

STANDARD BIDDING DOCUMENT

Procurement of Works

- Single-Stage: Two-Envelope Bidding Procedure -

**Asian Development Bank
December 2016**

**ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF THE PUNJAB
IRRIGATION DEPARTMENT**



Procurement of Works

**BIDDING DOCUMENT
for
Procurement
of**

**REHALITATION AND MODERNIZATION OF
ISLAM BARRAGE**

Issued on:

Invitation for Bids No: TPBIP/ IFB – 06

ICB NO: TPBIP/ ICB-03

Employer: Punjab Irrigation Department, Government of Punjab

Country: Islamic Republic of Pakistan

Preface

This Bidding Document for the Procurement of Works has been prepared by the Punjab Irrigation Department and is based on the Standard Bidding Document for the Procurement of Works (*SBD Works*) issued by the Asian Development Bank dated December, 2016.

ADB's *SBD Works* has the structure and the provisions of the Master Procurement Document entitled "Bidding Documents for the Procurement of Works", prepared by multilateral development banks and other public international financial institutions, except where ADB-specific considerations have required a change.

Table of Contents - Summary Description

VOLUME – I

PART - I BIDDING PROCEDURES

Section 1 -- Instructions to Bidders (ITB)	1-1
This section specifies the procedures Bidders should follow when preparing and submitting their Bids. Information is also provided on the submission, opening, evaluation of bids, and on award of contract.	
Section 2 -- Bid Data Sheet (BDS)	2-1
This section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 (Instructions to Bidders).	
Section 3 -- Evaluation and Qualification Criteria (EQC)	3-1
This section contains the criteria to determine the lowest evaluated bid and the qualifications of the Bidder to perform the contract.	
Section 4 -- Bidding Forms (BDF)	4-1
This section contains the forms to be completed by the Bidder and submitted as part of its Bid.	
Section 5 -- Eligible Countries (ELC)	5-1
This section contains the list of eligible countries.	

PART - II REQUIREMENTS

Section 6 -- Employer's Requirements (ERQ)	6-1
This section contains the Specifications, Drawings, and Supplementary Information that describe the Works to be procured, Personnel Requirements, and Equipment Requirements.	
-- Specifications (Part A) – Special Provisions	

PART - III CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section 7 -- General Conditions of Contract (GCC)	7-1
This section contains the general clauses that govern the Contract. These General Conditions shall be the Conditions of Contract for Construction, Multilateral Development Bank Harmonized Edition, prepared by the Fédération Internationale des Ingénieurs-Conseil (FIDIC MDB Edition, June 2010). These Conditions are subject to the variations and additions set out in Section 8 (Particular Conditions of Contract).	
Section 8 -- Particular Conditions of Contract (PCC)	8-1
This section contains provisions that are specific to each contract and that modify or supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract.	
Section 9 -- Contract Forms (COF)	9-1
This section contains forms that, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.	

VOLUME – II TECHNICAL SPECIFICATIONS AND ENVIRON. MANAGEMENT PLAN

Section 6 -- Employer's Requirements (ERQ)
-- Specifications (Part B) – Special Provisions
-- Environmental Management Plan

VOLUME– III TENDER DOCUMENTS

Section 6 -- Employer's Requirements (ERQ)
-- Tender Drawings

VOLUME–IV SUPPLEMENTARY INFORMATION

Section 6 -- Employer's Requirements (ERQ)
Supplementary Information
(i) Indicative Construction Schedule
(ii) Geotechnical Investigations Report

ABBREVIATIONS

ADB	Asian Development Bank
BDF	Bidding Forms
BDS	Bid Data Sheet
COF	Contract Forms
ELC	Eligible Countries
ELI	Eligibility Form
EQC	Evaluation and Qualification Criteria
EQU	Equipment Form
ERQ	Employer's Requirements
EXP	Experience Form
FIN	Financial Data Form
GCC	General Conditions of Contract
ICB	International Competitive Bidding
IFB	Invitation for Bids
ITB	Instructions to Bidders
LIT	Pending Litigation Form
PCC	Particular Conditions of Contract
PER	Personnel Form
PMO	Project management Office
SBD	Standard Bidding Document

Section 1 - Instructions to Bidders

This Section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, evaluation of bids, and on the award of contract.

Table of Contents

A. General	1-3
1. Scope of Bid	1-3
2. Source of Funds	1-3
3. Fraud and Corruption	1-3
4. Eligible Bidders	1-5
5. Eligible Materials, Equipment, and Services	1-6
B. Contents of Bidding Document	1-6
6. Sections of Bidding Document	1-6
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	1-7
8. Amendment of Bidding Document	1-8
C. Preparation of Bids	1-8
9. Cost of Bidding	1-8
10. Language of Bid	1-8
11. Documents Comprising the Bid	1-9
12. Letters of Bid and Schedules	1-9
13. Alternative Bids	1-9
14. Bid Prices and Discounts	1-10
15. Currencies of Bid and Payment	1-10
16. Documents Comprising the Technical Proposal	1-12
17. Documents Establishing the Qualifications of the Bidder	1-11
18. Period of Validity of Bids	1-11
19. Bid Security/Bid-Securing Declaration	1-12
20. Format and Signing of Bid	1-13
D. Submission and Opening of Bids	1-14
21. Sealing and Marking of Bids	1-14
22. Deadline for Submission of Bids	1-15
23. Late Bids	1-15
24. Withdrawal, Substitution, and Modification of Bids	1-15
25. Bid Opening	1-15
E. Evaluation and Comparison of Bids	1-17
26. Confidentiality	1-17
27. Clarification of Bids	1-17

28. Deviations, Reservations, and Omissions.....	1-18
29. Examination of Technical Bids	1-18
30. Responsiveness of Technical Bids	1-18
31. Nonmaterial Nonconformities	1-19
32. Qualification of the Bidder	1-19
33. Correction of Arithmetical Errors	1-19
34. Conversion to Single Currency.....	1-20
35. Margin of Preference	1-20
36. Evaluation of Price Bids	1-20
37. Comparison of Bids.....	1-21
38. Employer's Right to Accept Any Bid, and to Reject Any or All Bids.....	1-21
F. Award of Contract.....	1-21
39. Award Criteria.....	1-21
40. Notification of Award	1-21
41. Signing of Contract.....	1-21
42. Performance Security	1-22

Section 1 - Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids (IFB) indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues this Bidding Document for the procurement of Works as specified in Section 6 (Employer's Requirements). The name, identification, and number of contracts of the international competitive bidding (ICB) are provided in the BDS.
 - 1.2 Throughout this Bidding Document,
 - (a) the term "in writing" means communicated in written form and delivered against receipt;
 - (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
 - (c) "day" means calendar day.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated in the BDS has applied for or received financing (hereinafter called "funds") from the Asian Development Bank (hereinafter called "ADB") toward the cost of the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued.
 - 2.2 Payments by the ADB will be made only at the request of the Borrower and upon approval by ADB in accordance with the terms and conditions of the Financing Agreement between the Borrower and ADB (hereinafter called "Financing Agreement"), and will be subject in all respects to the terms and conditions of that Financing Agreement. No party other than the Borrower shall derive any rights from the Financing Agreement or have any claim to the funds.
3. **Fraud and Corruption**
 - 3.1 ADB's Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB
 - (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - (ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

- (iv) “collusive practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (v) “obstructive practice” means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents, or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or (e) materially impeding ADB’s contractual rights of audit or access to information; and
 - (vi) “integrity violation” is any act which violates ADB’s Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB’s Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
 - (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;
 - (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB’s Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and
 - (e) will have the right to require that a provision be included in bidding documents and in contracts financed by ADB, requiring Bidders, suppliers and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

¹ Whether as a Contractor, Nominated Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document). A Nominated Subcontractor is one that either has been (i) included by the Bidder in its prequalification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder’s prequalification application or the bid; or (ii) appointed by the Employer.

- 3.2 Furthermore, Bidders shall be aware of the provision stated in Subclause 1.15 and 15.6 of the Conditions of Contract.

4. Eligible Bidders

- 4.1 A Bidder may be a natural person, private entity, or government-owned enterprise subject to ITB 4.5—or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. In the case of a Joint Venture,
- (a) all partners shall be jointly and severally liable; and
 - (b) the Joint Venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the Joint Venture during the bidding process and, in the event the Joint Venture is awarded the Contract, during contract execution.
- 4.2 A Bidder, and all parties constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 4.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in the bidding process if any of, including but not limited to, the following apply:
- (a) they have controlling shareholders in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e) a Bidder participates in more than one bid in this bidding process, either individually or as a partner in a joint venture, except for alternative offers permitted under ITB 13 of the Bidding Document. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms of ITB 4.3(a)-(d) above, this does not limit the participation of a Bidder as a Subcontractor in another Bid or of a firm as a Subcontractor in more than one Bid; or
 - (f) a Bidder or any affiliated entity, participated as a Consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
 - (g) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the contract.

- 4.4 A firm shall not be eligible to participate in any procurement activities under an ADB-financed, -administered, or -supported project while under temporary suspension or debarment by ADB pursuant to its Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by ADB, or enforced by ADB pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.
- 4.5 Government-owned enterprises in the Employer's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Employer.
- 4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.7 Firms shall be excluded if by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country or any payments to persons or entities in that country.
- 4.8 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.
- 5. Eligible Materials, Equipment and Services**
- 5.1 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as defined in ITB 4.2 above and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment, and services.
- 5.2 For purposes of ITB 5.1 above, "origin" means the place where the materials and equipment are mined, grown, produced, or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

B. Contents of Bidding Document

- 6. Sections of Bidding Document**
- 6.1 The Bidding Document consist of Parts I, II, and III, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB 8.
- PART I Bidding Procedures**
 Section 1 - Instructions to Bidders (ITB)
 Section 2 - Bid Data Sheet (BDS)
 Section 3 - Evaluation and Qualification Criteria (EQC)
 Section 4 - Bidding Forms (BDF)
 Section 5 - Eligible Countries (ELC)
- PART II Requirements**
 Section 6 - Employer's Requirements (ERQ)
- PART III Conditions of Contract and Contract Forms**
 Section 7 - General Conditions of Contract (GCC)
 Section 8 - Particular Conditions of Contract (PCC)
 Section 9 - Contract Forms (COF)

- 6.2 The IFB issued by the Employer is not part of the Bidding Document.
- 6.3 The Employer is not responsible for the completeness of the Bidding Document and their addenda, if they were not obtained directly from the source stated by the Employer in the IFB.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.
- 7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**
- 7.1 A prospective Bidder requiring any clarification on the Bidding Document shall contact the Employer in writing at the Employer's address indicated in the BDS or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received no later than 21 days prior to the deadline for submission of bids. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 8 and ITB 22.2.
- 7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 7.4 The Bidder's designated representative is invited to attend a pre-bid meeting, if provided for in the BDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than 1 week before the meeting.
- 7.6 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.
- 7.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the Bidding Document by issuing addenda.
 - 8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3.
 - 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2

C. Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid containing the documents listed in ITB 11.2 and the other the Price Bid containing the documents listed in ITB 11.3, both envelopes enclosed together in an outer single envelope.
 - 11.2 The Technical Bid shall comprise the following:
 - (a) Letter of Technical Bid;
 - (b) Bid Security or Bid-Securing Declaration, in accordance with ITB 19;
 - (c) alternative Bids, if permissible, in accordance with ITB 13;
 - (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
 - (e) documentary evidence in accordance with ITB 17, establishing the Bidder's qualifications to perform the contract;
 - (f) Technical Proposal in accordance with ITB 16;
 - (g) Any other document required in the BDS.
 - 11.3 The Price Bid shall comprise the following:
 - (a) Letter of Price Bid;
 - (b) completed Price Schedules, in accordance with ITB 12 and ITB 14;
 - (c) alternative price Bids, at Bidder's option and if permissible, in accordance with ITB 13;
 - (d) Any other document required in the BDS.

- 11.4 In addition to the requirements under ITB 11.2, Bids submitted by a Joint Venture shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement.
- 12. Letters of Bid and Schedules**
- 12.1 The Letters of Technical Bid and Price Bid, and the Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section 4 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested and as required in the BDS.
- 13. Alternative Bids**
- 13.1 Unless otherwise indicated in the BDS, alternative Bids shall not be considered.
- 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS, as will the method of evaluating different times for completion.
- 13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding Document must first price the Employer's design as described in the Bidding Document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.
- 13.4 When specified in the BDS, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the BDS and described in Section 6 (Employer's Requirements). The method for their evaluation will be stipulated in Section 3 (Evaluation and Qualification Criteria).
- 14. Bid Prices and Discounts**
- 14.1 The prices and discounts quoted by the Bidder in the Letter of Price Bid and in the Bill of Quantities shall conform to the requirements specified below.
- 14.2 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.
- 14.3 The price to be quoted in the Letter of Price Bid, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered. . Absence of the total bid price in the Letter of Price Bid may result in the rejection of the Bid.
- 14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Price Bid, in accordance with ITB 12.1.
- 14.5 Unless otherwise provided in the BDS and the Contract, the rates and prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. In such a case, the Bidder shall furnish the

indexes and weightings for the price adjustment formulas in the Tables of Adjustment Data included in Section 4 (Bidding Forms) and the Employer may require the Bidder to justify its proposed indexes and weightings.

- 14.6 If so indicated in ITB 1.1, bids are being invited for individual contracts or for any combination of contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all contracts are submitted and opened at the same time.
- 14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.

15. Currencies of Bid and Payment

- 15.1 The unit rates and the prices shall be quoted by the Bidder entirely in the currency specified in the BDS.
- 15.2 Bidders shall indicate the portion of the bid price that corresponds to expenditures incurred in the currency of the Employer's country in the Schedule of Payment Currencies included in Section 4 (Bidding Forms).
- 15.3 Bidders expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer's country and wishing to be paid accordingly may indicate up to three foreign currencies in the Schedule of Payment Currencies included in Section 4 (Bidding Forms).
- 15.4 The rates of exchange to be used by the Bidder for currency conversion during bid preparation shall be the selling rates for similar transactions prevailing on the date 28 days prior to the deadline for submission of bids published by the source specified in the BDS. If exchange rates are not so published for certain currencies, the Bidder shall state the rates used and the source. Bidders should note that for the purpose of payments, the exchange rates confirmed by the source specified in the BDS as the selling rates prevailing 28 days prior to the deadline for submission of Bids shall apply for the duration of the Contract so that no currency exchange risk is borne by the Bidder.
- 15.5 Foreign currency requirements indicated by the Bidders in the Schedule of Payment Currencies shall include but not limited to the specific requirements for
- (a) expatriate staff and labor employed directly on the Works;
 - (b) social, insurance, medical and other charges relating to such expatriate staff and labor, and foreign travel expenses;
 - (c) imported materials, both temporary and permanent, including fuels, oil and lubricants required for the Works;
 - (d) depreciation and usage of imported Plant and Contractor's Equipment, including spare parts, required for the Works;
 - (e) foreign insurance and freight charges for imported materials, Plant

- and Contractor's Equipment, including spare parts; and
- (f) overhead expenses, fees, profit, and financial charges arising outside the Employer's country in connection with the Works.
- 15.6 Bidders may be required by the Employer to clarify their foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Payment Currencies are reasonable and responsive to ITB 15.3 above, in which case a detailed breakdown of its foreign currency requirements shall be provided by the Bidder.
- 15.7 Bidders should note that during the progress of the Works, the foreign currency requirements of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor in order to reflect any changes in foreign currency requirements for the Contract, in accordance with Subclause 14.15 of the Conditions of Contract. Any such adjustment shall be effected by comparing the percentages quoted in the bid with the amounts already used in the Works and the Contractor's future needs for imported items.
- 16. Documents Comprising the Technical Proposal**
- 16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule, and any other information as stipulated in Section 4 (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
- 17. Documents Establishing the Qualifications of the Bidder**
- 17.1 To establish its qualifications to perform the Contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding information sheets included in Section 4 (Bidding Forms).
- 17.2 Domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility as described in ITB 35.
- 18. Period of Validity of Bids**
- 18.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
- 18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended 28 days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid.
- 19. Bid Security/Bid-Securing Declaration**
- 19.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its Bid, in original form, either a Bid-Securing Declaration or a bid security as specified in the BDS. In the case of a bid security, the amount and currency shall be as specified in the BDS.
- 19.2 If a Bid-Securing Declaration is required pursuant to ITB 19.1, it shall use the form included in Section 4 (Bidding Forms). The Employer will declare a Bidder ineligible to be awarded a Contract for a specified period of time, as indicated in the BDS, if the Bid-Securing Declaration is executed.

19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be, at the Bidder's option, in any of the following forms:

- (a) an unconditional bank guarantee,
- (b) an irrevocable letter of credit, or
- (c) a cashier's or certified check,

all from a reputable source from an eligible country as described in Section 5 (Eligible Countries). In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section 4 (Bidding Forms) or another form acceptable to the Employer. The form must include the complete name of the Bidder. The bid security shall be valid for 28 days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

19.4 Unless otherwise specified in the BDS, any Bid not accompanied by a substantially compliant bid security or Bid-Securing Declaration, if one is required in accordance with ITB 19.1, shall be rejected by the Employer as nonresponsive.

19.5 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to ITB 42.

19.6 If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.

19.7 The bid security may be forfeited or the Bid Securing Declaration executed,

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid, except as provided in ITB 18.2; or
- (b) if the successful Bidder fails to
 - (i) sign the Contract in accordance with ITB 41;
 - (ii) furnish a performance security in accordance with ITB 42;
 - (iii) accept the arithmetical correction of its Bid in accordance with ITB 33; or
 - (iv) furnish a domestic preference security, if so required.

19.8 The Bid Security or Bid Securing Declaration of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the bid security or Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in ITB 4.1.

20. Format and Signing of Bid

20.1 The Bidder shall prepare one original set of the Technical Bid and one original set of the Price Bid comprising the Bid as described in ITB 11 and clearly mark it "ORIGINAL - TECHNICAL BID" and "ORIGINAL - PRICE BID." Alternative Bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the Technical and Price Bids, in the number specified

in the BDS, and clearly mark each of them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

- 20.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, except for unamended printed literature, shall be signed or initialed by the person signing the Bid. If a Bidder submits a deficient authorization, the Bid shall not be rejected in the first instance. The Employer shall request the Bidder to submit an acceptable authorization within the number of days as specified in the BDS. Failure to provide an acceptable authorization within the prescribed period of receiving such a request shall cause the rejection of the Bid.
- 20.3 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

- 21.1 Bidders may always submit their Bids by mail or by hand. When so specified in the BDS, Bidders shall have the option of submitting their Bids electronically. Procedures for submission, sealing, and marking are as follows:
- (a) Bidders submitting Bids by mail or by hand shall enclose the original of the Technical Bid, the original of the Price Bid, and each copy of the Technical Bid and each copy of the Price Bid, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL - TECHNICAL BID,” “ORIGINAL - PRICE BID,” and “COPY NO... - TECHNICAL BID” and “COPY NO.... - PRICE BID.” These envelopes, the first containing the originals and the others containing copies, shall then be enclosed in one single envelope per set. If permitted in accordance with ITB 13, alternative Bids shall be similarly sealed, marked and included in the sets. The rest of the procedure shall be in accordance with ITB 21.2 and ITB 21.5.
 - (b) Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS.
- 21.2 The inner and outer envelopes shall
- (a) bear the name and address of the Bidder;
 - (b) be addressed to the Employer in accordance with BDS 22.1; and
 - (c) bear the specific identification of this bidding process indicated in the BDS 1.1.
- 21.3 The outer envelopes and the inner envelopes containing the Technical Bid shall bear a warning not to open before the time and date for the opening of Technical Bid, in accordance with ITB 25.1.
- 21.4 The inner envelopes containing the Price Bid shall bear a warning not to open until advised by the Employer in accordance with ITB 25.7.

- 21.5 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.
- 22. Deadline for Submission of Bids**
- 22.1 Bids must be received by the Employer at the address and no later than the date and time indicated in the BDS.
- 22.2 The Employer may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1 The Employer shall not consider any Bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids**
- 24.1 A Bidder may withdraw, substitute, or modify its Bid – Technical or Price – after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be
- (a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION”; and
 - (b) received by the Employer no later than the deadline prescribed for submission of Bids, in accordance with ITB 22.
- 24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.
- 24.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid or any extension thereof.
- 25. Bid Opening**
- 25.1 The Employer shall open the Technical Bids in public at the address, on the date and time specified in the BDS in the presence of Bidders` designated representatives and anyone who chooses to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 21.1, shall be as specified in the BDS. The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening. If the Technical Bid and the Price Bid are submitted together in one envelope, the Employer may reject the entire Bid. Alternatively, the Price Bid may be immediately resealed for later evaluation.
- 25.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening.

- 25.3 Second, outer envelopes marked “SUBSTITUTION” shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with ITB 25.1. No envelope shall be substituted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.
- 25.4 Next, outer envelopes marked “MODIFICATION” shall be opened. No Technical Bid and/or Price Bid shall be modified unless the corresponding modification notice contains a valid authorization to request the modification and is read out and recorded at the opening of Technical Bids. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original as well as Modification, will remain unopened in accordance with ITB 25.1.
- 25.5 All other envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded:
- (a) the name of the Bidder;
 - (b) whether there is a modification or substitution;
 - (c) the presence of a bid security or Bid-Securing Declaration, if required; and
 - (d) any other details as the Employer may consider appropriate.
- Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Technical Bid are to be initialed by at least three representatives of the Employer attending bid opening. No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with ITB 23.1.
- 25.6 The Employer shall prepare a record of the opening of Technical Bids that shall include, as a minimum, the name of the Bidder and whether there is a withdrawal, substitution, or modification; alternative proposals; and the presence or absence of a bid security or Bid-Securing Declaration, if one was required. The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders who submitted Bids on time, and posted online when electronic bidding is permitted.
- 25.7 At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice of the opening of Price Bids.
- 25.8 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially nonresponsive to the requirements of the Bidding Document and return their Price Bids unopened.

25.9 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

25.10 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded:

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the Bid Prices, including any discounts and alternative offers; and
- (d) any other details as the Employer may consider appropriate.

Only Price Bids discounts, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Price Bid and Bill of Quantities are to be initialed by at least three representatives of the Employer attending bid opening. No Bid shall be rejected at the opening of Price Bids.

25.11 The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum, the name of the Bidder, the Bid Price (per lot if applicable), any discounts, and alternative offers. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders who submitted Bids on time, and posted online when electronic bidding is permitted.

E. Evaluation and Comparison of Bids

26. Confidentiality

26.1 Information relating to the examination, evaluation, comparison, and post qualification of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on the Contract award is communicated to all Bidders.

26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.

26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it may do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, and comparison of the Technical and Price Bids, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Price Bids, in accordance with ITB 33.

- 27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.
- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of Bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Document;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
- 29. Examination of Technical Bids**
- 29.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted.
- 29.2 The Employer shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected.
- (a) Letter of Technical Bid;
 - (b) written confirmation of authorization to commit the Bidder;
 - (c) Bid Security or Bid-Securing Declaration, if applicable; and
 - (d) Technical Proposal in accordance with ITB 16.
- 30. Responsiveness of Technical Bid**
- 30.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB11.
- 30.2 A substantially responsive Technical Bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that,
- (a) if accepted, would:
 - (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations under the proposed Contract; or
 - (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
- 30.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section 6 (Employer's Requirements) have been met without any material deviation, reservation, or reservation.
- 30.4 If a Bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 31. Nonmaterial Nonconformities**
- 31.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation, or omission.

- 31.2 Provided that a Technical Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 31.3 Provided that a Technical Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method indicated in Section 3 (Evaluation and Qualification Criteria).
- 32. Qualification of the Bidder**
- 32.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether Bidders meet the qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria).
- 32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.1.
- 32.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.
- 33. Correction of Arithmetical Errors**
- 33.1 During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:
- (a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected.
 - (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
 - (c) If there is a discrepancy between the bid price in the Summary of Bill of Quantities and the bid amount in item (c) of the Letter of Price Bid, the bid price in the Summary of Bill of Quantities will prevail and the bid amount in item (c) of the Letter of Price Bid will be corrected.
 - (d) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a), (b) and (c) above.
- 33.2 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its Bid shall be disqualified and its bid security may be forfeited or its Bid-Securing Declaration executed.
- 34. Conversion to Single Currency**
- 34.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.

- 35. Margin of Preference** 35.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.
- 36. Evaluation of Price Bids** 36.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
- 36.2 To evaluate the Price Bid, the Employer shall consider the following:
- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities, but including Daywork items, where priced competitively;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 33.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 34;
 - (e) adjustment for nonconformities in accordance with ITB 31.3; and
 - (f) application of all the evaluation factors indicated in Section 3 (Evaluation and Qualification Criteria).
- 36.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 36.4 If this Bidding Document allows Bidders to quote separate prices for different contracts, and the award to a single Bidder of multiple contracts, the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Price Bid, is specified in Section 3 (Evaluation and Qualification Criteria).
- 36.5 If the Bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
- 37. Comparison of Bids** 37.1 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid, in accordance with ITB 36.2.
- 38. Employer's Right to Accept Any Bid, and to Reject Any or All Bids** 38.1 The Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

- 39. Award Criteria** 39.1 The Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated Bid and is substantially

responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

40. Notification of Award

40.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted.

40.2 At the same time, the Employer shall also notify all other Bidders of the results of the bidding. The Employer will publish in an English language newspaper or well-known freely accessible website the results identifying the bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the award, unsuccessful Bidders may request in writing to the Employer for a debriefing seeking explanations on the grounds on which their Bids were not selected. The Employer shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.

40.3 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

41. Signing of Contract

41.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.

41.2 Within 28 days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

42. Performance Security

42.1 Within 28 days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 36.5, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Employer.

42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security or execution of the Bid-Securing Declaration. In that event, the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.

42.3 The above provision shall also apply to the furnishing of a domestic preference security if so required.

Section 2 - Bid Data Sheet

This Section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.

A. General

ITB 1.1	The number of the Invitation for Bids (IFB) is: TPBIP/IFB – 06.
ITB 1.1	The Employer is: Punjab Irrigation Department, Government of the Punjab, Old Anarkali, Lahore, Pakistan.
ITB 1.1	The name of the international competitive bidding (ICB) is: Rehabilitation and Modernization of Islam Barrage The identification number of the ICB is: TPBIP/ICB – 03. The number and identification of lots comprising this ICB is: One (01)
ITB 2.1	The Borrower is: Islamic Republic of Pakistan
ITB 2.1	The name of the Project is: Trimmu and Panjnad Barrages Improvement Project (“TPBIP”).

B. Contents of Bidding Documents

ITB 7.1	For <u>clarification purposes</u> only, the Employer's address is: Project Management Office (PMO) for Punjab Barrages Attention: Head/ Project Director Street address: Canal Bank, Mustafa Abad City: Lahore ZIP code: 54840 Country: Pakistan Telephone: +92 42-99250351 Fax: +92 42-99250352 E-mail: pmoipd@yahoo.com Web address: pmo-pb.gop.pk
ITB 7.4	A Pre-Bid meeting will take place. Date: October 8, 2020 (Thursday) Time: 11:00 hrs (local time) Place: Committee Room, Project Management Office (PMO) for Punjab Barrages, Canal Bank, Mustafa Abad, Lahore A site visit conducted by the Employer will be organized.

