
l) Length of transition
m) Super Elevation

3.1.4.7 Units of Measurement

The linear measurement units will be metric and the angular measurement units will be in degrees, minutes and seconds.

3.1.4.8 Data Processing & Production of Drawings

a) The topographic survey data, electronically recorded in GNSS memory will be downloaded into laptops which will be available with survey crew at site. The data shall be processed and checked at the site for quality and gaps if any.

b) Further, the observed data will be digitized in the AutoCAD software in the form of point line and polygon. The digitization of the features will be done by creating the feature layers in the AutoCAD software. The different feature layers will have the unique colour, code and symbols so that they can be well distinguished from the other features. Finally, the layouts were prepared on scale 1:2500 for Horizontal and 1:100 for Vertical for the entire alignment and 1:1000 for station areas.

c) For major crossing of roads and highways longitudinal profiles at scale 1:1.000 / 100 will be submitted. All drawings will be prepared in A3 format.

3.1.4.9 Preparation & Submission of Topographic Survey Report

This Report shall include the results of topographic survey carried out, as described in above paragraphs.

3.1.5 Geotechnical and Geological Investigations

3.1.5.1 The Consultant shall carryout but not limited to the following field testing:

a) Surface Geological Mapping (100 meter corridor)
b) Test Pits (1.5x1.5x1.5 meter), maximum 5 kms apart.

c) Sub-surface Drilling (Total depth of all Boreholes) 300m for identification of sub soil strata, Standard Penetration Test (SPT), Rock Quality Designation (RQD), maximum 05 kms apart particularly at the locations of bridges.

d) Field Permeability Test, maximum 10 kms apart.

In addition to above proposed tests, Consultant shall carryout the additional test as deemed appropriate to complete the assignment and preparation of report.

3.1.5.2 The Consultant shall carryout but not limited to the following lab testing:

a) UCS (Unconfined Compressive Strength)

b) Point Load Test

c) Tensile Strength Test (Brazilian Test)

d) Density Test

e) Grain Size analysis

f) Specific Gravity

g) Tri-axial Test

In addition to above proposed tests Consultant shall carryout the additional test as deemed appropriate to complete the assignment and preparation of report.

3.1.5.3 In addition to the field and lab testing Consultant shall also provide following information:

a) Identification of potential borrow pit areas.

b) Identification of locally available sources in the vicinity of proposed alignment for coarse and fine aggregates for concrete works and use as ballast.

c) Identification of sources of water.

d) General geology and topography of the area and their possible effects on the proposed embankment and foundations.

3.1.5.4 The Consultant shall collect and interpret of following data from Geological survey of Pakistan and other concerned departments with reference to the proposed alignments.

a) Geological maps.

b) Location of geological fault lines.

c) Earthquake records.

3.1.5.5 The Geotechnical Investigation report should comprise, but not limited to the following:

a) Bearing Capacity Curves for Shallow foundation

b) Pile Capacity Curves for deep foundation

c) Values of Horizontal and Vertical Modulus of sub grade reaction KH and KV should be presented in report.

d) Type of foundations required for culverts & bridges.

e) Requirement of protection works against landslides.

f) Results of all tests / investigations and Recommendations.

3.1.5.6 Hydrological Study

The Consultant shall carryout hydrological investigations with the analysis of rainfall and flood records supplemented by detailed field investigation for providing cross-drainage structures, where required, after proper hydrological and drainage evaluation.

Information will be collected from each site and desktop studies, comprising the evaluation of the following parameter.

a) Evidence of flooding.
b) Water logged areas, slushy/marshy lands called “humans”.
c) Saline area.
d) Waterway area of existing structures.
e) Nature of the stream bed.

3.1.5.7 Meteorological Data

Hydro meteorological data for the relevant rainfall stations will be collected from government meteorological offices and other agencies, for rainfall intensity, duration and frequency analysis.

3.1.5.8 Flood Records.

Available flood flow data of major streams at or near their crossing points will be collected from concerned department and other concerned agencies. Dependable high water marks for major rivers crossing project routes will be collected by site inspection and by local enquiry from the residents.

Major structures on the roads adjacent to proposed railway alignments may have withstood unusual floods after their construction, Information on any such occurrences and the depth of flooding will be collected from the concerned departments and residents of the area.

3.1.5.9 Irrigation Canals

The following data on irrigation canals adjacent to or crossing the project route will be obtained from the Provincial Irrigation Department or WAPDA as the case may be:-

a) Maximum design discharge
b) Velocity of flow in the canal bed
c) Bed level and full supply level including freeboard
d) Bed width, top width, bed and side slopes
e) Closure period of canal
f) Any future planning of new canals, scrap drains etc.

3.1.5.10 Catchments

Topographic maps on 1:250,000 and 1:50,000 scale for the relevant railway crossing locations will be collected from Survey of Pakistan (SOP) offices to plan meter the catchment areas, evaluate their hydrological characteristics and analyze drainage regimes.

Major structures on the roads adjacent to proposed railway alignment may have withstood unusual floods after their construction information on any such occurrences and the depth of flooding will be collected from the concerned departments and residents of the areas.

3.1.5.11 Site Plans

Site plans for major streams/rivers crossing sites shall be obtained from the topographic survey. The plans will show important features and the cross section of such streams and rivers.

3.1.5.12 Evaluation

Hydrological analysis shall be conducted to determine the discharge of streams crossing the rail-road and to calculate waterway structure and hydraulic capacity. In this respect, the Consultant will undertake the following activities.

a) Compile daily rainfall data for the relevant stations
b) Prepare Intensity-Duration-Frequency curves
c) Calculate catchment areas, stream lengths and slopes from SOP maps
d) Calculate stream discharge and associated waterway openings for streams crossing the railway line.
e) The following major parameters shall be kept in view for streams crossing the railway line.
f) Maximum flood discharge for a 100 year return period for bridges.
g) Maximum flood discharge for a 50 years return period for culverts
h) Velocity of flow at peak discharge.

