



Ministry of Industry, Eco-tourism, Forests and Environment
Provincial Tourism Development Program Implementation Unit(PTDPIU)
Climate Resilient Landscapes and Livelihoods Project

BIDDING DOCUMENT

FOR

Procurement of

**Trekking Trail and Eco-tourism Assets and Services Development Works,
Khaptad - Badimalika - Ramaroshan Route,
Badimalika Section (6.5 km), Bajura.**

- Single-Stage: Two-Envelope Bidding Procedure -

Volume: I

Issued on: **14 Oct 2026**

Invitation for Bids No.: **CW-13**

OCB No.: **CRLLP/PTDPIU/WORKS/CW13**

Employer: **Project Coordination and Management Unit Sudurpashchim,
Provincial Tourism Development Program Implementation Unit(PTDPIU),
Dhangadhi**

सचिव, प्रदर्शन
३०३६ ५५२९



Country: Nepal

Table of Contents - Summary Description

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 the 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 Specification, Drawings, Supplementary Information that describe the Works to be procured, Personnel Requirements, and Equipment Requirements.

PART III CONDITIONS OF CONTRACT AND CONTRACT FORMS.

Section 7 - General Conditions of Contract (GCC) ----- 7-1

This section contains the general clauses to be applied in all contracts. 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 which are specific to each contract and which 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

Signature
Date



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.



Sudurpaschim Province Government
Ministry of Industry, tourism, Forests and Environment
Provincial Tourism Development Program Implementing Unit (PTDPIU)
Climate Resilient Landscapes and Livelihoods Project

Invitation for Bids.

Date of Publication: **14 Oct, 2026**

Loan/Grant No. and Title: **4495/ 0972, 0973 Climate Resilient Landscapes and Livelihoods Project**

Contract No. and Title: CRLLP/PTDPIU/WORKS/CW-13 Trekking Trail and Eco-tourism Assets and Services Development Works, Khaptad - Badimalika - Ramaroshan Route, Badimalika Section (**6.5 km**), Bajura.

Deadline for Submission of Bids: 4 Nov 2026, 12:00 hrs (Local Time)

1. The Government of Nepal has applied for a financing from the Asian Development Bank (ADB) toward the cost of **Climate Resilient Landscapes and Livelihoods Project**. Part of this financing will be used for payments under the Contract named above. Bidding is open to Bidders from eligible source countries of ADB.
2. The **Project Coordination and Management Unit Sudurpashchim, Provincial Tourism Development Program Implementing Unit (PTDPIU), Dhangadhi, Nepal** ("the Employer") invites sealed bids from eligible Bidders for the construction and completion of **Trekking Trail and Eco-tourism Assets and Services Development Works, Khaptad - Badimalika - Ramaroshan Route, Badimalika Section (6.5km), Bajura** ("the Works").
3. Open competitive bidding will be conducted in accordance with ADB's **Single Stage: Two-Envelope (1S2E)** procedure and is open to all Bidders from eligible countries as described in the Bidding Document.
4. Only eligible Bidders with the following key qualifications should participate in this bidding:

Minimum average annual construction turnover within the last 5 years: NPR **80,092,000.00**

Work experience of similar size and nature: **Experience in construction of tourism infrastructure, building, site development, road, trail, park, recreational facilities or other similar civil infrastructure works of Value not less than :NPR 96109489.23**

- Construction experience in the following key activities:
 - **Stone Masonry including dry stone wall works: 1362.22 cum**
 - **Flag Stone Paving Work :2893.34 Sq.m**
 - **Metal Work -:13101.57 Kg**
 - **Wood Work**
 - **Sal Wood-:24.62 cu.m**
 - **Local Hard Wood-:53.31 cu.m**

5. To obtain further information and inspect the bidding documents, Bidders should contact:
Attention: Office Chief
Provincial Tourism Development Program Implementing Unit (PTDPIU),



Dhangadhi, Nepal

Telephone: +977 9848424107

E-mail: ptdpiu7@gmail.com

6. To purchase the bidding documents in English, eligible Bidders should
 - write to address above requesting the bidding documents for **CRLLP/PTDPIU/WORKS/CW-13: Trekking Trail and Eco-tourism Assets and Services Development Works, Khaptad - Badimalika - Ramaroshan Route, Badimalika Section (6.5 km) in Bajura, Nepal** and pay a nonrefundable fee of **NPR 10,000.00 (Nepalese Rupees Ten Thousand)** in the form of Bank Voucher deposited in the
Bank :Rastriya Banija Bank limited Dhangadhi
Revenue Account No.**4170100202030000**
 - in favor of: **Provincial Tourism Development Program Implementation Unit(PTDPIU), Dhangadhi Nepal**
 - Office Code :**3070077027**
 - , **Revenue Heading No. 14229 by 03 Nov,2026**
7. Deliver your bid
 - to the address mentioned above
 - Purchase of Bid -:03 Nov 2026
 - on or before the deadline: 4 Nov,2026 **at 12:00 hrs (Local Time)**
 - together with a Bid Security/Bid-Securing Declaration as described in the Bidding Document

Bids will be **opened on 4 Nov, 2026 at 12:30 hrs**, immediately after the deadline for bid submission in the presence of Bidders' representatives who choose to attend.
8. If the last date of purchasing and /or submission falls on a government holiday, then the next working day shall be considered as the last date. In such case the validity period of the bid security shall remain the same as specified for the original last date of bid submission.
9. When **comparing Bids, Domestic Preference will not** be applied as stipulated in the Bidding Document.

Handwritten signature and text in Hindi.



Section 1: Instructions to Bidders

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	1-6
5. Eligible Materials, Equipment, and Services.....	1-8
B. Contents of Bidding Document	1-8
6. Sections of Bidding Document.....	1-8
7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting.....	1-8
8. Amendment of Bidding Document	1-9
C. Preparation of Bids	1-10
9. Cost of Bidding.....	1-10
10. Language of Bid	1-10
11. Documents Comprising the Bid	1-10
12. Letters of Bid and Schedules	1-11
13. Alternative Bids	1-11
14. Bid Prices and Discounts	1-11
15. Currencies of Bid and Payment	1-12
16. Documents Comprising the Technical Proposal	1-12
17. Documents Establishing the Qualifications of the Bidder	1-12
18. Period of Validity of Bids	1-12
19. Bid Security/Bid-Securing Declaration	1-12
20. Format and Signing of Bid	1-15
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	1-16
E. Evaluation and Comparison of Bids.....	1-18
26. Confidentiality.....	1-19

2021-2022
2021-2022



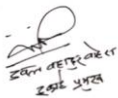
27. Clarification of Bids.....	1-19
28. Deviations, Reservations, and Omissions.....	1-18
29. Examination of Technical Bids	1-18
30. Responsiveness of Technical Bid	1-19
31. Nonmaterial Nonconformities	1-19
32. Qualification of the Bidder	1-19
33. Subcontractors	1-20
34. Correction of Arithmetical Errors	1-20
35. Conversion to Single Currency.....	1-20
36. Domestic Preference	1-21
37. Evaluation and Comparison of Price Bids.....	1-21
38. Abnormally Low Bids	1-21
39. Unbalanced or Front-Loaded Bids	1-22
40. Employer's Right to Accept Any Bid, and to Reject Any or All Bids.....	1-22
41. Notice of Intention for Award of Contract	1-23
 F. Award of Contract.....	1-23
42. Award Criteria.....	1-23
43. Notification of Award	1-23
44. Signing of Contract.....	1-23
45. Performance Security.....	1-24
46. Bidding-Related Complaints.....	1-24

**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 the Works as specified in Section 6 (Employer's Requirements). The name, identification, and number of contracts of this bidding 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 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 (1998, as amended to date) 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) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
 - (vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;
 - (vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation, or deliberately making false statements to investigators, with the intent to impede an ADB investigation; (b) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and
 - (viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: 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, 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.
- 3.2 All Bidders, consultants, contractors, suppliers, and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:
- (a) being available to be interviewed and replying fully and truthfully to all questions asked;
- (b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;
- (c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;
- (d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communications Technology (ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);
- (e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and
- (f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.
- 3.3 All Bidders, consultants, contractors and suppliers shall ensure that, in its contract with its sub-consultants, Subcontractors and other third parties engaged or involved in ADB-related activities, such sub-

¹ Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).



consultants, Subcontractors and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.

- 3.4 The Employer hereby puts the Bidder on notice that the Bidder or any Joint Venture partner of the Bidder (if any) may not be able to receive any payments under the Contract if the Bidder or any of its Joint Venture partners, as appropriate, is, or is owned (in whole or in part) by a person or entity subject to applicable sanctions.
- 3.5 Furthermore, Bidders shall be aware of the provisions of GCC 28.3 and 73.2 (i).

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 this 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, Joint Venture partner, associates, parent company, 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; or
 - (h) a Bidder would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm.
- 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 A Bidder shall not be under suspension from Bidding by the Employer as the result of the execution of a Bid-Securing Declaration.
- 4.7 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.8 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.



- 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 consists 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.