C. Preparation of Bids

ITB 10.1	The language of the Bid is: English Any translation of the supporting documents and printed literature (in case of language other than the English) submitted with the Bid shall have original notary authentication (from the country of origin of the firm or from that country wherefrom original certificate was issued) duly attested by Foreign Office of the country of Origin and endorsed by the Pakistan Embassy therein.
ITB 11.2 (g)	The Bidder shall submit with its Technical Bid the following additional documents: (i) Proposal / Method Statement for Mechanical Gates & Gearing System, Electrical Equipment at Barrage/Head Regulators. (ii) Certified Copies of bidder incorporation document or similar ones. (iii) Copy of Completion/ Substantial Completion Certificates for the completed Projects (iv) Subcontracting Agreement for Specialist Subcontractor or a Letter of Intent to enter into a Subcontracting Agreement signed by the Subcontractor shall be submitted with the Bid, together with a copy of the proposed subcontracting agreement.
ITB 11.3 (d)	The Bidder shall submit with its Price Bid the following additional documents: None
ITB 12.1	The units and rates in figures entered into the Bill of Quantities and Daywork Schedule should be typewritten, if written by hand, must be in print form. Bill of Quantities and Daywork Schedule not presented accordingly may be considered nonresponsive.
ITB 13.1	Alternative Bids shall not be permitted.
ITB 13.2	Alternative times for completion shall not be permitted.
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: None
ITB 14.5	The prices quoted by the Bidder shall be adjustable. The formula for adjusting the prices and explanatory details are specified in the GCC Clause 13.8. Bidder shall fill out the Table of Adjustment Data in Section 4 (Bidding Forms).
ITB 15.1	The unit rates and the prices shall be quoted by the Bidder entirely in: Pak Rupee (PKR)
ITB 15.4	The rates of exchange shall be the selling rates 28 days prior to the deadline for

	submission of bids published by: State Bank of Pakistan
ITB 18.1	The bid validity period shall be one hundred and twenty (120) days .
ITB 19.1	The Bidder shall furnish a bid security in the amount of Pak Rupees Fifty-One (51) million payable in the same currency; or USD Three hundred Forty thousand (340,000) payable in the same currency.
ITB 19.2	The ineligibility period will be: Not Applicable
ITB 19.3	The Bid security, in case of Bank Guarantee, shall be an unconditional Bank Guarantee by a reputable bank from an eligible country located outside the employer's country or reputable local scheduled bank. In case of a foreign bank, it shall be counter guaranteed by a reputable local scheduled bank.
ITB 19.4	Subject to the succeeding sentences, any bid not accompanied by an irrevocable and callable bid security shall be rejected by the Employer as nonresponsive. If a Bidder submits a bid security that (i) deviates in form, amount, and/or period of validity, or (ii) does not provide sufficient identification of the Bidder (including, without limitation, failure to indicate the name of the Joint Venture or, where the Joint Venture has not yet been constituted, the names of all future Joint Venture Partners), the Employer shall request the Bidder to submit a compliant bid security within Ten (10) days of receiving such a request. Failure to provide a compliant bid security within the prescribed period of receiving such a request shall cause the rejection of the Bid.
ITB 20.1	In addition to the original Bid, the number of copies is: three (03) with one (01) additional soft copy in PDF format.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: An Organizational Document, Board Resolution or its equivalent, or original Power of Attorney witnessed by a notary public specifying the representative's authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing joint venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the joint venture to sign on behalf of, and legally bind, the intended or existing joint venture. If the joint venture has not yet been formed, also include evidence from all proposed joint venture partners of their intent to enter into a joint venture in the event of a contract award in accordance with ITB 11.2.
ITB 20.2	The Bidder shall submit an acceptable authorization within Ten (10) days .

D. Submission and Opening of Bids

ITB 21.1	Bidders shall not have the option of submitting their Bids electronically.
-----------------	---

ITB 21.1 (b)	Not Applicable
ITB 22.1	For <u>bid submission purposes</u> only, the Employer's address is: Project Management Office (PMO) for Punjab Barrages Attention: Head/ Project Director Street address: Canal Bank, Mustafa Abad Floor/Room number: Committee Room City: Lahore ZIP code: 54840 Country: Pakistan The deadline for bid submission is: Date: October 29, 2020 (Thursday) Time: 11:00 hrs (local time)
ITB 25.1	The opening of the Technical Bid shall take place at: Place: Project management Office (PMO) for Punjab Barrages Street address: Canal Bank, Mustafa Abad Floor/ Room number: Committee Room City: Lahore Country: Pakistan Date: October 29, 2020 (Thursday) Time: 11:30 hrs (local time)
ITB 25.1	Electronic bid opening procedure shall be as follows: Not Applicable
ITB 25.10	The Letter of Price Bid and Bill of Quantities shall be initialed by at least two representatives of the Employer attending Bid opening.

E. Evaluation and Comparison of Bids

ITB 34.1	The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: Pak Rupees The source of selling exchange rate shall be: State Bank of Pakistan The date for the selling exchange rate shall be: Twenty eight (28) days prior to the date of submission of bid.
ITB 35.1	A margin of preference shall not apply.

Section 3 - Evaluation and Qualification Criteria

- Without Prequalification -

This Section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders. In accordance with ITB 32 and ITB 36, no other methods, criteria and factors shall be used. The Bidder shall provide all the information requested in the forms included in Section 4 (Bidding Forms).

Table of Criteria

1.	Evaluation	3-2
1.1	Adequacy of Technical Proposal.....	3-2
1.2	Specialist Subcontractors.....	3-2
1.3	Quantifiable Nonconformities and Omissions	3-2
2.	Qualification.....	3-4
2.1	Eligibility.....	3-4
2.1.1	Nationality	3-4
2.1.2	Conflict of Interest.....	3-4
2.1.3	ADB Eligibility.....	3-4
2.1.4	Government-Owned Enterprise	3-4
2.1.5	United Nations Eligibility	3-4
2.2	Pending Litigation and Arbitration	3-5
2.2.1	Pending Litigation and Arbitration.....	3-5
2.3	Financial Situation.....	3-6
2.3.1	Historical Financial Performance	3-6
2.3.2	Average Annual Construction Turnover.....	3-6
2.3.3	Financial Resources	3-7
2.4	Construction Experience	3-8
2.4.1	Contracts of Similar Size and Nature.....	3-8
2.4.2	Construction Experience in Key Activities	3-9

1. Evaluation

In addition to the criteria listed in ITB 37.2 (a)–(f), other relevant factors are as follows:

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 6 (Employer's Requirements).

Non-compliance with equipment and personnel requirements described in Section 6 (Employer's Requirements) shall not be grounds for bid rejection and such non-compliance will be subject to clarification and rectification prior to contract award.

1.2 Specialist Subcontractors

Only the specific experience of Specialist Subcontractors for key activities specified in criterion 2.4.2 Construction Experience in Key Activities will be considered. The experience of Specialist Subcontractors in contracts of similar size and nature, and their financial resources shall not be added to those of the Bidder for purposes of qualification of the Bidder.

1.3 Quantifiable Nonconformities and Omissions

Subject to ITB 14.2 and ITB 37.2, the evaluated cost of quantifiable nonconformities including omissions, is determined as follows:

Pursuant to ITB 31.3, the cost of all quantifiable nonmaterial nonconformities or omissions shall be evaluated including omission in Daywork where competitively priced but excluding omission of prices in the Bill of Quantities as per ITB 14.2. The Employer will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of bids.

The evaluated cost of quantifiable nonconformities, errors and/ or omissions are determined as follows:

i) Adjustment of Bid Price for Incompleteness in Scope of Work

As provided in ITB 31.3, the cost of quantifiable nonmaterial nonconformities or missing items should be added to the Bid Price to allow for bid comparison on an equal basis. Omission in Daywork, if priced competitively, are covered by the price adjustment as provided in ITB 37.2(a), but missing unit prices for items in the Bill of Quantities, are excluded as provided in ITB 14.2. The price adjustment should be based on a reasonable estimate of the cost by the executing agency, engineer, consultant or bid evaluation committee, taking into consideration the corresponding quoted prices from other conforming bids. The price adjustment should be based on the fair price of the omitted item. The most frequently used method is to use the

price equal to the highest price quoted for the same item by the other responsive bidders.

ii) Adjustment of Bid Price for Technical Non-Compliance

There should be no adjustment of bid price for technical non-compliance. The bid shall be evaluated as substantially compliant or not substantially compliant.

2. Qualification

It is the legal entity or entities comprising the Bidder, and not the Bidder's parent companies, subsidiaries, or affiliates, that must satisfy the qualification criteria described below.

2.1 Eligibility

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	

2.1.1 Nationality

Nationality in accordance with ITB Sub-clause 4.2.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI - 1; ELI - 2 (with attachments)
--	-----------------------	-----------------------	-----------------------	----------------	---

2.1.2 Conflict of Interest

No conflicts of interest in accordance with ITB Sub-clause 4.3.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
---	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.1.3 ADB Eligibility

Not having been declared ineligible by ADB, as described in ITB Sub-clause 4.4.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
---	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.1.4 Government-Owned Entity

Bidder required to meet conditions of ITB Sub-clause 4.5.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI - 1; ELI - 2 (with attachments)
---	-----------------------	-----------------------	-----------------------	----------------	---

2.1.5 United Nations Eligibility

Not having been excluded by an act of compliance with a United Nations Security Council resolution in accordance with ITB Sub-clause 4.7.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
---	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.2 Pending Litigation and Arbitration

Pending litigation and arbitration criterion **shall** apply.

2.2.1 Pending Litigation and Arbitration

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All Partners Combined	Each Partner	
All pending litigation and arbitration, if any, shall be treated as resolved against the Bidder and so shall in total not represent more than fifty (50) percent of the Bidder's net worth calculated as the difference between total assets and total liabilities.	Must meet requirement	Not applicable	Must meet requirement ^b	N/A
				Form CON-1

2.3 Financial Situation

2.3.1 Historical Financial Performance

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Submission of audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last three (03) years (2017, 2018, 2019) to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year calculated as the difference between total assets and total liabilities should be positive.	Must meet requirement	Not applicable	Must meet requirement	Not applicable	Form FIN - 1 with attachments

2.3.2 Average Annual Construction Turnover

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Minimum average annual construction turnover of US\$17.3 million calculated as total certified payments received for contracts in progress or completed, within the last three (03) years .	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 50% of the requirement	Form FIN - 2

2.3.3 Financial Resources

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
For Single Entities The Bidder must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its current contract commitments defined in FIN - 4, meet or exceed the total requirement for the Subject Contract of US\$ 2.9 million	must meet requirement	not applicable	not applicable	not applicable	Form FIN – 3 and Form FIN – 4 (with supporting documents detailed there-in)
For Joint Ventures (1) One partner must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its own current contract commitments defined in FIN - 4, meet or exceed its required share of US\$1.5 million from the total requirement for the Subject Contract. AND	not applicable	not applicable	not applicable	must meet requirement	Form FIN – 3 and Form FIN – 4 (with supporting documents detailed there-in)
(2) Each partner must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its own current contract commitments defined in FIN - 4, meet or exceed its required share of US\$0.75 million from the total requirement for the Subject Contract. AND	not applicable	not applicable	must meet requirement	not applicable	Form FIN – 3 and Form FIN – 4 (with supporting documents detailed there-in)
(3) The Joint Venture must demonstrate that the combined financial resources of all partners defined in FIN - 3, less all the partners' total financial obligations for the current contract commitments defined in FIN - 4, meet or exceed the total requirement for the Subject Contract of US\$2.9 million	not applicable	must meet requirement	not applicable	not applicable	Form FIN – 3 and Form FIN – 4 (with supporting documents detailed there-in)

2.4 Construction Experience

2.4.1 Contracts of Similar Size and Nature

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Participation as a contractor, Joint Venture partner, or Subcontractor, in at least two (02) contracts that have been successfully or substantially completed within the last ten (10) years and that are similar to the proposed works, where the value of the Bidder's participation in one (01) contract exceeds US\$13.9 million and in the second contract, it exceeds US\$4.3 million . The similarity of the Bidder's participation shall be based on: 1. Physical size of contract 2. Nature of works 3. Complexity 4. Methods 5. Technology	Must meet requirement	Not applicable	Must meet requirement as follows: Completed at least one contract in the last 10 years similar to the works required under the proposed contract where the value of the partner's participation exceeds US\$4.3 million.	Must meet requirement as follows: Completed at least one contract in the last 10 years similar to the works required under the proposed contract where the value of the partner's participation exceeds US\$13.9 million.	Form EXP - 1

2.4.2 Construction Experience in Key Activities

May be complied with by the Bidder or by Specialist Subcontractor. If Specialist Subcontractors are proposed by the Bidder for key activities, each Specialist Subcontract must have experience in related key activity as a single entity.

If the key activity is to be undertaken by a Specialist Subcontractor, the Employer shall require evidence of the subcontracting agreement from the Bidder. Alternatively, a letter of intent to enter into subcontracting agreement signed by the subcontractor shall be submitted with the bid together with the proposed subcontracting agreement.

A specialist subcontractor is a specialist enterprise engaged for highly specialized process, which the main contractor cannot provide.

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
For the above or other contracts executed during the period stipulated in 2.4.1 above, a minimum construction experience in the following key activities:	must meet requirement	must meet requirement ^a	not applicable	not applicable	Form EXP – 2 (with authenticated attachments detailed there-in)
Civil Works					
(i) Rehabilitation/ Construction of at least one major river structure of discharging capacity 100,000 cusecs (cubic feet per second) or more.					
(ii) Execution of reinforced concrete works not less than 35,000 cft (cubic feet) /month on hydraulic structure					
(iii) Construction and removal of coffer dams in major rivers requiring production rate of at least 02 mcft (million cubic feet) /month of earth work and other material required for construction of coffer dam.					
Mechanical & Electrical Works					
(i) Design, fabrication / rehabilitation / refurbishing, supplying and installation of average gate area of 4,500 sft per annum (minimum gate size of 24 ft W x 12 ft H) – (288 sft) along with their hoisting system for major river structure / barrage during any one of the last ten (10) years;					
(ii) Design and procurement of machinery, supply and installation of electric power and motorization systems/ Network for activity (i) above					

^a In case of a joint venture, at least one of the partners must have the experience in the key activity if the bidder itself (not its subcontractor) will carry out the relevant activity.

Section 4 - Bidding Forms

- Without Prequalification -

This Section contains the forms to be completed by the Bidder and submitted as part of its Bid.

Table of Forms

Letter of Technical Bid	2
Letter of Price Bid	4
Bid Security	6
Technical Proposal	7
Personnel.....	8
Form PER – 1: Proposed Personnel	8
Form PER – 2: Resume of Proposed Personnel	9
Equipment.....	10
Form EQU: Equipment	10
Site Organization	11
Method Statement	11
Mobilization Schedule.....	11
Construction Schedule.....	11
Bidders Qualification	12
Form ELI - 1: Bidder's Information Sheet	13
Form ELI - 2: Joint Venture Information Sheet	14
Form LIT - 1: Pending Litigation and Arbitration	15
Form FIN - 1: Historical Financial Performance.....	16
Form FIN - 2: Average Annual Construction Turnover	17
Form FIN – 3: Availability of Financial Resources	18
Form FIN- 4: Financial Requirements for Current Contract Commitments	19
Form FIN - 5: Self-Assessment Tool for Bidder's Compliance to Financial Resources	20
Form EXP – 1: Contracts of Similar Size and Nature.....	21
Form EXP - 2: Construction Experience in Key Activities	22
Schedules	23
Bill of Quantities	26

Letter of Technical Bid

-Note-

The bidder must accomplish the Letter of Technical Bid on its letterhead clearly showing the bidder's complete name and address.

Date: *[insert date (as day, month and year)]*

ICB No: TPBIP/ICB-03

Invitation for Bid No: TPBIP/IFB-06

To: Head/ Project Director,
Project Management Office (PMO) for Punjab Barrages,
Irrigation Department,
Canal Bank, Mustafa Abad,
Lahore, Pakistan

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
Rehabilitation and Modernization of Islam Barrage.
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of [. . .
insert bid validity period as specified in ITB 18.1 of the BDS . . .] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) Our firm, including any Subcontractors or Suppliers for any part of the Contract, have nationalities from eligible countries in accordance with ITB 4.2.
- (e) We, including any Subcontractors or Suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 4.3.
- (f) We are not participating, as a Bidder in more than one Bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers submitted in accordance with ITB 13.
- (g) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by ADB, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council.
- (h) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB 4.5].¹

¹ Use one of the two options as appropriate.

- (i) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.
- (j) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section 6 (Employer's Requirements) and our technical proposal, or as otherwise agreed with the Employer.

Name

In the capacity of

Signed
.....

Duly authorized to sign the Bid for and on behalf of

Date

Letter of Price Bid

Note-

The bidder must accomplish the Letter of Price Bid on its letterhead clearly showing the bidder's complete name and address.

Date: *[insert date (as day, month and year)]*

ICB No: TPBIP/ICB-03

Invitation for Bid No: TPBIP/IFB-06

To: Head/ Project Director,
Project Management Office (PMO) for Punjab Barrages,
Irrigation Department,
Canal Bank, Mustafa Abad,
Lahore, Pakistan

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to execute in conformity with the Bidding Documents and the Technical Bid submitted for the following Works: **Rehabilitation and Modernization of Islam Barrage.**
- (c) The total price of our Bid, excluding any discounts offered in item (d) below is:

[amount of foreign currency in words], [amount in figures], and [amount of local currency in words], [amount in figures]

The total bid price from the Summary of Bill of Quantities should be entered by the bidder inside this box. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the bid.

- (d) The discounts offered and the methodology for their application are: *[. . .insert discounts and methodology for their application if any . . .]*
- (e) Our Bid shall be valid for a period of *[. . .insert bid validity period as specified in ITB 18.1 of the BDS . . .]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (f) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents.
- (g) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract.²

² If none has been paid or is to be paid, indicate "None".

Name of Recipient	Address	Reason	Amount
.....			
.....			

- (h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

.....

Bid Security Bank Guarantee

..... Bank's name, and address of issuing branch or office.....

Beneficiary: Punjab Irrigation Department, Government of the Punjab (represented by Head/ Project Director, Project management Office (PMO) for Punjab Barrages, Canal Bank, Mustafa Abad, Lahore, Pakistan).

Date:

Bid Security No.:

We have been informed that name of the bidder. (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of name of contract under Invitation for Bids No. ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we name of bank. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of amount in words (..... amount in figures) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letters of Technical and Price Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB, or (iii) fails or refuses to furnish a domestic preference security, if required.

This guarantee will expire (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (or ICC Publication No. 758 as applicable).

..... Authorized signature(s) and bank's seal (where appropriate)

Technical Proposal

- **Personnel**
- **Equipment**
- **Site Organization**
- **Method Statement**
- **Mobilization Schedule**
- **Construction Schedule**

Personnel

Form PER – 1: Proposed Personnel

Bidder should provide the details of the proposed personnel and their experience record in the relevant Information Forms below for each candidate:

1.	Title of position*
	Name
2.	Title of position*
	Name
3.	Title of position*
	Name
4.	Title of position*
	Name
5.	Title of position*
	Name
6.	Title of position*
	Name
etc.	Title of position*
	Name

-- Note --

* As listed in Section 6 (Employer's Requirements).

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Use one form for each position.

Position		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

[illegible]

Equipment

Form EQU: Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment requirements indicated in Section 6 (Employer's Requirements), using the Forms below. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of Equipment					
Equipment Information	<table border="1"> <tr> <td>Name of manufacturer</td> <td>Model and power rating</td> </tr> <tr> <td>Capacity</td> <td>Year of manufacture</td> </tr> </table>	Name of manufacturer	Model and power rating	Capacity	Year of manufacture
	Name of manufacturer	Model and power rating			
Capacity	Year of manufacture				
Current Status	Current location				
	Details of current commitments				
Source	Indicate source of the equipment				
	☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured				

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

- **Construction Camps and Housing Facilities**
- **Construction Quality Assurance Plan**
- **Scheme for Care and Handling of Water**
- **Proposal for Mechanical Gates and Gearing System, Electrical Equipment at Barrage/Head Regulator**
- **Work by Sub-Contractor**

Initials of Signatory of Bid _____

Bidders Qualification

(To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder).

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of a Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone number(s), fax number(s), e- mail address)	
Attached are copies of the following documents. ☐ 1. In case of a single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2. ☐ 2. Authorization to represent the firm or Joint Venture named above, in accordance with ITB 20.2. ☐ 3. In case of a Joint Venture, a letter of intent to form a Joint Venture or Joint Venture agreement, in accordance with ITB 4.1. ☐ 4. In case of a government-owned enterprise, any additional documents not covered under 1 above required to comply with ITB 4.5.	

Form ELI - 2: Joint Venture Information Sheet

Each member of the Joint Venture and Specialist Subcontractor must fill out this form separately.

Joint Venture / Specialist Subcontractor Information	
Bidder's legal name	
Joint Venture Partner's or Specialist Subcontractor's legal name	
Joint Venture Partner's or Specialist Subcontractor's country of constitution	
Joint Venture Partner's or Specialist Subcontractor's year of constitution	
Joint Venture Partner's or Specialist Subcontractor's legal address in country of constitution	
Joint Venture Partner's or Specialist Subcontractor's authorized representative information (name, address, telephone number(s), fax number(s), e-mail address)	
Attached are copies of the following documents. ☐ 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2. ☐ 2. Authorization to represent the firm named above, in accordance with ITB 20.2. ☐ 3. In the case of a government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5. ☐ 4. Subcontracting Agreement for Specialist Subcontractor or a Letter of Intent to enter into a Subcontracting Agreement signed by the Subcontractor shall be submitted with the Bid, together with a copy of the proposed subcontracting agreement.	

A Specialist Subcontractor is a specialist enterprise engaged for highly specialized processes that cannot be provided by the main Contractor.

Form LIT - 1: Pending Litigation and Arbitration

Each Bidder must fill out this form if so required under Criterion 2.2 of Section 3 (Evaluation and Qualification Criteria) to describe any pending litigation or arbitration formally commenced against it.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Pending Litigation and Arbitration			
Choose one of the following: ☐ No pending litigation and Arbitration. ☐ Below is a description of all pending litigation and Arbitration involving the Bidder (or each Joint Venture member if Bidder is a Joint Venture).			
Year	Matter in Dispute	Value of Pending Claim in US\$ Equivalent	Value of Pending Claim as a Percentage of Net Worth

- Note -

This form shall only be included if Criterion 2.2 of Section 3 (Evaluation and Qualification Criteria) is applicable.

Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Data for Previous Years [US\$ Equivalent]		
Year 1:	Year 2:	Year 3:

Information from Balance Sheet

Total Assets (TA)			
Total Liabilities (TL)			
Net Worth = TA – TL			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital = CA - CL			

Most Recent Working Capital		To be obtained for most recent year and carried forward to FIN-3 Line 1; in case of Joint Ventures, to the corresponding Joint Venture Partner's FIN – 3.
-----------------------------	--	---

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

- ☐ Attached are copies of financial statements (balance sheets including all related notes and income statements) for the last ____ years, as indicated above, complying with the following conditions:
- Unless otherwise required by Section 3 of the Bidding Document, all such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries, or affiliates.
 - Historical financial statements must be audited by a certified accountant.
 - Historical financial statements must be complete, including all notes to the financial statements.
 - Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Average Annual Construction Turnover

Each Bidder must fill out this form.

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to US dollars at the rate of exchange at the end of the period reported.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Annual Turnover Data for the Last Three Years (Construction only)			
Year	Amount Currency	Exchange Rate	US\$ Equivalent

Average Annual Construction Turnover

Form FIN – 3: Availability of Financial Resources

Bidders must demonstrate sufficient financial resources, usually comprising of Working Capital supplemented by credit line statements or overdraft facilities and others to meet the Bidder's financial requirements for

- a) Its current contract commitments, and
- b) The subject contract

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Resources		
No.	Source of financing	Amount (US\$ equivalent)
1	Working Capital (to be taken from FIN-1)	
2	Credit Line ^a	
3	Other Financial Resources	
Total Available Financial Resources (FR)		
Total Available Financial Resources (FR)		

^a To be substantiated by a letter from the bank issuing the line of credit.

Form FIN- 4: Financial Requirements for Current Contract Commitments

Bidders (or each Joint Venture partner) should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Current Contract Commitments(US\$ Equivalent)						
No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Contract Completion Date	Outstanding Contract Value (X) ^a	Remaining Contract Period in months (Y) ^b	Monthly Financial Resources Requirement (X / Y)
1						
2						
3						
4						
A. Total Monthly Financial Requirement for Current Contract Commitments						US\$

^a Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline (US\$ equivalent based on the foreign exchange rate as of the same date).

^b Remaining contract period to be calculated from 28 days prior to bid submission deadline.

Form FIN - 5: Self-Assessment Tool for Bidder's Compliance to Financial Resources (Criterion 2.3.3 of Section 3)

This form requires the same information submitted in Forms FIN-3 and FIN-4. All conditions of "Available Financial Resources Net of CCC $\geq$ Requirement for the Subject Contract" must be satisfied to qualify.

Form FIN - 5A: For Single Entities

For Single Entities: (A)	Total Available Monthly Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Monthly Financial Resources Net of CCC $D = (B - C)$	Monthly Requirement for the Subject Contract (E)	Results: Yes or No [D must be greater than or equal to E] (F)
_____ (Name of Bidder)				US\$2.9 million	

Form FIN - 5B: For Joint Ventures

For Joint Ventures: (A)	Total Available Monthly Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Monthly Financial Resources Net of CCC $D = (B - C)$	Monthly Requirement for the Subject Contract (E)	Results: Yes or No [D must be greater than or equal to E] (F)
One Partner:					
_____ (Name of Partner)				US\$1.5 million	
Each Partner:					
_____ (Name of Partner 1)				US\$0.75 million	
_____ (Name of Partner 2)				US\$0.75 million	
_____ (Name of Partner 3)				US\$0.75 million	
All partners combined	$\Sigma D =$ Sum of available financial resources net of current contract commitments for all partners		$\Sigma D =$ _____	US\$2.9 million	

Form EXP – 1: Contracts of Similar Size and Nature

Fill out one (1) form per contract.

Contract of Similar Size and Nature		
Contract No of	Contract Identification	
Award Date		Completion Date
Total Contract Amount	US\$	
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's name Address Telephone number Fax number E-mail		
Description of the Similarity in Accordance with Criterion 2.4.1 of Section 3 (Evaluation and Qualification Criteria)		
	- Attached are authenticated attested copies of notification of award, completion / substantial completion certificates as indicated above, complying with the following conditions: - Any translation of the supporting documents and printed literature (in case of language other than the English) submitted with the bid shall have original notary authentication (from the country of origin of the firm or from that country wherefrom original certificate was issued) duly attested by Foreign Office of the country of Origin and endorsed by the Pakistan Embassy therein.	

Form EXP - 2: Construction Experience in Key Activities

Fill out one (1) form per contract.

Contract with Similar Key Activities		
Contract No of	Contract Identification	
Award Date		Completion Date
Total Contract Amount	US\$	
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's name Address Telephone number Fax number E-mail		
Description of the Key Activities in Accordance with Criterion 2.4.2 of Section 3 (Evaluation and Qualification Criteria)		
	- Attached are authenticated attested copies of certified IPCs or final paid bills or bill of quantities clearly showing the completed key activities as indicated above, complying with the following conditions: - Any translation of the supporting documents and printed literature (in case of language other than the English) submitted with the bid shall have original notary authentication (from the country of origin of the firm or from that country wherefrom original certificate was issued) duly attested by Foreign Office of the country of Origin and endorsed by the Pakistan Embassy therein.	

Schedules

Schedule of Payment Currencies

Forinsert name of Section of the Works

Separate tables may be required if the various sections of the Works (or of the Bill of Quantities) will have substantially different foreign and local currency requirements. In such a case, the Employer should prepare separate tables for each Section of the Works.