The hydrological investigations shall comprehensively examine the phenomenon of flash floods in hilly areas where even sporadic rains result in enormous discharge inundating embankments and structures. The railway line shall be so laid as to completely avoid or mitigate the effects of hill torrents in order to make it an all-weather line.

3.1.6 Hydrological Analysis

For hydrologic analysis and design applicable computer software such as HEC-1, HEC-2, HECWRC, WSPRO, HEC-RAS, HEC-HMS or other in-house programs may be used by the Consultant in consultation with the Employer.

Protection work and precautions to be taken against scour of rivers and streams and particulars of diversions proposed. The probable depth and character of foundations of bridges & culverts and any particulars to be taken into account as affecting the design of the construction of the same.

For rivers requiring a waterway of 100 meters or more information shall, as far as possible, be obtained regarding all circumstances likely to affect the design of the bridge, the water way to be provided, the depth and character of the foundation and other details. The level of the highest flood determined from careful inquiries, any special floods with particulars and dates, any peculiarities of the drainage area as regards form and declivity and geological or botanical conditions likely to affect the velocity of the flood discharge. Physical characteristics of the bridge site or the river bed in its vicinity as affecting the design of the bridges or the amount of waterway required. Evidence of scour or liability of the river to alter its course.

3.1.7 Design of Railway Alignment Conforming to the Prescribed Track Parameters.

3.1.7.1 Computer Aided Design of the Railway Alignment:-

The Digital Terrain Model of the existing alignment, prepared on the basis of the Topographic strip survey, shall be used as the basis for the computer aided design of the railway alignment, conforming to the new track parameters defined in Appendix-A of this Terms of Reference, by using Pro VI or any other similar software.

Particular attention is required from the Consultant to envisage connecting areas of high density and activity in terms of land usage. The rail link itself can lead to high density land usage and human activity which needs to be in terms of economics and overall impact on society.

In case of road crossings, the proposed alignment, angle of skew, width of road metalling, shoulders and top levels of the road surface shall be observed on both sides at adequate spots for plotting X-section proposal for under pass/overhead bridge be submitted.

Final track levels shall be fixed keeping in view the natural ground levels, free board of waterways, type of bridges/culverts and minimum cushion over these and the governing HFLs in the area etc.

3.1.7.2 Final Alignment Plans & Profiles

The approved final alignment shall be presented as plans and profiles to a horizontal scale of 1:2,500 on A3 paper. Larger format can be used with the approval of the Employer. Contours shall be to an interval not exceeding 1m. The plans/profile drawings shall, as a minimum, show the following:

a) Railway centre line with chain-ages at regular intervals, not exceeding 500m;
b) Right-of-way limit;
c) Horizontal and vertical curves with the chain-ages of the salient points shown; and
d) Location (chain-age), brief description and reference of all structures.

3.1.7.3 Typical Cross Sections

An appropriate number of typical cross sections along the approved final alignment shall be prepared showing the existing/natural ground, the proposed construction and other appropriate information. The cross-section will be plotted on 1/200 horizontal and 1/20 vertical scale or as directed by the Employer.

3.1.7.4 Structures

All major structures across the track shall be located and briefly described. These structures shall include bridges, viaducts, tunnels, culverts, etc.

3.1.7.5 Earthwork quantities

The earthwork quantities for the new alignment shall be estimated to the stipulated accuracy. All principal earthworks items shall be considered including common excavation, rock excavation, common fill, rock fill, etc.

3.1.8 Environmental and Resettlement Impact Report

The Consultant will conduct an Environmental Impact Assessment (EIA) / Initial Environmental Examination (IEE) to ensure that the development options under consideration are environmentally sound and sustainable, and that environmental consequences are recognized early in the project cycle and taken into account in the project planning, route selection and design.

EIA/IEE identifies ways of improving the project environmentally and minimizing, mitigating or compensating for adverse impacts.

To conduct this environmental study, the Consultant will follow the guidelines issued by Government of Pakistan from time to time.

3.1.8.1 Preliminary Environmental Status

Environmental Impact study shall assess in detail the potential environmental impact of the proposed action. The purpose of the review will be to discuss the environmental consequences of the proposed action, designed to alert the agency and other decision makers and the public at large as to the environmental risks involved. Environmental impact assessment shall present:-

a) A detailed Description of the proposed action including information and technical data adequate to permit a careful assessment of environmental impact.
b) Discussion of the probable impact on the environment, including any impact on ecological systems and any direct or indirect consequences that may result from the action.
c) Any adverse environmental effects that cannot be avoided.
d) Alternatives to the proposed action that might avoid some or all of the adverse environmental effects including analysis of costs and environmental impacts of these alternatives.
e) An assessment of the cumulative long term effects of the proposed action.
f) Any irreversible or irretrievable commitment of resources that might result from the action or that would curtail beneficial use of the environment.

The construction of railway line may result in environmental degradation if not properly planned for. The following environmental issues will accordingly be addressed:-

a) Air Pollution
b) Noise
c) Soil erosion
d) Habitat destruction, community cohesion
e) Loss of vegetation
f) Loss of wildlife
g) Hydrographic modification
h) Land use change
i) Human resettlement
j) Socio economic alteration
k) Vibrations
l) Disruption of natural landscape.

The Consultant shall prepare a comprehensive report regarding resettlement of affected stake holders and their socio economic impacts along with relocation plans / proposal.

3.1.9 Estimating Land Requirements

The Consultant shall prepare a report indicating total land requirement for laying of double line track, construction of yards/stations & maintenance facilities etc. It is proposed that for laying of track 100 m strip of land shall be required. However the land at proposed station will be 200 m on either side.

The Consultant shall clearly identify the land as proposed above, prepare plans indicating the owner of land, reference of relevant Revenue record etc for onward submission to concerned Revenue authorities to acquire the proposed land. The boundaries of districts and sub-divisions shall be noted and marked on the plans for ease of reference. The plans should be prepared based on geographic coordinates (WGS 1984) so that the land can be located during construction.

The Consultant shall provide the cost / rate of proposed land (DC price and market value) and same should also be incorporated in the cost estimate.