**7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**

- 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.
- 7.1 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 prior to the deadline for submission of bids, within a period given in the BDS. 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 risk and 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, at Bidder's option and 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, or as stipulated in the BDS;
- (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, and all documents listed under Clause 11, 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 When specified in the BDS pursuant to ITB 13.1, and subject to 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 Schedules shall conform to the requirements specified below.
- 14.2 The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section 4 (Bidding Forms). In case of admeasurement contracts, 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 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 The prices shall be either fixed or adjustable as specified in the BDS.
- (a) In the case of Fixed Price, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as nonresponsive and rejected.
- (b) In the case of Adjustable Price, prices quoted by the Bidder shall be subject to adjustment during performance of the contract to reflect changes in the cost elements such as labor, material, transport, and contractor's equipment in accordance with the provisions of the Conditions of Contract. A Bid submitted with a fixed price will be treated as nonresponsive and be rejected. 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. Any bid that omits indexes and weightings shall be subject to clarification with the Bidder.
- 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 currency(ies) of the Bid and payment shall be as specified in the BDS.
- 15.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the prices shown in the appropriate form(s) of Section 4, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
- 16. Documents Comprising the Technical Proposal**
- 16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule, **environmental, health and safety (EHS) management plan commensurate with the proposed scope of work, EHS code of conduct, and any other information** 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 in accordance with 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,
- (c) a cashier's or certified check, or
- (d) SWIFT message in the form of MT760.

all from a reputable bank 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 promptly upon the successful Bidder's furnishing of the performance security pursuant to ITB 45.

19.6 If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned promptly 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, if

- (a) notwithstanding ITB 24.3, 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) the successful Bidder fails to
 - (i) sign the Contract in accordance with ITB 44;
 - (ii) furnish a performance security in accordance with ITB 45;



- (iii) accept arithmetical corrections in accordance with ITB 34; or
- (iv) furnish a domestic preference security, if applicable, in accordance with ITB 45.

19.8 If the bid security is required as per ITB 19.1, the bid security 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 shall be in the name of any or all of the Joint Venture partners. If the Bid-Securing Declaration is required as per ITB 19.1, the 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-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 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 Bid 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. 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 period stated in the Employer's request shall cause the rejection of the Bid. If either the Letter of Technical Bid or Letter of Price Bid or the Bid-Securing Declaration (if applicable) is not signed, the Bid shall be rejected.

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 21.3.
- (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 as provided in 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.

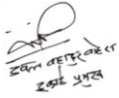
22. Deadline for Submission of Bids

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 for withdrawal notices, which 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 for withdrawal notices, which do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and

(b) received by the Employer prior to 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 choose 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 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 and 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 a 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 the 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 a 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 for 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 Schedules are to be initialed by at least three representatives of the Employer attending the 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 on the publication of Contract award.

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

27.1 To assist in the examination, evaluation, and comparison of the



Bids	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 omission.

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. Unless permitted in the BDS, the determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, Subcontractors, or any other firm(s) different from the Bidder.

32.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. The Employer reserves the right to reject the bid of any bidder found to be in circumstances described in GCC 73.2(c). 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. Subcontractors

- 33.1 Unless otherwise stated in the BDS, the Employer does not intend for the contractor to execute any specific elements of the Works through nominated subcontractors.
- 33.2 If Subcontractors are proposed for any of the key activities listed in Section 3 (Evaluation and Qualification) Criteria 2.4.2, they shall be considered as "Specialist Subcontractors" and shall meet qualification requirements for the relevant key activities.

34. Correction of Arithmetical Errors

- 34.1 During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:
- (a) Only for admeasurement contracts, 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.
- 34.2 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.

35. Conversion to Single Currency

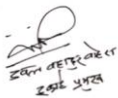
- 35.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.

36. Domestic Preference

- 36.1 Unless otherwise specified in the BDS, domestic preference shall not apply.

37. Evaluation and Comparison of

- 37.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be

**Price Bids**

permitted.

37.2 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 for admeasurement contracts, or Schedule of Prices for lump sum contracts, but including Daywork items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 34.1;
- (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 35;
- (e) adjustment for nonmaterial nonconformities in accordance with ITB 31.3;
- (f) assessment whether the bid is abnormally low in accordance with ITB 38; and
- (g) application of all the evaluation factors indicated in Section 3 (Evaluation and Qualification Criteria).

37.3 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.

37.4 If this Bidding Document allows Bidders to quote separate prices for different contracts, and to award multiple contracts to a single Bidder, 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).

37.5 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid, in accordance with ITB 37.2.

38. Abnormally Low Bids

38.1 An abnormally low bid is one where the bid price, in combination with other elements of the bid, appears to be so low that it raises concerns as to the capability of the Bidder to perform the contract for the offered bid price.

38.2 When the offered bid price appears to be abnormally low, the Employer shall undertake a three-step review process as follows:

- (a) identify abnormally low costs and unit rates by comparing them with the engineer's estimates, other substantially responsive bids, or recently awarded similar contracts;
- (b) clarify and analyze the bidder's resource inputs and pricing,



including overheads, contingencies and profit margins; and

(c) decide whether to accept or reject the bid.

38.3 With regard to ITB 38.2 (b) above, the Employer will seek a written explanation from the bidder of the reasons for the offered bid price, including a detailed analysis of costs and unit prices, by reference to the scope, proposed methodology, schedule, and allocation of risks and responsibilities. This may also include information regarding the economy of the manufacturing process; the services to be provided, or the construction method to be used; the technical solutions to be adopted; and any exceptionally favorable conditions available to the bidder for the works, equipment or services proposed.

38.4 After examining the explanation given and the detailed the price analyses presented by the bidder, the Employer may:

- (a) accept the bid, if the evidence provided satisfactorily accounts for the low bid price and costs, in which case the bid is not considered abnormally low;
- (b) accept the bid, but 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. The amount of the performance security shall generally be not more than 20% of the contract price; or
- (c) reject the bid if the evidence provided does not satisfactorily account for the low bid price, and make a similar determination for the next ranked bid, if required.

39. Unbalanced or Front-Loaded Bids

39.1 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, as well as the pricing and sources of materials, equipment and labor.

39.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate:

- (a) accept the Bid; or
- (b) accept the Bid, **but require** that the total 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 subject to ITB 45.2; or
- (c) reject the Bid and make a similar determination for the next ranked bid.



- 40. Employer's Right to Accept Any Bid, and to Reject Any or All Bids** 40.1 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.
- 41. Notice of Intention for Award of Contract** 41.1 If Standstill provisions apply as specified in the BDS, the standstill period shall be defined in the BDS to specify the duration subsequent to notification of intention for award of contract (before making the actual contract award) within which any unsuccessful bidder can challenge the proposed award.

F. Award of Contract

- 42. Award Criteria** 42.1 The Employer shall award the Contract to the Bidder whose offer has been determined in line with ITB 35 to ITB 37 above 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.
- 43. Notification of Award** 43.1 Prior to the expiration of the period of bid validity and upon expiry of the standstill period specified in ITB 40.1, or upon satisfactory resolution of a complaint filed within standstill period, if applicable, the Employer shall transmit the Notification of Award using the form included in Section 9 (Contract Forms) to the successful Bidder, in writing, that its Bid has been accepted. At the same time, the Employer shall also notify all other Bidders of the results of the bidding.
- 43.2 Unless standstill period applies, upon notification of 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 and/or in a debriefing meeting to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.
- 43.3 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 43.4 Within 2 weeks of the award of contract or expiry of the standstill period, where such period applies, or, if a complaint has been filed within the standstill period, upon receipt of ADB's confirmation of satisfactory resolution of the complaint, the borrower shall publish in an English language newspaper or widely known and freely accessible website the results identifying the bid and lot or package numbers, as applicable and the following information:
- (a) name of each Bidder who submitted a Bid;
 - (b) bid prices as read out at bid opening;
 - (c) name and evaluated prices of each Bid that was evaluated;



- (d) name of Bidders whose bids were rejected and the reasons for their rejection; and
- (e) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.

44. Signing of Contract

- 44.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.
- 44.2 Within 28 days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

45. Performance Security

- 45.1 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 38 and ITB 39, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Employer. 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.
- 45.2 Failure of the successful Bidder to submit the abovementioned 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.
- 45.3 The above provision shall also apply to the furnishing of a domestic preference security, if so required.

46. Bidding-Related Complaints

- 46.1 The procedures for dealing with Bidding-Related Complaints arising out of this bidding process are specified in the BDS.



Section 2: Bid Data Sheet

A. General

ITB 1.1	The number of the Invitation for Bids (IFB) is: CW-13
ITB 1.1	The Employer is: Project Coordination and Management Unit Sudurpashchim, Provincial Tourism Development Program Implementing Unit (PTDPIU), Dhangadhi, Nepal.
ITB 1.1	The name of the bidding process is Trekking Trail and Eco-tourism Assets and Services Development Works, Khaptad - Badimalika - Ramaroshan Route, Badimalika Section (6.5 km) in Bajura district The identification number of the bidding process is: CRLLP/PTDPIU/WORKS/CW-13 The number and identification of lots comprising this bidding process is: None
ITB 2.1	The Borrower is: Government of Nepal
ITB 2.1	The name of the Project is: Climate Resilient Landscapes and Livelihoods Project

B. Contents of Bidding Documents

ITB 7.1	For <u>clarification purposes</u> only, the Employer's address is: Attention: Office chief Provincial Tourism Development Program Implementing Unit (PTDPIU), Dhangadhi, Nepal Street address: Dhangadhi City: Dhangadhi Country: Nepal Telephone: +977 9858424107 Fax: +977 E-mail: ptdpiu7@gmail.com Requests for clarification should be received by the Employer no later than - 30 oct 2026
ITB 7.4	A Pre-Bid meeting will take place. Date: 27 Oct 2026