	A	B	C	D
Name of Payment Currency	Amount of Currency	Rate of Exchange to Local Currency ¹	Local Currency Equivalent $C = A \times B$	Percentage of Net Bid Price (NBP) $\frac{100 \times C}{NBP}$
Local Currency		1.00		
Foreign Currency ² #1				
Foreign Currency #2				
Foreign Currency #3				
Net Bid Price				100.00
Provisional Sums Expressed in Local Currency		1.00		
BID PRICE				

- Note -

¹ The rates of exchange shall be the selling rates 28 days prior to the deadline for submission of bids published by the source specified in BDS 15.

² The percentage of foreign currency shall not exceed 30 percent of the net bid price excluding Provisional Sums.

Appendix to Bid

Tables of Adjustment Data

Table A - Local Currency

To be entered by the bidder

Index Code	Index Description	Source of Index	Base Value and Date*	Bidder's Local Currency Amount	Bidder's Proposed Weighting**
A.	Nonadjustable	—	—	—	A: <u>0.40</u>
B.	Labour	Monthly Statistical Bulletin - Pakistan Federal Bureau of Statistics			B: <u>0.06 to 0.08</u>
C.	Ordinary Portland Cement ***	Monthly Statistical Bulletin - Pakistan Federal Bureau of Statistics			C: <u>0.10 to 0.14</u>
D.	Fuel (High Speed Diesel)	OGRA/ Pakistan State Oil			D: <u>0.12 to 0.16</u>
E.	Reinforcing Steel	Monthly Statistical Bulletin - Pakistan Federal Bureau of Statistics			E: <u>0.07 to 0.10</u>
F.	Provision & maintenance of Contractors Equipment & Plant	Combined Consumer Price Index - Pakistan Federal Bureau of Statistics			G: <u>0.10 to 0.14</u>
G.	Miscellaneous Materials and Plant	Combined Consumer Price Index - Pakistan Federal Bureau of Statistics			H: <u>0.02 to 0.06</u>
Total					1.00

*Base Value to be entered by the Bidder in Column 4 shall be the Base Cost published by the specified source on the Base Date (i.e. 28 days prior to the latest date for submission of the Bid) for each index. If the rate published by Federal Bureau of Statistics (FBS), Government of Pakistan in Monthly Statistical Bulletin (MSB) for any indices is higher than the inserted rate, the published rate will then be taken as the base rate. The index to apply shall be that for the month as stated in the relevant table.

** The sum of all weightings for adjustment quoted by the bidder should equal one (1.0). As guidance to the bidders and for the purpose of checking their submissions, the Employer has estimated and provided a range of acceptable weightings for related major construction inputs in accordance with the potential range of construction methodologies, based on estimated cost in a common currency.

If no weighting against some index is entered by the bidder in Column 6, the weighting relevant to that type of work shall be added to the non-adjustable portion.

*** The index to be used for slag cement shall be same as for Ordinary Portland Cement (OPC).

Note: Source of Index is Monthly Statistical Bulletin for Bahawalpur District issued by Federal Bureau of Statistics,

Table B - Foreign Currency

Name of Currency:

[Insert name of currency. If the bidder wishes to quote in more than one foreign currency, this table should be repeated for each foreign currency.]

To be entered by the bidder						
Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Currency in Type/ Amount	Equivalent in FC1	Bidder's Proposed Weighting
A.	Nonadjustable	—	—	—		A: <u>0.40</u>
B.	Labour ¹					B: <u>0.13 to 0.20</u>
C.	Structural Steel					C: <u>0.10 to 0.18</u>
D.	Provision & Maintenance of Contractors Equipment & Plant					D: <u>0.14 to 0.17</u>
E.	Miscellaneous Material and Plant					E: <u>0.13 to 0.18</u>
Total						1.00

Notes:

Base Value to be entered in Column 4 shall be the Base Cost published by the specified source on the Base Date (i.e. 28 days prior to the last date of submission of bid) for each index.

In case, no data is provided by the bidder under Column 3 to 7, it will be inferred that the bidder is not interested in price adjustment for foreign currency and in that case, the pertinent weighting shall be added to the non-adjustable portion.

¹ In case, no foreign labor/ staff is physically working at site, the bidder's proposed weighting shall be added to the non-adjustable portion.

Bill of Quantities Preamble

1. The Bill of Quantities shall be read in conjunction with the General and Particular Conditions of Contract, Technical Specification, and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as may be agreed or determined in accordance with the terms of the Contract.
3. The rates and prices quoted in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all constructional plant, construction camps and colonies with related facilities, labour, materials, erection, supervision, fuel, lubricants, maintenance, site clearance, security, insurance, profit, taxes and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
4. A rate or price shall be entered against each item in the priced Bill of Quantities. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
5. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bill of Quantities, and where no Items are provided but shown on drawings and covered in Technical Specifications, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
6. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
7. Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clauses 13.5 and Clauses 13.6 of the General Conditions.
8. The completed work shall be measured as provided in Specification. Unless otherwise specifically provided if the work required against BOQ Item for which monthly payment is specified is not substantially performed during a particular month, no payment shall be made for the BOQ Item related to that month.
9. Any arithmetic errors in computation or summation will be corrected by the Engineer as follows:
 - (a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern, unless in the opinion of the Engineer, there is an obviously gross misplacement of the decimal point in the unit price, in which event the total amount as quoted will govern and the unit rate will be corrected.

10. Rock is defined as all materials that, in the opinion of the Engineer, require blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for their removal, and that cannot be extracted by ripping with a tractor of at least 150 brake hp with a single, rear-mounted, heavy-duty ripper.
11. Except where expressly shown to the contrary, generally the English system of weights and measures shall apply throughout the Contract. The following abbreviations are used inter alia:

Abbreviation	Unit
cu. yd	Cubic yards
sq. yd	Square yards
Lit	Litres
Yd	yard(s)
L.ft	Linear Feet
sft	square feet
cft	cubic feet
Hr	hour(s)
ha	hectare
Lbs	pounds
Ton	2240 lbs
M.Ton	1000 kg
Kg	Kilogram
No.	Number
Rm	Running meter
Km	Kilometer

BILL OF QUANTITIES

Section 5 - Eligible Countries

List of Eligible Countries of the Asian Development Bank

- | | |
|--------------------------------------|-----------------------------------|
| 1. Afghanistan | 35. Micronesia, Federal States of |
| 2. Armenia | 36. Mongolia |
| 3. Australia | 37. Myanmar |
| 4. Austria | 38. Nauru |
| 5. Azerbaijan | 39. Nepal |
| 6. Bangladesh | 40. Netherlands |
| 7. Belgium | 41. New Zealand |
| 8. Bhutan | 42. Niue |
| 9. Brunei Darussalam | 43. Norway |
| 10. Canada | 44. Pakistan |
| 11. Cambodia | 45. Palau |
| 12. China, People's Republic of | 46. Papua New Guinea |
| 13. Cook Islands | 47. Philippines |
| 14. Denmark | 48. Portugal |
| 15. Fiji Islands | 49. Samoa |
| 16. Finland | 50. Singapore |
| 17. France | 51. Solomon Islands |
| 18. Georgia | 52. Spain |
| 19. Germany | 53. Sri Lanka |
| 20. Hong Kong, China | 54. Sweden |
| 21. India | 55. Switzerland |
| 22. Indonesia | 56. Tajikistan |
| 23. Ireland | 57. Taipei, China |
| 24. Italy | 58. Thailand |
| 25. Japan | 59. Timor-Leste |
| 26. Kazakhstan | 60. Tonga |
| 27. Kiribati | 61. Turkmenistan |
| 28. Korea, Republic of | 62. Turkey |
| 29. Kyrgyz Republic | 63. Tuvalu |
| 30. Lao People's Democratic Republic | 64. United Kingdom |
| 31. Luxembourg | 65. United States |
| 32. Malaysia | 66. Uzbekistan |
| 33. Maldives | 67. Vanuatu |
| 34. Marshall Islands | 68. Viet Nam |

Section 6: Employer’s Requirements

This Section contains the Specifications, Drawings, Supplementary Information that describe the Works to be procured, Personnel Requirements, and Equipment Requirements.

Table of Contents

Specifications 6-2

Drawings 6-3

Supplementary Information Regarding Works to Be Procured 6-4

Personnel Requirements..... 6-5

Equipment Requirements..... 6-6

Specifications

This Employer's requirement comprises:

- Part A - Special Provisions (Contained in Volume I of the bidding documents)
- Part B - Technical Specifications (Contained in Volume II of the bidding documents)
- Environmental Management Plan (EMP) (Contained in Volume II of the bidding documents)

Drawings

This Employer's requirement is contained in Volume III of the bidding documents and comprises:

- Drawings

Supplementary Information Regarding Works to Be Procured

This Employer's requirement is contained in Volume IV of the bidding documents and comprises:

- Condition Survey of Gates
- Geotechnical Investigations Report
- Indicative Construction Schedule
- Peak Discharge Data

Personnel Requirements

Using Form PER - 1 and PER - 2 in Section 4 (Bidding Forms), the Bidder must demonstrate that it has personnel who meet the following requirements:

No.	Position	Total Work Experience [years]	Experience In Similar Work [years]
1	Project Manager	20	15
2	Construction Engineers (Civil)	15	10
3	Contract Engineer	15	10
4	Planning & Scheduling Engineer	15	10
5	Material Engineer	15	10
6	Concrete Specialist	15	10
7	Quality Assurance Manager	15	10
8	Mechanical Expert / Mechanical Engineer	15	10
9	Electrical Engineer	10	05
10	Instrumentation Engineer	10	05
11	Safety, Health and Environment Manager	10	05

Equipment Requirements

Using Form EQU in Section 4 (Bidding Forms), the Bidder must demonstrate that it has the key equipment listed below:

No.	Equipment Type and Characteristics	Minimum Number Required
1	Concrete Batching Plant 30 m ³ / hr	1
2	Dozer (100-200 HP)	2
3	Excavator 200 HP and 100 HP	5 + 5
4	Motor Grader 14 ft blade	5
5	Front End Wheel Loader (Bucket Size 3 m ³)	5
6	Vibratory Roller Compactors (18 Tons)	3
7	Concrete Transit Mixers (Nominal size 6-8 m ³)	5
8	Dump Trucks (Loading capacity 12 tons)	5
9	Concrete Pump Mobile (long reach) and Stationary (35-100 m ³ /hr)	1 + 1
10	Pile Driving Equipment	2 Sets
11	Cranes Telescopic Boom (50 to 80 Tons)	2
12	Diesel Electric Generation set (60-150 KVA)	3
13	Air Compressor (300 – 450 CFM)	2
14	Immersion-type Vibrator (Poker, 1.5" dia, electric) - (not less than 6000 impulses/ minute)	6

The above list is not definitive. The bidder shall provide further details of proposed items of equipment using the relative Form in Section 4 (Bidding Forms).

Part B: Specifications - Special Provisions

Table of Contents

SP-1	THE SITE	6-12
1.1	Location and Access	6-12
1.2	Brief History of Barrage	6-12
	Project Scope	6-17
1.3	Site of Works	6-18
1.4	Climatological Data.....	6-18
1.5	Physical Characteristics.....	6-19
1.6	River Discharges.....	6-20
1.7	Surface Water	6-20
1.8	Groundwater.....	6-20
SP-2	WORK UNDER THE CONTRACT	6-21
2.1	General Description.....	6-21
2.2	Permanent Works.....	6-21
2.3	Mechanical and Electrical Equipment.....	6-22
2.4	Temporary Works	6-22
SP-3	NOT USED.....	6-22
SP-4	PROJECT FEATURES	6-22
4.1	Description of Principal Project Features.....	6-22
SP-5	RIVER DIERSION, CARE AND HANDLING OF WATER.....	6-23
5.1	Contractor's River Diversion Scheme.....	6-23
5.2	Contractor's Grouting Scheme	6-24
5.3	Maintaining Irrigation Flows	6-24
SP- 6	DRAWINGS OF WORKS.....	6-24
6.1	Tender Drawings.....	6-24
6.2	Drawings Issued for Construction	6-24
6.3	Definition of Construction Drawings.....	6-25
6.4	Checking of Drawings	6-25
6.5	Copies of Drawings and Contract Documents	6-25
6.6	Drawings to be furnished by the Contractor	6-26
6.7	Submissions and Approvals.....	6-27
6.8	As-Built Drawings/ Record Drawings.....	6-28
6.9	General as to Drawings	6-28
6.10	Revision control of shop drawings	6-29
6.11	Design	6-29

6.12	Contractor's Documents	6-30
SP- 7	PHYSICAL AND OTHER DATA AVAILABLE TO CONTRACTOR.....	6-31
7.1	Data and Information.....	6-31
SP- 8	LAYOUT OF WORK AND SURVEYS	6-32
8.1	Reference Points, Lines and Levels	6-32
8.2	Establishment of Baseline for Calibration of EDM Equipment.....	6-32
8.3	Verification	6-32
SP- 9	APPROVALS OF MATERIALS AND EQUIPMENT	6-33
9.1	Quality of Materials.....	6-33
9.2	Submission of Samples and Data	6-33
9.3	Testing.....	6-34
9.4	Cost.....	6-35
9.5	Inspection.....	6-35
SP-10	CONTRACTOR'S QUALITY ASSURANCE PLAN.....	6-35
10.1	Quality Assurance Plan	6-35
10.2	Test Program.....	6-37
10.3	Inspection Testing Program (ITP)	6-37
10.4	Level of Criticality and Control.....	6-37
10.5	Audit.....	6-37
10.6	Documentation	6-37
10.7	Submittal of Contractor's Documents	6-38
10.8	Non-conformity.....	6-38
10.9	Non-Compliance Report (NCR).....	6-38
SP-11	CONSTRUCTION SCHEDULE	6-39
11.1	General.....	6-39
11.2	Requirements & Procedure.....	6-39
11.3	Explanation & Definitions of Different Terms.....	6-41
11.4	Progress Measuring System.....	6-42
11.5	Activity Definition.....	6-42
11.6	Activity Sequencing	6-43
11.7	Activity Duration Estimation	6-43
11.8	Schedule Development.....	6-43
SP-12	SITE FACILITIES.....	6-44
12.1	Electricity Supply.....	6-44
SP-13	CONSTRUCTION CAMPS AND COLONIES.....	6-44
13.1	General.....	6-44
13.2	Location of Construction Camps and Colonies.....	6-45

13.3	Drawings and Specifications for Approval	6-45
13.4	Buildings and Camps	6-46
13.5	Site Work.....	6-47
13.6	Maintenance of Facilities	6-49
13.7	Employer's and Engineer's Personnel to be provided Contractor-Furnished Facilities	6-49
13.8	Medical and Religious Facilities	6-50
13.8.1	Employer-Furnished Facilities	6-50
13.8.2	Contractor-Furnished Facilities.....	6-50
13.10	Fire Protection Facilities	6-52
13.11	Fencing of Work and Security.....	6-54
13.12	Public Telephone system and Fax.....	6-54
13.13	Charges for Services and Facilities	6-54
13.14	Utility Buildings.....	6-55
13.15	Concessions and Leases	6-55
13.16	Works Done After Completion Date.....	6-55
13.17	Vacating Camp.....	6-55
SP-14	OTHER FACILITIES FOR ENGINEER'S AND EMPLOYER'S PERSONNEL	6-56
14.1	General.....	6-56
14.2	Utilities	6-56
14.3	Not Used	6-57
14.4	Maintaining Building and Providing Services	6-57
14.5	Not Used	6-57
14.7	Furnishing, Providing and Maintaining Equipment and Supplies for Field Surveys and Field Office	6-57
14.8	Not used.....	6-58
14.9	Security	6-58
14.10	Work Done After Completion Date.....	6-58
SP-15	NOT USED.....	6-58
SP-16	COOPERATION WITH OTHER CONTRACTORS	6-58
SP-17	HEALTH AND SAFETY	6-58
17.1	General.....	6-58
17.2	Accident and Fire Protection.....	6-59
17.3	Safety Devices	6-60
17.4	Storage and Use of Explosives	6-60
SP-18	CONSTRUCTION UTILITIES	6-61
18.1	General.....	6-61
18.2	Power and Lighting.....	6-61
18.3	Project Telephone System	6-61
SP-19	TRAFFIC - ROADS, BRIDGES	6-62

19.1	General.....	6-62
19.2	Haul and Construction Roads.....	6-62
19.3	Haul Roads from Quarries.....	6-62
19.4	Maintenance of Existing Access Routes, Roads and Other Services.....	6-63
19.5	Utility Lines	6-63
SP-20	ROCK QUARRIES.....	6-63
SP-21	FLOOD WARNING SYSTEM	6-63
SP-22	ENVIRONMENTAL PROTECTION.....	6-64
22.1	General.....	6-64
22.2	Flows in Existing Utilized Water Courses	6-64
22.3	Borrow Areas.....	6-64
22.4	Prevention of Water and Land Pollution.....	6-65
22.5	Dust Abatement	6-65
22.6	Noise Abatement	6-65
22.7	Preservation of Historical and Archaeological Data	6-65
22.8	Protecting of Biological Resources	6-65
22.9	Employment of Local Labour	6-66
22.10	Personnel Protective Equipment (PPE)	6-66
22.11	Cost.....	6-66
SP-23	STANDARDS OF COUNTRIES OTHER THAN THOSE SPECIFIED	6-66
23.1	General.....	6-66
23.2	Abbreviations of Standards	6-66
SP-24	PROGRESS REPORTS, PHOTOGRAPHS AND DIGITAL VIDEO FILM	6-67
24.1	Progress Reports and Photographs	6-67
24.2	Digital Colour Video film	6-68
24.3	Quarterly Progress Presentation	6-69
24.4	Meetings.....	6-69
SP-25	UNIT PRICE BREAKDOWN.....	6-69
SP-26	TRANSPORT AND HANDLING OF CARGO	6-69
26.1	General.....	6-69
26.2	Transportation Route	6-70
26.3	Port Charges and Port Congestion	6-70
SP-27	DIRECTED AND REQUIRED.....	6-70
SP-28	COMMUNICATIONS TO THE ENGINEER.....	6-71
SP-29	OPERATION OF ISLAM BARRAGE	6-71

SP-30	MEASUREMENT AND PAYMENT - GENERAL	6-71
30.1	Payments – General.....	6-71
30.2	Measurements - General.....	6-71
30.3	Measurement by Weight.....	6-71
30.4	Compensation Included	6-72
30.5	Units of Weights and Measurements.....	6-72
SP-31	MEASUREMENT AND PAYMENT	6-73
31.1	General.....	6-73
31.2	BOQ Item No. 1.1– (Bill No. 1) Implementation of Environmental Management Plan (EMP)	6-73
31.3	BOQ Item No. 1.2– (Bill No. 1) Progress Photographs and Digital Video Documentary	6-73
31.4	BOQ Item No. 1.3 – (Bill No. 1) Maintain Engineer's/ Employer's Field Office including Services.....	6-74
31.5	SPS- 1: Furnish, Equip and Supplies for Field Surveys and Engineer's/ Employer's Field Office	6-74
31.6	SPS- 2: Maintain Equipment for Engineer's / Employer's Field Office and Field Survey.....	6-74
31.7	SPS- 3: Adjustment of Contract Price for changes in Legislation under sub-clause 13.7 and for changes in Cost under sub-clause 13.8 of GCC	6-75
31.8	SPS- 4: Payment to Dispute Board (DB) under Clause 20 of General Conditions of Contract (GCC) for Employer's share.	6-75
31.9	SPS- 5: Continuation of Contractor Provided Services during Defect Notification Period.....	6-75

SPECIFICATIONS – SPECIAL PROVISIONS

SP-1 THE SITE

1.1 Location and Access

Islam Barrage, located about 15 km north-west of Hasilpur town, District Bahawalpur was constructed across River Sutlej during 1922-1927 as a component of Sutlej Valley Project for feeding Bahawal Canal and Qaim Canal on the left bank and Mailsi Canal on the right bank.

The Islam Barrage is linked with the rest of the country with a metaled road. The main GT Road is about 100 km from the project site through Hasilpur-Vehari-Khanewal Road. Even the quarry sites are also connected with the construction area with Provincial and National highways. The contractor would however need to develop tracks for access to the equipment and material storage yards from the barrage.

1.2 Brief History of Barrage

Background

Islam Barrage was one of five barrages; (i) Haraik; (ii) Ferozepur; (iii) Suleimanki; (iv) Islam; and (v) Panjnad included in the Sutlej Valley Project for diverting water into the canals in the then desert areas of Bikaner State, some areas in India, areas of former Bahawalpur State and some areas in Sahiwal and Multan Districts of Punjab. It was designed for a maximum discharge of 300,000 cusecs (8,495 m³/s) for feeding the three off-taking channels viz Bahawal Canal (5,400 cusec), Mailsi Canal 4,883 cusec) and Qaim Canal (558 cusec) with water allowance of 5.5 cusec per 1000 acres to irrigate about 1.97 million acres of land in districts Bahawalpur and Vehari. The Barrage operations as well as hydraulic and sediment characteristics of the off-taking canals were disparate after implementation of Indus Water Treaty (1960), which gave the rights of using all waters of the eastern rivers (Ravi, Sutlej and Beas) to India and that of the three western rivers (Indus, Jhelum and Chenab) to Pakistan. Under the Treaty, a series of eight (8) link canals were constructed to transfer water of three western rivers to the areas previously irrigated by the eastern rivers in Pakistan. After the Treaty, water availability at the Barrage reduced drastically, which necessitated changes in the diversion arrangements of various canals off-taking from the Barrage. Accordingly, the offtake point of Mailsi Canal was shifted to Sidhnai Mailsi Link and the capacity of Bahawal Canal was reduced from 5400 cusecs to 1000 cusecs for the upper command area. The command area in the lower reach of the Bahawal Canal was shifted to Sidhnai Mailsi Bahawal Link Canal. Similarly, Qaim Canal was reduced from 558 cusec to 483 cusec.

In addition to the hydraulic problems resulting from the implementation of the Indus Water Treaty, this 90-year old, low crested gated barrage structure is also suffering from aging and multiple hydraulic /sedimentation problems threatening its safety and requiring immediate rehabilitation/ remodelling measures to avert any mishap.

Salient Features with Physical data

Description	Barrage	Subsidiary Weir
a. Weir		
Maximum Designed Capacity (Cs)	300,000	300,000
Routing of Maximum Recorded Flood 1955:		
i. Barrage Structure (Cs)	306,425	---
ii. Cuts & Breaches	150,156	306,425
Total	492,581	
Total Width between Abutments (Ft)	1,621	
Water Way (Ft)	1,399	
Maximum Upstream Flood Level	RL 457.00	RL 457.00
Maximum Downstream Flood Level	RL 455.00	RL 449.80
Pond Level (Normal)	RL 455.00	---
Number of Bays	29	
Width of each Bay (Ft)		
Bays 1-10	60	1649
22-29	60	
11-21	29	
Pier Thickness (Ft)	7 & 6.5	---
Crest Level		
Bays 1-10	R.L 441.00	441.00
11-21	R.L 435.50	
22-25	R.L 441.00	
26-29	R.L 441.33	
Upstream Floor Level		
Bays 1-10	R.L 438.25	433.00
11-21	R.L 435.50	
22-29	R.L 438.25	
Downstream Floor Level		
Bays 1-4	R.L 435.00	422.5
5-10	R.L 435.75	
11-21	R.L 432.50	
22-29	R.L 435.75	
Length of Upstream Floor:		
Impervious (Ft)		
Bays 1-4	150	57
5-10	115	
11-21	200	
22-25	115	

<u>Description</u>		<u>Barrage</u>	<u>Subsidiary Weir</u>
	26-29	100	
Pervious (Ft)			
	Bays 1-29	35	45
Length of Downstream Floor:			
Impervious (Ft)			
	Bays 1-4	87	104
	5-10	72	
	11-21	149	
	22-25	122	
	26-29	87.75	
Pervious (Ft)			
	Bays 1-4	217	85
	5-10	232	
	11-21	147	
	22-25	233	
	26-29	217	
b. <u>Weir Gates</u>			
Type		Stony	Hoisting Winches
Maximum Designed Head (Ft)		15	
Width (Ft)			
	Bays 1-10	60	Single 12 ft wide and 9 ft high
	11-21	29	
	22-29	60	
Bottom Level when Fully Up		RL 456.00	
Bottom Level when Fully Down	Bay 1-10	RL 441.00	RL 433.00
Double Gates 10.5 ft high each	11-21	RL 435.50	
	22-25	RL 441.00	
	26-29	RL 441.33	
Top Level when Fully Down (All)		RL 456.00	
c. <u>Right and Left Undersluices</u>			
Number of Bay		4	
Width of Each Bay (Ft)		60	
Pier Thickness (Ft)		7	
Crest Level		RL 441.33	
Upstream Floor:			
	Level	RL 438.25	
	Length:		
	Impervious (Ft)	100	
	Pervious (Ft)	35	
	Total:	135	
d. <u>Undersluices Gates</u>			
Type		Stony	
Width (Ft)		60	

Description	Barrage	Subsidiary Weir
Height (Ft)	15	
Bottom Level when Fully Up	RL 456.00	
Bottom Level when Fully Down	RL 456.00	
e. <u>Cut-Offs</u>		
Type	Steel Sheet Pile Lines	Steel Sheet Pile Lines
Upstream Depth (Ft)	---	17
Downstream Depth (Ft)	20	19
Depth under the Crest (Ft)	31.75	---
f. <u>Loose Protection</u>		
Upstream Thickness Stone Apron (Ft)	4	4
Downstream average Thickness of Loose Stone Apron (Ft)	6	5
Upstream Length (Ft)	35	45
Downstream Length (Ft)	95	65
g. <u>Divide Walls Upstream</u>		
Top Level	RL 459.00	---
Top Width (Ft)	5	
Length (Ft)	650 ft from Gate Line	
h. <u>Guide Banks</u>	Left	Right
Length Upstream (Ft)	3380	3380
Length Downstream (Ft)	920	920
Top Level Upstream	RL 463.00	RL 463.00
Top Level Downstream	RL 459.00	RL 459.00
Top Width Upstream	30	30
Top Width Downstream	60	60
Free Board Upstream	8	8
Free Board Downstream	9	9
Side Slopes:		
Front Side	2 : 1	2 : 1
Rear Side	3 : 1	3 : 1
j. <u>Marginal Bunds</u>	Left	Right
Length (Ft)	50,000	67,000
Side Slopes River Side	3 : 1	3 : 1
Side Slopes Land Side	2 : 1	2 : 1
Top Width (Ft)	20	25
Top Level at Barrage	RL 462.00	RL 462.00
Free Board (Ft)	5	5
k. <u>Road Bridge</u>		
Type	Original Girder Bridge replaced with Concrete Bridge	
Top Level of Pavement	RL 463.58	

Description	Barrage	Subsidiary Weir
Width (Ft)	22	Including wheel guards

I. Canal Head Regulators

	Bahawal Canal	Qaimpur Canal
Capacity Existing / Proposed (Cs)	5,400 / 1,000	558 / 483
Crest level	RL 445.00	RL 446.00
Floor Level	RL 438.25	RL 438.25
Full Supply Level at Head	RL 453.50 / 449.80	RL 454.00 / 453.50
Number of Bays	7	2
Width of Each Bay (Ft)	20	9
Pier Thickness (Ft)	4	4
Downstream Floor Level	RL 443.50	RL 445.00
Downstream Floor Length		
Impervious (Ft)	59.65	59.65
Pervious (Ft)	17	17
Loose Stone (Ft)	68	68

Necessity of Rehabilitation

The barrage started giving trouble from the very first year of its operation, and during the floods of 1927 and 1928 serious damages to the floor and protection works were noticed in the downstream area. Originally, the main weir had 16 bays each 60 feet wide, flanked by right and left under sluices each consisting of 4 bays and 60 feet wide each. During the heavy flood of August 1929, six central bays (No. 11 to 16) collapsed and disappeared altogether with piers, superstructure, gates and road bridge. Huge damages to other parts of the barrage also occurred with cracking of concrete floors almost all over the structure. The six washed away bays were subsequently reconstructed with 11 bays of shorter span of 29 feet each besides other design modifications to strengthen the structure which substantially changed the Barrage overall configuration. The damage had occurred mainly due to excessive retrogression of the river bed far more than it had been catered for in the design. In subsequent years, damages of varying nature continued to occur which were repaired and structural features strengthened from time to time by adopting different techniques. This experimental treatment with the structure came to an end in 1953 after construction of a high crested subsidiary weir throughout the barrage width at a short distance of 440 ft below the gate line for better energy dissipation

With the conclusion of Indus Waters Treaty in 1960, the right of exclusive use of Ravi, Sutlej and Beas river waters was given to India, which constructed two big dams at Bhakra and Pandoh with massive live storage capacity of 11.3 MAF to block all incoming flows of the Sutlej river. The reduced river flows changed the river morphology; flow channel in the river bed upstream of the barrage was narrowed, subsoil water table in the riverine belt was depressed and pressure on protective embankments increased during floods. The regular inflow of water to Islam Headwork's got confined to about 1,000 cusecs from Pakpattan Islam Link. The drastic reduction in discharges upstream of the barrage has put the bed

configuration into a drastic imbalance condition causing severe masking close to the structure. Hence a fresh look on the safety parameters became necessary.