3.1.10 Signaling & Telecommunications

This shall focus on the following points:-

a) Defining signaling and telecommunication system based on traffic forecasts and resulting density of traffic for each section/network.

b) Rules & regulations, local requirements, flexibility for operation etc.

c) Technical design standards of the proposed systems.

d) Study of various modern signaling and telecommunication systems and description of salient design features, broad outline of specifications of the equipment and power supply system etc of the recommended system.

e) Yard lay outs.

f) Signaling and telecommunication plans for the selected routes.

g) Cost estimates of the equipment, recurring expenditure, availability of spares, cost of training etc.

h) Establishment of maintenance workshops and centers, maintenance structure and organization etc.

3.1.11 Rolling Stock

The Consultant shall make a preliminary assessment of workshop, maintenance facilities and define the type of rolling stock to be maintained. The scope of work will include:-

a) Define the type of rolling stock to be maintained

b) Design standards and criteria for the new rolling stock

c) Requirement of rolling stock (locomotives, freight wagons and special stock if any) based on traffic forecasts, location of Loco Sheds, Sick Lines & Washing Lines etc.

3.1.12 Electric Power Study

a) Electricity requirement for official and residential buildings.

b) Identification of source of supply and purchase of electricity.

c) Distribution network for supply to stations, yards, residential/office building, colonies, pumping stations and signaling & telecommunication equipment etc.

d) Location/capacity of pumping stations including ground water exploration.

e) Electric Power Generation, if required.

3.1.13 Study of Marshalling Yard (Pipri) & Design of Inland Container Depot (ICD)

a) The Consultant shall study the existing setup of Marshalling Yard (Pipri) and propose suitable location for development of Inland Container Depot (ICD) to be serve as Extended Gate Facility of KPT. The proposed ICD to be developed as a multi-model terminal and allow a truck terminal for inter-model transferability of cargo, formation and dispatch of railway train to up-country.

b) The Consultant shall consult fleet operators, freight operators, logistic services providers, terminal operators and Port authorities etc to assess the viability, and operational aspects for the proposed ICD, beside assess the changes required (policy, enforcement, infrastructure development etc) for the proposed ICD.

c) The Consultant shall study to stock of the existing infrastructure (rail and road) required for the proposed ICD and proposed any up-grade / reconstruction (if any) and / or proposed new infrastructure required for rail and road operation.

d) The Consultant shall prepare schematic design of proposed ICD for stacking of forecasted freight traffic and subsequent dispatch to up-country through rail and road. The proposed design should be such that it does not infringe existing operation and setup of Pakistan Railway at Marshalling Yard (Pipri).

e) ICD should have proper road and rail linkages for swift entry and disposal of freight.

f) ICD should have maintenance facilities for rolling stock owned by the PPP operator.

3.1.14 Feasibility Study level Design of the Infrastructure

3.1.14.1 Feasibility study level engineering design

a) The Consultant performs the feasibility study level engineering design work. This design must include feasibility study level design of track structure and construction of new bridges.

b) For track for proposed freight corridor will likely to pass through yards of Karachi City and Karachi Cantt, because freight track cannot pass through these yards in isolation. Therefore, the Consultant while preparing engineering design should also remodel the existing yards of Karachi City and Karachi Cantt in particular and other en-route yards in general.

c) The cost of remodeling of existing yards should be prepared and made part of overall cost estimates.

d) There is an alternate route to connect Karachi Port with Main Line (ML-1) between Karachi city and Karachi Cantt. Said alternate route is called Old Keamari Line. Said alternate route should also be studied for alternate or additional connection of Karachi Port Trust with proposed dedicated freight corridor.

e) The Consultant shall prepare a concept design, layout plan including but not limited to cargo transfer platform, trucking port, storage areas, bulk transfer facilities, administration building, facilities for Customs, health and other inspecting agencies etc for the proposed ICD.

   The Consultant shall prepare feasibility design and cost estimates for the construction and operation of the proposed ICD.

f) While preparing design the Consultant must keep in mind the upcoming projects of Up-gradation of ML-1 and Karachi Circular Railway etc.

Feasibility study level Engineering design must be in accordance with the following requirements:

3.1.14.2 Feasibility study level engineering design extent

The Consultant shall perform the project feasibility study level engineering design to an extent/level that will enable the project quantities to be estimated to within an accuracy of +/- 20%.

3.1.14.3 Project feasibility study level engineering design parameters

The Consultant shall perform the feasibility study level engineering design based on the railway design parameters given in Appendix A to these Terms of Reference. These design parameters are for guidance only and the Consultant can modify them using their best professional judgment provided the Employer approval is sought and obtained for any material changes.

3.1.14.4 Feasibility study level engineering design methodology

All feasibility study level engineering design work shall be performed in accordance with the relevant national/international standard specifications subject to the approval of the Employer. The Engineering design methods used shall be the latest and being used widely.

3.1.14.5 Feasibility study level engineering design calculations

Where applicable, the feasibility study level engineering design calculations shall be provided as annexes to the relevant assignment deliverable. The design calculations shall be clear and sufficiently detailed to enable checking by others. The basis of all design decisions (if not calculated) shall be reported. Metric SI units shall be used throughout.

3.1.14.6 Feasibility study level engineering design drawings and brief specifications

The principal output of all feasibility study level engineering design shall be feasibility study level drawings drawn to an appropriate scale supplemented by brief specifications and schedules. The feasibility study level drawings shall be to sufficient detail to enable a third party to take-off quantities and to later perform detailed engineering design. All feasibility study level drawings shall be plotted in color on A3 paper. Metric SI units shall be used throughout.

3.1.14.7 Feasibility study level quantity estimates

For each feasibility study level engineering design, a schedule of estimated quantities for the main items shall be prepared. The quantity take-off sheets shall be provided as an annex to the relevant assignment deliverable. The quantity take-off sheets shall be clear and sufficiently detailed to enable checking by others.