	Time: 11:00 hours Nepal Standard Time Place: Office chief room, Provincial Tourism Development Program Implementing Unit (PTDPIU, Dhangadhi, Nepal Site Visit will not be organized by the Employer. However, the Bidders are encouraged to visit project sites at their own risk and cost.
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C. Preparation of Bids

ITB 10.1	The language of the Bid is: English
ITB 11.2 (g)	The Bidder shall submit with its Technical Bid the following additional documents: 1. Notarized copy of company registration certificate; 2. Notarized copy of VAT/ PAN registration for national and resident foreign Bidder; 3. Notarized copy of tax clearance certificate for national and resident foreign Bidder; Joint Venture Agreement or Letter of Intention to form Joint Venture, if applicable;
ITB 11.3 (b)	In accordance with ITB 12 and ITB 14, the following schedules shall be submitted with the bid, including the priced Bill of Quantities for admeasurement contracts and Activity Schedule for lump sum contracts: None
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 or 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 subject to adjustment during the performance of the Contract. The formula for adjusting the prices and explanatory details are specified in GCC Clause 54.1. Tables of Adjustment Data is given in Section 4 (Bidding Forms)
ITB 15.1	The prices shall be quoted by the bidder and shall be paid in: Nepalese Rupees (NPR)



Section 2: BidData Sheet

2-3

ITB 18.1	The bid validity period shall be 120 days.
ITB 19.1	The Bidder shall furnish a bid security in the amount of NPR. 30,04,000.00 or its equivalent. Bid Security shall be issued by a Class 'A' commercial bank registered in Nepal. If the Bid Security is issued by a foreign bank, this shall be counter guaranteed by a Class 'A' commercial bank registered in Nepal. Failure on part of bidder shall be cause of rejection of the Bid.
ITB 19.2	The ineligibility period will be Not Applicable
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 Fourteen (14) 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: One (1)
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: A board resolution or power of attorney 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 11.4.
ITB 20.2	The Bidder shall submit an acceptable authorization within Fourteen (14) 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)	If bidders shall have the option of submitting their Bids electronically, the electronic bidding submission procedures shall be: Not Applicable
ITB 22.1	For bid submission purposes only, the Employer's address is:

2-4



	Attention: Office Chief Provincial Tourism Development Program Implementing Unit (PTDPIU) Street address: Dhangadhi, City: Dhangadhi, Country: Nepal The deadline for bid submission is: Date: 04 Nov 2026 Time: 12:00 hrs Nepal Standard Time
ITB 25.1	The opening of the Technical Bid shall take place at: Office Chief room Provincial Tourism Development Program Implementing Unit (PTDPIU), Street address: Dhangadhi, City: Dhangadhi Country: Nepal Date: 04 Nov 2026 Time: 12:30 hrs Nepal Standard Time
ITB 25.1	If electronic bid submission is permitted in accordance with ITB 21.1, the specific bid opening procedures shall be: Not Applicable
ITB 25.5	The Letter of Technical Bid shall be initialed by Three (3) representatives of the Employer attending the Bid opening.
ITB 25.10	The Letter of Price Bid and Schedules shall be initialed by Three (3) representatives of the Employer attending the Bid opening.

E. Evaluation and Comparison of Bids

ITB 32.2	The qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, Subcontractors Shall not be permitted.
ITB 33.1	The Employer does not intend for the contractor to execute any specific elements of the Works through nominated subcontractors.
ITB 35.1	<i>[In case of multiple currency]</i> 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: __



Section 2: BidData Sheet

2-5

	The source of the selling exchange rate shall be: _____ The date for the selling exchange rate shall be: _____ [or] [In case of local currency] Not applicable.
ITB 36.1	Domestic preference Shall not apply.
ITB 41.1	Standstill provisions shall apply. The duration of standstill period will be Seven (7) days from the date of notice of intention for award of contract. The Employer shall, at the start of the standstill period, notify in writing each Bidder that submitted a bid, of its intention to award a contract to the successful Bidder at the end of standstill period. The notification using the form included in Section 9 (Contract Forms) shall include the following information: (a) the name of each Bidder who submitted a Bid; (b) the bid prices as read out at bid opening; (c) the name and evaluated prices of each Bid that was evaluated; (d) the name of Bidders whose bids were rejected and the reasons for their rejection; (e) the name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded; and (f) a statement of the reason(s) the bid of the unsuccessful Bidder to whom the notification is addressed was unsuccessful, unless the price information under (e) of this paragraph already reveals the reason.

F. Award of Contracts

ITB 46.1	The procedures for Bidding-Related Complaints are referenced in the Procurement Regulations for ADB Borrowers (Appendix 7). The Bidder should submit its complaint following these procedures, in writing, to: For the attention: Office Chief Provincial Tourism Development Program Implementing Unit (PTDPIU), Dhangadhi, Nepal E-mail address: ptdpiu7@gmail.com Fax number: +977 9848424107/ 091-523995
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Section 3: Evaluation and Qualification Criteria

Table of Criteria

1. Evaluation	3-3
1.1 Adequacy of Technical Proposal	3-Error! Bookmark not defined.
1.2 Completion Time	3-Error! Bookmark not defined.
1.3 Technical Alternatives	3-Error! Bookmark not defined.
1.4 Specialist Subcontractor	3-Error! Bookmark not defined.
1.5 Quantifiable Nonconformities and Omissions	3-Error! Bookmark not defined.
1.6 Domestic Preference	3-3
1.7 Other Criteria	3-3
1.8 Multiple Contracts	3-3
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 Historical Contract Nonperformance	3-5
2.2.1 History of Nonperforming Contracts	3-5
2.2.2 Suspension Based on Execution of Bid-Securing Declaration	3-5
2.2.3 Pending Litigation and Arbitration	3-5\
2.2.4: Declaration: Environmental, Health and Safety Past Performance	
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
2.4.3 Specific Experience in Managing Environmental, Health and Safety Aspects	

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2.5 Organizational Environmental, Health and Safety	3-15
2.5.1 Environmental, Health and Safety Certification	3-15
2.5.2 Environmental, Health and Safety Documentation	3-15
2.5.3 Environmental, Health and Safety Dedicated Personnel.....	3-16



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).

Noncompliance with equipment and personnel requirements described in Section 6 (Employer's Requirements) shall not normally be a ground for bid rejection, and such noncompliance will be subject to clarification during bid evaluation and rectification prior to contract award.

1.2 Completion Time

An alternative Completion Time, if permitted under ITB 13.2, will be evaluated as follows:

Not Applicable

1.3 Technical Alternatives

Technical alternatives, if permitted under ITB 13.4, will be evaluated as follows:

Not Applicable

1.4 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.

Not Applicable

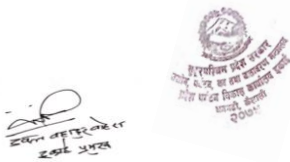
1.5 Quantifiable Nonconformities and Omissions

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 shall be evaluated, including omissions in Daywork where competitively priced but excluding omission of prices in the Bill of Quantities. 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.

1.6 Domestic Preference

Not Applicable

**1.7 Other Criteria**

Add any other relevant criteria to consider in bid evaluation, such as quality, responsiveness to socio- economic or environmental objectives, sustainable procurement technical requirements that have been specified in Section 6, special security considerations at site, and Bidder's record of achieving the desired results based on experience and performance history. For each criteria, clearly specify the evaluation methodology, e.g. (i) any relevant requirement specified in Section 6 will be evaluated on a pass/fail (compliance basis), (ii) in addition to evaluating that requirement on a pass/fail (compliance basis), if applicable, specify the monetary adjustments to be applied to bid prices for comparison purposes on account of bids that exceed the specified minimum requirements, or (iii) if merit point scoring is applied in the evaluation, the criteria will be one of the technical factors.

Not Applicable

1.8 Multiple Contracts

Not Applicable

If works are grouped in multiple contracts and pursuant to ITB 37.4, the Employer shall evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least-cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts.

If a Bidder as defined in ITB 4.1 submits several successful (lowest evaluated substantially responsive) bids, the evaluation will also include an assessment of the Bidder's capacity to meet the following aggregated requirements as presented in the bid:

- Average annual construction turnover,
- Financial resources,
- Equipment to be allocated, and
- Personnel to be fielded.



2. Qualification

2.1 Eligibility

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

2.1.1 Nationality

Nationality in accordance with ITB 4.2.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Forms ELI -1; ELI -2 with attachments
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2.1.2 Conflict of Interest

No conflicts of interest in accordance with ITB 4.3.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Letter of Technical Bid
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2.1.3 ADB Eligibility

Not having been declared ineligible by ADB, as described in ITB 4.4.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Letter of Technical Bid
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2.1.4 Government-Owned Enterprise

Bidder required to meet conditions of ITB 4.5.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Forms ELI -1, ELI - 2 with attachments
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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 4.8.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Letter of Technical Bid
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2.2 Historical Contract NonPerformance

2.2.1 History of NonPerforming Contracts

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Non-performance of a contract ^a did not occur as a result of contractor default since 1 January 2025	Must meet requirement	Must meet requirement	Must meet requirement ^b	Not Applicable	Form CON-1

^aNonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

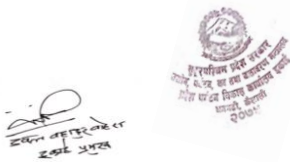
^bThis requirement also applies to contracts executed by the Bidder as Joint Venture member.