Presently, the barrage the aging process coupled with deferred maintenance has caused general deterioration of different structures with significant damage to the regulation gates and hoisting system. In addition, the barrage capacity has been significantly reduced due to adverse approach conditions resulting from bela formation. Condition survey of the barrage has revealed serious damages especially in the subsidiary weir and flank walls of the subsidiary weir of the barrage. Large cracks are visible on the subsidiary weir crest of the downstream glacis with reinforcement visible at many places. Any major flood may rip off the glacis of the subsidiary weir which could, in turn, jeopardize the safety of Barrage itself. Any damage to this barrage can render it non operative causing colossal losses due to non-production of agricultural crops, loss of revenue and enhanced restoration cost, adversely affecting the national economy in addition to human, social miseries and adverse environmental consequences.

Deterioration and damages to gates and hoisting system are also significant. Leakage of the order of 100 to 300 cusecs against an inflow of 1000 cusecs has been noticed. This loss of precious water has serious repercussions and warrants immediate measures to stop this wasteful leakage and improve water availability for the canal command areas.

Feasibility studies for rehabilitation of the Barrage were carried out by the ACE-EGC-ARCADIS Joint Venture during 2005. Investigations carried out in the feasibility studies concluded that the barrage was in need of rehabilitation works. The study proposed provision of spillway for flood bypass arrangement, rehabilitation of gates including its motorization, installation of pressure measuring instruments, raising of flood embankments and provision of wetting channels. Accordingly, the department engaged the services of another Joint Venture NESPAK and NDC in association with ICS which completed the detailed design for the project during 2009. During the detailed design stage, however, the barrage capacity has been increased by lowering of subsidiary weir by 1 foot thereby eliminating the need for spillway and flood bypass channel.

Project Scope

The proposed project components are as follows:

- i) Rehabilitation of Main Barrage and subsidiary weir, which include:
 - a. Grouting underneath the floors of barrage and subsidiary weir;
 - b. Repair of cracks in abutment walls, bridge piers, fish ladder and divide walls;
 - c. Lowering of crest of subsidiary weir by 1 ft and overlay of concrete on upstream and downstream floor of the subsidiary weir (Project overall Interventions will increase the Barrage capacity from 300,000 cusec to 332,000 cusecs).

- d. Shortening length of existing divide walls to improve approach conditions;
- e. Provision of two new divide walls in Bays 10-11 & 21-22 to improve hydraulic conditions by separating main weir and depressed weir;
- ii) Rehabilitation/ replacement and upgradation of gates and hoisting system including provision of motors for electronic gate operation as well as provision for manual gate operations;
- iii) Raising and strengthening of guide bunds.
- iv) Provision of instrumentation and control system for uplift pressure monitoring;
- v) Construction of residential buildings, upgradation/ rehabilitation of offices/ canal rest house/ regulation building and road network in Canal Colony, Pallah.

1.3 Site of Works

The Site of the Works is the area for construction of the Barrage and Ancillary Works within the right-of-way lines, boundaries and limits shown on the Drawings and such additional areas adjacent thereto as may be designated by the Engineer from time to time for the construction to be performed under the Contract and all such areas and additional areas shall be comprised in the Site as defined in Clause 1 of the Conditions of Contract.

Within the areas which may from time to time be defined as the Site, the Contractor shall carry out and perform the construction of Works, and subject to approval of the Engineer, will be permitted to construct temporary roadways, camps, buildings and Temporary Works which he may require for the construction of the Works. If the Contractor wishes to use any land other than as aforesaid for construction of camps or for any other Contract purposes, the Contractor shall make all necessary arrangements with the owner(s) thereof and shall bear all rentals and other costs connected therewith.

The Employer will give to the Contractor possession of as much of the area designated and defined as the Site and shown on the drawings as may be required to implement the Works, when the Engineer's notice to commence work is given.

The Site is subject to seismic disturbances and dust storms. Insects and vermin are prevalent. Attention is drawn to the necessity for allowing for these factors in the design and specification of Temporary Works, materials, plant and equipment for which the Contractor may be responsible.

1.4 Climatological Data

1.4.1 Temperature

The climate of the area is characterized by long hot summer and short mild winter. The summer extend from April to October with mean temperature ranging between 39°C to 42°C. May and June are the hottest months during which maximum temperature may rise up to 50°C. The winter lasts from December to February with minimum temperature ranging

between 06°C to 20°C. January is the coldest month and chill prevails during the winter when old wave from Quetta ranges, lashes the area.

1.4.2 Winds and Storms

Wind velocity remains low in winter but begins to intensify during summer and may assume the form of dust storm between May and September.

1.4.3 Rainfall

The average rainfall in the area is 150 to 180mm. Nearly 60% of the precipitation is received during July-August whereas the rest is unevenly spread over the remaining months. On the whole the rainfall is too scant and unreliable to be of any agriculture use.

1.5 Physical Characteristics

1.5.1 Not used

1.5.2 Geology

The thickness of sedimentary deposits falls in the range of 1 to 2 km. The deposition shows extreme heterogeneity both horizontally and vertically as a result of historical changes in the river flow regime. The sediments generally comprise soil material of all grades falling in the range of sand, silt and clay, with predominance of sandy material. These are generally devoid of grain size bigger than sand, viz., pebbles, cobbles, gravels, stones, etc. The area is characterized with the extensive lenses of hard pans in the lower strata. These have developed by the deposition of finer material by the old river system. No rock outcrop is located in the near vicinity of the barrage or its command area.

1.5.3 Soil Type

New Bridge Location:

Fine sand layer is present in dense to medium dense state up to a depth of 20ft below NSL which is further underlain by stratum of poorly graded sand in medium dense to very dense state up to a maximum investigation depth of 164ft below NSL.

Left retired embankment:

Lean clay is present in firm to stiff state up to a maximum depth of 10ft below NSL which is further underlain by a stratum of silty clay in medium dense state up to a maximum investigated depth of 23ft below NSL.

Right retired embankment:

Lean clay is present in firm to stiff state up to a maximum depth of 10ft below NSL which is further underlain by a stratum of sandy silt in medium dense state up to a maximum investigated depth of 23ft below NSL.

Stilling Basin (Downstream of Islam Barrage):

Sandy silt layer is present in medium dense state up to a depth of 16ft below NSL which is further underlain by a stratum of silty sand in medium dense to very dense state up to a maximum depth of 49ft below NSL.

1.5.4 Topography

On both sides the barrage structures mostly fall in sub-recent, recent and active floodplains of Sutlej River. Generally, the study area is nearly level to undulating exhibiting remnants of old river bed including oxbow lakes, levees, river scars. At the outskirts of the present irrigation command area lies the greater Cholistan.

1.5.5 Sub-Surface Investigations

Some geophysical and geotechnical investigations were got conducted by the Employer through the consultants. Reports of investigation are available for consultation by the Contractor. The Employer, however, does not guarantee correctness of the designations of any interpretations, deductions, or conclusions relative to surface and sub-surface conditions. Each bidder must form his own opinion of the character of the work and sub-surface conditions. He must make his own interpretations and satisfy himself by his own investigations and research regarding all conditions affecting the work to be done. The Contractor must assume all responsibility for the deductions and conclusions as to nature or condition of materials to be excavated and of doing other works.

1.6 River Discharges

Design capacity of Islam Barrage is 3.0 Lac cusecs. The historic data of River Sutlej at Islam Barrage indicates that the flood discharge in the river exceeded the design capacity of the barrage for two times. Now-a-days, River Sutlej is non-flowing river whereas Pakpatan-Islam (PI) Link Canal brings about 1000cusecs of water to Islam barrage.

1.7 Surface Water

The natural surface water resources of the project area include the Sutlej river water and PI Link Canal water at various times of the year and is fit for agriculture works if sediments are removed.

1.8 Groundwater

Groundwater at shallow depths is not suitable for drinking. If the groundwater is to be used for the water supply to the labor camp then it will be the responsibility of the Contractor to

extract water from deeper aquifer, and finally treat it to meet the WHO drinking water standards.

SP-2 WORK UNDER THE CONTRACT

2.1 General Description

The Contract comprises execution and completion of the Works and remedying of any defects therein and, except in so far as the Contract otherwise provides, the provision of all labour, materials, equipment, plant, Temporary Works and everything whether of a temporary or permanent nature required in and for such execution, completion and remedying so far as the necessity for providing the same is specified in or can reasonably be inferred from the Contract.

2.2 Permanent Works

Permanent Works of Islam Barrage are as follows:

Civil Works

- a) Rehabilitating barrage and subsidiary weir:
 - i. Restoring damages of the barrage, subsidiary weir and canal regulators;
 - ii. Grouting sub-strata under the floors of barrage, subsidiary weir and regulation gates to fill cavities and voids;
 - iii. Improvement of upstream approach conditions by construction of a cunnette in the bela;
- b) Rehabilitation of guide banks and retention of the designated breaching section serving as safely measures for passing of the expected 100-year flood through the existing barrage capacity;
- c) Rehabilitation of flood embankments with provision of wetting channel and strengthening spurs to withstand flood pressures liable to be exerted on them by a 100-year flood;

Mechanical and Electrical (M&E) Works

- a) Rehabilitation/ replacement of gates, hoisting mechanism and motorization of gates at the barrage and canal head regulators;
- b) Provision of instrumentation including standpipes and electronic piezometers for uplift pressure monitoring at the barrage floor;
- c) Installation of water level sensors and surveillance cameras.

- d) Construction of 11 kV dedicated overhead feeder networks from the nearest source 132/11 kV Grid Station, Ludden, installation of 11 kV/0.4 kV distribution transformers and provision of standby generation etc

2.3 Mechanical and Electrical Equipment

The work under this Contract will include designing, providing, insuring, transporting, installing and testing mechanical and electrical equipment.

2.4 Temporary Works

Temporary works are as follows:

- Dewatering system and Cofferdams on upstream and downstream side of barrage for barrage works
- Furthermore, the Contractor shall procure, furnish, provide and arrange for all necessary electric power, water and services; be responsible for construction and maintenance of the necessary access roads, construction camps and colonies, offices, warehouses, and perform all other work necessary for completion of the Works described herein in strict conformance with these Specifications.

SP-3 NOT USED

SP-4 PROJECT FEATURES

4.1 Description of Principal Project Features

The works include both Civil and Mechanical/Electrical works. The Civil Works comprises grouting work, repair of concrete floors, bridge piers, divide walls, earthwork and coffer dams etc. The Mechanical/Electrical works include rehabilitation/ replacement, modernization and automation of Barrage Gates and Hoisting system.

Description of the following major works to be performed under the Contract is general in nature and does not purport to describe all of the works and facilities to be provided under this Contract.

Civil Work

- Reinforced concrete work;
- Dismantling of concrete;
- Stone pitching and stone apron along river training works;
- Stone apron upstream and downstream of the barrage;

- Cofferdams (Earth work, Stone work etc. alongwith Installation of dewatering arrangements);
- Repair work of the deteriorated and damaged barrage structure;
- Grouting underneath barrage floor;
- Earthwork for raising and strengthening of flood embankments;
- Infrastructure development works in barrage colony including buildings, roads, water supply, sewerage and overhead tank etc;
- Standpipes, electronic Piezometers for uplift pressure monitoring under the existing barrage floor.

Mechanical/ Electrical Work

- Repair/ replacement of barrage gates, hoisting system and steel decking, including replacement of gate sill beams, roller trains and rocker assemblies etc;
- Installation of new seals;
- Installation of gate guides;
- Installation of electric motors and coupling with existing manual system.
- Refurbishing hoisting platform with steel decking;
- Installation of vibrating wire type piezometers for electronic monitoring of uplift pressures underneath the existing barrage floor;
- Construction of 11 kV dedicated overhead feeder networks from the nearest source 132/11 kV Grid Station, Ludden, installation of 11 kV/0.4 kV distribution transformers and provision of standby generation etc

SP-5 RIVER DIERSION, CARE AND HANDLING OF WATER

5.1 Contractor's River Diversion Scheme

The Contractor shall plan and design all aspects of his scheme for diverting the river and for taking care of the water, so that the Works can be properly constructed in accordance with the Contract. The Contractor's River Diversion Scheme shall comply with the requirements of Section 2 of Specifications (Part B) - Technical Specifications. The Contractor shall get his scheme approved by the Engineer.

The Contractor shall be responsible to protect the Works constructed by him from floods. If for any reason the river bed levels go down below the foundation levels of the weir, then he shall fill that area as per requirements of the Contract up to design bed levels of the weir at his own cost.

Approval by the Engineer of the Contractor's river diversion scheme and care and handling of water shall not relieve the Contractor of his responsibility or diminish his liability for the suitability and adequacy of the measures for the diversion and controlling the river flows and care and handling of water throughout the construction period. The Contractor shall ensure proper protection to the Works against weir flows, scours, accretions, dropping of gates, surface flows and sub-surface water inflows.

5.2 Contractor's Grouting Scheme

At least 28 days prior to starting of grouting, the contractor shall submit his grouting methodology and scheme to the Engineer for approval.

The Contractor shall plan and design all aspects of his grouting scheme to the satisfaction of the Engineer. Approval by the Engineer of the scheme shall not relieve the Contractor of his responsibility or diminish his liability for the suitability and adequacy of the measures for the grouting.

5.3 Maintaining Irrigation Flows

The Contractor shall plan, execute and maintain the completed works in a manner that flow passing the barrage and that diverted into the canals (Qaim and Bahawal canals) will not be disrupted.

SP- 6 DRAWINGS OF WORKS

Drawings to be Furnished by the Engineer

6.1 Tender Drawings

The drawings entitled Barrage and Ancillary Works, numbered as listed in the List of Tender Drawings, and hereinafter referred to as Tender Drawings; show the scope of the work to be performed by the Contractor. The Tender Drawings are marked "FOR BIDDING PURPOSES ONLY" and shall not be used as a basis for fabrication or construction but may be used as a basis for placing preliminary orders for materials, subject to corrections based on the future issue of Drawings as provided under Sub-Clause SP 6.2 hereof. Any other Drawings if issued through Addenda before opening of Tenders, shall become part of the Tender Drawings. In general, the structural drawings for the work are general design drawings that are expected to be modified and supplemented by additional details.

6.2 Drawings Issued for Construction

After award of the Contract, the Tender Drawings will be replaced by Drawings Issued for Construction including supplementary specifications if necessary. Such Drawings and specifications shall be deemed to be included in the expression Supplementary Drawings and Instructions under Sub Clause 3.3, of the Conditions of Contract. The Drawings Issued for Construction will include Tender Drawings reissued, Tender Drawings modified, and additional drawings as required to develop the work in greater detail, and to make modifications as necessary to further detail the construction required. The Drawings Issued for Construction that show changes from the Tender Drawings and Specifications will be reviewed by the Engineer for his determination of adjustments (if any) of the Contract Price in accordance with the provisions of Clause 13, Variations and adjustments, of the Conditions of Contract. The Drawings Issued for Construction will be drawings from which shop drawings, reinforcing detailing, reinforcing bar schedule, erection, concrete placing, formwork, or other construction detail drawings shall be prepared by the Contractor.

The work shall be executed in conformity with the Drawings Issued for Construction. The Engineer and Contractor shall jointly prepare a schedule for issuance to the Contractor of Drawings Issued for Construction of the various parts of the Works based on a list of drawings prepared by the Engineer.

6.3 Definition of Construction Drawings

The term Construction Drawings as used in the Specifications means Drawings Issued for Construction as described in Sub-Clause SP 6.2 hereof.

6.4 Checking of Drawings

The Contractor shall check all Construction Drawings carefully as soon as practicable after receipt thereof and shall promptly advise the Engineer of any errors or omissions discovered.

6.5 Copies of Drawings and Contract Documents

Drawings and Contract Documents will be issued to the Contractor as described below.

6.5.1 Tender Drawings

One set of the Tender Drawings will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

6.5.2 Construction Drawings

One soft copy (AutoCAD files of construction drawings on CD) and one print of each Construction Drawing will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

6.5.3 Contract Documents

One set of Contract Documents will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

6.6 Drawings to be furnished by the Contractor

6.6.1 Shop and Reinforcement Drawings

All shop drawings required for the Works including reinforcing steel detailing, reinforcing bar bending schedules, fabrication, field erection and layout and construction detail drawings shall be furnished by the Contractor for approval by the Engineer. Written drawing matter shall be in English. If more detailed drawings are necessary to complete any part of the work, such detailed drawings shall be prepared by the Contractor and submitted to the Engineer for approval. All drawings shall be complete and shall be submitted in the due time and in logical order to facilitate proper coordination.

The Contractor will submit Shop Drawings Submission and Approval Schedule within 28 days of the Notice to Commence. The shop drawings schedule will cover issuance of construction drawings, submission of shop drawings and approval of shop drawings. The Contractor will work out backward path from the relevant construction activity to calculate the date of issuance of construction drawings.

6.6.2 Lift and Placement Drawings

At least 28 days prior to starting construction of any concrete lift or other placement, the Contractor shall submit lift or other placement drawings to the Engineer for approval. Lift or other placement drawings shall be to such scale as to show clearly all recesses, grooves, block-outs, openings and embedded work, including embedded structural, mechanical and electrical items, in each lift in sufficient detail for proper installation and prosecution of the work.

6.6.3 Contractor's Facilities Drawings

Three prints of drawings showing the layout of the facilities the Contractor proposes to use on the work shall be submitted by the Contractor to the Engineer for approval. The drawings shall be submitted sufficiently in advance of purchase or delivery to permit adequate approval by the Engineer. The drawings shall show the locations of the principal components of the construction facilities; offices; shops and storage buildings; housing facilities and storage areas and yards which the Contractor proposes to construct at the Site of the Works and elsewhere.

The Contractor shall furnish for review by the Engineer drawings showing the general features of his aggregate processing plant; aggregate transporting, storage and reclaiming facilities; aggregate rinsing and excess water drainage plant; coarse aggregate re-screening plant; concrete batching and mixing plant; concrete conveying and placing plant and cooling facilities for concrete etc. The drawings shall show appropriately the capacity of each major feature of the facilities, including the rated capacity of the aggregate processing, transporting, storage and reclaiming facilities; volume of aggregate storage; capacity of

cement storage; rated capacity of the concrete batching and mixing plant; rated capacity of the concrete transporting and placing plant and rated capacity of plant for pre-cooling of concrete.

Drawings showing any changes in the facilities made during design and erection or after the facilities are put in operation shall be submitted to the Engineer for review. Two sets of the drawings will be retained by the Engineer and one set will be returned to the Contractor with comments.

6.6.4 Other Drawings

Drawings showing proposed methods of construction and other drawings required by the Specifications shall also be submitted to the Engineer for prior review.

6.6.5 Mechanical, Electrical Drawings - Diagrammatic

Certain mechanical and electrical drawings are diagrammatic and indicate the general arrangement of the work. The Contractor shall refer to the structural and other appropriate detail drawings for information as to the location of all fixtures and equipment. Where additional information is required, the Contractor shall request this information from the Engineer in writing.

6.7 Submissions and Approvals

Except as otherwise specified, four black and white copies of each drawing for approval or review shall be furnished as herein required. Transmittals shall be made to the person(s) and at the address(es) in accordance with written instructions to be furnished by the Engineer within 28 days after award of Contract.

Within 28 days after receipt, the Engineer will send one copy to the Contractor marked either Approved, or Approved Except as Noted, or Returned for Correction. The notations Approved and Approved Except as Noted will authorize the Contractor to proceed with the fabrication of the materials and equipment covered by such drawings subject to the corrections, if any, indicated thereon. When prints of drawings have been Returned for Correction, the Contractor shall make the necessary revisions on the drawings and shall resubmit prints for approval in the same manner as for new drawings.

Every revision made during the life of the Contract shall be shown by number, date and subject in a revision block. The Contractor will be billed by the Engineer for the review of these revised drawings at a rate of Rs. 1,500 per man-hour if the drawings were returned for non-conformance with the Contract Documents. Each subsequent review because of non-conformance will be billed to the Contractor at the same rate. Payment by the Contractor shall be made to the order of the Employer.

Upon receipt of prints which have been Approved or Approved Except as Noted, the Contractor (after duly incorporating the indicated changes in case of drawings marked Approved Except as Noted) shall furnish four prints plus one soft copy (AutoCAD files on CD) of each drawing to the address as instructed above unless otherwise directed. If

revisions are made after a drawing has been approved, the Contractor shall furnish eight additional prints and one soft copy (AutoCAD files on CD) subsequent to each approved revision.

All of the applicable requirements of this Clause with reference to drawings to be prepared by the Contractor shall apply equally to catalogues, illustrations, printed specifications or other data submitted for approval.

Any work done prior to the approval of drawings shall be at the Contractor's risk. The Engineer will have the right to request any additional details and to require the Contractor to make any changes in the design which are necessary to conform to the provisions and intent of these Specifications without additional cost to the Employer. The approval of the drawings by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval by the Engineer of the Contractor's drawings shall not be held to relieve the Contractor of his obligation to meet all the requirements of these Specifications or of his responsibility for the correctness of the Contractor's drawings or of his responsibility for correct fit of assembled parts in their final positions or of his responsibility for the adequacy of the method of construction.

For submission and approval of gate equipment modification drawings of Technical Provisions will apply.

6.8 As-Built Drawings/ Record Drawings

The Contractor shall, during the progress of the work, keep a record of all changes in and corrections to the designs and layouts shown on the Drawings. In addition to prints marked with the changes to the original construction drawings, the Contractor will submit soft copy (AutoCAD files on CD with changes made on separate layer) to the Engineer. The Contractor will prepare the As-Built/Record Drawings. The price of such Drawings shall be deemed to be included in the Contract Price.

6.9 General as to Drawings

Except as otherwise specifically approved all drawings shall be of standard size (A1) measuring approximately 22 inch x 34 inch (594 mm x 840 mm).

All drawings shall be on durable paper with dark lines on a white background. All legend on drawings shall be in English. All dimensions shall be shown in British units of measurement except for gate equipment modification drawings where the dimensions shall be shown in British and/or metric units of measurement system.

Where metric units may be used in connection with detail the British equivalent shall be marked alongside in brackets. For metric conversions B.S. 350 "Conversion Factors and Tables" shall be used.

Each drawing shall have following particulars in the lower right-hand corner in addition to the Contractor's name, date, scale, number and title of the drawing:

- Employer's Name: Head/ Project Director, PMO Punjab Barrage
- Project Name: Rehabilitation and Modernization of Islam Barrage

The drawings should be in a form approved by the Engineer. When the print of a drawing is folded to A4 size, its number and revision suffix shall be visible.

6.10 Revision control of shop drawings

There will be also a Controlled Copy of latest revision of shop drawings available in site office. If there is change in Revision of shop drawings all copies of previous revisions of drawings will be stamped as "SUPERSEDED" and will be immediately removed from Site Office, Engineer & Employer Office and Notified to the Engineer.

6.11 Design

The Contractor shall carry out, and be responsible for, the design of the Mechanical Works and Electrical/ Instrumentation Works in accordance with the Employer's Requirements. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria [if any] stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Engineer for consent the name and particulars of each proposed designer and design Subcontractor.

The Contractor will provide the details of design office facility and organization chart of design for the Consent & Approval of the Engineer before the commencement of design activities.

The Contractor warrants that he, his designers and design subcontractors have the experience and capability necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer at all reasonable times, until the expiry date of the relevant Defects Notification Period.

Upon receiving notice under sub-Clause 8.1 [Commencement of Works], the Contractor shall scrutinize the Employer's Requirements (including design criteria and calculations, if any) and the items of reference mentioned in Sub-Clause 4.7 [Setting Out]. Within the period stated in the Appendix to Tender, calculated from the Commencement Date, the Contractor shall give notice to the Engineer of any error, fault for other defect found in the Employer's Requirements or these items of reference.

After receiving this notice, the Engineer shall determine whether Clause 13 [Variations and Adjustment] shall be applied, and shall give notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the error, fault or other defect when examining the Site and the

Employer's Requirements before submitting the Tender, the Time for Completion shall not be extended and the Contract Price shall not be adjusted.

6.12 Contractor's Documents

The Contractor's Documents shall comprise the technical documents required to be produced by the Contractor including documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, documents defining the Contractor's design, method statements and the documents described in Sub-Clause 4.29 [As Built documents].

The Contractor shall prepare all Contractors' Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel. The Employer's Personnel shall have the right to inspect the preparation of all these documents, wherever they are being prepared.

Contractor's Documents which are to be submitted to the Engineer for review and/or for approval, shall be submitted accordingly, together with a request for review. In the following provisions of this Sub-Clause, "review period" means the period required by the Engineer for review and/or for approval. The review period shall be twenty-eight (28) days. In case the Engineer fails to review the contractor's documents with 28 days of submission, the same shall be considered as approved.

The Engineer may, within the review period, give notice to the Contractor that a Contractor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed (and, if specified, approved) in accordance with this sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the prior approval or consent of the Engineer shall have been obtained:

- (a) in the case of a Contractor's Document which has (as specified) been submitted for the Engineer's approval:
 - (i) the Engineer shall give notice to the Contractor that the Contractor's Document is approved, with or without comments, or that it fails (to the extent stated) to comply with the Contract
 - (ii) execution of such part of the Works shall not commence until the Engineer has approved the Contractor's Document; and:
 - (iii) the Engineer shall be deemed to have approved the Contractor's Documents upon the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, unless the Engineer has previously notified otherwise in accordance with sub-paragraph(i)

- (b) execution of such part of the works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution;
- (c) execution of such part of the Works shall be in accordance with these reviewed (and, if specified, approved) Contractor's Documents; and
- (d) if the Contractor wishes to modify any design or document which has previously been submitted for review (and, if specified, approval), the Contractor shall immediately give notice to the Engineer. Thereafter, the Contractor shall submit revised documents to the Engineer in accordance with the above procedure.

If the Engineer instructs that further Contractor's Documents are required, the Contractor shall prepare these promptly.

Any such approval or consent, or any review (under this Sub-Clause or otherwise), shall not relieve the Contractor from any obligation or responsibility.

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.

SP- 7 PHYSICAL AND OTHER DATA AVAILABLE TO CONTRACTOR

7.1 Data and Information

Subsurface and other physical information contained in the Contract Documents or otherwise made available to the Contractor by the Employer shall be deemed not to be representations or warranties. The information listed below is made available in order that the Contractor may have the same information as is available to the Employer and is not part of the Contract. The Employer is reasonably confident of the accuracy of this information which has been collected following standard procedures. Interpretation of the data shall be deemed Contractor's own understanding and shall in no way bind the Engineer and the Employer.