3.1.14.8 Feasibility study level cost estimates

For each feasibility study level engineering design, the Consultant shall derive feasibility study level cost estimates by applying unit rates or lump sums (as appropriate) to the schedule of quantities.

Foreign currency (preferably United States Dollars) and local currencies shall be shown separately.

For foreign currency costs, the following items shall be shown separately:

a) Imported materials, supplies and equipment;
b) Salaries of expatriate staff; and
c) Company overheads and profit.

For local currency costs, the following items shall be shown separately:

a) Right of Way (ROW) acquisition, if any (not to be included in the economic/financial evaluation of the project)
b) Local materials, supplies and equipment; and
c) Salaries and wages of local staff.

Any local taxes and duties shall be indicated separately. The Consultant may be required to explain any unit rate or lump sum which the Employer considers unreasonable. The estimated costs of any environmental or social mitigation measures shall be taken into account.

3.1.15 Preparation of Cost Estimates

The Consultant shall prepare cost estimates for both construction and operation & maintenance including the cost of land acquisition (if required).

The Consultant shall provide the approximate rate (DC Price and market value) of land per acre within the project corridor and in the vicinity shall be ascertained and noted. The boundaries of districts and sub-divisions shall be noted and marked on the plans for ease of reference.

Based on the results of the engineering investigations, the Consultant will prepare feasibility design, estimate quantities of work and costs for each project section. The costs will be given separately for foreign exchange and local currency. Consultant shall also provide separate BOQ’s for land, track, structures, signal, telecom, electrical, earthwork, ballast & sub-ballast locomotives & rolling stock etc.

3.1.15.1 Capital Investment

The initial capital requirements/costs of the proposed new work shall be segmented by major groups as associated with this type of work. These work groups include land acquisitions, with details of land to be acquired, separately for Urban & Rural area, cost of construction, maintenance facilities, locomotives, freight wagons, signaling, telecommunication, electrical and other miscellaneous equipments.

3.1.15.2 Construction cost

The construction cost shall be segregated into major groups such as civil/structural works, track structure, signal & telecommunications, railway facilities, other miscellaneous works etc and contingencies.

3.1.15.3 Railway Operating Cost

The Railway operating costs are extremely peculiar in nature and comprise fixed and variable costs, divided broadly into maintenance of permanent way and other infrastructure, maintenance of equipments, general charges, train service & marketing expenses etc therefore, same shall be carefully worked out.

3.1.15.4 Unit Rate Analysis

With the raw data on the local cost of labour, materials, and equipments collected, basic rates for all anticipated items of work such as track, bridges, ICD and platforms etc. including structural works shall be developed.

3.2 FINANCIAL FEASIBILITY STUDY

The scope of study is to prepare financial model, highlighting the financial viability of the project. The Consultant has to build projections of direct and indirect project revenues, revenue drivers pertaining to each revenue source and Free Cash Flows based on current and future freight traffic (up country and down country) on the new freight corridor between Karachi (Keamari) and Marshalling Yard (Pipri) for the life of project, backed by authentic and verifiable data. This will also include financial risks associated with the project.

3.2.1 Traffic Forecasting

i. Study the volumes and composition of Imports and Exports at Karachi Port Trust (KPT) and build forecasts of the same for 30 years based on Economic and Business data as well as capacity of all terminals at KPT including their expansion plans.

ii. Study the current freight / cargo handled by KPT (including all container terminals) with particular attention to containerized traffic in view the data available with Pakistan Railway (PR), various departments, organizations and field assessments.

iii. Prepare projected growth of freight particularly containerized traffic to be backed by reliable resources, verifiable data, previous studies (if any) and nationally / internationally accepted models / calculations. This may include the use of specific software as a data tool to be shared with the Employer.

iv. Freight volume forecast shall be done for the next 30 years using an appropriate model to be developed by the Consultant. Methodology for determining traffic forecast should be in line with international best practices.

v. Determine & review overall freight traffic growth tendencies by comparing planned development growth and actual achievement in recent years. This should incorporate growth rates established by the Government of Pakistan and other organization (World Bank, ADB etc.) and other similar studies regarding growth rates.

vi. Workout traffic revenues based on traffic forecast by evolving a rationalized tariff structure.

vii. The Consultant shall study the operations of freight from and to KPT for export and import both by road and rail and will also obtain the following information:-

   a. Number of road transport agencies.
   b. Origin and destination of main cargo routes.
   c. Freight rates per ton per km or per TEU to other major cities.
   d. Approximate number of road vehicles arriving and departing the port area.

viii. Based on the current freight traffic and future freight forecast the Consultant shall assess the freight currently available for transportation through rail and also prepare future potential of transportation by rail. The study will segregate the available freight for transportation to up-country and the containerized traffic to be shifted to proposed extended gate of Karachi Port Trust at Marshalling Yard (Pipri).

3.2.2 Financial Analysis

Preparation of robust financial model (addressing base-case and risk-adjusted scenario for various PPP modalities including but not limited to Build-Operate-

Transfer (BOT, Deferred Payments, and Hybrid Structures etc) specifically addressing the following aspects over the entire Project concession period:-

i. Assumptions, clearly categorized as general, revenues & costs, macro-economic and financial markets.
ii. Income statements, statement of cash flows, balance sheets and fixed assets schedules.
iii. Debt schedules and funding sheets highlighting sources and uses of funds.
iv. Valuations showing project Internal Rate of Return (IRR), Equity IRR, Project Net Present Value (NPV), Equity NPV, Pay Back periods (Simple and discounted).
v. Ratio Analysis such as Debt Service, Interest Cover, Project Life Cover, Loan Life Cover and other prominent ratios.
vi. Sensitivity Analysis for critical variables of the project.
vii. Financial implications for the public sector accounting for GOP/Pakistan Railway revenue share from the project, corporate taxes etc.
viii. Financial results for various PPP modalities identified above.
ix. Benefit to Cost and Value for money analysis for both the Public and the Private Sectors.
x. Consultant is required to provide a comprehensive Financial Proposal yielding the greatest benefits to the public exchequer under PPP arrangement.
xi. The study will provide a detailed analysis of the project viability and indicate any Viability Gap Funding (VGF) required to further support the project for its successful implementation.