2.2.2 Suspension Based on Execution of Bid-Securing Declaration

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Not under suspension based on execution of a Bid-Securing Declaration pursuant to ITB 4.6.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Letter of Technical Bid

2.2.3 Pending Litigation and Arbitration

Pending litigation and arbitration criterion **shall not apply.**



3-8

Section 3: Evaluation and Qualification Criteria

Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Minimum average annual construction turnover of NRS 80, 092,000.00 , calculated as total certified payments received for contracts in progress or completed, within the last Five (5) years.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% 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 Nrs 16,686,000.00	Must meet requirement	Not applicable	Not applicable	Not applicable	Form FIN – 3 and Form FIN – 4
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 40% 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
(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 25% 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
(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 Nrs 16,686,000.00	Not applicable	Must meet requirement	Not applicable	Not applicable	Form FIN – 3 and Form FIN – 4



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 one contract that have been successfully or substantially completed within the last Five (5) years and that are similar to the proposed works, where the value of the Bidder's participation under each contract exceeds Nrs 96109489.230 . The similarity of the Bidder's participation shall be based on: 1 Experience in construction of tourism infrastructure, site development, road, trail, park, recreational facilities or other similar civil infrastructure works	Must meet requirement	Must meet requirement as follows: (i) Either one partner must meet requirement Or (ii) any two partners must each demonstrate one (1) successfully or substantially completed contract of similar size and nature	Not applicable	Not applicable	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.

Criteria	Compliance Requirements		Documents
Requirement	Single Entity or its Specialist Subcontractors	Joint Venture or its Specialist Subcontractors	Submission Requirements
For the above or other contracts executed during the period stipulated in 2.4.1, a minimum construction experience in the following key activities:	Must meet requirement	Must meet requirement	Form EXP – 2
1 Metal Work - :13,101.57 K.g			
2 Flag Stone Paving Work - 2,893.34 Sq.m			
3 Stone Masonry including dry stone wall works : 1,362.22 cum			
Wood Work 1) Sal Wood- 24.62 Cu.m 2) local Wood-: 53.31 cu.m			

2.5 Organizational Environmental, Health and Safety System

2.5.1 Environmental, Health and Safety Dedicated Personnel

Criteria	Compliance Requirements		Documents
Requirement	Single Entity or Its Specialist Subcontractors	Joint Venture or Its Specialist Subcontractors	Submission Requirements
Availability of in-house personnel dedicated to EHS issues:	Must meet requirements	One member must meet requirements	Form EXP – 6

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3-12

Section 3: Evaluation and Qualification Criteria

1. Environmental Specialist 2. Health and Safety Specialist		Or All members must meet requirements	
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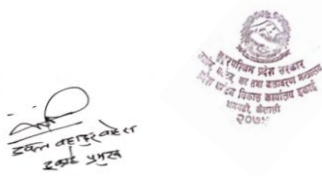
Section 4: Bidding Forms

Table of Forms

Letter of Technical Bid	4-3
Letter of Price Bid.....	4-6
Bid Security.....	4-8
Bid-Securing Declaration.....	4-8
Affiliate Company Guarantee	4-9
Technical Proposal.....	4-10
Personnel.....	4-10
Form PER – 1: Proposed Personnel	4-10
Form PER – 2: Resume of Proposed Personnel	4-11
Equipment	4-12
Site Organization	4-13
Method Statement.....	4-13
Mobilization Schedule	4-13
Construction Schedule	4-13
Environmental, Health and Safety Management Plan.....	4-14
Environmental, Health and Safety Code of Conduct.....	4-15
Bidder's Qualification.....	4-14
Form ELI - 1: Bidder's Information Sheet	4-15
Form ELI - 2: Joint Venture Information Sheet	4-16
Form CON - 1: Historical Contract Nonperformance	4-17
Form FIN - 1: Historical Financial Performance	4-18
Form FIN - 2: Average Annual Construction Turnover	4-19
Form FIN - 3: Availability of Financial Resources	4-20
Form FIN- 4: Financial Requirement for Current Contract Commitments.....	4-21
Form FIN- 5: Self-Assessment Tool for Bidder's Compliance to Financial Resources	4-22
Form EXP - 1: Contracts of Similar Size and Nature.....	4-23
Form EXP -2: Construction Experience in Key Activities.....	4-24
Form EXP – 3: Specific Experience in Managing Environmental, Health and Safety Aspects	4-31
Form EXP – 4: Environmental, Health and Safety Certification	4-32
Form EXP – 5: Environmental, Health and Safety Documentation	4-32
Form EXP – 6: Environmental, Health and Safety Dedicated Personnel	4-33



Schedules.....	4-25
Schedule of Payment Currencies.....	4-25
Tables of Adjustment Data.....	4-26
Activity Schedule.....	4-27
Bill of Quantities	4-28



Letter of Technical Bid

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

Date:

OCB No.: **Cw13**

Invitation for Bid No.:

To: Provincial tourism development Project Implementation Unit(PTDPIU), Dhangadhi

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: *[insert narrative]*
- (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, either individually or as partner in a Joint Venture, 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, Joint Venture partners, associates, parent company, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, are not subject to, or not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Asian Development Bank or a debarment imposed by the Asian Development Bank in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the Asian Development Bank and other development banks.¹

¹ These institutions include African Development Bank, European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IADB), and the World Bank Group. According to paragraph 9 of the Agreement, other international financial institutions may join upon the consent of all Participating Institutions and signature of a Letter of Adherence by the international financial institution substantially in the form provided (Annex B to the Agreement). Upon adherence, such international

- (h) Our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the Contract, are not, or have never been, temporarily suspended, debarred, declared ineligible, or blacklisted by the Employer's country, any international organization, and other donor agency.

If so debarred, declared ineligible, temporarily suspended, or blacklisted, please state details (as applicable to each Joint Venture partner, associate, parent company, affiliate, subsidiaries, Subcontractors, and/or Suppliers):

- (i) Name of Institution: _____
(ii) Period of debarment, ineligibility, or blacklisting [*start and end date*]: _____
(iii) Reason for the debarment, ineligibility, or blacklisting: _____

- (i) Our firm's, Joint Venture partners, associates, parent company's affiliates or subsidiaries, including any Subcontractors or Suppliers key officers and directors have not been [*charged or convicted*] of any criminal offense (including felonies and misdemeanors) or infractions/violations of ordinance which carry the penalty of imprisonment.

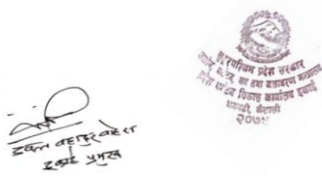
If so charged or convicted, please state details:

- (i) Nature of the offense/violation: _____
(ii) Court and/or area of jurisdiction: _____
(iii) Resolution [*i.e. dismissed; settled; convicted/duration of penalty*]: _____
(iv) Other relevant details [*please specify*]: _____

- (j) We understand that it is our obligation to notify ADB should our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers, be temporarily suspended, debarred or become ineligible to work with ADB or any other MDBs, the Employer's country, international organizations, and other donor agencies, or any of our key officers and directors be charged or convicted of any criminal offense or infractions/violations of ordinance which carry the penalty of imprisonment.
- (k) Our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers, are not from a country which is prohibited to export goods to or receive any payments from the Employer's country 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.
- (l) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB4.5]²
- (m) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration in accordance with ITB 4.6.

financial institution shall become a Participating Institution for purposes of the Agreement. Bidders are advised to check www.adb.org/integrity for updates.

² Use one of the two options as appropriate.



- (n) 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.
- (o) 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.
- (p) We understand that any misrepresentation that knowingly or recklessly misleads, or attempts to mislead may lead to the automatic rejection of the Bid or cancellation of the contract, if awarded, and may result in remedial actions, in accordance with ADB's Anticorruption Policy(1998, as amended to date) and Integrity Principles and Guidelines (2015, as amended from time to time).

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date.....

Letter of Price Bid

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

Date:

OCB No.: **Cw13**

Invitation for Bid No.:

To Provincial tourism development Project Implementation Unit(PTDPIU), Dhangadhi

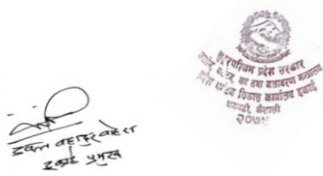
We, the undersigned, declare that:

- (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: *[insert narrative]*
- (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 for admeasurement contracts or Activity Schedule for lump sum contracts 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 as follows: *[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: ³

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

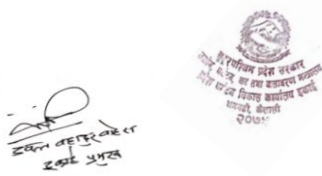
In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date.....

³ If none has been paid or is to be paid, indicate "None".



Bid Security

Bank Guarantee

[Bank's name, and address of issuing branch or office]⁴

Beneficiary: Provincial tourism development Project Implementation Unit(PTDPIU), Dhangadhi

Date:

Bid Security No.:

We have been informed that [name of the Bidder](hereinafter called "the Bidder") has submitted to you its bid dated [please specify] (hereinafter called "the Bid") for the execution of [name of contract] under Invitation for Bids No. [please specify] ("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 Letter of Technical Bid and Letter of 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 the 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; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

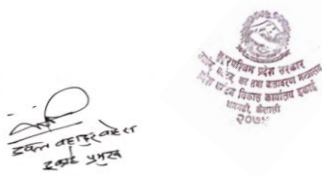
Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.⁵

[Authorized signature(s) and bank's seal (where appropriate)]

⁴ All italicized text is for use in preparing this form and shall be deleted from the final document.

⁵ Or 758 as applicable.