7.1.1 Data Furnished with the Tender Documents

The following are furnished with the Tender Documents:

- Hydrological and hydrographic information

7.1.2 Data Available for Examination at Engineer's Office

The following data and information used in connection with studies for the work are available for examination by the Contractor at the offices of the Engineer at Lahore and at the Site:

- Results of hydraulic model studies
- Site area topographic maps on 1/5000 scale
- Results of field and laboratory tests
- Report on geophysical survey

SP- 8 LAYOUT OF WORK AND SURVEYS

8.1 Reference Points, Lines and Levels

The Engineer shall provide reference survey control stations in the field to enable the Contractor to establish there from his own survey control stations for construction. Slope stakes, reference lines and points shall be set out by the Contractor before the commencement of excavation and layout of structures and shall be re-established as required during the progress of Works.

8.2 Establishment of Baseline for Calibration of EDM Equipment

The Contractor shall be responsible for establishment and maintenance of a baseline to calibrate EDM (Electronic Distance Measuring) equipment at an appropriate location. The baseline shall be established to conform to the Royal Institution of Chartered Surveyors London publication "Guide for the Calibration and Testing of EDM Instruments". It will also take into account the US Army Corps of Engineer's respective Publication.

8.3 Verification

The Engineer may make checks as the work progresses to verify lines and grades established by the Contractor and to determine the conformance of the work as it progresses with the requirements of the Drawings and Specifications. Such checking by the Engineer shall not relieve the Contractor of his responsibility to perform all work in accordance with the Drawings and Specifications and the lines and grades given therein.

The American Concrete Institute (ACI) Publication 347R-94 "Guide to Formwork for Concrete" and "Standard Specifications for Tolerances for Concrete Construction and Materials (ACI 117-90)" shall be used as reference where tolerances are not given on the Drawings.

8.3.1 Based upon the Engineer's basic control, the Contractor shall provide his own primary control points, as needed for the Works, and shall preserve and maintain them until otherwise authorized.

The Contractor shall be responsible for maintaining all survey markers/monuments, and property corners. If any markers/monuments are destroyed or damaged, the Contractor shall arrange, at his own cost, to retrace and replace them to the entire satisfaction of the Engineer. If a monument cannot be replaced in its original position, the Contractor shall

install a witness corner. The Contractor shall complete and file monument reference cards on all monuments as instructed by the Engineer.

8.3.2 The Contractor shall employ experienced construction surveyors with adequate experience in the construction surveys similar in nature to that required by this Contract.

8.3.3 Based upon the Engineer's established control monuments, the Contractor shall establish all lines and grades necessary to control the Works, and shall be responsible for all measurements that may be required for execution of the Works to the tolerance prescribed in Sub-Clause SP 8.3.5 herein below.

8.3.4 The Contractor shall provide all materials, equipment and labour required for surveying work, including, but not limited to, instruments, stakes, spikes, steel pins, templates, platforms, and tools, and except as required to be incorporated in the work or left in place, all such materials and equipment, shall remain the property of the Contractor. Surveying instruments shall be in perfect working condition and shall be subject to rigid inspection for proper operation at least after every two weeks of use. Defective instruments shall be promptly replaced or repaired.

8.3.5 Survey data shall be recorded in accordance with recognized professional surveying standards. Original field notes, computations, and other surveying data shall be recorded in the Contractor furnished field books. Notes or data not in accordance with standard formats will be rejected. Illegible notes or data or use of erasures on any page of a field book will be considered sufficient cause for rejection of part or all of the field book. Copied notes or data will not be permitted; therefore, rejection of part or all of a field book may necessitate re-surveying. Corrections by ruling or lining out errors will be satisfactory.

8.3.6 The cost of all materials, equipment, surveyors and labour required for surveys for the Works and quantity surveys required by this clause shall be deemed to have been included in the rates and prices of the various items in the Bill of Quantities and no separate measurement and payment in their respect shall be made.

SP- 9 APPROVALS OF MATERIALS AND EQUIPMENT

9.1 Quality of Materials

All materials, fixtures, fittings and supplies furnished under the Contract shall be new and unused and in compliance with the requirements of the Contract. No inferior or low-grade materials, supplies or articles will be either approved or accepted, and all work of assembly and construction shall be done in a first-class and workmanlike manner. In asking for prices for materials intended for delivery to the Site and incorporation in the Works under any portion of these Specifications, the Contractor shall provide the manufacturer or supplier with complete information as may be necessary to secure compliance to this Clause and, in every case, he shall quote this Clause in full to each such manufacturer or supplier.

9.2 Submission of Samples and Data

As soon as practicable after award of Contract, the Contractor shall submit for the approval of the Engineer, drawings, catalogues, diagrams and other descriptive data for all mechanical, electrical, architectural and such other materials and equipment designated by the Engineer, which the Contractor proposes for use under this Contract. For certain materials and equipment, data may be required to be submitted in accordance with a detail form furnished by the Engineer. Samples of materials shall be submitted to the Engineer for approval when so directed. Items submitted shall be properly labelled to indicate the Contract number, Contractor, source of supply, manufacturer and other data required by these Specifications. All items shall be submitted in sufficient time, but not later than 56 days prior to purchase, to permit proper consideration and action thereon without delaying the approved construction schedule. Items sent to the Engineer for approval shall be shipped prepaid by the Contractor and the Engineer shall be given advance notice in writing of all items shipped.

9.3 Testing

The Engineer will make such tests on concrete, concrete aggregates, embankment materials, filter materials and other materials as he may from time to time elect, and the Contractor shall provide such samples or assistance in sampling materials at the Site as the Engineer may reasonably require. Testing by the Engineer shall in no way relieve the Contractor of his responsibility to test materials to ensure that they meet all the specified requirements and to control their quality.

The Engineer may accept that items manufactured away from the Site meet the specified requirements without further testing subject to the Contractor furnishing satisfactory proof of compliance with these Specifications in one or more of the ways described below.

9.3.1 Manufacturer's Certificate of Compliance

In the case of standard labelled stock products of standard manufacture which have a record of satisfactory performance in similar work over a period of not less than two years, the Engineer may accept a notarized statement from the manufacturer certifying that the product conforms to the applicable specifications.

9.3.2 Mill Certificates

Regarding materials for which such practice is usual, the Engineer may accept the manufacturer's certified mill and laboratory certificates.

9.3.3 Testing Laboratory Certificates

The Engineer may accept a certificate from a commercial testing laboratory, satisfactory to him, certifying that the product has been tested within a period acceptable to the Engineer and that it conforms to the requirements of these Specifications.

9.3.4 Service Record

If a demonstrable satisfactory service record is available for a material, certain specified tests may be waived by the Engineer.

9.4 Cost

Further to the provisions of Sub-Clause 9.3, Testing, of the General Conditions of Contract, the cost of any additional laboratory, field and shop tests required through the resubmission of samples because of failure of compliance with Specifications shall be borne by the Contractor.

9.5 Inspection

All material and equipment furnished and all work performed under this Contract will be subject to inspection by the Engineer at all times and in all states of completion both off-Site and on-Site. The Contractor shall furnish promptly without additional charge, all facilities, labour and materials reasonably needed for performing such inspection and testing as may be required by the Engineer. Inspection at the source, e.g. borrow area, manufacturer's plant, etc, will be made of selected materials and equipment in addition to inspection at the Site. The Contractor shall arrange access and permission and shall give adequate notice to the Engineer when materials and equipment are available for inspection. Acceptance of materials and equipment or the waiving of inspection thereof shall in no way relieve the Contractor of his responsibility for furnishing materials and equipment meeting the requirements of the Contract Documents.

SP-10 CONTRACTOR'S QUALITY ASSURANCE PLAN

10.1 Quality Assurance Plan

The materials produced and the workmanship provided in fulfilling the requirements of the Specifications shall be in accordance with the Contractor's Quality Assurance Plan. This Plan shall be documented in sufficient detail to demonstrate that the requirements of the Specifications will be met.

The Quality Assurance Plan shall be prepared by the Contractor with reference to his Quality Assurance Manual and in accordance with the applicable ISO Standard. This Plan will also be applicable to work performed by any of his sub-contractors. The Plan shall include, but not limited to, detailed procedures, instructions or statements covering the items defined hereunder.

Organization

The Quality Assurance Plan shall describe the Contractor's Quality Assurance organization and delineate the responsibility and authority of various personnel and groups involved. The Quality Assurance Department's internal structure and relationships with other departments shall be defined. An organizational chart shall be included with lines of authority and communication shown thereon.

Training of Personnel

The Quality Assurance Plan shall contain provisions for the development, implementation and maintenance of training and certification programs. The programs shall comply with such codes and standards as are required in the Specifications or in accordance with common industry usage.

Design and Document Control

The Quality Assurance Plan shall assure that the Specification requirements are correctly translated into and included in the Contractor's procedures, documents and drawings. The Program shall further assure that the latest approved documents (including changes) are available to and used by the required manufacturing, inspection and test personnel. The review shall be performed by individuals other than those involved in the original design.

Procurement Control

The Contractor's procurement process shall assure that purchased items comply with the requirements of the Specifications. This assurance shall be provided by the inclusion of the appropriate quality assurance requirements into the Contractor's procurement documents and by adequate inspection of the material at its source and upon receipt.

Processed Material Control

The Quality Assurance Plan shall provide assurance that procured and subsequently processed material meets the Specifications. Material identification shall be provided and maintained throughout the manufacturing cycle. Control shall be provided for the documentation and disposal of nonconforming material, and their subsequent rework or repair and re-inspection.

Special Processes

Special Processes such as welding, cleaning, non-destructive examination, etc, shall be performed in accordance with documented procedures and by qualified personnel. The procedure shall describe the process sequence and methods, process prerequisites, equipment, qualification of personnel and equipment, and acceptance criteria. The procedures shall also describe the preparation and retention of documents used to record the results of Special Processes.

Inspection

The Quality Assurance Plan shall provide for the in-process and final inspection of items and activities to assure compliance with the Specifications. Examination or measurements shall be performed at each applicable work operation. Inspection activities shall be performed by qualified individuals other than those who performed the activities being inspected.

Calibration

Procedures shall be established to assure that test and measuring devices used to test, inspect, or accept material or components are calibrated at specified intervals to maintain proper accuracy. Devices used shall be of proper range, type and sensitivity to reliably measure the parameters being evaluated. The calibration of such devices shall be documented and performed using certified measurement standards.

10.2 Test Program

The Contractor's test program shall be suitably documented to assure that the required materials and components testing are properly performed. The test program shall address pertinent test pre-requisites, such as test instrumentation selection and calibration, acceptance criteria, documentation of test results, and evaluation of test results by qualified personnel.

10.3 Inspection Testing Program (ITP)

Within 28 days of the Engineer's Instruction to commence the work, the Contractor will submit to the Engineer for approval, ITP for all the process and works being executed, and works will be inspected and testing according to this ITP of all disciplines like Civil, M&E, Fabrication Instrumentation etc.

10.4 Level of Criticality and Control

The level of quality control applied by the Contractor and the Engineer shall be adjusted to the importance of the item in terms of impact on reliability, schedule and costs.

10.5 Audit

The Quality Assurance Plan shall provide for audits of the Contractor's and his sub-contractors' operations during the course of the Works. The audits shall be used to determine the organization's compliance with the Specifications and the Quality Assurance Plan procedures. The audits shall be arranged by the Contractor's Quality Assurance Manager and conducted by suitably qualified staff not directly involved in the quality assurance activities.

10.6 Documentation

The Quality Assurance Plan shall include a system to ensure that the documentation necessary to attest the completion of any phase of the work; use of correct materials; completion of required inspections and tests; and acceptability of results are generated, reviewed, maintained and submitted to the Engineer at the required time. The system shall ensure that such documentation is reviewed by the Contractor for legibility, completeness, validity of data, traceability of document to activity or equipment and acceptability of results.

The documentation to be issued and maintained shall include but not limited to:

- Test reports for raw material (cement, steel, bentonite, aggregates, etc).

- Test reports on the main items of the Works (dewatering, excavation, concrete, embankments, etc.)
- Survey and layout procedures
- Inspection and test procedures
- Inspection and test reports
- Certificates of compliance

10.7 Submittal of Contractor's Documents

The following documents shall be submitted by the Contractor;

- The Contractor's Quality Assurance Manual, within 28 days of the Commencement Date.
- A draft of the Contractor's Quality Assurance Plan for approval by the Engineer, within 56 days of the Commencement Date.
- The Contractor's Quality Assurance Plan, within 28 days of the receipt of the Engineer's comments.

The Contractor's Quality Assurance Plan will be periodically reviewed and revised as the work proceed.

10.8 Non-conformity

During construction, after each assessment or measurement of quality, cases of non-conformity identified by the Engineer or by the Contractor's quality control supervisors or by the personnel in charge of execution will be divided into the following four categories:

NC.1 This category covers minor defects which will be repaired immediately, then recorded on standard follow-up documents.

NC.2 This category covers defects which can be repaired according to a pre-established procedure. The repairs will be carried out immediately and recorded on special documents.

NC.3 This category covers defects which cannot be repaired according to a pre-established procedure. The decision to repair, modify or rebuild or remanufacture the item shall be proposed by the Contractor for the Engineer's approval.

NC.4 This category covers major defects on critical items. The Contractor shall propose a solution for the Engineer's approval.

10.9 Non-Compliance Report (NCR)

The QA/QC department of the Contractor will perform quality inspection prior to the Engineer's Inspection. Any noncompliance will be reported as internal NCR and will be logged as record for the Engineer. After the rectification of internal NCR, the Engineer shall perform inspection. No payment will be made to the Contractor for any work or part thereof whose NCR found not been rectified and closed by the Contractor.

SP-11 CONSTRUCTION SCHEDULE

11.1 General

The program of work submitted by the Contractor in accordance with Sub-Clause 8.3 "Programme" of the General Conditions of the Contract shall be supplemented by submittal of a detailed schedule based on a computerized system, Primavera Enterprise for Engineering & Construction (P3) software, covering all construction activities and furnished to the Engineer on paper and a soft copy on the following dates:

- **Tender Schedule:** along with the Bid Documents.
- **Baseline Schedule:** within 28 days after receipt of Letter of Acceptance.
- **Revised Baseline Schedule:** after 3 months of the approval of Baseline Schedule and thereafter quarterly.
- **Recovery Schedule:** as and when required by the Engineer.

The Baseline Schedule, as approved by the Engineer in consultation with the Employer, will form an integral part of the Contract and will establish Contract completion dates for various activities as mentioned in the Contract.

All schedules, project plans, progress updates and reports shall be in the form of readable computer printouts as well as in soft data format.

11.2 Requirements & Procedure

11.2.1 General Requirements

- a) The narrative report accompanying the submittal shall describe the construction methods; plant and equipment proposed to be used and shall explain the expected production rates that are the basis of the scheduled durations of different activities.
- b) Start Date of the Project.
- c) Dates on which different site possession will be required.
- d) General administrative items like, Performance guarantee, Mobilization Advance Guarantee, Insurance etc.
- e) Unique Activity ID, description and duration.
- f) Activities' earliest start and finish dates, latest start and finish dates.

- g) All activities with zero float.
- h) Critical path with listing of all activities on the path.
- i) Dates for Employer furnished material or equipment if any.
- j) Required dates of Drawings from the Engineer;
- k) Dates for submittals like Method Statements etc.
- l) Work Breakdown Structure (WBS) and activity codes.
- m) Definition of calendars with non-working days or periods i.e. planned closures, flood seasons etc.
- n) Loading of key resources.
- o) Milestone dates.
- p) Network logic Diagram.
- q) List of constraints i.e. reason and type of constraint.
- r) Full S – Curve and Critical S – Curve (for critical activities only).
- s) Cost/ Resource Histograms.
- t) Planning assumptions and any external relationships
- u) Explain any discretionary dependencies.
- v) Contractor Mobilization Plan conveying establishment of Contract Office, Mobilization of personal and manpower, equipment.
- w) Material procurement and manufacturing schedule.
- x) Shop drawing submission schedule.
- y) Key quantities of work distribution time scale.

11.2.2 Tender Schedule: Tender Schedule will be submitted along with Bid Document and will be prepared in accordance with the Sub-Clause SP 11.2.1 hereof.

11.2.3 Baseline Schedule: Baseline Schedule to be submitted within 28 days after letter of acceptance and will be prepared in accordance with the General Requirements mentioned under Sub-Clause SP 11.2.1 hereof. Start date will be the date of Notice to Commence.

11.2.4 Revised Baseline Schedule: Besides, the General Requirements mentioned above, following will be the additional requirements for or quarterly Baseline Schedule:

- a) The revised narrative report depicting the actual situation and submittal describing the construction methods, plant and equipment proposed to be used and shall explain the expected production rates that are the basis of the revision of scheduled durations of different activities.

- b) Start Date will be taken as Notice to Proceed.
- c) Change in strategy to achieve the target Completion Date describing the additional resources if required, change in sequence of activities etc.
- d) Actual start and finish dates.
- e) Incorporation of effects of all approved changes that have occurred during last three months i.e. any change order which will affect the Completion Date of the Project. Any change in Completion Date for milestones shall be on the basis of prior extension if any granted by the Engineer.
- f) Comparison with the target Baseline Schedule. The narrative of any deviation from the Baseline.

11.2.5 Recovery Schedule: The Recovery schedule will be submitted to the Engineer as and when required by the Engineer. If in the opinion of the Engineer any project milestone is likely to be missed, mitigation strategy for recovering the project will be submitted in the form of Recovery Schedule.

The recovery schedule will include all the requirements as mentioned in the Sub-Clause 8.3 "Program"

11.3 Explanation & Definitions of Different Terms

11.3.1 Activity Codes

Activity codes will include the following details:

- Types of structure
- Types of sub-structures
- Zone/ Area
- Work Restrictions (Closure etc.)
- Sub-contractor
- Responsibility if identified, in the Contract to be shared with an agency other than the Contractor
- Different phase/stages of work
- Bills of the work

11.3.2 Work Breakdown Structure

The Work Breakdown Structure (WBS) shall divide the project scope into hierarchical, manageable, definable packages of work that will clearly indicate the scope and budget for the element. The WBS elements shall clearly reflect project's purpose and objectives, functional/ performance design criteria, project scope, technical performance requirements, and other technical attributes.

The WBS to be submitted by the contractor will be based on the following parameters:

- The WBS submitted by the contractor will include and be a part of the high level WBS provided by the Engineer.
- Each WBS element will represent a single tangible deliverable.
- Each WBS element will represent an aggregation of all subordinate WBS elements listed immediately below it.
- Each subordinate WBS element must belong to only one single parent (or superior) WBS element
- The deliverables should be logically decomposed to the level that represents how they will be produced (designed, purchased, sub-contracted, fabricated). The partitioning of the deliverables from higher levels within the WBS to lower levels must be logically related
- Deliverables must be unique and distinct peers and should be decomposed to the level of detail needed to plan and manage the work to obtain or create them.
- Deliverables should be clearly defined to eliminate duplication of effort within WBS elements, across organizations, or between individuals responsible for completing the work
- Deliverables should be limited in size and definition for effective control – but not so small as to make cost of control excessive and not so large as to make the item unmanageable or the risk unacceptable.
- A coding scheme for WBS elements that clearly represents the hierarchical structure when viewed in text format will be used.

11.4 Progress Measuring System

The Contractor shall develop the Progress Measurement System (PMS) and submit the same, for approval of the Engineer before submission of the "Programme" under Sub-Clause 8.3,.

11.5 Activity Definition

Activity definition will involve identifying and documenting the specific activities that must be performed to produce the deliverables and sub deliverables identified in the Work Breakdown Structure (WBS).

Within the context of the process of Activity Definition, decomposition will include identifying and documenting a list of activities that will be performed on the project. It will be organized as an extension to the WBS and will not include any activities that are not required as part of the project scope.

The adequate level of detail must be carefully planned for the intent of the schedule based on the following parameters:

- The list of activities should lead to the identification and achievement of major deliverables of the project, including project management
- Cost, resource and duration estimates will be loaded for the activities
- Progress Measurement Criteria and Activity Weights Definition will be devised for progress reporting.
- Each Activity will be assigned a unique Activity ID based on a coding structure. The coding structure logic will also be indicated and communicated to the Engineer.

11.6 Activity Sequencing

Activity sequencing will involve identifying and documenting interactivity logical relationships. Activities will be sequenced accurately to support development of a realistic and achievable schedule. A project network diagram using Precedence Diagramming Method (PDM) will be utilized for showing dependencies between the activities.

11.7 Activity Duration Estimation

Activity durations will be estimated based on the work quantity, productivity and resources applied to the activity. Calendar dates will be utilized for all duration estimation with a minimum time unit of days. Calendars, constraints (canal closure days) and assumptions will be documented and reported.

11.8 Schedule Development

The schedule will be developed to indicate the start and finish dates for project activities. The schedule developed will be iterated during the project according to the frequency of progress reporting. Critical Path Method (CPM) will be used for mathematical analysis of the schedule for calculation of Early and Late dates. The following inputs to the schedule will be identified, documented and reported as part of the project schedule:

- Project Network Diagram
- Activity Duration Estimates

- Resource pool for the project and resource requirement to achieve each activity
- Calendars specific to activities and resources
- Activity notebook items describing the reason for following activity attributes
- Productivity and man-hour requirements
- Constraints: Imposed dates, Key events or major milestones, statutory requirements (limits and restrictions or other obligations placed on the project by federal, state or local regulations)
- Discretionary dependencies
- Assumptions
- Leads and Lags
- Risks

Submittal of construction schedules as per requirements of this Clause shall be a condition precedent to payment to the Contractor under any Interim Payment Certificate.

As-Built construction schedules submitted by the Contractor periodically shall form the basis of evaluation of claim for Extension of Time, if any.

SP-12 SITE FACILITIES

12.1 Electricity Supply

The 11 kV transmission lines originating from Hasilpur and Ludden grid stations are available up to left and right flanks of Islam Headworks. However, additional dedicated overhead transmission line may be laid/ commissioned and made available to the Contractor from the nearest source viz Grid Station, Ludden, as a deposit work by WAPDA.

The Contractor shall furnish, install, operate and maintain an electrical system as required for the various parts of the Works. Interruptions in power supply can be expected at any time. The Contractor shall arrange such standby generation arrangement of a suitable capacity for his needs in the construction of the works as he deems necessary to meet all eventualities resulting from power failures.

SP-13 CONSTRUCTION CAMPS AND COLONIES

13.1 General

The Contractor shall construct and operate all offices, workshops, warehouses, residential colonies, dispensary, shopping, recreational, religious and other camp and sub-camp facilities required for his personnel for proper performance of the Contract. The work to be performed by the Contractor will include but not necessarily limited to the construction of:

- Buildings for various uses;
- site grading, drainage, landscaping and other area improvements;
- water and electric power supply and distribution systems;
- telephone and other communication systems including local road network;
- waste disposal and sewage collection and treatment systems
- garbage collection and disposal systems; and
- fire protection facilities

The facilities to be provided in camps and temporary sub-camps, to the extent to which such are required shall be provided as specified hereinafter.

For purposes of sharing the dispensary, recreational and other facilities provided by the Contractor for his use, certain personnel of the Employer and the Engineer and their families will be registered by the Employer in accordance with Sub-Clause SP-13.7 hereof.

Unless otherwise specifically provided, all buildings and other facilities required to be constructed by the Contractor for use, whether sole or communal, of the registered persons shall be provided free of charge to such persons

13.2 Location of Construction Camps and Colonies

The construction camps and colonies shall be located within the areas shown on the Drawings on land owned or controlled by the Employer. Other camp and sub-camp facilities, if required, shall be constructed at locations within the limits of Employer-owned property approved by the Engineer. If, for any reason approved by the Engineer, the Contractor requires the use of land not owned or controlled by the Employer for his camps, he shall make all necessary arrangements with the owner(s) thereof and shall bear all rentals and other costs connected therewith.

13.3 Drawings and Specifications for Approval

In accordance with the provisions of Clause SP-6 hereof, the Contractor shall submit, for the approval of the Engineer, drawings and specifications of the proposed construction camps, colonies, facilities and each major building specified herein, required to be provided by him.

The drawings for the construction camp and colonies facilities shall show the complete camp layout, including site work, utilities, drainage, landscaping, building locations, details of

utilities and pavements, location of security fencing and all other required work. The Contractor shall also provide drawings and specifications, in accordance with the requirements of Sub-Clauses SP 13.8 and SP 13.9 hereof, for such facilities as are not covered by specifications and drawings issued by the Engineer and of agencies of the Pakistani Government having jurisdiction; it shall be the Contractor's responsibility to obtain all necessary approvals. The drawings shall be in sufficient detail to demonstrate compliance with these Specifications.

No work shall proceed nor shall any material be ordered until the required approvals have been obtained except at the Contractor's own risk. Approval of the Contractor's drawings and specifications shall not relieve the Contractor of full responsibility for constructing the construction camps, colonies and facilities in complete accordance with the requirements of national and local laws, regulations, rules and codes. Ceiling heights shall be at least 3.1 meters in all buildings which shall have adequate ventilation and air circulation. Ceiling fans of adequate size and capacity commensurate with the size of the room with an electrical power outlet located adjacent thereto shall be provided in all rooms of all buildings whether air conditioned or not, except as otherwise approved by the Engineer.

13.4 Buildings and Camps

All buildings constructed by the Contractor for residential colonies, camps, workshops and warehouses shall be designed and constructed as temporary structures, unless otherwise approved by the Engineer.

Housing for the Contractor's personnel shall be constructed in accordance with his own requirements and certain Pakistani standards as specified herein so as to be suitable for continued use when the works have been completed. Materials, design and construction of the housing shall be subject to the Engineer's approval for conformity with Pakistani standards.

The Contractor shall furnish and equip buildings and other facilities in accordance with the laws and regulations of the Government of Pakistan and its official agencies, and as required for the proper functioning of each facility. All equipment shall be of a type normally used in similar construction and of a grade suitable for the required service. Equipment shall be durable, of non-combustible construction where possible and suitable for easy maintenance. All electric equipment, fixtures and wiring shall be suitable for operation on 220 V, 50 Hz alternating current.

Each toilet room shall be provided with hand basins and chromium-Plated fittings, except sinks for the dispensary and laboratory which shall have an acid-resistant finish; European type vitreous china, or approved equal, siphon jet water closets and urinals or Asian-type water closets; electric water heaters; wiring and electrical fixtures; and hot and cold water and waste water piping systems.

The construction, operation and maintenance of the Contractor's labour camp shall conform to the requirements of Pakistan Labour Camps Rules, 1960, as published in the Gazette of Pakistan, dated June 3, 1960 and to amendments to the Rules which may be officially

promulgated from time to time and to all applicable provisions of the Pakistan Labour Laws and specifically to the following requirements.

- Camp areas shall be kept dry and free from dense vegetation.
- Any collection of water within one kilometer of a camp shall be sprayed weekly with oil or other anti-malaria liquid.
- Covered rubbish receptacles shall be provided at suitable places in the camps and cleaned daily.

The interior walls and ceilings of buildings shall be lime washed each year or shall be varnished or painted once every three years. The whole of the open space around the buildings shall be swept daily and all rubbish removed.

Adequate sanitary conveniences, including washing and bathing places, shall be maintained at each of the camps. All sanitary fixtures, receptacles, toilet rooms, lavatories and wash rooms shall be cleaned and disinfected at least once-a-day.