3.2.3 Economic Analysis

The Consultant shall carry out economic analysis, ascertaining potential benefits and cost impacts, quantifying and monetizing these impacts over a 30 year project evaluation period. Three economic evaluation measures i.e BCR, ENPV & EIRR will be used to present the results of analysis of the proposed rail network in the Public Private Partnership (PPP) mode. The Consultant will support the findings with credible data and explain the methodologies used to reach the evaluation results.

3.2.4 Social Impact Analysis

The Consultant shall also undertake social impact analysis for creation of an extended gate of Karachi port at Marshalling Yard (Pipri). The Consultant shall analyze the disturbance to all kinds of businesses, particularly of private parties due to shifting of most the containers by rail from Karachi (Keamari) to Marshalling Yard (Pipri) and also propose mitigation strategies. The analysis will identify cost of specific social measures deemed necessary to solve the identified issues and to provide additional social benefits, if possible.

3.2.5 Sensitivity analysis

The analysis described above will be built around the traffic projections, estimated capital and operating costs and estimated tariffs for the various types of traffic. The returns reported from these “base case” network evaluations represent the returns expected to be achieved in practice. However, there are significant uncertainties and unknowns at this level of project development. Sensitivity analysis will seek to guide the decision-making process by providing information on the effect on project returns of changes to the base projections and estimates on the project returns.

Sensitivity results will be calculated for each section/network. Sensitivity results will be given in terms of changes to the most meaningful indicator of project performance i.e. the IRR. Sensitivity analysis for each network consists of all combinations of the following conditions.

a) High capital costs at 20% increase in total capital costs
b) Low capital costs at 20% decrease in total capital cost
c) High operating costs at 20% increase in total operations and maintenance (O&M) costs
d) Low operating costs at 20% decrease in total O & M costs
e) High traffic volume at 20% increase in traffic
f) Low traffic volume at 10% decrease in traffic
g) Low tariff at reduction in the tariff level
h) Very low tariff-a further reduction in the tariff level
i) Increase in tax structure by 10%
j) Decrease in tax structure by 10%

The IRR sensitivity result will be presented in a single table for all sections / networks compared to the base condition

3.2.6 Risk Identification and Mitigation Strategies

i. Carry out Risk Assessment for various options and suggest adequate Risk-Sharing and Risk-Mitigation mechanisms keeping in view various PPP modalities in order to ensure the smooth implementation of the project.
ii. Run various scenarios to analyze the impact of Key Risks on the project outcome after discussion with the stake holders.

4. PREPARATION OF REPORTS FOR TECHNICAL AND FINANCIAL FEASIBILITY STUDY.

4.1 Inception Report

The Consultant shall prepare the Inception Report by incorporating the action plan, methodology etc., which, after review and approval by Pakistan Railway, shall not be deemed to supersede or take preference over any requirements mentioned in the TORs which translates into reduction in the scope of work by the Consultant unless agreed "specifically" by the Employer. However, in case the Inception Report and the eventual feasibility report provides some details more than required as per TORs, then it is welcome.

4.2 Reconnaissance Survey Report

After completing reconnaissance survey, the Consultant shall prepare Reconnaissance Survey Report indicating the existing conditions, possible alignments, discussion & comments on topographic sheets obtained from Survey of Pakistan & satellite images of the area and other details as stated in the TORs.

4.3 Topographic Survey/Plan & Profile of the Corridor.

After completing the topographic survey, the Consultant shall prepare Topographic Survey Report. The report shall include all the data as stated in the TOR's.

4.4 Route Selection Report

After completion of reconnaissance and topographic survey and acquiring knowledge of the area, the Consultant shall prepare Route Selection Report in accordance with the requirement of TOR showing three potential conceptual level alignments for each proposed links indicating strengths and weaknesses of each proposed alignment.

4.5 Geological and Geotechnical Report

The Consultant shall prepare a comprehensive report for Geological and Geotechnical. The report should be prepared as per requirements and tests described in the TORs and based on the best engineering practices. The report should be comprehensive and must contain recommendations & conclusion regarding type & design of foundations and protection works for various structures.

4.6 Hydrology Study Report

The Consultant shall prepare a comprehensive report for Hydrology Study based on the hydrological investigations and analysis. The report should be prepared as per requirements described in the TORs and based on the best engineering practices. The report must clearly depicts the proposals for cross drainage structures and other precautionary measures to be taken against excessive rainfall and floods.

4.7 Design of Railway Alignment Report

The Consultant shall prepare a comprehensive report for Railway Alignment as per requirements described in the TORs and based on the best engineering practices.

4.8 Environmental and Resettlement Impact Report

The Consultant shall prepare a comprehensive report relating to environmental issues and particularly the impact of resettlement. The report should be prepared as per requirements described in the TORs and based on the best available practices.

4.9 Land Requirement Report

The Consultant shall prepare a comprehensive report for Land Requirement as per requirements described in the TORs.

4.10 Signaling & Telecommunication Report

The Consultant shall prepare a comprehensive report for Railway Signaling and Telecommunication as per requirements described in the TORs and based on the best engineering practices, particularly indicating the type of signaling & telecommunication system to commensurate with the requirement of line capacity.

4.11 Rolling Stock Report

The Consultant shall prepare a report on Rolling Stock i.e. Locomotives and Carriages & Wagons as per requirement of TORs keeping in view the best international practices for similar nature of terrain.

4.12 Electric Power Study Report

Availability and provision of Electricity for execution and operation of new rail link is of prime importance. The Consultant shall prepare a comprehensive report regarding availability of electricity for whole of the project area, requirement of Power generation (if required). The report should be prepared as per requirements described in the TORs and based on the best engineering practices.