Bid-Securing Declaration

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

Bid No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a bid for an alternative]*

To **Provincial tourism development Project Implementation Unit(PTDPIU), Dhangadhi**

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with the Borrower for the period of time of *[insert the number of months or years indicated in ITB 19.2 of the BDS]* starting on the date that we receive a notification from the Employer, if we are in breach of our obligation(s) under the bid conditions, because we

- (a) have withdrawn our Bid during the period of bid validity specified in the Letter of Technical Bid and Letter of Price Bid; or
- (b) do not accept the correction of errors in accordance with the Instruction to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required, (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB, or (iii) fail or refuse to furnish the Domestic Preference Security, if required.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) 28 days after the expiration of our Bid.

Signed: *[insert signature of person whose name and capacity are shown]*

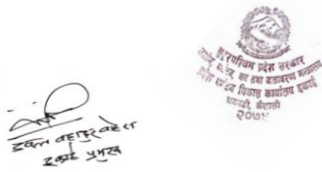
In the capacity of *[insert legal capacity of person signing the Bid-Securing Declaration]*

Name: *[insert complete name of person signing the Bid-Securing Declaration]*

Duly authorized to sign the bid for and on behalf of *[insert complete name of the bidder]*

Dated on _____ day of _____, _____

Corporate Seal *[where appropriate]*



AFFILIATE COMPANY GUARANTEE (NOT APPLICABLE)

Name of Contract/Contract No.: **CW13**

Name and address of Employer: *Provincial tourism development Project Implementation Unit(PTDPIU), Dhangadhi*
[together with successors and assigns].

We have been informed that [(name of Contractor)] (hereinafter called the "Contractor") is submitting an offer for the above-referenced Contract in response to your invitation, and that the conditions of your invitation require its offer to be supported by an affiliate company guarantee.

In consideration of you, the Employer, awarding the Contract to the Contractor, we [name of affiliated company] irrevocably and unconditionally guarantee to you, as a primary obligation, that (i) throughout the duration of the Contract, we will make available to the Contractor our financial, technical capacity, expertise and resources required for the Contractor's satisfactory performance of the Contract; and (ii) we are fully committed, along with the Contractor, to ensuring a satisfactory performance of the Contract.

If the Contractor fails to so perform its obligations and liabilities and comply with the Contract, we will indemnify the Employer against and from all damages, losses and expenses (including legal fees and expenses) which arise from any such failure for which the Contractor is liable to the Employer under the Contract.

This guarantee shall come into full force and effect when the Contract comes into full force and effect. If the Contract does not come into full force and effect within a year of the date of this guarantee, or if you demonstrate that you do not intend to enter into the Contract with the Contractor, this guarantee shall be void and ineffective. This guarantee shall continue in full force and effect until all the Contractor's obligations and liabilities under the Contract have been discharged, when this guarantee shall expire and shall be returned to us, and our liability hereunder shall be discharged absolutely.

This guarantee shall apply and be supplemental to the Contract as amended or varied by the Employer and the Contractor from time to time. We hereby authorize them to agree on any such amendment or variation, the due performance of which and compliance with which by the Contractor are likewise guaranteed hereunder. Our obligations and liabilities under this guarantee shall not be discharged by any allowance of time or other indulgence whatsoever by the Employer to the Contractor, or by any variation or suspension of the works to be executed under the Contract, or by any amendments to the Contract or to the constitution of the Contractor or the Employer, or by any other matters, whether with or without our knowledge or consent.

This guarantee shall be governed by the law of the same country (or other jurisdiction) that governs the Contract and any dispute under this guarantee shall be finally settled under the [Rules or Arbitration provided in the Contract]. We confirm that the benefit of this guarantee may be assigned subject only to the provisions for assignment of the Contract.

Signed by:.....

[signature]

[name]

[position in parent/subsidiary company]

Date:.....

Signed by:

[signature]

[name]

[position in parent/subsidiary company]



Signature
Date



Section 4: Bidding Forms

4-11

If permitted in accordance with ITB 32.2 of the BDS, the Bidder shall fill out the Affiliate Company Guarantee Form for each subsidiary, parent entity, affiliate, Subcontractor, etc. that the Bidder submits for consideration of the Employer in determining its qualifications.



Technical Proposal

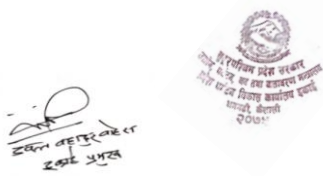
Personnel

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
etc.	Title of position
	Name

All titles of positions will be 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.

From	To	Company / Project / Position / Relevant Technical and Management Experience

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	<table border="1"> <tr> <td>Current location</td> </tr> <tr> <td>Details of current commitments</td> </tr> </table>	Current location	Details of current commitments		
Current location					
Details of current commitments					
Source	<table border="1"> <tr> <td colspan="2">Indicate source of the equipment</td> </tr> <tr> <td>☐ Owned</td> <td>☐ Rented ☐ Leased ☐ Specially manufactured</td> </tr> </table>	Indicate source of the equipment		☐ Owned	☐ Rented ☐ Leased ☐ Specially manufactured
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	

2
2021-2022
2021-2022



Section 4: Bidding Forms

4-15



Site Organization

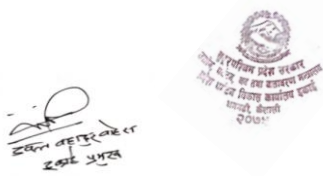
Method Statement

Mobilization Schedule Please reflect the no-objection request and approval step for Site Specific Environmental, Health and Safety Management Plan as per Contract Conditions in the Mobilization Schedule.

Construction Schedule

Environmental, Health and Safety Management Plan (EHSMP)

The Bidder shall submit an outline Environmental, Health and Safety Management Plan (EHSMP) commensurate with the risks and impacts of the proposed works and activities. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors. In developing these strategies and plans, the Bidder shall have regard to the EHS provisions of the contract and EHS risks including those as may be more fully described in Section 6 (Employer's Requirements).

**Environmental, Health and Safety Code of Conduct****Environmental, Health and Safety Code of Conduct for Contractor's Personnel Form****Note to Bidder**

The minimum content of the EHS Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as applicable, including to take into account Contractor-specific issues/risks.

The Bidder shall initial and submit the EHS Code of Conduct form as part of its bid.

ENVIRONMENTAL, HEALTH AND SAFETY CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [enter name of Contractor]. We have signed a contract with [enter name of Employer] for [enter description of works]. These Works will be carried out at [enter the Site and other locations where the Works will be carried out]. Our contract requires us to implement measures to address **environmental, health and safety** risks related to the Works.

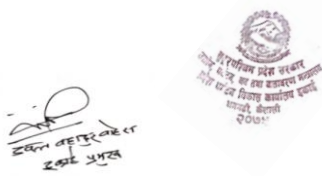
This EHS Code of Conduct is part of our measures to deal with **environmental, health and safety** risks related to the Works. It applies to all our staff, labourers and other employees at the Work Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel**" and are subject to this EHS Code of Conduct.

This EHS Code of Conduct identifies the behavior that we require from all Contractor's Personnel.

Our workplace is an **environment** where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT**Contractor's Personnel shall:**

1. Carry out his/her duties competently and diligently;
2. Comply with this EHS Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the **health, safety** and **well-being** of other Contractor's Personnel and any other person;
3. Make a safe working **environment** including by:
 - (a) Ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - (b) Wearing required **personal protective equipment**;
 - (c) Using appropriate measures relating to chemical, physical and biological substances and agents; and
 - (d) Following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. Treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. Report violations of this EHS Code of Conduct;



7. Not retaliate against any person who reports violations of this EHS Code of Conduct, whether to us or the Employer, or who makes use of the **grievance** mechanism for Contractor's Personnel or the project's **Grievance** Redress Mechanism.

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this EHS Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done by call [] to reach the Contractor's hotline (if any) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

CONSEQUENCES OF VIOLATING THE **ENVIRONMENTAL, HEALTH AND SAFETY** CODE OF CONDUCT

Any violation of this EHS Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this EHS Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this EHS Code of Conduct, I can contact *[enter name of Contractor's contact person(s) with relevant experience]* requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: *[day month year]*: _____

Countersignature of authorized representative of the Contractor:

Signature: _____

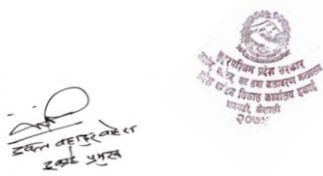
Date: *[day month year]*: _____

Signature
Date



Bidders Qualification

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



Form ELI - 1: Bidder's Information Sheet

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.	

Signature
Date



Form ELI - 2: Joint Venture Information Sheet

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

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.	

Form CON- 1:Historical Contract Nonperformance

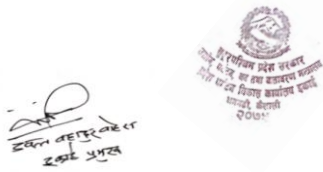
Each Bidder must fill out this form in accordance with Criteria 2.2.1 and 2.2.3 of Section 3 (Evaluation and Qualification Criteria) to describe any history of nonperforming contracts and pending litigation or arbitration formally commenced against it.