13.5 Site Work

13.5.1 Grading, Drainage and Pavements

All camp and colony areas constructed by the Contractor shall be graded and provided with proper drainage works to protect the facilities from surface run-off and flooding. Low areas shall be filled with excavated material and the entire area laid out and provided with facilities for adequate collection, conveyance and removal of storm water. Streets and roadways shall be at least 25 feet in width exclusive of shoulders and shall be graded and with surface treatment (T.S.T) as approved by the Engineer. Roadway dust control measures shall be instituted as necessary. Sidewalks shall be not less than one meter wide and of concrete except as otherwise approved by the Engineer

13.5.2 Area Adjacent to Buildings

Building sites shall be stripped of all debris and organic material to the satisfaction of the Engineer. Existing trees shall be protected from damage as far as is reasonably practical.

The ground around the buildings shall be graded to slope away from building perimeters so as to provide adequate drainage and shall be thoroughly compacted. Excavated material shall be disposed of by filling in low areas or as otherwise directed by the Engineer

13.5.3 Utilities

General

The utility systems shall be of sufficient size and capacity to serve all normal requirements of the camp facilities, including the Engineer's and Employer's offices where applicable.

Water Supply

The Contractor shall construct, operate and maintain his own water supply and distribution networks for serving his camps, colonies, offices, yards and construction sites. Such networks shall include supply mains, pumping stations, storage tanks, etc. Details of the design and layout of the Contractor's water supply and distribution systems, treatment facilities including sterilization, etc shall be submitted to the Engineer for approval prior to construction. Adequate storage shall be provided to meet peak demands, standby and fire-fighting requirements. The water so supplied shall meet the requirement of drinking water as per WHO standards.

Sanitary System

All buildings and facilities with sanitary conveniences shall be provided with sewer connections to a common underground collection system at each camp site, and each separate sub-camp shall be provided with a complete sewage collection, treatment and disposal system unless otherwise authorized. The design and capacity of each collection, treatment and disposal system shall be adequate to provide effective, safe and unobjectionable disposal of sewage for the camp and shall be approved by the Engineer prior to construction of such facilities.

Garbage Collection and Disposal

The Contractor shall provide garbage collection and disposal services for the Employer's and Engineer's offices as well as for all construction camps, colonies and facilities constructed by him. All buildings and facilities shall be provided with sufficient adequately covered garbage cans. Garbage shall be collected daily and transported to disposal areas by means of covered vehicles designed for that purpose. Disposal shall be by burial (landfill) and/or incineration. The disposal area shall be located at sufficient distance away and downwind from camp facilities, living quarters and offices so as not to create objectionable odors or health hazards. Equipment, methods of collection and disposal and locations of disposal area shall be submitted to the Engineer for approval.

Electric Power and Distribution

The Contractor shall furnish or make arrangements to have electric power provided at each of the camp and colony facilities constructed by him and each of his sub-camps, either by installation of his own generating plant or from the electricity supply provided in accordance with Sub-Clause SP-12.1 hereof.

The layout and design of the electric power supply and distribution system submitted to the Engineer prior to construction shall include adequate area and street lighting and standby units to provide essential requirements in the event of main power outage.

13.5.4 Landscaping

The Contractor shall landscape all areas in the vicinity of the offices, colonies and facilities constructed by him and in the vicinity of his camps and sub camps with grass, shrubs and trees as appropriate to provide an attractive and pleasant area and to control erosion and local dust. Existing trees shall be protected from damage. Landscaped areas shall be irrigated and fertilized as required to maintain plants in an attractive and healthy condition at all times.

13.5.5 Fences

All offices, construction camps and colonies constructed by the Contractor and all work areas of the Contractor shall be completely enclosed with a 8-feet high chain link fence of the type shown on the Drawings or as approved by the Engineer. All fences, gates, braces, concrete and other items required for a complete installation shall be furnished and installed by the Contractor.

13.6 Maintenance of Facilities

The Contractor shall furnish, make arrangements for and carry out proper and adequate maintenance of the facilities required to be constructed by him so as to provide neat, well-kept, pleasant, healthful surroundings and conditions for all occupants. All areas shall be kept clean, well graded, free from undergrowth and bush and adequately drained. All landscaping shall be properly trimmed and cut. Roads and streets shall be kept in good repair, patched and sprinkled if and as necessary to keep down dust or a palliative may be employed as approved by the Engineer. Qualified operators and repairmen shall be provided for the operation and maintenance of all utilities. Utilities shall be properly operated and maintained to provide service and conditions meeting the requirements of these Special Provisions and accepted good practice. Buildings shall be adequately and properly maintained. Janitorial services for public buildings shall be regularly provided. Equipment shall be checked periodically in accordance with the manufacturers' instructions and defective equipment shall be replaced at the Contractor's expense.

13.7 Employer's and Engineer's Personnel to be provided Contractor-Furnished Facilities

The estimated numbers and types of Employer's and Engineer's personnel expected to use selected Contractor-furnished facilities specified hereinafter are listed below.

NUMBERS AND TYPES OF EMPLOYER'S AND ENGINEER'S PERSONNEL EXPECTED TO USE SELECTED CONTRACTOR-FURNISHED FACILITIES

FACILITIES	EMPLOYER'S PERSONNEL	ENGINEER'S PERSONNEL
Dispensary	10 persons	20 person
Mess Hall	10 persons	20 persons

Commissary: Local	10 persons	20 persons
Recreation	10 persons	20 persons

13.8 Medical and Religious Facilities

13.8.1 Employer-Furnished Facilities

The Employer shall be responsible for providing facilities for non-registered Employer's personnel and non-registered Engineer's personnel.

13.8.2 Contractor-Furnished Facilities

General

All medical and religious facilities specified herein and the community facilities specified in Sub-Clause 13.9 hereof shall be located so as to be convenient for all intended users. The Contractor shall provide, adequately operate and maintain these facilities, starting not later than six months following the date of the Engineer's notice to commence work.

Medical Facilities

Commencing 91 days following the date of the Engineer's notice to commence work and continuing until such time as the dispensary is completed to the Engineer's satisfaction and placed in operation, the Contractor shall make arrangements for and provide basic medical services and treatment free of charge to his employees and the personnel specified in Sub-Clause SP 13 .7 hereof.

The Contractor shall design, construct, operate and maintain (including reequip as necessary) proper dispensary and other medical facilities for the Contractor's employees and the personnel specified in Sub-Clause SP-13.7 hereof, and for emergency treatment at reasonable cost to non-registered persons other than the Contractor's employees. The dispensary and maintenance thereof shall meet the requirements of the Health Service of the Government of Pakistan and Section III of the Manual "Safety Requirements for Construction by Contract", published by the Employer. The dispensary shall be equipped properly to at least meet the requirements of basic health unit of Government of the Punjab and as directed by the Engineer.

The Contractor shall make provisions for and take suitable measures for control of contagious diseases in camps, colonies, Project offices and other Project areas. The medical services shall, if required, include inoculation against typhoid, tetanus, cholera, typhus, hepatitis (gamma globulin) and in addition in the case of children, polio, tuberculosis and diphtheria. The Contractor will not be required to provide for the treatment of mental cases, chronic or long-standing illnesses; furnishing of eye-glasses, false teeth or hearing aids; and the services of specialist practitioners.

The Contractor shall provide adequately equipped and properly staffed portable first aid stations or at strategic locations, to administer first aid treatment at any time required and free of charge to all persons on the Site, including personnel of the Engineer and the Employer. The nature, number and location of facilities furnished and the Contractor's staff for administering first-aid treatment shall meet the requirements of the Health Service of the Government of Pakistan, and shall be subject to approval by the Engineer.

The Contractor will provide one (01) Ambulance for use at site during construction phase of the Project, equipped properly for emergency.

Religious

The Contractor shall construct, operate and maintain religious facilities for the Contractor's personnel and the Engineer's/ Employer's personnel, not later than four (04) months following the date of the Engineer's notice to commence work.

13.9 Community Facilities

13.9.1 General

Certain community facilities are specified hereinafter. The Contractor may construct others as he deems necessary. The community buildings and other facilities shall be constructed and provided with all utilities, fully equipped, ready for use and complete in every respect within six months following the date of receipt of the Engineer's notice to commence work. All community facilities shall be available to the personnel specified in Sub-Clause SP-13.7 hereof on the same basis as to the Contractor's personnel.

13.9.2 Mess Halls

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) mess hall facilities for the use of the Contractor's employee and the personnel specified in Sub-Clause SP-13.7 hereof. The mess halls shall be of sufficient size, number and at suitable locations to accommodate all required personnel not otherwise provided for with regard to meals, within reasonable time limits and without prolonged waiting. The mess halls shall be provided with all equipment necessary for the hygienic preparation, handling, storage and serving of foods. All windows shall be glazed, and windows and doors shall be screened.

The Contractor shall staff the mess hall facilities with stewards, waiters, cooks and other personnel in sufficient numbers to provide adequate, expeditious and sanitary service of food at all reasonable hours of the day and night, consideration being given to shifts and hours of operation.

Foods shall be of first quality providing an acceptably balanced diet of not less than three thousand calories per day per adult and served attractively in quantity and variety and shall conform to the types of food normally eaten by Pakistani or expatriate staff, if any.

The mess will be run by a committee constituted by the Contractor but at least one member from the Engineer's side to check the mess facilities.

13.9.3 Commissaries

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) separate commissary facilities for imported and local foods and other commodities. The local commissaries shall be for utilization by the Contractor's Pakistani employees and the personnel specified in Sub-Clause SP-13.7 hereof. The imported commissary shall be for expatriate personnel of the Contractor, if any.

Commissaries shall be provided with all equipment necessary for the hygienic handling, storage and sale of foodstuffs and commodities for normal living at the Site. The commissaries shall provide space for employee rest rooms and for administrative personnel.

The Contractor shall staff the commissaries with management and sales personnel sufficient to serve the customers expeditiously on weekdays during reasonable hours, as determined by the Engineer. Commissaries shall be stocked with foods in sufficient variety, quantity and quality to satisfy all reasonable requirements of the Project personnel.

Foodstuffs records, accounts and rationing supervision shall be maintained by the Commissary and shall be available for examination by the Employer.

13.9.4 Recreation Facilities

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) such indoor and outdoor recreation facilities as in his opinion are necessary for the use of Project personnel and the personnel specified in Sub Clause SP-13.7 hereof. The facilities to be provided may include recreation halls like TV room, table-tennis room, gym and open playing fields.

13.9.5 Not Used

13.10 Fire Protection Facilities

The Contractor shall design, provide, operate and maintain fire protection facilities for the Project offices, the construction camps, colonies, work areas and for sub-camps, including the Employer and Engineer colony areas and Employer-furnished facilities as necessary to establish fire protection in accordance with the highest standards.

13.10.1 Fire Station

The fire station shall provide closed-in shelter and maintenance space for the fire engines or fire trucks as approved by the Engineer. Space shall also be provided for storage of chemicals and for storage and maintenance of extinguishers, pumps, hoses and other fire-fighting equipment, a fire warden and a duty staff of six men at all times.

13.10.2 Emergency Facilities

The Contractor shall provide emergency fire-fighting facilities at all his sub-camps including hose, fire extinguishers, pails, shovels and other emergency fire-fighting tools as may be necessary including equipment for emergency on-the-spot treatment of fire and smoke cases.

Approved extinguishers in sufficient quantities shall be installed, maintained and replaced or recharged as necessary in all offices and public buildings including those of the Employer and the Engineer. Carbon dioxide extinguishers or approved equivalents shall be provided where electrical fires may occur.

13.10.3 Staff and Service

The Contractor shall provide a fire-warden and a fire-fighting stand-by staff adequate for the protection of the Project facilities at all hours of each day of the year. All firemen and fire wardens shall have been trained by a competent authority. An emergency staff trained in firefighting, amongst the Contractor's foremen and supervisors, shall also be provided. The fire protection staff and services shall be subject to approval of the Engineer.

13.10.4 Equipment

Fire-fighting equipment and vehicles of the kinds and quantities approved by the Engineer shall be provided and shall be maintained to a standard approved by the Engineer. The equipment to be provided shall be of the most modern type and include sufficient fire trucks of adequate weight and capacity.

The minimum components of each fire truck shall include a baffled water tank; a pump and booster lines; pre-connected outlets: a pressure relief valve discharging into the water tank; overhead, manually operated hose reels, each containing hose, booster nozzles, partitioned, hose body with hose, adjustable spray hose nozzles, gated suction inlet, suction hose, and fender compartments.

Accessories shall include dry chemical extinguishers; carbon dioxide extinguishers or approved equivalents; pick-head axes, flat-head axes, each with mounting bracket; pike poles with wood handles; electric hand lanterns; spanners each for fire hose and suction hose, and gas masks in containers.

The cabs shall be mounted with sirens and flashers. The electrical system shall include batteries, headlights, taillights, parking lights, stop lights, directional lights, search lights, cab and instrument panel lights and portable two-way radios.

Detailed specifications of all fire-fighting equipment shall be submitted to the Engineer for approval. Fire-fighting vehicles shall be employed for the exclusive use of the fire-fighting staff and no other use of fire-fighting vehicles or equipment shall be allowed without permission of the Engineer. The Contractor shall provide, operate, service and maintain fire-fighting vehicle during performance of the Contract. He will also be responsible to ensure that capable, licensed motor vehicle operator shall be provided, keep at all times the

fire-fighting vehicle exempt from the claims of third parties and from legal attachment of any sort. Further, at the same time as the procurement of fire-fighting vehicle, the Contractor shall also purchase, provide and supply for the fire-fighting vehicle spare parts and supplies necessary to ensure that at all times the fire-fighting vehicle is available, serviceable and road worthy.

13.10.5 Fire Prevention Service

Fire-fighting staff members shall make a weekly inspection of all parts of the Site using an assigned fire-truck, when those staff members are not on standby duty. They shall report all conditions tending to promote fire hazards to the foreman on duty and to the fire warden.

13.11 Fencing of Work and Security

All work areas, storage areas and such other areas where construction activity by the Contractor is proceeding shall be suitably fenced and guarded. The Contractor shall provide security guards and watchmen, and other personnel and facilities required for security and public safety.

13.12 Public Telephone system and Fax

The Contractor shall be responsible for arranging the telephone and fax connections installed as per his requirements. The Contractor shall inform the Employer through the Engineer about such connections. The Employer, if requested by the Contractor, shall assist him in obtaining the connections. All charges, fees and expenses for these connections shall be borne by the Contractor.

The Contractor shall connect the public telephone system to the Project telephone system specified under Sub-Clause SP-18.3 hereof.

13.13 Charges for Services and Facilities

13.13.1 Charges to Employer's and Engineer's Personal – General

The Contractor shall provide, operate and maintain all services and facilities furnished for the registered persons under the Special Provisions, free of charge to such personnel except for the services and facilities covered in Sub-Clause SP 13.13.2 hereof.

13.13.2 Charges for Meals, Food and Commodities

Rates charged to all personnel connected with the Project for meals, food and commodities shall be subject to approval by the Engineer. The originally approved rates may be revised if justified by changing economic conditions but only as approved by the Engineer. The commissary and mess facilities shall be operated in the same manner as other similar services are operated in Pakistan; no concessions or reimbursements will be made to the Contractor by the Employer for any sales taxes, duties or similar charges paid by the Contractor incidental to the operation of the facilities.

13.14 Utility Buildings

Buildings of a utility or temporary nature such as storage sheds, temporary offices and temporary shops and laboratories for the Contractor's own use may be erected only with the prior approval of the Engineer. Types of construction of such buildings shall be subject to the Engineer's approval. Temporary buildings which are not required to remain the property of the Employer in accordance with Sub-Clause SP-13.17 hereof shall be removed immediately after they have served their purpose.

13.15 Concessions and Leases

The Contractor will be permitted to lease space in buildings erected and owned by the Contractor on lands owned or controlled by the Employer for conducting such businesses or services as, in the opinion of the Engineer, may be required for the convenience of the residents of the camp site, but patronage of such businesses or the employment of such services shall be optional.

Commissaries and mess halls shall not be let to concessionaires. All leases covering business and other concessions in the camp sites shall be subject to approval of the Engineer and all such leases shall contain provisions making them subject to termination if, in the opinion of the Engineer, the lessee is guilty of misconduct or infraction of the law, or of the regulations governing the operation of the camp. All leases shall also be made subject to termination upon completion or termination of the Contract. No concessions or leases shall be granted for the sale of liquor, for the operation of gambling in any form or for any other activity prohibited by law.

13.16 Works Done After Completion Date

The Contractor's obligation to provide facilities and services to the personnel and offices of the Employer and Engineer under this Clause SP-13 will terminate upon the date of the Taking-over Certificate. However, if directed by the Engineer, the Contractor shall continue such work to the extent directed by the Engineer for an additional period of up to twelve months. Payment for such additional work will be made under the provisional sum for the BOQ Item i.e, Continuation of Contractor-Provided Services during Defect Notification Period. No payment under this Clause will be made for those parts of the Contractor's camp and other facilities which he requires for his own use during the Defects Liability Period.

13.17 Vacating Camp

At such time when portions of the facilities provided by the Contractor under Clause 6 of the General Conditions of Contract and Clauses SP-13 and SP-14 hereof are no longer required for the prosecution of the work, and in accordance with a schedule of time and the instructions furnished by the Engineer, the Contractor shall vacate and hand over to the Employer in reasonably good condition, fair wear and tear considered, all buildings, workshops, warehouses, housing, area improvements, utility systems, equipment, furniture and other facilities including furnishings and supplies constructed or provided as part of the facilities except the Contractor's construction and fabricating equipment, tools and supplies;

and such temporary buildings and facilities as may be specifically designated by the Engineer for removal by the Contractor.

The aforementioned schedule of time and instructions will require handing over of certain portions of the facilities on the date of Taking-Over Certificate. The Contractor will be permitted to retain possession of and use such portions of the camp as he may reasonably require to carry out his obligations and work remaining under the Contract after the date of the Taking-Over Certificate and shall hand over such portions to the Employer when no longer needed during the Defects Liability Period.

SP-14 OTHER FACILITIES FOR ENGINEER'S AND EMPLOYER'S PERSONNEL

14.1 General

In addition to the facilities required to be provided by the Contractor for Engineer's and Employer's personnel under Clause SP-13 hereof, the Contractor shall also provide the following facilities and services for the Engineer and the Employer:

The Contractor shall furnish, equip and arrange supplies for field surveys and Engineer's/ Employer's office, .

Field offices will be setup in the model room located at Islam Barrage. The area of model room is about 7676 sft. The Contractor shall furnish the field office, providing each room with two desks, two revolving chairs and five office chairs, two four drawer filing cabinets and two 6'x9' storage racks, reception desk, conference table for twenty persons and 30 chairs for the conference room, executive furniture and small conference table and chairs for each of the two executive office rooms etc. and as directed by the Engineer. Sufficient number of Split air conditioner shall be provided in the rooms as per cooling requirement. Good quality lighting fixtures using energy saver lamps to sufficient and ceiling fans shall be provided.

The Contractor shall be responsible for maintenance of Engineer's/ Employer's office and facilities including related services. The Contractor shall maintain equipment for Engineer's/ Employer's office and field survey.

The Contractor shall provide and install the Multimedia projector including Screen with cables and all accessories in one of the Conference Rooms for use of the Engineer and the Employer.

The field office operationalization and other facilities to be provided by the Contractor shall be fully equipped and ready for operation within three (03) months following the date of the Engineer's notice to commence work. After completion of the Contract, all facilities, equipment and supplies shall remain the property of the Employer and shall be left at the Site. Transportation facilities, if any, specified to be provided for the Engineer's/ Employer's personnel, shall remain the property of the Contractor.

14.2 Utilities

Unless otherwise specified, all basic utility installations including telephone connection, gas, electricity, generators of suitable size, water and sewage installations shall be provided. In the event that utility supplies are unreliable or intermittent, the buildings shall be provided with elevated water storage tanks and maintained by the Contractor. The capacity of the O/H water tank shall meet the per capita requirement and the water demand of fire-fighting system and other services.

14.3 Not Used

14.4 Maintaining Building and Providing Services

The Contractor shall service and maintain the office and related facilities for the Engineer's/ Employer's field office and the portable field office cabins in accordance with good standards as approved by the Engineer. In addition, the Contractor shall provide necessary personal for the maintenance of the field offices and surveying equipment. The Contractor shall furnish and replenish, as necessary, all expendable supplies necessary for the operation of these facilities, and shall provide labour and equipment for the moving of portable field office cabins from one location to another as often as may, in the sole judgment of the Engineer, be required, and for the rearrangement of partitioning in the permanent field office as may be required from time to time. Expendable supplies shall not include stationery supplies or supplies used for laboratory testing. The services to be provided by the Contractor shall include but not limited to janitorial, painting, utility and daily cleaning.

14.5 Not Used

14.6 Not Used

14.7 Furnishing, Providing and Maintaining Equipment and Supplies for Field Surveys and Field Office

The following facilities shall be furnished and maintained by the Contractor for the use of the Engineer and Employer except that the soil testing equipment will be maintained by the Engineer.

- Surveying equipment,
- Protective clothing,
- Drafting instruments and equipment,
- Office equipment including inter-office communications system, and
- Other equipment required by the Engineer.
- The facilities shall be furnished in accordance with a delivery schedule prepared by the Contractor to suit the need for such facilities as established by the Engineer.

- Detailed specifications for purchasing of the required articles will be furnished by the Engineer at various intervals during the Contract.

14.8 Not used

14.9 Security

The Contractor shall be aware of the prevailing security situation and the potential threat to foreign and national personnel. He shall appoint a suitably qualified security advisor who shall be responsible for liaising with the security authorities and establishing, and ensuring compliance with, project security procedures. The security situation, the state of risk and the procedures and actions shall be kept under constant review and disseminated to the foreign personnel, if any, of the Contractor.

The Contractor shall be fully responsible for arranging, from the appropriate authorities or agencies, security cover at the Site for his foreign personnel, in any, as well as for any foreign personnel travelling to and from the Site. The Engineer shall also be kept apprised of regular movement schedules of all such personnel, in sufficient time as shall be agreed with the Engineer. The Contractor shall observe any Government restrictions on movement of his expatriate staff. All cost for making special security arrangement and those arising from need to control movement of expatriate staff shall be deemed to be included in the rates and prices stated in the BoQ for other items of work.

14.10 Work Done After Completion Date

Provisions of Sub-Clause SP-13.16 hereof shall apply to the work done under this Clause SP-14.

SP-15 NOT USED

SP-16 COOPERATION WITH OTHER CONTRACTORS

Work at the Site will be performed by others as may be found necessary from time to time. At such times, the Contractor will not have exclusive occupancy of the affected localities at the Site. The Contractor shall cooperate with the other contractors or other agencies doing the work in the interest of the entire Project. Any conflict between the Contractor and other contractor or agency shall immediately be brought to the notice of the Engineer, who shall, at his sole discretion, resolve the conflict in the best interest of the Project as a whole.

SP-17 HEALTH AND SAFETY

17.1 General

In prosecuting the work of this Contract, the Contractor shall provide working conditions on each operation that shall be as safe and not injurious to health as the nature of that operation permits. All the work shall be performed in accordance with applicable local and national laws, codes, requirements and regulations including safety, health, welfare of persons and others. The Contractor shall in general be fully conversant and comply with the relevant sections of all construction regulations enforceable by the law. In all rock excavation operations, the Contractor shall install, maintain and effectively operate appliances and use methods approved by the Engineer which will effectively reduce the amount of harmful dust and he shall exercise good practice in the control of silica dust in rock drilling. The crushing of rock, the dumping of stone, the mixing of concrete and the handling of cement, steel and other materials shall be so conducted that these operations will not cause any injury fatal or otherwise, nor be detrimental to health.

The Contractor shall employ a full-time safety engineer to help accomplish the purposes of this Clause SP-17.

The Contractor shall periodically arrange awareness campaign for the labour and other employees, to make people aware of the causes, mode of transmission and consequences of HIV/AIDS.

The Contractor will maintain and make it available Safety Violation Register to Log and Record the safety violation as observed/noticed by the Engineer during Site Inspection. These violations will be discussed in Progress Review Meeting and the Contractor will suggest and do necessary arrangement follow the HSE plan strictly, the nonconformance will leads to the withholding of partial payment being made to the Contractor.

17.2 Accident and Fire Protection

The Contractor shall enforce all necessary rules and regulations for the safe prosecution of the work in order to avoid preventable accidents and to minimize injuries to his employees and those of other concerned entities. Work areas shall be adequately posted with safety signs and posters. Machinery and equipment shall be guarded and all hazards eliminated in accordance with the "Safety Requirements for Construction by Contract", dated June 1961, published by the Employer and with the latest "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, Inc. USA. He shall maintain a satisfactory system of inspection and scaling in all open cut excavations. All reasonable precautions shall be taken against fire, and provisions shall be made for the expeditious extinguishing thereof.

In addition to the reports which the Contractor may be required to file under the law, he shall file with the Engineer on or before the seventh day of each month a report giving the total force employed on this Contract in man-days during the previous calendar month, the number and character of all accidents resulting in loss of time, and any other information on classification of employees injuries received on the work and disabilities arising there from that may be required by the Engineer.

The Contractor shall, during the entire period of his operations at the Site, provide emergency facilities with adequate medical and surgical equipment for first aid treatment

and approved qualified personnel to administer such treatment to all injured persons, including the Employer's and Engineer's personnel. The Contractor shall designate two or more approved competent licensed physicians, one of whom shall at all times be in readiness to answer calls to supply medical and surgical services. The Contractor shall submit for the approval of the Engineer and, upon such approval, install a means of rapidly summoning the physicians to the site of an accident or fire. Ambulance service to the dispensary at the Contractor's camp shall be available at all times.

No payment will be made for the services required in this Sub-Clause 17.2 other than that made under the Contract Items applicable to the first aid and fire protection facilities required to be provided by the Contractor in accordance with Clause SP-13 hereof.

17.3 Safety Devices

Safety devices shall be used as required and shall include but not be limited to those described hereinafter. Efficient safety helmets, and safety harnesses where required, shall be provided for all personnel including all authorized visitors to the Site. Excavated areas shall be properly guarded from the beginning of excavation until the status of the work removes all possible element of danger. Full precautions shall be taken to ensure maximum safety.

17.4 Storage and Use of Explosives

Blasting will be permitted only when proper precautions are taken for the protection of persons, the Works and property.

Explosives shall be stored, transported, handled and used in accordance with the recommendations of BS 5607: Code of Practice for safe use of explosive in the construction industry. The Contractor shall comply with all special rules and regulations that may be made by the authorities having jurisdiction and by the Engineer regarding construction of and storage in magazines, blasting precautions, etc. The Contractor will be held responsible to the Employer for all claims for damage caused by blasting.

Before starting any drilling and blasting of rock, the Contractor shall submit his proposed plan in writing for such operations to the Engineer for approval and, upon approval, shall not deviate there from without the written permission of the Engineer. The Contractor's plan shall include statements of minimum safe distances; means of protection of concrete and other work, and structures. Approval by the Engineer of the Contractor's plan of operation shall in no case relieve the Contractor of full responsibility for the entire drilling and blasting operation, including the safety of persons and the Works.

Accurate daily records shall be kept by the magazine keepers and shall account for each piece of explosive, detonator and equipment from the time of delivery at the magazine until its discharge in use. No explosive shall be stored or used until it has been plainly labeled for identification and accepted by the Engineer as new stock in sound condition. The Contractor shall also maintain a record for each blasting operation showing the blasting pattern including the location, number and depth of holes, inclination of wedge cut holes, amount

and strength of explosives per hole and per round, sequence in firing and time delays for relay firing, actual length of pull per blast and other relevant information.

SP-18 CONSTRUCTION UTILITIES

18.1 General

In addition to the utilities for the camp specified in Sub-Clause SP-13.5.3 hereof, the Contractor shall provide such water, electricity, telephone, power, lighting, compressed air and other utilities as required for construction and other uses in connection with work under this Contract. Before final acceptance, all temporary utilities shall be removed or suitably abandoned unless otherwise specified or directed.