4.13 Feasibility Study level design of infrastructure

The Consultant shall prepare a report on Feasibility Study Level Design of infrastructure as per requirement of TORs. The report should include the following:

a) List of proposed bridges & culverts separately showing size / type and location.

b) List of proposed curves with degree of curvature and locations.

c) List of proposed gradients with locations.

d) List of proposed Level Crossings (if any).

e) List of proposed Road over Bridges and Underpasses (if any)

f) List of proposed Statin Buildings, Offices and Residential Buildings (if any)

g) Proposed Track Data including Rails, Sleepers, Fastenings, Ballast and Sub-Ballast, Turnouts etc.

h) Complete detail of proposed Inland Container Depot.

4.14 Cost Estimates

The Consultant shall prepare a report on Cost Estimates as per requirement of TORs.

4.15 Traffic Forecasting Report

The Consultant shall prepare a comprehensive traffic forecasting report which includes all the data, reviews and analysis to establish traffic projections as per details given in TOR.

4.16 Financial & Economic Analysis Report

The Consultant shall prepare a comprehensive Financial and Economic Analysis report as per details given in TORs. Report shall include Social Impact Analysis, Sensitivity Analysis and Risk Identification and Mitigation Strategies.

4.17 Draft Technical and Financial Feasibility Report

After carrying out various studies as described in the TORs, the Consultant shall prepare and submit a Draft Technical and Financial Feasibility Report which shall include all technical and financial studies made alongwith recommendations and conclusions drawn, there from.

4.18 Final Technical and Financial Feasibility Report

After having discussion with Employer on the Draft Technical and Financial Feasibility Report and receiving comments from the Employer, the Consultant shall prepare Final Technical and Financial Feasibility Report alongwith a thorough Executive Summary to be accompanied by a power point presentation that encapsulates all the key features of the study.

5. TRANSACTION ADVISORY SERVICES

The Transaction Advisory Services shall be provided for Construction alongwith operational responsibilities of new Double Line Freight Corridor from Karachi (Keamari) To Marshalling Yard (Pipri). The scope of Transaction Advisory shall be but not limited to as under:

Financial

a) Carryout risk assessment for the various options and suggest adequate risk-sharing and risk-mitigation mechanism keeping in view various PPP modalities in order to ensure the smooth implementation of the project.

b) Prepare financial model addressing the following aspects.

   i) Assumptions, clearly categorized as general, revenue & costs, macro-economic and financial markets.

   ii) Income statements, statement of cash flows, balance sheets and fixed assets schedules.

   iii) Financial implication for the public sector.

   iv) Propose revenue sharing formula (if applicable) amongst the Employer and private partner.

Legal

(i) Assessing need for obtaining any consents, permission, approvals, etc. required for entering into PPP mode.

(ii) Title of land and determination of any restrictions on the use of land/property in accordance with local, provincial or other applicable laws.

(iii) Assessing various PPP options and suggesting best PPP model.

(iv) Preparation of Bidding Documents including Pre-qualification Document, Request for Proposal (RFP), Concession agreement etc, and develop procurement process for the selection of successful private party.

(v) Formulate a monitoring and reporting mechanism to ensure compliance of private party action as prescribed in the agreement and advising adequate payment and penalty mechanism.

(vi) Devising structures for the implementation of the project including appropriate legal, capital and corporate structure; the proposed corporate set-up for the project could be formation of a project Special Purpose Vehicle (SPV)/ Project company.

(vii) Formulate a monitoring and reporting mechanism to ensure compliance of private party actions as prescribed in the concession agreement and devising adequate payment and penalty mechanism. This mechanism should be simple, effective and practical to expedite the achievement of financial close for the project.

5.1 Phase-I (Transaction Structuring)

In this phase the Transaction Advisor will be expected to carry-out full-fledged bankable Business / Financial Model (addressing all the legal, financial, economic and environmental aspects of the project), suggesting value for money solution to Employer, involving least or no financial contribution by Employer and addressing all other critical aspects of the project. The Business / Financial Model will be submitted to PPPA for approval of the Board of PPPA.

Phase-I, include the following set of activities:-

5.1.1 Task 1: Kick-off Meeting

Within one week from the completion of feasibility study as mentioned in para 4.0 of this TORs, the Transaction Advisor will conduct a kick-off meeting with the representatives of Employer. The objective of this meeting will be to discuss and finalize the detailed plan of activities proposed by the Transaction Advisor. The meeting will cover the following important considerations:

a) Assessment of Employer requirements as per project documents.
b) Finalizing methodology and assessing requirements to complete the assignment within the specified time frame.
c) Adherence of timetable of activities & milestones going forward.
d) Review of the team organization and detailed functions of the team members.
e) Discussion and finalization of communication strategy whereby all stakeholders will be regularly involved and consulted throughout the assignment.
f) Any specific issue requiring immediate attention of Employer.

Under no circumstances the scope of work committed in the Transaction Advisory agreement will be redefined. In this meeting, the Transaction Advisor will present a brief report, containing information about the key issues; mainly relevant to the investor's perspective, which might affect investor interest in the project. The report will also contain recommendations with respect to mitigation of investor concerns on such issues.

5.1.1.1 Deliverables of Kick off Meeting

a) Detailed methodology and time schedule for the assignment.
b) A communication strategy.
c) Progress report to date.
d) A brief report on the identification of key issues relevant from the investor's perspective and/or issues that might affect investor interest in the project, which will also contain recommendations with respect to mitigation of investor concerns on such issues.

5.1.2 Task 2: Site Visit and Review of Relevant Information

This stage will involve Transaction Advisor undertaking site visits and review of any information available with Employer.

5.1.3 Task 3: Preparation of Business / Financial Model

The Transaction Advisor shall study and propose various PPP (BOT basis or any other suitable mode of PPP) models to execute the project on PPP (BOT basis or any other suitable mode of PPP) basis, covering all the legal, organizational, technical, environmental, social and financial aspects along with determining its commercial viability and bankability.

Transaction Advisor will be required to produce a comprehensive report to incorporate any recent changes of data which thoroughly investigates the preferred implementation options and finalize the Transaction Structure covering all legal & regulatory aspects, organizational structures, technical & financial details duly supported by Excel-based financial model reflecting risks & costs and the service levels.