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

Joint Venture Partner: _____

Choose one of the following:			
☐ No nonperforming contracts. ☐ Below is a description of nonperforming contracts involving the Bidder (or each Joint Venture member if Bidder is a Joint Venture).			
Year	Description	Amount of Nonperformed Portion of Contract (\$ equivalent)	Total Contract Amount (\$ equivalent)
[insert year]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for nonperformance: [indicate main reason(s)]	[insert amount]	[insert amount]
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 \$ Equivalent	Value of Pending Claim as a Percentage of Net Worth
[insert year]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Matter of Dispute: [indicate full description of dispute] Party who initiated the dispute: [indicate "Employer" or "Contractor"] Status: [indicate status of dispute]	[insert amount]	[insert amount]

Table 2 of this form shall only be included if Criterion 2.2.3 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:

Joint Venture Partner: _____

Year 1:	Year 2:	Year ____:

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 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).

Signature
Date



Form FIN - 2: Average Annual Construction Turnover

Each Bidder must fill out this form.

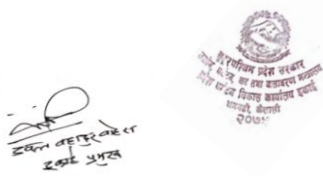
The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to US dollars at the rate of exchange at the end of the period reported.

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

Joint Venture Partner: _____

Year	Amount Currency	Exchange Rate	\$ Equivalent

Average Annual Construction Turnover

**Form FIN – 3: Availability of Financial Resources**

Bidder 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:

Joint Venture Partner: _____

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

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

Form FIN- 4: Financial Resources Requirement

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:

Joint Venture Partner: _____

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						
Total Monthly Financial Requirements for Current Contract Commitments						USD

^a Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline (USD 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 Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	Requirement for the Subject Contract (E)	Results: Yes or No [D must be greater than or equal to E] (F)
_____ (Name of Bidder)					

Form FIN-5B: For Joint Ventures

For Joint Ventures: (A)	Total Available Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	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)					
Each Partner:					
_____ (Name of Partner 1)					
_____ (Name of Partner 2)					
_____ (Name of Partner 3)					
All partners combined	$\Sigma D =$ Sum of available financial resources net of current contract commitments for all partners		$\Sigma D =$ _____		

Form FIN – 5 is made available for use by the bidder as a self-assessment tool, and by the Employer as an evaluation work sheet, to determine compliance with the financial resources requirement as stated in 2.3.3. Failure to submit Form FIN-5 by the Bidder shall not lead to bid rejection.



Fill up one (1) form per contract.

Contract of Similar Size and Nature		
Contract No. of	Contract Identification	
Award Date		Completion Date
Total Contract Amount	\$	
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone/Fax Number E-mail		

Form EXP - 2: Construction Experience in Key Activities

Fill up one (1) form per contract.

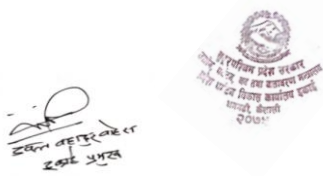
Each Bidder must fill out this form.

If complied by Specialist Subcontractor, each Specialist Subcontractor must fill out this form and provide the Specialist Subcontractor's name:

Specialist Subcontractor: _____

Contract with Similar Key Activities		
Contract No. of	Contract Identification	
Award Date	Completion Date	
Total Contract Amount	\$	
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		

Form EXP – 3: Specific Experience in Managing Environmental, Health and Safety Aspects



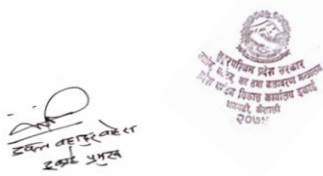
Fill up one (1) form per contract. May be complied with by the Bidder or by a Specialist Subcontractor. Each contract cited must relate to the requirement stated in Criterion 2.4.3 of Section 3 (Evaluation and Qualification Criteria).

The exchange rate to be used to calculate the value of the contract for conversion to a specific currency shall be the selling rate of the Borrower's national bank on the date of the contract.

Contract with Specific Experience in Managing Environmental, Health and Safety Aspects			
Contract No. of		Contract Identification	
Award Date		Completion Date	
Total Contract Amount	\$		
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	Percent of Total	Amount	
Employer's Name			
Address			
Telephone/Fax Number			
E-mail			
Description of the EHS Management Measures Implemented, in Accordance with Criterion 2.4.3 of Section 3 (Evaluation and Qualification Criteria)			
Record of EHS Incidents, Non-Compliance Notices, or Work Stoppages on this Contract, if any (state "None" if not applicable)			

Form EXP – 4: Environmental, Health and Safety Certification

Each Bidder (and, if a Joint Venture, each partner) must complete this form to demonstrate compliance with Criterion 2.5.1 of Section 3 (Evaluation and Qualification Criteria). List all current, third-party EHS management system certifications held (e.g., ISO 14001 Environmental Management System; ISO 45001, or OHSAS 18001, Occupational Health and Safety Management System; or nationally recognized equivalent).



Section 4: Bidding Forms

4-31

Name of Bidder / Joint Venture Partner	Certification Standard	Certifying Body	Certificate No. / Validity

Attach a copy of each valid certificate listed above to this Form.

Note: Where the Bidder (or a Joint Venture partner) does not hold third-party EHS certification, the Bidder shall instead submit its internal EHS management system documentation under Form EXP – 5, if and to the extent permitted by BDS/EQC 2.5.1.

Form EXP – 5: Environmental, Health and Safety Documentation

Each Bidder (and, if a Joint Venture, each partner) must complete this form to demonstrate compliance with Criterion 2.5.2 of Section 3 (Evaluation and Qualification Criteria). Attach the documents/records listed below, or provide the requested information directly on this Form.

No.	Document / Record	Attached (Yes/No)	Reference / Annex No.
1	Company Environmental, Health and Safety (EHS) Policy Statement, signed by senior management		
2	EHS Management System manual or documented procedures (or equivalent documented system covering environmental, occupational health and safety management)		
3	Site-level Emergency Response Procedure (template, or most recent example applied on a prior contract)		
4	Record of EHS training programs conducted in the last three (3) years		
5	Health and safety incident/accident statistics for the last three (3) years, including any fatalities and lost-time injury frequency rate (LTIFR), if recorded		

Signature
Date



Section 4: Bidding Forms

4-32

6	Any regulatory non-compliance notices, penalties, or work stoppages related to EHS in the last three (3) years (state "None" if not applicable)		
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Form EXP – 6: Environmental, Health and Safety Dedicated Personnel

Please provide CV {Form PER-2} of the in-house personnel of the main contractor/Joint Venture partners for the EHS positions specified in Section 6 (Employer's Requirements):

- Environmental Specialist
- Health and Safety Specialist

Schedules

Schedule of Payment Currencies

For insert 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	Local Currency Equivalent $C = A \times B$	Percentage of Net Bid Price (NBP) $\frac{100 \times C}{NBP}$
Local Currency		1.00		
Foreign Currency #1				
Foreign Currency #2				
Foreign Currency #3				
Net Bid Price				100.00
Provisional Sums Expressed in Local Currency				
BID PRICE				

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.

Table(s) of Adjustment Data

Table A - Local Currency

Index Code	Index Description	Source of Index	Base Value and Date	Employer's Proposed Weighting Range (coefficient)	Bidder's Proposed Weighting (coefficient) **
1	2	3	4	5	6
A _c	Nonadjustable	—	—	0.15	0.15
B _c	Adjustable				
	Labor (a)			0.125 – 0.13	
	Materials (b)			0.65 – 0.69	
	Equipment usage (c)			0.025 – 0.03	
Total				1.00	1.00

*Following source of index shall apply:

(a) Labor: "National Salary and Wage Rate Index"- "Construction Labor" of Nepal Rastra Bank

(b) Materials: "National Wholesale Price Index" - Construction Materials" of Nepal Rastra Bank

(c) Equipment usage: "National Wholesale Price Index" - Machinery and Equipment" of Nepal Rastra Bank. .

** Bidders proposed weightings should be within the range specified by the Employer in column

Table B - Foreign Currency (Not Applicable)

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.]

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Currency in Type/Amount	Equivalent in FC1	Bidder's Proposed Weighting (coefficient)
	Nonadjustable	—	—	—		a: <u>(by Employer)</u> b: _____ c: _____ d: _____ e: _____
Total						1.00

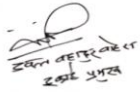
To be entered by the bidder


[Illegible handwritten text]



"Base Date" means the date 28 days prior to the deadline for submission of bids.

Tables of Adjustment Data shall only be included if prices are to be quoted as adjustable prices in accordance with ITB 14.5.



Activity Schedule

[Schedules of Prices – Lump Sum Contract]

The Employer shall indicate the list of major activities comprising the works and the number of measurement units consistent with the description of works, drawings, and specifications in Section 6 (Employer's Requirements). Each work item shall be described in sufficient detail to provide clear guidance to Bidders with respect to the type of works, their scope and complexity, and compliance with the required standards.

Bidders are required to enter the prices against each work item on a lump sum basis. Work items against which no lump sum price is entered by the Bidder will not be paid by the Employer when executed and shall be deemed covered by other work items against which the lump sum prices were entered. The sum of prices entered against each work item will represent the total bid price.

The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the Activity Schedule, and where no Items are provided, the cost shall be deemed to be distributed among the Amounts for the related Items of Work.