18.2 Power and Lighting

Satisfactory electric lighting shall be provided in spaces through which men must pass in the customary discharge of their duties and in any other locations where work is being done or machinery is in operation during other than daylight hours. The general lighting of uncompleted portions of such spaces and of completed portions through which materials or men must pass, shall have a minimum level of illumination of 40 Lux.

At headings, places where forms are being erected, concrete or packing is being placed or grouting is being done, and at all other locations where work or inspection is being performed and the general illumination is not sufficient, a minimum illumination intensity of 100 Lux shall be provided.

All wiring for electric light and power shall be installed, securely fastened in place and maintained in a first-class manner to the approval of the Engineer. Unless otherwise permitted, circuits separate from lighting circuits shall be used for all power purposes. Electric light and power wires shall be kept as far as practicable from telephone or signal wires or from wires used for firing blasts. Special precautions shall be taken to avoid short circuits in any part of the wiring systems. All temporary wiring and accessories shall be removed when directed by the Engineer and before the completion of the Contract.

18.3 Project Telephone System

The Contractor shall furnish, install and at all times maintain in good working order a telephone system for the Project construction areas. The Project telephone system shall incorporate the telephone system provided by the Employer in the Employer/Engineer's colony which will be used by the Employer, and shall be connected to the public telephone system as specified in Sub-Clause SP-13.12 hereof. Telephones for Engineer's personnel shall be provided within the new Contractor-furnished system. Telephone service and stations shall be established at approved locations including the Engineer's/ Employer's field office and Inspector's offices (portable field office cabins). It is estimated that approximately

seven (07) stations will be required in the Engineer's/ Employer's office, and approximately three (03) stations in the Inspectors' offices.

Telephones shall be installed and maintained in the Contractor's offices, the Engineer's/ Employer's offices, in camps and elsewhere on the Site at sufficient locations to provide adequate communication, all as approved or directed by the Engineer. Switchboards shall be of adequate capacity and installed where required. The Employer, the Engineer and their representatives shall at all times be allowed the use of the telephone system and connections.

SP-19 TRAFFIC - ROADS, BRIDGES

19.1 General

The Contractor shall provide and maintain traffic facilities in the construction area as indicated on the Drawings and as otherwise covered in these Special Provisions, and in areas adjacent thereto, as is necessary for safe and adequate pedestrian, road, and bridge traffic. The Contractor shall submit a plan of traffic operation, maintenance and protection for approval by the Engineer. At the completion of the Contract, all roads and bridges provided by the Contractor shall become the property of the Employer.

19.2 Haul and Construction Roads

The Contractor shall provide and maintain such haul and construction roads as are necessary for the conduct of the work.

No separate payment will be made to the Contractor for the construction and maintenance of such roads and the costs thereof shall be deemed to be included in the rates and prices quoted in the BoQ for other items of Work.

19.3 Haul Roads from Quarries

The Contractor may obtain riprap and material for stone pitching for use in the construction of the Works from quarry site that the Contractor may propose, subject to the provisions of Clause SP-20 hereof.

The Contractor shall develop adequate haul roads for haulage of the required construction materials from the quarry sites or make suitable arrangements for obtaining materials from any other quarries and transporting them to the Site to meet his construction program.

Subject to the provisions of Sub Clause 4.14, Avoidance of interference, and Sub-Clause 4.15, Access route, of the General Conditions of Contract, the Contractor shall be responsible for the construction, upkeep and maintenance of the haul roads including shoulders, ditches and drainage structures through their entire lengths during the currency of the Contract plus authorized extensions thereof.

No separate payment will be made to the Contractor for the work done in respect of development, upkeep, construction and maintenance of the haul roads.

19.4 Maintenance of Existing Access Routes, Roads and Other Services

The Contractor shall take over and maintain in suitable condition, as required by the Engineer, existing public access routes, roads and other services encountered within the construction area until such time as these public access routes and roads are diverted or alternative arrangements made by the Contractor to the satisfaction of the Engineer.

The Contractor shall arrange for the permanent diversion of all traffic (other than site traffic) onto the permanent road across the head regulator bridge and the permanent approach road thereto, within a period till the completion of project and all public routes and road become functional for routine traffic plan after the Engineer's notice to commence.

The Contractor shall furnish and maintain signs, traffic barricades, torches, flagmen and other facilities as necessary for safe and efficient directing and handling of traffic and shall be responsible for ensuring that all roads and temporary facilities provided are sufficient to divert public traffic adequately and safely. The Contractor shall observe all relevant rules and regulations of the Highway Department and other local authorities.

19.5 Utility Lines

The Contractor shall conduct his operations, make necessary arrangements, take suitable precautions and perform all required work incidental to the protection of and avoidance of interference with power, telegraph, telephone and natural gas lines and other utilities within the areas of his operations in connection with the Contract and the cost thereof shall be borne by the Contractor and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such interference.

SP-20 ROCK QUARRIES

The Contractor shall be responsible for developing quarries of his choice to obtain the riprap and material for stone pitching, as specified in the Technical Specifications, for use in connection with the Works. The Contractor may, at his option, and at no additional cost to the Employer, explore, locate, investigate and develop quarry sites that he may require to meet his requirements under the Contract. Such development of quarries shall include, where applicable, construction, operation and maintenance of the required haul/access roads and haulage arrangements, all at no additional cost to the Employer.

SP-21 FLOOD WARNING SYSTEM

As part of his flood warning system, the Employer is making arrangements to obtain rainfall and river stage data during the construction period from rainfall and river gauges located at upstream of the Site. Readings are expected to be transmitted by radio or other means and

will be made available to the Contractor. Readings will be transmitted at intervals mutually agreed by the Contractor and Employer.

The Employer will use his best efforts to ensure that data is received as scheduled. He cannot, however, guarantee against failure of communication facilities and other features of the reporting system. Failure on the part of the Employer to furnish data in accordance with schedules shall not be considered as the basis for a claim against the Employer by the Contractor.

The responsibility for interpretation of the flood warning data supplied by the Employer shall rest with the Contractor, and all adjustments of operations in anticipation of flooding shall be at the discretion of the Contractor, except as otherwise specifically provided in the Contract.

SP-22 ENVIRONMENTAL PROTECTION

22.1 General

Further to the provisions for the Protection of Environment specified in Sub-Clause 4.18 of the General Conditions of Contract, the Contractor shall exercise care to protect the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the Works. Except where clearing is required for Permanent Works, approved construction roads and Temporary Works, and for excavation operations, all trees and native vegetation shall be preserved and shall be protected from damage which may be caused by the Contractor's construction operations and equipment. On completion of the Works, all work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape. Where unnecessary destruction, scarring, damage or defacing may occur as a result of the Contractor's operations, it shall be repaired, replanted, or otherwise corrected as directed by the Engineer at the Contractor's expense.

22.2 Flows in Existing Utilized Water Courses

The Contractor shall conduct his operations so as to cause the least possible interference to flow in irrigation and other canals, channels and watercourses.

22.3 Borrow Areas

Material sources to be utilized shall be located and operated so as not to detract from the future usefulness or value of the sites. Rejected materials, including overburden, disturbed in site operations shall be disposed of in an approved manner and the site maintained at all times in a safe, workmanlike and lightly condition. All borrow areas shall be effectively drained and kept free of standing water, to the satisfaction of the Engineer.

Upon completion of operations, material sources or portions thereof shall be left in a safe and slightly condition. Loose rock shall be scaled from the face of the excavation, hazardous areas backfilled or other adequate safety precautions taken. Rejected materials, including overburden and waste materials from construction activities, shall be leveled and sloped to

conform to the surrounding terrain, or buried as directed. Work shall be done to the satisfaction of the Engineer.

22.4 Prevention of Water and Land Pollution

The Contractor's construction activities shall be performed in a manner that will prevent entrance of solid matter, contaminants, debris and other objectionable pollutants and wastes into flowing or dry water courses and underground water sources. Such pollutants and wastes include, but are not limited to, refuse, garbage, cement, concrete, sanitary waste, oil and other petroleum products. Discharge of washings from aggregate processing plants into the river will be permitted.

The Contractor shall take all possible measures to prevent entrance of any leakage or accidental spill of oil and lubricants from penetrating deep in the soil especially agricultural lands. Any leakage or spill of such pollutants shall be rectified to the satisfaction of the Engineer.

22.5 Dust Abatement

During the performance of the work required under the Contract, the Contractor shall carry out proper and efficient measures as often as necessary to reduce the dust nuisance, and to prevent dust originating from his operations. The Contractor shall at all times keep his construction machinery in good order/maintained to prevent emission of smoke beyond permissible limits. The Contractor shall arrange alternate methods for burning in labor camps so as to prevent the labour from burning waste material or wood causing smoke.

22.6 Noise Abatement

The Contractor's operations shall be conducted in a manner that will minimize excessive noise. In planning his operations, the Contractor shall comply with the recommendations of the Health and Safety Execution, UK, Publication EH 40: Occupational Exposure Limits. Night time blasting, the use of jack hammers, pile driving or other operations producing high intensity impact noise may be performed only upon approval of the Engineer.

22.7 Preservation of Historical and Archaeological Data

Should the Contractor or any of his employees in the performance of this Contract discover evidence of possible historical or archaeological data, he shall notify the Engineer in writing giving the location and nature of the findings. Where appropriate by reason of a discovery, the Engineer may order delays in the time of performance and/or changes in the work.

22.8 Protecting of Biological Resources

The Contractor during his construction activities shall take all measure to prevent any disturbance to the Forest and Fisheries Laws. Contractor shall affix necessary sign boards to make Labour, visitors and all concerned aware of their obligations towards protection of Biological resources.

22.9 Employment of Local Labour

The Contractor while recruiting Pakistani workforce for the purposes of or in connection with the Contract shall to the extent practicable and reasonable give first priority to such persons who are directly affected by the Project, whether by loss of land or occupation. A system of work permits will be introduced at the Site, whereby one work permit per affected household will be issued by the Employer. The work permit would serve to identify a labour pool of potential employees to whom the Contractor shall give preference when recruiting skilled, semi-skilled and unskilled categories of staff.

22.10 Personnel Protective Equipment (PPE)

The Contractor will provide Personnel Protective Equipment (PPE) to every person who intends to visit or works on work place as designated by HSE department. All PPE will meet the standard requirement and will be approved by the Engineer.

22.11 Cost

The cost of all works required by this Clause SP-22 shall be included in the rates and prices stated in the BoQ Item No. 1.1 for 'Implementation of Environmental Management Plan (EMP). May refer to indicative Cost Break-up of environmental protection activities given in the EMP.

SP-23 STANDARDS OF COUNTRIES OTHER THAN THOSE SPECIFIED

23.1 General

Where the Contract Documents provide requirements for material or equipment by specifying a standard which has its origin in one country, it is not the intention to restrict the requirements solely to that standard and that country. Other standards, including standards of other countries, will be accepted provided the requirements thereof, in the opinion of the Engineer, are equal in the requirements of the standard specified. The Contractor may propose to the Engineer a standard other than that specified, in which case he shall submit an English translation of the proposed standard and all other information required by Clause SP-9 hereof, and shall submit written proof that his proposed standard is equivalent in all significant respects to the standard specified. Dates of specified standards are not, generally provided in the Specifications or indicated on the Drawings. Where dates are not shown or specified or indicated, standards will be those in effect 28 days prior to the Tender Date.

23.2 Abbreviations of Standards

Standard specifications and codes of the following listed authorities wherever cited herein are referred to by use of the abbreviations shown below.

<u>AUTHORITY</u>	<u>ABBREVIATION</u>
American Concrete Institute	ACI

P. O. Box 19150, Redford Station
Detroit, Michigan 48219, USA

American National Standards Institute. Inc. 1430 Broadway, New York, NY 10018, USA	ANSI
--	------

American Society for Testing and Materials 916 Race Street Philadelphia, Pennsylvania 19103, USA	ASTM
--	------

American Welding Society 2501 N. W. Le Jeune Road Miami, FL 33125. USA	AWS
--	-----

United States Bureau of Reclamation (Department of the Interior) Engineering and Research Center Code 922, P.O. Box 25007, Denver Federal Center Denver, Colorado 80225, USA	USBR
---	------

British Standards Institution 2-Park Street, London W1A 2BS, UK	BS
--	----

American Association of State Highway and Transportation Officials 444 North Capitol St., N.W. Suite 225, Washington, D.C. 20001, USA	AASHTO
--	--------

Construction Industry Research and Information Association 6 Storey's Gate London SW 1 P3 AU, UK	CIRIA
---	-------

Federation Europeenne de la Manutention 10, Avenue Hoche 75382 Paris Cedex 08, France	FEM
---	-----

Copies of specifications, codes or standards of the above organizations may be obtained at the addresses shown.

SP-24 PROGRESS REPORTS, PHOTOGRAPHS AND DIGITAL VIDEO FILM

24.1 Progress Reports and Photographs

The Contractor shall, in accordance with Sub Clause 4.21 of the General Conditions of Contract, submit six copies of a detailed written report in a form acceptable to the Engineer of the progress of the Works during the preceding month. The report shall show, among other data the Engineer may request, the percentage of each type of work completed for each structure during the month and the total percentages of completion as of the date of the report. The progress report shall also include charts with 'S' curves showing scheduled cumulative progress versus time for each structure and for excavation, fill and concrete. The actual completion up to the period reported and forecast for the remaining period will also be shown on these charts. The contents and the format of this Monthly Progress Report have to be consented by the Engineer with 28 days from Notice to Commence. However, it should contain Executive Summary, Project Dash Board periodically updated baseline schedule in Primavera P6. Earned Value Reports, progress on design and material procurement and construction. Resource Profile Plan vs Actual Progress. The progress report should also include progress s-curve showing comparison and variance of plan vs actual progress overtime scale of overall works, design, material procurement and construction.

The Contractor shall also furnish to the Engineer ten (10) 6" x 5" colour photographs of the work in progress throughout the Contract period. The photographs shall be taken with a digital camera, capable of operating at different resolution modes, at the start and completion of each major component of the work and at other times as directed by the Engineer to show the progress of the Project and each feature thereof. The Contractor shall furnish CD containing at least ten (10) high resolution digital images and six glossy colour prints of each image per month. The glossy paper to be used for colour prints shall be subject to approval by the Engineer. Only clear, sharply defined photographs will be accepted. Each print shall be marked on the back side with the date, time and serial number. There shall be no writing, lettering or marking on the face of the photograph except the date. Caption of the activity represented in the photograph shall be printed at bottom of each colour print, outside the area of the photograph.

24.2 Digital Colour Video film

The Contractor shall prepare a colour digital video film as the work progresses. The film shall be of 60-minute duration fully edited and with commentary in English language. The video shall clearly show the progressive construction stages and completion of important phases of the Works. Five DVD disks of the film shall be submitted to the Engineer on completion of the Works.

At agreed intervals during the progress of the Works, the Contractor shall arrange to show the video film to the Engineer for his approval. The Contractor shall affect any improvement in preparation of the digital video film that the Engineer may direct.

Payment for the work under Sub-Clause 24.1 and 24.2 will be made at the lump sum price given in the Contract.

24.3 Quarterly Progress Presentation

The Contractor shall arrange a detailed quarterly project progress presentation in a form acceptable to the Engineer of the progress of the Works during the quarter. The presentation shall display, among other data, the percentage of each type of work completed for each structure during the quarter and the total percentages of completion as of the date of the presentation. The progress presentation shall also include scheduled cumulative progress versus time for each structure and for excavation, fill and concrete. The actual completion up to the period of progress presentation and forecast for the remaining period will also be displayed.

No separate Payment for this work will be made.

24.4 Meetings

From time to time during the execution of the Contract, the Engineer shall call meetings at the Site or elsewhere, as he deems necessary for reviewing the progress of the Works, discussion of any impediments to progress and consideration of other important matters. The meetings may be held at regular intervals to be fixed by the Engineer. Special meetings may also be called by the Engineers to discuss any emergent matters. Responsible representatives of the Contractor shall attend such meetings at no additional cost to the Employer.

SP-25 UNIT PRICE BREAKDOWN

Within 56 days after receipt of the Engineer's Notice to Commence, the Contractor shall submit to the Engineer the Contractor's breakdown of unit prices for three selected excavation items, three selected fill material items and three selected concrete items in accordance with a prescribed form and instructions furnished by the Engineer. The breakdown shall include the elements of the Contractor's overheads costs, other indirect costs, and equipment costs.

The Contractor shall also submit to the Engineer the Contractor's breakdown of such other unit prices as the Engineer may from time to time reasonably require pursuant to the provisions of Clause 13, Variations and Adjustment, of the General Conditions of Contract.

The submission of the breakdown of each lump sum item as well as "job/lot" items shall be a condition precedent to payment to the Contractor under any Interim Payment Certificate.

SP-26 TRANSPORT AND HANDLING OF CARGO

26.1 General

The Contractor shall be solely responsible for the shipment of materials, plant, equipment and all other things necessary for the completion of the Works including the selection of routes and carriers to ensure that all shipments are expeditiously and safely transported.

It may, however, be noted that carriers of certain nationalities may from time to time be prohibited from delivery to Pakistani ports. The Contractor shall not consign any shipment to any prohibited carriers and shall be responsible for complying with any such regulation of the Government of Pakistan.

26.2 Transportation Route

The Contractor shall make his own enquiries to ensure that adequate unloading and other facilities are available at the Port of Karachi and Port Qasim. He is warned that for heavier loads it may be necessary to use ship's tackle and he may, therefore, wish to impose limits on his loads.

The Contractor shall be solely responsible for satisfying himself at the time of shipment as to the railway restrictions, clearance gauges, suitability and availability of wagons, availability of railway cranes and costs and charges for railway freight.

The Contractor shall be responsible for making enquiries and obtaining information from and having coordination with Pakistan Railways regarding transportation of materials, Plant and the Contractor's Equipment through railway routes.

Alternative road transportation is available between Karachi Port and Port Qasim and the Site on which in general there are no such limitations. Improvements and modifications to both railway and road conditions are continually in progress and the best route will depend on the size and weight of any shipment.

26.3 Port Charges and Port Congestion

The Contractor shall be deemed to have obtained all information as to port clearance facilities and charges, loading and unloading facilities and costs, storage facilities and charges, transportation facilities and costs and congestion at Karachi Port and Port Qasim and shall be deemed to have confirmed the requirements thereof. The Contractor shall be deemed to have included all clearing, forwarding and any other incidental costs in this regard in his Tender. The Contractor has the option to use either the Karachi Port or Port Qasim or both at his own risk. No extension of time will be allowed on account of the Contractor's failure to inform himself of the situation.

SP-27 DIRECTED AND REQUIRED

Unless otherwise stated, wherever in the Specifications, or upon the Drawings, the words "directed" , "required", "permitted", "ordered", "designated", "prescribed" or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Engineer is intended, and similarly the words "approved", "acceptable", "satisfactory" or words of like import shall mean approved by or acceptable or satisfactory to the Engineer.

SP-28 COMMUNICATIONS TO THE ENGINEER

Pursuant to definition of the Engineer in Clause-1, Definitions, of the General Conditions of Contract, the Engineer has an office in Lahore to which the Contractor shall, except when otherwise directed, address all communications.

SP-29 OPERATION OF ISLAM BARRAGE

Information regarding the hydrology and in the historic release pattern from Islam barrage are given in the information provided pursuant to clause SP-7 hereof.

SP-30 MEASUREMENT AND PAYMENT - GENERAL**30.1 Payments – General**

Payments will be made as provided in Sub-Clause 14.7, payment, of the General Conditions of Contract and as specified hereinafter.

Except as stated herein or specifically stated elsewhere in the Contract, the Items given in the Bill of Quantities are the only Items under which measurement and payment will be made for work performed under the Contract. If some work required by these Specifications or by the Drawings is not included in the payment items in the Bill of Quantities, no separate payment will be made for that work.

The payment clauses in the last part of each Section of the Specifications include lists of items to which the various payment clauses apply. These lists are included for guidance and convenience, and if they should differ in any respect from the items listed in the Bill of Quantities, the Bill of Quantities shall take precedence.

30.2 Measurements - General

The Engineer will measure the actual quantities of work acceptably performed or items acceptably furnished in accordance with the specified methods of measurement. In all cases where a quantity under one Item measured for payment is contiguous to the quantity under another Item measured for payment, the division lines marking the beginning and end of the quantity under each Item shall be as indicated on the Drawings or as defined in the Specifications. If any question arises as to the location of any such line, it shall be determined by the Engineer. Unless otherwise specified, measurement for payment will be made only of material removed or placed, accepted and required as part of the Permanent Works. Excavations for construction plant and other purposes of the Contractor's choosing will not be measured for payment unless such excavations are required for the Permanent Works.

30.3 Measurement by Weight

The weights of materials and equipment, the installing, handling or placing of which is to be paid for on the basis of weight, will be determined by the Engineer from information

furnished by the Contractor. The weights shall be determined as defined in the relevant measurement and payment clauses. Unless otherwise specified, the Contractor will not be required to provide scales for actually weighing these materials and equipment; the Engineer will determine the weight of each part or item involved in the most practicable manner and he may use for that purpose railroad shipping weights, manufacturer's weights, catalogue weights, scale weights if available, or computed theoretical weights at the Engineer's discretion. Net weights only will be paid for and the weight of all tares, packing and blocking will be deducted. No extra allowance will be made for paint coatings.

30.4 Compensation Included

Payment to the Contractor of the amounts based on the actual quantities of work as measured by the Engineer in accordance with the specified methods of measurement and the prices stipulated in the accepted Tender, will constitute complete compensation for all work shown on the Drawings, provided in the Specifications or other Contract Documents, or reasonably inferable from any of the Contract Documents, and all expenses incidental thereto; and all costs of accepting the general risks, liabilities and obligations set forth or implied in the Contract Documents. The Contractor will be required to perform such work for such payment whether the work is specifically referred to or otherwise included in a specific item in the Bill of Quantities or not. Payment under all items shall include, but not necessarily be limited to, compensation for furnishing all plant, supervision, labour, equipment, overhead, profit, materials and services, and performing all work required to accomplish and complete the work specified under each item and all other work required by the Contract Documents.

No payments will be made on account of anticipated profits for work covered by the Contract which is not performed. The Contractor shall have no claim for further payment in respect of any work or method of execution described in the Contract for which apparently no corresponding item is given in the Bill of Quantities and the cost of any such work or method of execution shall be deemed to be included in and covered by the Contract Rates.

30.5 Units of Weights and Measurements

FPS units will be used for measurement and payment in this Contract. All the items in the BOQ and measurement and payment clauses have therefore been provided accordingly. Conversion factors wherever required for conversion of quantities from one system to another shall be as per the ACI code. Some of the conversion factors are as follows:

One linear foot = 0.3048 linear meter

One square foot = 0.0929 square meter

One cubic foot = 0.02832 cubic meter

One gallon (Imp) = 4.5461 litres

One US gallon = 3.785 liters

One pound = 0.4536 kilogram

Unless otherwise specified, gallon means an Imperial gallon.

SP-31 MEASUREMENT AND PAYMENT

31.1 General

No separate payment will be made for any work required to be performed under these Specific Provisions except as specified in this Clause. Where maintenance, repair, operation or other work in connection with a particular facility is not specifically included under an item, the cost thereof shall be considered to be included in 'the prices for the various items' of the Contract. No measurement for payment will be made for work required by this Section under such items of the Bill of Quantities as concrete, cement, earthwork and similar items.

31.2 BOQ Item No. 1.1– (Bill No. 1) Implementation of Environmental Management Plan (EMP)

Measurement

Measurement for payment shall be made for effective implementation of EMP as per the Contract item and as specified under sub-clause SP 22 to the satisfaction of the Engineer. Unit of Measurement shall be "Month".

Payment

Payment for work measured as above shall be made at BOQ Unit Rate for the item.

31.3 BOQ Item No. 1.2– (Bill No. 1) Progress Photographs and Digital Video Documentary

Measurement

Measurement shall be made of the number of sets of six glossy color prints of each of progress photographs showing the progress of Works in different stages, acceptably furnished to the Engineer and the Digital Video Documentary Films of durations described in these Special Provisions. Measurement for payment shall be as here below:

- | | |
|---|-----|
| a) Colored Progress Photographs | 25% |
| b) One Minute movie (Short Film for TV advertisement) | 5% |
| c) Sixty (60) Minute movie (Full detailed movie) | 70% |

Payment

Payment shall be made as provided above at the lump sum rate for the Item, and shall constitute full compensation for providing six (06) sets of ten (10) glossy colored

photographs of size 6" x 5" each and furnishing five (05) DVD disks of the films stated above fully edited and with commentary in English language and as specified in Sub-Clause SP 24.1 and SP 24.2 herein.

31.4 BOQ Item No. 1.3 – (Bill No. 1) Maintain Engineer's/ Employer's Field Office including Services

Measurement

The number of months plus fractions thereof during which the Engineer's/Employer's Field Office is acceptably maintained during the specified completion period and authorized extensions thereof shall be measured. The payment shall include maintenance of lawns and flower beds, driveways, walk-ways, work yards, parking shelters, parking areas and guard posts, provision of cleaning service and materials, 24 hour power supply for air-conditioning, heating and lighting and other purposes, 24 hour water supply and sewage disposal, replacement of bulb and luminaries etc. as required, repair and maintenance of furniture, fixtures, repainting of rooms and other items necessary for proper upkeep and operation of the premises.

Payment

Payment for maintenance will be made for the number of months measured as provided above at the BOQ Unit Rate for the Item, and shall constitute full compensation for maintaining the Engineer's and Employer's Field Office including janitorial services, repainting, repairing, maintenance of building equipment, furnishing miscellaneous supplies and operation of utilities, and all other work related to the item.

SPECIFIED PROVISIONAL SUMS

31.5 SPS- 1: Furnish, Equip and Supplies for Field Surveys and Engineer's/ Employer's Field Office

Measurement and Payment

Payment will be made for the work specified in Sub-Clause SP-14.7 hereof in accordance with the requirement of Sub-Clause 13.5, Provisional Sums, of the General Conditions of Contract.

31.6 SPS- 2: Maintain Equipment for Engineer's / Employer's Field Office and Field Survey

Measurement and Payment

Measurement and payment for the work specified in Sub-Clause SP-14.7 hereof will be made in accordance with the requirements of Sub-Clause 13.5, Provisional Sum, of the General Conditions of Contract.

31.7 SPS- 3: Adjustment of Contract Price for changes in Legislation under sub-clause 13.7 and for changes in Cost under sub-clause 13.8 of GCC

Payment

Payment will be made as provided in sub-clause 13.7 for Adjustment for changes in Legislation and Adjustment for changes in cost under sub-clause 13.8 of the General Conditions of Contract. Any other authorized reimbursements under the Contract will also be paid in accordance with the provisions of the Contract as per requirements of sub-clause 13.5 Provisional Sum of the General Conditions of Contract.

31.8 SPS- 4: Payment to Dispute Board (DB) under Clause 20 of General Conditions of Contract (GCC) for Employer's share.

Payment

Payment shall be made as reimbursement of Employer's share of expenditures/cost borne by the Contractor as per agreed remuneration w.r.t retainer fee and site visits. A provisional sum and payments made to DB provided in Clause 20 Claims, Dispute and Arbitration has been included in the Bill of Quantities for this purpose as per provisions of Sub-Clause 13.5 of GCC.

31.9 SPS- 5: Continuation of Contractor Provided Services during Defect Notification Period

Payment

Payment shall be made of the services rendered by the Contractor under instructions of the Engineer as per provisions of Sub-Clause 13.5 Provisional Sum of the General Conditions of Contract.

Section 7 - General Conditions of Contract

The Conditions of Contract comprise two parts, this Section 7 - General Conditions of Contract (GCC) and the following Section 8 - Particular Conditions of Contract (PCC).