The Business / Financial Model must enable the Employer and PPPA to determine (for each option assessed):-

a) Full life-cycle cost of the project.
b) The duration of the concessionaire period / agreement.
c) Affordability in terms of budgetary provisions and user charges
d) Outputs required in terms of service delivery (service levels standards, performance indicators etc).
e) Risks identified, quantified and its sharing between the public sector and private party
f) Payment and penalty mechanisms
g) Dispute resolution mechanisms
h) The Debt Equity Ratio
i) Corporate and finance structure
j) Uses and sources of finances
k) Viability and bankability
l) Value for money for Employer
m) Analysis of various PPP options
n) Monitoring Mechanism
o) Exit procedure for early termination of the public private partnership agreement.
p) Project insurances and treatment of insurance proceeds.
q) Operation and maintenance requirements.
r) Reversion, transfer or handing back of the project, whether applicable and all the associated assets to Employer upon expiry or termination a public private partnership agreement.

5.1.3.1 Deliverables

Report including

a) A detailed assessment of at least three options and the recommendation regarding most suitable/viable option.
b) An extensive financial evaluation to determine project’s viability and bankability.

c) A robust business and user-friendly financial model (for various proposed PPP structures), recommending the most optimal Project structure. The Excel-based financial model should represent full costs of delivering the Project, as well as risks associated with the project according to the output specification via the preferred feasible structure. Model must be flexible enough to assess the viability and efficiency of the various proposed structures.
d) Devising optimum legal, capital and corporate structures for the smooth implementation of the project.
e) Presentation to Employer on the report, and assistance in the selection and approval of appropriate transaction structure.

5.2 Phase II (Transaction Implementation)

The Transaction Advisor will prepare competitive bidding documents, devising appropriate technical and financial criteria in accordance with prevailing procurement rules of PPRA and guidelines of PPPA; evaluate technical and financial bids; assist Employer in negotiating the concession agreement with the successful bidder.

Phase-II includes the following sets of activities:-.

5.2.1 Task 1 Development of Request for Proposal (RFP) and the Draft Concession Agreement.

The Transaction Advisor will prepare Request for Proposal (RFP), bidding documents and a draft Concession Agreement for the implementation of the project based on PPP framework as prescribed in PPPA, Act 2017 to the extent available. RFP and the draft Concession Agreement should include outputs required in terms of service delivery related to constructing, managing and operating the project; i.e. service level standards, performance indicators, risk-allocation, roles & responsibilities of the private party and Employer, payment and penalty mechanisms etc. These predetermined outputs will enable Employer to carryout transparent and competitive procurement process for the project and carry-out effective monitoring of the private party's overall performance.

RFP and draft Concession Agreement will be submitted to PPPA for obtaining approval of the Board of PPPA. Transaction Advisor will assist Employer in preparation of reply of any queries raised by PPPA and if required also attend meeting with PPPA for obtaining approval of RFP and draft Concession Agreement.

5.2.1.1 Deliverables:

RFP and draft Concession Agreement including:-

a) Draft scope of work, output specifications and service levels
b) Draft of risk allocation, risk mitigation and monitoring mechanisms
c) Draft technical and financial criteria
d) Draft termination and other payments and penalty mechanisms
e) Draft schedules of concession agreement

5.2.2 Task 2 Procurement Process

Based on the chosen structure, competitive tendering process will be initiated by Employer to select the most appropriate private party, which could implement the project most effectively, with least assistance from Employer. The process to be adopted will be transparent with clearly defined evaluation criteria to encourage effective participation by the private sector.

The Transaction Advisor will assist Employer in management of the bidding process including, but not limited to the conduct of the bidding process, bid opening and evaluation of technical & financial bids, recommendations on award, preparation and issuance of Letter of Intent & Letter of Support to the prospective investor (if applicable), negotiations with successful bidder and closing of the project.

Transaction Advisor will also attend pre-bid conference and prepare minutes of meeting and the Addendum to RFP (if required).

5.2.2.1 Deliverables:

a) Minutes of Pre-bid conference after issuance of the RFP.
b) Technical Evaluation Report of technical proposals submitted by bidders.
c) Evaluation of Financial Bids.
d) Consolidated report which includes bids evaluation, selection/appraisal of successful bidder, final agreement and the process of selection
e) Letter of Intent

5.2.3 Task 3 Deal Closure and Signing of the Concession Agreement

After selection and approval of the successful bidder, negotiations on the Concession Agreement shall begin. The Transaction Advisor shall:

a) Assist Employer in negotiating Concession Agreement with the successful bidder, and
b) Update/amend the Concession Agreement to reflect negotiated terms

On completion of Concession Agreement negotiations with the successful bidder the formal procedure for deal closure will be initiated leading to the signing of the Concession Agreement with the successful bidder.

6.0. DELIVERABLES OF TECHNICAL & FINANCIAL FEASIBLITY STUDY AND TRANSACTION ADVISORY SERVICES

6.1. Detail of Deliverables.

(a) Technical & Financial Feasibility Report

The Consultant shall provide ten (10) copies of each of the following deliverables with an editable soft copy on CD/DVD. Detail of deliverables is as under:-

Sr.#	Deliverables
1	Inception Report
2	Reconnaissance Survey Report
3	Topographic Survey/Plan & Profile of the Entire Corridor Report.
4	Route Selection Report
5	Traffic Forecasting Report
6	Geological, Geotechnical and Seismological Studies Report
7	Hydrology Study Report
8	Design of Railway Alignment Report
9	Environmental and Resettlement Impact Report
10	Land Requirement Report
11	Financial & Economic Analysis Report
12	Signaling & Telecommunication Report
13	Rolling Stock Report
14	Electric Power Study Report
15	Feasibility Study Level Design of Infrastructure
16	Cost Estimates
17	Draft Technical & Financial Feasibility Report
18	Final Technical & Financial Feasibility Report along with Executive Summary Report

(b) Transaction Advisory Services

2.1 In addition to deliverables stated against various phases / tasks in item No.6.0 of TOR's the Consultant shall also provide ten (10) copies of following deliverables with an editable soft copy on CD/DVD.