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Bill of Quantities

SN	Description	Unit	Total Quantity	Bidder's Quoted Rate in Nepalese Rupees in		
				Rate	Rate in Word	Amount
	A CIVIL WORKS					
1.00	Site Clearance work					
1.10	Site preparation work Before construction with cleaning and disposal of debris, uprooting roots, solid wastes etc. all complete .	Sqm	28,929.85			
2.00	Earth Work					
2.01	Earthwork in excavation (Manually) for landscaping, steps etc. in Ordinary soil , including necessary lead and lift as per requirement and instruction of site engineer, managing the excess excavated material within the site all complete.	Cum	8,577.52			
2.02	Earthwork in excavation (Manually) for landscaping, steps etc. in hard soil with soft stone, including necessary lead and lift as per requirement and instruction of site engineer, managing the excess excavated material within the site all complete.	Cum	282.29			


 2024/04/24



Section 4: Bidding Forms

4-38

2.03	Stone cutting in excavation (Manually) without blasting in mediam type stone, including necessary lead and lift as per requirement and instruction of site engineer, managing the excess excavated material within the site all complete.	Cum	94.08			
2.04	Stone cutting in excavation (manually) by chiseling in hard type stone without blasting, including required lead and lift as per demand and site engineer's direction, controlling the surplus excavated material inside the site completely.	Cum	2.50			
2.05	Earthwork back filling in trench of foundation & floor including consolidation in layers of 15 cm and watering as per instruction of site engineer.	Cum	762.04			
2.06	Earthwork back filling in trench of foundation & floor including consolidation in layers of 15 cm as per instruction of site engineer .	Cum	124.47			
3.00	Brick Soling/Stone Soling Work					
3.01	Providing, laying and compaction stone in foundation and other area without sand filling in joint all complete as per design, drawing and instruction of the site engineer.	Cum	135.20			


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Section 4: Bidding Forms

4-39

3.02	Providing, laying stone soling in foundation and other area with sand filling in joint all complete as per design, drawing and instruction of the site engineer.	Cum	373.89			
3.03	Providing, laying and proper compaction River Bed Gravelas Compacted Boulder layer in foundation all complete as per design, drawing and instruction of the site engineer.	Cum	320.85			
3.04	Providing and laying dry stone pitching pitching on compated origional excavated ground for drain and other area complete as per drawing and Technical specifications.	cum	356.32			
4.00	PCC & RCC work					
4.01	Providing, laying, compacting and curing plain cement concrete M15 (1:2:4) in foundation bed with cement, sand and well graded crushed stone aggregate finishing to approved level, lines and dimensions all complete as per drawings, specification and instruction.	Cum	239.32			


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Section 4: Bidding Forms

4-40

4.02	Providing, mixing with mixer machine, laying , compacting with tamping rod curing plain cement concrete M20(1:1.5:3) for Beam, Slab, Sill band, Lintel Band, other RCC work with approved quality of cement sand and manually breaking / mechanically crushed stone aggregate 20mm down finishing to approved level lines and dimensions all complete as per drawings, specifications and instruction of the site engineer.	Cum	112.80			
4.03	Providing Reinforcement bars (Grade FE 500 or above) work including straightening, cleaning, cutting, bending, binding with 20 SWG annealed wire & fixing in position as per drawing, bar bending schedule for raft foundation column, beam, wall, stair, slab in all R.C.C. works as per specification, drawing & instruction of site engineer.	Mt	1.71			
5.00	Form work					
5.01	Formwork, shuttering, centering from local hard wood for column, Shear wall with necessary other material inclusive of wedging and cutting holes for utilization till the support if fully unyielding nett. FOR COLUMN	Sq.m	769.01			


 2020/05/28



Section 4: Bidding Forms

4-41

5.02	Formworks: Providing 19mm thick waterproof plywood and steel prop formwork for Beam concrete works necessary propping, scaffolding, staging, supporting inclusive of wedging and cutting holes for utilization work till the support is full unyielding nett including cost of all materials, all complete as per specification, drawings and instruction of engineer. FOR BEAM	Sq.m	75.90			
5.03	Formwork, shuttering, centering from local hard wood for beam supporting inclusive of wedging and cutting holes for utilization till the support if fully unyielding nett. FOR Beam up to 0.3m height	Sq.m	5.91			
5.00	Stone Masonry Work					
5.01	Stone masonry work including full compensation for all labour, materials and other incidentals required to complete the work as per the Specifications and drawings. It includes full compensation for using rubble stones walls with batter and makes provision for weep holes as necessary in mud mortar works with all complete.(For Ground Floor)	Cu.m	165.99			


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Section 4: Bidding Forms

4-42

5.02	Dry stone masonry work including full compensation for all labour, materials and other incidentals required to complete the work as per the Specifications and drawings with all complete.(For Ground Floor)	Cu.m	1,536.79			
5.03	providing alnd laying black saddle stone has the size the of minimum 450 mm* 450mm *100mm (Key Stone) in foundation and other area as per drawing and instruction of site engineer.	no.	710.00			
7.00	Wood Work					
7.01	Well seasoned Sal wood chaukhats for fixed/openable door/windows with good finish of approved quality incuding fixing in postion with necessary M.S. hold fasts as brass hinge and aluminium towerbolt per drawing and instruction all complete.	Cu.m	0.97			
7.02	Supplying, making and fitting and manufacturing door door shutter using 8 mm thick plywood in a 100 x 38 mm sal wood frame, fitted with 4 mm thick teak plywood on both sides, and all necessary hardware, all in accordance with the site engineer's drawing and instructions.	Sq.m	16.00			


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Section 4: Bidding Forms

4-43

7.03	Supplying and fixing window khapa 5 mm thick glazed shutter in 38 mm *75 mm Sal wood frame with approved size of heavy duty hinges, aluminium tower bolts handle, aldrops set as per design and instruction all complete.	Sq.m	8.54			
7.04	supplying and fitting and fixing in position 25 mm thick Well seasoned local hard wood Plank including Frame with all necessary accessories all complete as per requirement, instruction and specification.	Sqm	61.40			
7.05	Well seasoned Salwood Column, Beam, Joist with good finish of approved quality incuding fixing in postion with necessary all hardware materail per drawing and instruction all complete.	cum	29.80			
7.06	Well seasoned local Hard wood Column, Beam, Joist with good finish of approved quality incuding fixing in postion with necessary all hardware materail per drawing and instruction all complete.	cum	66.64			
8.00	FLOORING AND FINISHING WORK					
8.01	Supplying and laying 50mm flag stone paving over sand all complete as per requirement and instruction	Sq.m	2,880.77			


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Section 4: Bidding Forms

4-44

8.02	Providing and placing 50–75 mm thick flag stone in the designated area in accordance with the site engineer's instructions and drawing, with a minimum width of 0.25 m and minimum length of 0.9 m.	Sq.m	13.20			
8.03	Supplying and laying 37.5 mm thick Flag stone paving stone of approved quality in cement sand mortar in(1:4) ratio in perfect line and level with good finish according to drawing and specification and instruction of site engineer as all complete	sqm	734.25			
8.04	75 mm thick P.C.C. in (1:2:4) with punning for floors & top of slab etc with approved quality of cement, sand & crushed stone aggregare including mixing,laying curing all complete work in approved of site engineer	Sqm	33.92			
8.05	3mm.thick C.S. punning(1:1) on skirting etc. as per specification and Instruction all complete.	Sqm	50.72			
9.00	Plaster Work					
9.01	12.5 mm thick Cement sand plaster (1:4) work on Building wall of good finish including racking the joints, wetting the surface and curing the work all complete as per specification and instruction all complete.	Sq.m	163.94			


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Section 4: Bidding Forms

4-45

9.02	20 mm thick Cement sand plaster (1:3) work on building wall surfaces of good finish including racking the joints, wetting the surface and curing the work all complete as per specification and instruction all complete.	Sq.m	7.92			
9.03	Flush ruled pointing on rubble stone masonry surface in Cement sand plaster (1:2) of good finish including racking the joints, wetting the surface and curing the work all complete as per specification and instruction all complete.	Sqm	275.84			
10.00	COLOURING / PAINTING WORK					
10.01	Coloring with three coats of Bitumen paint of approved quality over wood surface as per specification and instruction all complete work.	Sq.m	1,242.78			
10.02	Coloring with two coats of weather coat paint (Apex or eqvt.) of approved color over Plaster Surface to give uniform coloring after rendering the surface clean and moist as per specification and instruction all complete	Sq.m	28.08			


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Section 4: Bidding Forms

4-46

10.12	Providing and applying two coats or more of readymade Plastic emulsion paint with one coat of primer of NS approved color over all interior plastered/ wall putty surfaces of wall, column, beam and ceiling of buildings including cleaning and wetting the surface with cost of all materials and accessories, all complete as per specifications, drawings and instruction of engineer. (Asian paint/ Jenson and Nicolson or equivalent.)	Sq.m	93.06			
10.22	Supplying and applying two coat of ready made enamel paint with 1 coat Primer of approved quality over properly cleaned primed surface of all metal surface (wood surface) and concrete surface with cost of materials and accessories, all complete as per specification, drawings and instruction of engineer.	Sq.m	3.38			
10.32	Supplying and applying two coat of commercial varnish paint on cleaned wood surface with cost of materials and accessories, all complete as per specification, drawings and instruction of engineer.	Sq.m	42.06			


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Section 4: Bidding Forms

4-47

10.42	Supplying and applying two coat of ready made enamel paint (without Primer) of approved quality over properly cleaned primed surface of all metal surface (in post, truss, gate etc.) and concrete surface with cost of materials and accessorries, all complete as per specification, drawings and instruction of engineer.	Sq.m	610.05			
10.52	Providing and Painting two coats after filling the surface with synthetic enamel paint in all shades on concrete / plaster surfaces as per Drawing and Technical Specifications.	Sq.m	9.83			
10.62	Supplying and applying two coat of water proof cement paint on wall surface with cost of materials and accessorries, all complete as per specification, drawings and instruction of engineer.	Sq.m	296.04			
11.00	METAL WORKS					
11.01	Providing, fabricating, fixing and Eracting black iron pipe roofing truss, purlins, column post, staircase riling etc. approved Quality and sections with red oxide primer painting including welding,cutting with all necessary hardware fittings all complete.	kg	13,635.74			