The General Conditions shall be the Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer, Multilateral Development Bank Harmonized Edition, prepared by the Fédération Internationale des Ingénieurs-Conseil, or FIDIC (FIDIC MDB Harmonized Construction Contract) available at [FIDIC MDB June 2010](#). The FIDIC MDB Harmonized Construction Contract is exclusive for the use of ADB Borrowers and their project implementing agencies as provided under the License Agreement dated 9 June 2005, between ADB and FIDIC, and, consequently, no part of this publication may be reproduced, translated, adapted, stored in a retrieval system or communicated, in any form or by any means, whether mechanical, electronic, magnetic, photocopying, recording or otherwise, without prior permission in writing from FIDIC, except by the Employer identified in the contract and only for the exclusive purpose of preparing bidding documents for ADB-financed contracts.

The standard text of the General Conditions chosen must be retained intact to facilitate its reading and interpretation by Bidders and its review by ADB. Any amendments and additions to the GCC, specific to the contract in hand, should be introduced in Section 8 (Particular Conditions of Contract), Part A (Contract Data) and Part B (Special Provisions). Clause numbers in the PCC correspond to those in the GCC. As per GCC 1.5 (Priority of Documents), the PCC takes precedence over the GCC.

Part A (Contract Data) of the PCC includes data to complement the GCC in a manner similar to the way in which the Bid Data Sheet (BDS) complements the Instructions to Bidders (ITB).

Part B (Specific Provisions) is to be used to introduce country- or project-specific provisions, if so required. Whoever drafts the Specific Provisions should be thoroughly familiar with the provisions of the GCC and with any specific requirements of the Contract. Legal advice is recommended when amending provisions or drafting new ones.

The Conditions of Contract have been prepared for an ad measurement (unit price or unit rate) type of contract and cannot be used for other types of contract.

Conditions of Contract for Construction

MULTILATERAL DEVELOPMENT BANK HARMONISED

EDITION GENERAL CONDITIONS

June 2010

For Participating Bank use only

Released 30 June 2010

COPYRIGHT FIDIC 2010

**Bidders are instructed to use the Link given below to download the
FIDIC Multilateral Development Bank Construction Contract (June 2010)
for their reference and use**

<https://www.adb.org/sites/default/files/page/84077/fidic-gcc-construction.pdf>

FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS
INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS
INTERNATIONALE VEREINIGUNG BERATENDER INGENIEURE
FEDERACION INTERNACIONAL DE INGENIEROS CONSULTORES

Section 8 - Particular Conditions of Contract

The following Particular Conditions of Contract (PCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Part A – Contract Data

Ref. GCC	Subject	Data
1.1.2.2 and 1.3	Employer's name and address	Punjab Irrigation Department, Government of Punjab, represented by Head / Project Director, Project Management Office (PMO) for Punjab Barrages, Project Offices Building, Canal Bank, Mustafa Abad, Lahore. Telephone: 0092 42 99250351 Facsimile: 0092 42 99250352 e-mail: pmoipd@yahoo.com Web address: pmo-pb.gop.pk
1.1.2.4 and 1.3	Engineer's name and address	<i>[to be determined later]</i>
1.1.2.11	Bank's name	Asian Development Bank (ADB)
1.1.2.12	Borrower's name	Islamic Republic of Pakistan
1.1.3.3	Time for Completion	Whole works: Seven hundred thirty (730) days from the commencement date Section -M Wks: Seven hundred thirty (730) days from the commencement date Section -P Wks: One hundred eighty (180) days from the commencement date Refer to the table Summary of Sections of the Works given at the end of Contract Data
1.1.3.7	Defects Notification Period	365 days.
1.1.5.6	Sections	Refer to the table Summary of Sections of the Works given at the end of Contract Data
1.3	Electronic transmission systems	CLIENT: Facsimile: 0092 42 99250352 e-mail: pmoipd@yahoo.com Web address: pmo-pb.gop.pk ENGINEER: Facsimile: 0092 42 35118100 e-mail: tpbconsultants@gmail.com
1.4	Governing Law	The Law of the Islamic Republic of Pakistan

Ref. GCC	Subject	Data
1.4	Ruling language	English
1.4	Language for communications	English
2.1	Time for access to the Site	Seven (07) days after Commencement date
3.1(B)(ii)	Engineer's Duties and Authority	Up to 0.25% of the Accepted Contract Amount per variation and up to 2.5% of the Accepted Contract Amount for all variations.
4.2	Performance Security	The performance security will be in the form of an unconditional bank guarantee issued by a reputable bank from an eligible country located outside the employer's country or reputable local scheduled bank, in the amount of ten percent (10%) of the Accepted Contract Amount in the same currency (ies) and proportions of the Accepted Contract Amount. If the bank issuing the security is located outside the Employer's country, it shall have a correspondent reputable scheduled bank located in Pakistan to make it enforceable.
6.5	Normal working hours	Normal 8 hours per working day and 48 hours per week.
8.7 & 14.15(b)	Delay damages for the Works	0.05% of the Contract Price per day, in the currencies and proportions in which the Contract Price is payable. Refer to the table Summary of Sections of the Works given at the end of Contract Data
8.7	Maximum amount of delay damages	Ten percent 10%) of the Contract Price.
13.5.(b)(ii)	Provisional Sums	Ten percent (10%).
13.8	Adjustments for Changes in Cost	The Contract Price shall be adjustable during Contract Execution. Tables of Adjustment Data are given in the Schedules, Section 4 of Bidding Documents.

Ref. GCC	Subject	Data
14.1	The Contract Price	The following sentence under Clause 14.1 shall <u>not</u> apply: <i>“Notwithstanding the provisions of sub-paragraph (b), Contractor’s Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.”</i>
14.2	Total advance payment	Ten percent (10%) of the Accepted Contract Amount less provisional sums payable in currencies and proportions of the Accepted Contract Amount on submission of an unconditional bank guarantee of ten percent (10%) of the Accepted Contract Amount on the prescribed Form in Section 9 issued by a reputable bank from an eligible country located outside the Employer’s country or a reputable local scheduled bank, in the same currency (ies) of the Accepted Contract Amount. In case of a foreign bank, it shall be counter guaranteed by a reputable local scheduled bank. The contractor shall furnish acceptable bank Guarantee within twenty-one (21) days of signing of contract.
14.2(b)	Repayment amortization of advance payment	Seventeen percent (17%)
14.3(c)	Percentage of Retention	Ten percent (10%)
14.3(c)	Limit of Retention Money	Five percent (5%) of the Accepted Contract Amount.
14.5(b)(i)	Plant and Materials	If Sub-clause 14.5 applies: Plant and Materials for payment when shipped en-route to the Site: Not Applicable.
14.5(c)(i)		Plant and Materials for payment when delivered to the Site: Steel Reinforcement Bar.
14.6	Minimum Amount of Interim Payment Certificates	One percent (1%) of the Accepted Contract Amount.
15.6	Corrupt and Fraudulent Practices	The following sentence shall apply: For the purposes of this Subclause: ADB’s Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Contractors,

Ref. GCC	Subject	Data
		Subcontractors, manufacturers, and Consultants under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB (a) defines, for the purposes of this provision, the terms set forth below as follows: (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party; (ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party; (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party; (v) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents, or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or (e) materially impeding ADB's contractual rights of audit or access to information; and (vi) "integrity violation" is any act which violates ADB's Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest,

Ref. GCC	Subject	Data
		violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard. (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract; (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation; and (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations.
17.6	Maximum total liability of the Contractor to the Employer	The product of one point one five (1.15) times the Accepted Contract Amount,
18.1	Periods for submission of insurance: a. evidence of insurance. b. relevant policies	Fourteen (14) days Twenty-Eight (28) days

¹ Whether as a Contractor, Nominated Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document). A Nominated Subcontractor is one which either has been (i) included by the Bidder in its prequalification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder's prequalification application or the bid, or (ii) appointed by the Employer.

Ref. GCC	Subject	Data
18.2(d)	Maximum amount of deductibles for insurance of the Employer's risks	Pak Rupees 1,000,000 (one million)
18.3	Minimum amount of third party insurance	Pak Rupees 10,000,000 (ten million) per occurrence with the number of occurrences unlimited.
20.2	Date by which the Dispute Board shall be appointed	28 days after the Commencement
20.2	The Dispute Board shall be comprised of	Three Members
20.2	List of potential Dispute Board sole members	None
20.3	Appointment (if not agreed) to be made by	Chairman, Pakistan Engineering Council
20.6 (a)	International arbitration	International arbitration shall be: (i) Administered by: Singapore International Arbitration Centre (SIAC) . (ii) Conducted in accordance with the rules of: SIAC
20.6	Place of Arbitration	Singapore
20.6 (b)	Arbitration with domestic contractors	For Domestic Contractors, arbitration shall be: (i) Administered by: Pakistan Engineering Council (PEC) . (ii) Conducted in accordance with the rules of: Arbitration Act 1940 of Pakistan as amended from time to time . (iii) Conducted at: Lahore, Pakistan

Summary of Sections of the Works

Section Name/Description (Sub-clause 1.1.5.6)	Time for Completion (Sub-clause 1.1.3.3)	Damages for Delay (Sub-clause 8.7)
<u>Section -M Wks</u> Civil, Mechanical & Electrical Works	730 days	0.05 % of the Accepted Contract Amount per day, in the currency (ies) and proportions in which the Accepted Contract Amount is payable and maximum amount of delay damages is ten (10%) percent of the Accepted Contract Amount.
<u>Section -P Wks</u> Preparatory Works (BOQ, Item No. -----)	180 days	0.05 % of the cost of Preparatory Works per day, in the currency (ies) and proportions in which the Accepted Contract Amount is payable and maximum amount of delay damages is ten (10%) percent of the cost of Preparatory Works.

Part B – Specific Provisions

Ref. GCC	Subject	Data
GENERAL PROVISIONS		
1.1.1.11	Employer's Requirement	The following Sub-Clause 1.1.1.11 is added: “Employer's Requirements” mean the document entitled Employer's Requirements (if any), as included in the Contract, and any additions and modifications to such document in accordance with the Contract.
1.1.5.8	Works	Sub-Clause 1.1.5.8 is deleted and substituted with the following text: “Works” mean the Permanent Works, the Temporary Works, the civil works, the Mechanical and Electrical Works or either of them as appropriate.
1.1.5.9	Mechanical & Electrical Works	The following Sub-Clause is inserted at the end of Sub Clause 1.1.5.8. “Mechanical & Electrical Works” means the permanent mechanical & electrical works of Gates and Gearing System to be designed, manufactured/ refurbished, supplied and installed by the Contractor as specified in the Employer's requirements for Mechanical & Electrical Works.
1.1.6.1	Other Definitions	The following paragraph is added at the end of Sub-Clause. “Contractor's Documents” shall also include the document titled Proposal for Mechanical & Electrical Works, which the Contractor submitted with the Letter of Tender / the Letter of Technical Bid, as included in the Contract. Such document should include the Contractor's preliminary design.
1.5	Priority of Documents	The List of documents appearing at (a) to (i) of Sub-Clause is deleted and is substituted by the following: - a) the Contract Agreement, b) the Letter of Acceptance, c) the Letter of Technical Bid, d) the Letter of Price Bid, e) the Particular Conditions– Part A (Contract Data), f) the Particular Conditions– Part B (Specific Provisions), g) the General Conditions of Contract, h) the Specifications, i) Specifications (Part A) - Special Provisions ii) Specifications (Part B) - Tech Specification

Ref. GCC	Subject	Data
		iii) Environmental Management Plan i) the Drawings; j) the completed Schedules including Bill of Quantities; k) any other document(s) forming part of the contract.; and l) the addenda, if any, (excluding part relating to Instructions to Bidders along with Bid Data) shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract.
THE ENGINEER		
3.1	Engineer's Duties and Authority	The following sub-paragraphs are added after the sub-paragraph (D) in the 6th. Paragraph: (E) Sub-clause 4.4: Consenting to the engagement of Subcontractor(s); (F) Sub-clause 8.8: Instructing suspension of Work; (G) Sub-clause 10.1: Issuing the Taking-Over Certificate; (H) Sub-clause 11.9: Issuing the Performance Certificate; (I) Sub-clause 14.9: Certifying release of Retention Money; or (J) Sub-clause 14.13: Issuing Final Payment Certificate.
THE CONTRACTOR		
4.1	Contractor's General Obligations	The following text is added at the end of the Sub-Clause: "Staff shall be hired and shall be responsible for control of access to site and a registry / identification system for employees and visitors shall be established."
4.7	Setting Out	The following text is added at the end of Sub-Clause: 1. "The Contractor shall adequately record the condition of roads, agricultural land and other infrastructure prior to the starting to transport materials, goods and equipment, and construction."
4.10	Site Data	The second sentence of paragraph one is deleted. The following text is added as paragraph three at the end of sub-clause: "Data and information Subsurface and other physical information such as the subjects listed below and contained in the Contract Documents or otherwise made available to the Contractor by the Employer are not intended as representations or warranties but are furnished for the Contractor's information

Ref. GCC	Subject	Data
		only. It is expressly understood that the Employer will not be responsible for the accuracy thereof nor for any deduction interpretations or conclusions drawn therefrom. The information is made available in order that the Contractor may have the same information as is available to the Employer and is not part of the contract: 2. Hydrological and hydrographic information 3. Climatic information for Project area Sub surface information comprises selected borehole log and grain size distribution curves.
4.12	Unforeseeable Physical Conditions	The following text is added at the end of Sub-Clause: "In addition to notice of any unforeseeable physical conditions, the Contractor shall provide the Engineer with a written notice of any unanticipated environmental or resettlement or indigenous people's risks or impacts that arise during construction, implementation or operation of the Works, which were not considered in the initial environmental examination, the environmental management plan or the land acquisition and resettlement plan."
4.13	Right of Way and Facilities	The following paragraph is added at the end of Sub-Clause 4.13: "The Contractor shall be bound to submit Environmental Management Plan for any such additional right of way or facilities obtained outside the designated site and seek approval thereto from the Engineer prior to taking possession or using such Right of Way or facility."
4.14	Avoidance of Interference	The following paragraph is added at the end of Sub-Clause 4.14: "The Contractor shall not be permitted to interfere with and have access to the protected areas including Security/ Defense installations/ Rangers Check Posts and canal side plantation to get timber or firewood for his use."
4.18	Protection of the Environment	"The Contractor shall comply with (i) the measures and requirements set forth in the Initial Environmental Examination and Environmental Management Plan contained in Vol-II of the Bidding Document; and the Land Acquisition and Resettlement Plan (to the extent they concern impacts on affected people during construction); and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the Initial Environmental Examination and

Ref. GCC	Subject	Data
		Environmental Management Plan. The Contractor shall prepare a Site Specific Environment Management Plan ("SSEMP") which shall be finalized by Punjab Irrigation Department and submitted for approval by ADB, such SSEMP to be based on the respective EMP."
4.19	Electricity, Water and Gas	The Sub-Clause is deleted in its entirety and substituted with the following: "The Contractor shall be fully responsible for the provision of electricity, water, gas and other services he may require for the performance of the Contract. The Contractor shall make his own arrangements to cover his requirements for electricity, water, gas and other services."
4.21	Progress Reports	The first and third sentences of first paragraph are deleted and following text is added in the beginning of the paragraph: "During the period of the Contract, the Contractor shall submit a monthly progress report to the Engineer not later than 7th day of the month following the month covered by the report. The monthly progress report shall be submitted in 06 copies with an electronic copy of the report." The size of photograph mentioned in item (b) of third paragraph of the Sub-Clause is "6"X5". "(i) monitoring of the obligations in Sub-Clauses 4.13, 4.18, 6.4, 6.7, 6.20, 6.21, 6.23 and 6.24."
4.22	Security of the Site	Add (c) at the end of the Sub-Clause: "The Contractor shall install proper sign/ warning boards/ warning lights at the Site of Works to avoid public accidents/ inconvenience to the satisfaction of the Engineer."
4.23	Contractor's Operations on Site	Add the following text after para 2: "The Contractor shall maintain the approach roads in proper condition for safe travelling by sprinkling of water and levelling as and when required."
STAFF AND LABOUR		
6.1	Engagement of Staff and Labour	Insert the following words at the end of the second paragraph: "with preference to hire people from local vicinity especially for unskilled labour". Add the following paragraph at the end of the Sub-Clause: "The Contractor shall (i) use his best efforts to employ women and local people living in the vicinity of the Project; (ii) to disseminate information at worksites and campsites for those

Ref. GCC	Subject	Data
		employed during construction on risks of sexually transmitted diseases and HIV/AIDS and the prevention of trafficking of women and children (iii) not differentiate between men & women with regard to wages or benefits for work of equal value; and (iv) abstain from engaging persons below the legally employable age in Pakistan. The Contractor shall not recruit or attempt to recruit his staff and labour from amongst persons in the service of the Engineer.”
6.4	Labour Laws	The following sub-paragraphs are added at the end of the Sub-Clause: - “The Contractor shall (i) comply with the relevant labour Laws <u>and regulations</u> applicable to the Contractor’s Personnel, including laws relating to their employment, health, safety, welfare, immigration and emigration, (ii) <u>incorporate applicable workplace occupational safety norms</u>; (iii) comply with legally mandated provisions on health, sanitation, and appropriate working conditions, including accommodation where appropriate for construction workers at construction campsites; and (iv) shall allow them all their legal rights. The Contractor shall establish and provide information at time of hire about labour grievance procedure through which workplace concern can be raised. The Contractor shall also establish a system or location to provide general information to all employees related to employment (information about laws, policies, conditions, terms, training opportunities, etc.) The Contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The Contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. The Contractor shall (a) provide equal wages and benefits to men and women for work of equal value or type (b) ensure that maximum possible number of available women is employed in construction. The Contractor shall be required to provide employment certificate and training where applicable to each worker upon completion of contract.” The Contractor shall maximize female training and employment.”

Ref. GCC	Subject	Data
6.5	Working Hours	The following subparagraph is added at the end of the Sub-Clause: “d) Subject to any provision to the contrary contained in the Contract, the Contractor shall have the option to work continuously by day and night and on locally recognized days of rest in accordance with the prevalent labour laws of the Provincial/Federal Government of Pakistan. In the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night-work is being carried out shall be sufficiently lighted. All arrangements adopted for such lighting shall be to the satisfaction of the Engineer.”
6.6	Facilities for Staff and Labour	The following sub-paragraph is added at the end of the Sub-Clause: - "Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such accommodation and amenities for all his staff and labour, employed for the purposes of or in connection with the Contract, including all fencing, water supply (both for drinking and other purposes), electricity supply, sanitation, cookhouses, fire prevention and firefighting equipment, furniture and other requirements in connection with such accommodation or amenities. On completion of the Contract, the temporary camps/housing provided by the Contractor shall be handed over to the Employer except that part of the camps/housing which otherwise will be directed by the Employer to be removed and the site reinstated to its original condition, all to the approval of the Engineer."

Ref. GCC	Subject	Data
6.7	Health and Safety	Following paras are added after the last para of this Sub-Clause: - “The Contractor shall maintain and submit to the Engineer such records and reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe. The Contractor shall perform the Health screening of the labour force (normally within the first month of employment). The Contractor shall provide to its employees appropriate Personnel Protective Equipment (PPE) and with necessary training on PPE use. The Contractor shall at all times take all reasonable precautions and maintains the health and safety of the Contractor’s Personnel and to provide a safe work environment. To protect and control a safe and secure site, the staff shall be hired by the Contractor and shall be responsible for control of access to site and a registration / identification system for employees and visitors shall be established and implemented by him. The Contractor shall provide adequately equipped first-aid, health and sanitation, and personal hygiene facilities for male and female workers at the Work Sites. The Contractor shall conduct an information and education campaign on communicable diseases, women/children trafficking prevention for construction workers as part of the health and safety program at campsites and adjacent communities during Works implementation.”
6.8	Contractor’s Superintendence	The following text is added at the end of the Sub Clause: - “The Contractor’s professional engineers working at site shall register themselves with the Pakistan Engineering Council. The Contractor’s authorized representative at Site shall be authorized to exercise full administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.”
6.13	Supply of Foodstuffs	The Sub-Clause is deleted in its entirety and substituted by the following: “The Contractor shall arrange for the provision of a sufficient supply of suitable food at reasonable prices for all his staff and labour and his subcontractors, employed for the purposes of or in connection with the Contract.”

Ref. GCC	Subject	Data
6.15	Measures against Insect and Pest Nuisance	The Sub-Clause is deleted in its entirety and substituted by the following: - "The Contractor shall at all times take the necessary precautions to protect all Contractor's personnel employed on the Site from insect nuisance, rats and other pests and reduce the dangers to health and the general nuisance caused by the same. The Contractor shall provide Contractor's personnel with suitable prophylactics for the prevention of malaria, and take steps to prevent the formation of stagnant pools of water. He shall comply with all the regulations of the local health authorities in these respects and shall in particular arrange to spray thoroughly with approved insecticide all buildings erected on the Site. Such treatment shall be carried out at least twice a year or as instructed by the Engineer."
6.18	Festival and Religious Customs	The Sub-Clause is deleted in its entirety and substituted by the following: - "The Contractor shall, in all dealings with the Contractor's Personnel, have due regard to all the Country's recognized festivals, days of rest and religious and other customs."
6.19	Funeral Arrangements	Add the following text at the end of the existing Sub-Clause: "The Contractor shall also be responsible, for making arrangements for transportation to the ancestral abode or at the permanent address for burial of any of the local employees or members of their families who may die while engaged upon the Works."
6.21	Prohibition of Harmful Child Labour	Insert the following text in the last line of the Sub-Clause: " "Child" means a person below the statutory minimum age prescribed under the Laws of the Borrower Country."
6.24	Non-Discrimination and Equal Opportunity	The following text is added at the end of the Sub-Clause: "The Contractor shall comply with the measures set forth in the Gender Action Plan (GAP)."
Following new sub-Clauses are inserted after the Sub-Clause 6.24.		
6.25	Epidemics	In the event of any out-break of illness of epidemic nature, the Contractor shall comply with and carry out the relevant Laws of the Borrower Country or the local medical or sanitary authorities for the purpose of overcoming the same.
PLANT, MATERIALS AND WORKMANSHIP		
7.5	Rejection	Insert the words "Gates and Gearing system design" after

Ref. GCC	Subject	Data
		words “materials” wherever appear in this Sub-Clause.
7.8	Royalties	In the first line, following text is added before the word “rent”: - “government levies and applicable” Sub-paragraph (a) is deleted and replaced by: “obtaining natural materials, and”
DEFECTS LIABILITY		
11.2	Cost of Remedying Defects	Sub-paragraph (d) is added with description as under: “improper operation or maintenance which was attributable to matters for which the Contractor is responsible.” The following paragraph is added at the end of the Sub-Clause: “Upon completion of construction, the Contractor shall fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition as recorded by the Contractor in accordance with its obligations in Sub-Clause 4.7.”
CONTRACT PRICE AND PAYMENT		
14.9	Payment of Retention Money	The last two paragraphs of GCC Sub-Clause 14.9 are deleted.
TERMINATION BY EMPLOYER		
15.6	Corrupt or Fraudulent Practices	Provisions under sub-heads of “ <u>Contracts financed by banks other than Asian Development Bank</u> ” are not applicable.
SUSPENSION AND TERMINATION BY CONTRACTOR		
INSURANCE		
18.1	General Requirements for insurance	The following text is added at the end of the Sub-Clause: “No separate payment will be made to the Contractor for fulfilling his obligations under this Sub-Clause and the cost thereof shall be considered to be included in the prices of various other BOQ items of the Contract. Insurance should be affected from a reputable insurance company of minimum AA rating.”
ADDITIONAL CLAUSES AFTER CLAUSE 20		
CLAUSE 21 MISCELLANEOUS		
21.1	Local Taxation	The Contractor shall comply with all laws and security regulations in accordance with the Explosive Substances Act,

Ref. GCC	Subject	Data
		1908 (VI of 1908) (as amended from time to time) relating to the importation, movement, storage and use of explosives including the provision of magazines at locations approved by the appropriate authorities. The magazines shall conform in all respects to all laws in force regarding the erection, maintenance and guarding of magazines.

Section 9 - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Table of Forms

Notification of Award 9-2

Contract Agreement 9-3

Performance Security 9-5

Advance Payment Security 9-5

Notification of Award

[on letterhead paper of the employer]

Letter of Acceptance

..... date.

To: *Name and address of the contractor*

Subject: *Notification of Award Contract No.*

This is to notify you that your Bid dated *date.* for execution of the *name of the contract and identification number, as given in the Bid Data Sheet* for the Accepted Contract Amount of the equivalent of *amount in words and figures and name of currency*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose the Performance Security Form included in Section 9 (Contract Forms) of the Bidding Document.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the day of,, between *name of the employer*. (hereinafter “the Employer”), of the one part, and *name of the contractor*. (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer desires that the Works known as *name of the contract*. should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein.

The Employer and the Contractor agree as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Contract Agreement,
 - (b) the Letter of Acceptance,
 - (c) the Letter of Technical Bid,
 - (d) the Letter of Price Bid,
 - (e) the Addenda Nos, (insert Addend Nos. if any)
 - (f) the Particular Conditions of Contract – Part A (Contract Data),
 - (g) the Particular Conditions of Contract – Part B (Specific Provisions),
 - (h) the List of Eligible Countries that was specified in Section 5 of the Bidding Document
 - (i) the General Conditions of Contract,
 - (j) Specifications
 - (k) the Drawings,
 - (l) the completed Schedules including Bill of Quantities, and
 - (m) any other documents forming part of the Contract.
3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *name of the borrowing country*. on the day, month and year indicated above.

Signed by
.....

Signed by

for and on behalf of the Employer
in the presence of

for and on behalf the Contractor
in the presence of

Witness, Name, Signature, Address, Date

Witness, Name, Signature, Address, Date

Performance Security

..... Bank's name, and address of issuing branch or office¹

Beneficiary: Name and address of the employer.....

Date:

Performance Guarantee No.:

We have been informed that name of the contractor. (hereinafter called "the Contractor") has entered into Contract No. reference number of the contract. dated with you, for the execution of name of contract and brief description of works. (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we name of the bank. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of name of the currency and amount in words² (. amount in figures.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of ,³, and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (or ICC Publication No. 758 as applicable), except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.⁴

.....
Signature(s) and seal of bank (where appropriate)

Note to Bidder

If the institution issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

- ¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
- ² The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the employer.
- ³ Insert the date 28 days after the expected completion date. The employer should note that in the event of an extension of the time for completion of the contract, the employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [6 months] [1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
- ⁴ Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758 where applicable.

Advance Payment Security

..... Bank's name, and address of issuing branch or office⁵

Beneficiary: Name and address of the employer

Date:

Advance Payment Guarantee No.:

We have been informed that name of the contractor. (hereinafter called "the Contractor") has entered into Contract No. reference number of the contract. dated with you, for the execution of name of contract and brief description of works. (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum name of the currency and amount in words⁶. (..... amount in figures.) is to be made against an advance payment guarantee.

At the request of the Contractor, we name of the bank. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of name of the currency and amount in words⁷. (..... amount in figures.) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number Contractor's account number. at name and address of the bank.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety percent (90%) of the Contract Price has been certified for payment, or on the ... day of,,⁸ whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758 (or ICC Publication No. 758 as applicable).

.....
Signature(s) and seal of bank (where appropriate)

Note to Bidder

If the institution issuing the advance payment security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

1

⁵ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

⁶ The guarantor shall insert an amount representing the amount of the advance payment denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the employer.

⁷ Footnote 2.

⁸ Insert the expected expiration date of the time for completion. The employer should note that in the event of an extension of the time for completion of the contract, the employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."