Sr. #	Deliverables
1	Draft Report containing proposed Business / Financial Models, in accordance with TORs including various reports (Financial, Economic, Market & Legal)
2	Final Report containing proposed Business / Financial Models in accordance with TORs.
3	RFP including draft Concession Agreement.

6.2. In addition to above deliverables, the Consultant shall also provide the following.

a) List of Survey of Pakistan control points, standard Bench Marks and Permanent Control and Traverse points, established during survey showing coordinates / descriptions. (5 copies with editable soft copy).

b) Yard Plans and Land Plans (indicating the territory of each district / tehsil etc) (5 copies with editable soft copy).

7.0. GENERAL REQUIREMENTS

a) The Consultant shall sign and stamp the Integrity Pact, as per Standard Format of Pakistan Engineering Council (PEC), in case contract value exceeds Pak Rs. 10.000 Million.

b) Agreement with Consultnat shall be executed based on Standard Format of Pakistan Engineering Council for large projects (LUMP SUM BASED).

c) The Feasibility Study should be bankable, acceptable to national and international financial institutions.

8.0. Mode of Payment

The Employer shall make all payments to the Consultant in Pak Rupees. However, the Employer shall have no objection and shall facilitate the remittance in foreign currency of the remuneration of the foreign partner to the extent of services rendered by it with regard to this consultancy assignment.

8.1. Payment shall be made as per following schedule:

(a) Technical & Financial Feasibility Report

Sr. #	Deliverables	Payment (%age of the cost of the technical & financial feasibility report)
1	Inception Report	5%
2	Reconnaissance Survey Report	5%
3	Topographic Survey/Plan & Profile of the Entire Corridor Report.	10%
4	Route Selection Report	5%
5	Traffic Forecasting Report	5%
6	Geological, Geotechnical and Seismological Studies Report	10%
7	Hydrology Study Report	5%
8	Design of Railway Alignment Report	5%
9	Environmental and Resettlement Impact Report	5%
10	Land Requirement Report	5%
11	Financial & Economic Analysis Report	5%
12	Signaling & Telecommunication Report	5%
13	Rolling Stock Report	5%

14	Electric Power Study Report	5%
15	Feasibility Study Level Design of Infrastructure	5%
16	Cost Estimates	5%
17	Draft Technical & Financial Feasibility Report	5%
18	Final Technical & Financial Feasibility Report along with Executive Summary Report	5%

(b) **Transaction Advisory Services**

Following payment schedule will be followed:-

Sr. #	Deliverables	Payment (%age of the cost of Transaction Advisory Services)
1	Draft Report containing proposed Business / Financial Models in accordance with TORs including various reports.	25%
2	Final Report containing proposed Business / Financial Models in accordance with TORs.	25%
3	Preparation and Issuance of Final EOI / RFP after approval of Business / Financial Model by PPPA.	25%
4	Evaluation of Bids, issuance of Letter of Intent (LOI) to the successful bidder, deal closing.	25%

(c)

The payment will be made after the submission of each deliverable as mentioned in Para-a & Para-b above after its subsequent approval. However, on the request of the Consultant, 20% of the deliverable payment will be released upon submission of invoice.

5% Retention Money will be deducted from each deliverables payments. Retention Money will be returned after six months of completion of the Technical & Financial Feasibility Study and Transaction Advisory Services. Six months starts from the date when Employer issue completion certificate of the project.

9.0. TIME FOR COMPLETION OF ASSIGNMENT

a) Time for completion of the assignment shall be **Twelve (12) months** including mobilization period.

b) Mobilization Period, after signing of Agreement shall be **fifteen (15) days.**

c) Completion period for Feasibility Study in accordance with TOR is **four (04) months**.

d) Completion Period for Final report of proposed Business/Financial Models in accordance with TORs is **two & half (2.5) months** after completion of Feasibility Study.

e) Time for approval of the Project by PPPA is estimated as **two (2.0) months**. During this period, Consultant shall dedicate its staff to assist and coordinate with the Employer for obtaining approval from PPPA.

f) Time for preparation of Bidding Documents/RFP including Concession agreement is **one (01) month** after approval of the project by PPPA.

g) Time for completion of evaluation of bids, issuance of Letter of Intent (LOI) to the successful bidder, deal closing and signing of the contract agreement with the successful bidder shall be **two (02) month** after receiving the bids.

Appendix -A

Sr. No	Parameter	Requirements as per TOR
1	Track Gauge	Broad Gauge (1676mm)
2	Single or Double Track	The entire infrastructure including right of way shall be proposed for double railway track. However construction of single line or double line will be recommended by the consultant based on traffic volume.
3	Proposed Speed	For Passenger trains 160 km/h For Freight Trains 100 km/h (or any suitable speed as advised by Consultant keeping in view the constraints due to terrain)
4 (a)	Proposed trailing load of passenger trains	To be proposed by Consultant
(b)	Proposed trailing load for freight trains	Preferably 3400 tons or as advised by Consultant keeping in view the constraints due to terrain
5	Axle Load	For track 25 M. Ton, For Bridges HMBG Loading
6	Ruling Gradient	Should not be sharper than existing ruling gradients. Easing out where possible to suit speed of 160 Km/hr
7	Curves	Compatible with speed of 160 Km/hr & with parabolic transition
8	Rails	UIC 60 kg/m as per EN standard, continuously welded (CWR)
9	Sleepers	Pre-stressed Mono block Concrete
10	Fastening	Elastic (W-14)
11	Ballast	Crushed Stone, thickness below sleeper as suggested by Consultant
12	Sub Ballast	As suggested by Consultant
13	Line turnouts	60 kg/m rail, angle of crossing to be proposed by the Consultant
14	Signaling & Telecommunication	As suggested by the Consultant
15	Fencing	Station Yards, Populated areas or as suggested by the Consultant.
16	Type of Traction	Diesel Traction (Electric Traction can be suggested by Consultant)