 2020/04/28



Section 4: Bidding Forms

4-48

11.02	Providing, fabricating, MS Iron channel and sheet as approved Quality and sections with red oxide primer painting including welding, cutting with all necessary hardware fittings all complete.	Kg	2,741.23			
12.00	Waterproofing work					
12.01	Supplying and laying or rapping 500 gauge polithene sheet as per drawing and instruction of engineer	Sqm	123.90			
13.00	Miscellaneous Works					
13.01	Supplying and Fitting 0.5mm Thick Coloured CGI sheet roofing work with all necessary fittings as per requirement, instruction and Specification.	Sq.m	713.83			
13.02	Supplying and fixing 0.5mm thick and 600 mm breadth ridge cap ridge cover in roofing using necessary clips screws all complete as per specification and instruction all complete.	Rm	370.44			
	Fixing the gutter of sizes 0.5mm thickness cloured sheet 150 mm breadth and 450 mm depth with batten and purlin with necessary hardware like screw, J-hooks and washer etc., hardware from branded company as per drawing, specification and instruction of site engineer.	Sq.m	90.52			


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Section 4: Bidding Forms

4-49

13.03	Making fitting & fixing Hoarding Board of 4'x5' size with project information all complete work as per specification and instruction of site engineer	Job	1.00			
13.04	Supplying and setting up A direction board with dimensions of 2.00 m in height, 200 mm in minimum width, and 500 mm in length will be built using 50 mm diameter black iron posts and sal wood boards fixed in a foundation with a minimum depth of 900 mm, 150 mm stone soling, and 75 mm thick 1:2:4 (cement:Sand: aggregate) PCC in foundation with 250 * 250 mm size 1:1.5:3 cement concrete surrounding post up to 150 mm from ground level, along with a brief notice board with warnings about falling stones, to be cautious around wild animals, and to notify of the location and approximate time of arrival. All work will be completed with two coats of enamel paint and other hardware materials at the site engineer's instructions.	Job	75.00			
13.05	Displaying the entire trekking route map and other relevant information on a wooden board using enamel paint and additional materials according to the project manager's instructions.	Job	15.00			

Signature
Date



Section 4: Bidding Forms

4-50

13.06	Digging of pit supplying and sowing of Garden plant, Chemical fertilizer with spraying of water including secured by treeguard made by 45 cm dia, 3*20 mm grill strip 4nos circulated with 50*50 mm GI chain link mesh of height 1m all complete.	nos	1,050.00			
	Sub total civil and finishing work					
B	Sanitary and Water Supply Work					
1.00	530 mm size Porcelain clay white glazed Orissa pan with low level glazed cistern complete set (Hindware, Paryware, Somany, Cera or eqv.)	Set	4.00			
2.00	White glazed ceramic wash basin 55X40cm all complete set.	Set	4.00			
3.00	Supplying and Fixing Indian pattern C.P. valves with wall flange Including c.p. nipple all complete set.					
3.10	15mm CP bib cock Cock ordinary type	Nos	4.00			
4.00	Gun metal valves and fitting					
4.10	GM Gate valve 25 mm dia.	Nos	4.00			
5.00	Brass vakves and fitting					
5.10	15mm dia 500 gm weight brass bib cock IS/NS certified	Nos	4.00			

Signature
Date



Section 4: Bidding Forms

4-51

6.00	Supplying and Fixing UPVC pipe with fittings/ specials (Tees, elbows, Unions ,Door Tee and Pipe clamp etc) all complete set as per specification and instruction. (Panchakanya , Prince,Supreme)					
6.10	50mm PVC pipe of 6 kg/cm2 All urinal, washbasin outlet to floor trap	RM	8.00			
6.20	75 mm PVC pipe of 6 kg/cm2 All urinal, washbasin outlet to floor trap	RM	10.00			
6.30	110mm PVC pipe of 6 kg/cm2	RM	20.00			
7.00	Supplying and fixing CPVC pipes SDR-11 CTS,28.1 Kg/cm2 or equivalent with fittings/ specials (Tees, elbows, Unions etc) clamps(m.s plate with nut and bolt with hexagonal screws for clamp in ceiling,wall), nails, including jointing materials,installation of pipes and specials including making holes on walls or floor and repairing the same to its original finish,cleaning of the system, testing and ready for operation,. all complete set as per specification and instruction.					
7.10	15 mm dia CPVC pipe	Rm	12.00			
7.20	20 mm dia CPVC pipe	Rm	4.00			
	25 mm dia CPVC pipe	Rm				


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Section 4: Bidding Forms

4-52

7.30			32.00			
8.00	HDPE PIPES					
8.10	Supplying and fixing in place 110mm dia. HDP pipe (6kg/cm ²) including excavation and filling after the placement of pipe and levelling the surface all complete as per the instruction.	Rm	20.00			
9.00	UPVC Fitting					
9.10	110 mm dia UPVC vent cowl	Nos.	4.00			
9.20	PVC floor trap 11x7.5 cm.	Nos.	4.00			
10.00	Mirrors					
10.10	Modi guard looking mirror 6mm thick with stainfree 18" x 24" and bracket all compete set.	Nos.	4.00			
11.00	Cp fittings and assoceries					
11.10	Chrome plated soap Dish	Nos.	4.00			
11.20	CP 15mm dia x450mm long towel rod.	Nos.	4.00			
12.00	GI Pipe and fittings					

Signature
Date



Section 4: Bidding Forms

4-53

	Supplying and fixing GI Pipe medium class with fittings/ specials (Tees, elbows, Unions etc) clamps(m.s plate with nut and bolt with hexagonal screws for clamp in ceiling,wall), nails, including jointing materials,installation of pipes and specials including making holes on walls or floor and repairing the same to its original finish,cleaning of the system, testing and ready for operation,. all complete set as per specification and instruction.					
12.10	1/2 " dia medium Class	RM	6.00			
13.00	Water tank					
	500.0 ltr. PVC \ HDPE water tank	Nos.	4.00			
14.00	Tank Stand					
	Fabrication and fixing of I.S. or B.S. Standard iron section with one coat primer painting.	Kg.	1,152.00			
15.00	Water supply installation at proposed homestay area					
	Total amount of Sanitary and Water supply work					
C	Provisional Sum					
1.00	Insurance	PS	1.00	632,674.91	Six lakh thirty Two Thousand six hundred seventy four and ninety one paisa only	632,674.91


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Section 4: Bidding Forms

4-54

1.00	As Build Drawing of the Project	PS	1.00	265,690.00	Two lakh sixty five thousand six hundred ninety only	265,690.00
3.00	Material Test	PS	1.00	145,200.00	One lakh Fourty Five Thousand Two hundred	145,200.00
4.00	Environmental Management Plan cost(EMP)	PS	1.00	2355000	Twenty three lakha fifty five thousand only	2355000
					Sub- Total Civil WorkS	
					VAT 13%	
					Total of Civil Works With VAT	
					Total PS	3,398,564.91
					Grand Total	

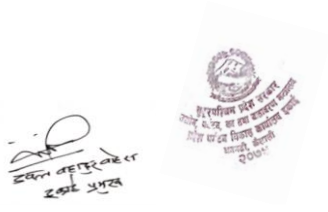
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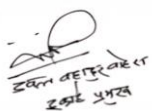
Section 5: Eligible Countries

This section contains the list of eligible countries.

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



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| 33. | Maldives | 67. | Viet Nam |
| 34. | Marshall Islands | 68. | Niue |


S. M. AFRIDI
2021/11/23



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
Environmental, Health and Safety Management Requirement	6-3
Drawings	6-4
Supplementary Information Regarding Works to Be Procured	6-5
Personnel Requirements	6-6
Equipment Requirements	6-7

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Specifications

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1. GENERAL

1.1 AS-BUILT DRAWINGS:

The Contractor shall prepare the as built drawings of the works actually constructed at the site. One set of all such drawings shall be kept on site and shall be marked up by the Contractor to show variations in the works.

They shall be used to maintain a record of the dimensions and other particulars of the works as they are actually constructed, as and when these particulars differ from what is shown on the for-Contract Drawings prepared by the Contractor.

These records shall be available at all reasonable times on the site for inspection and use by the Employer and by any other person authorized in writing by the Employer.

Prior to requesting a Certificate of Substantial Completion for the whole of the works, the Contractor shall provide the Employer with 1 (one) reproducible copy and 3 (three) prints of all As Built Drawings.

The drawings shall be suitable for reduction to readable A3 size and for inclusion in the operating and maintenance manuals.

Measurement and payment

Upon the submission of required As built Drawings and their approval by the Engineer, the cost incurred by the Contractor in compliance with the preparation of as built drawings as instructed by the Engineer shall be paid from the Provisional Sum included for the item in the BOQ.

1.2 INSURANCE OF WORKS, DAMAGE TO PROPERTY, LOSS TO THIRD PARTY AND ACCIDENT TO WORKMEN

General

The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover as per the provision included in Clause 19 of the Conditions of Contract from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- (a)** Loss of or damage to the Works, Plant and Materials;
- (b)** Loss of or damage to Equipment;
- (c)** Third Party Liability Insurance;
- (d)** Contractor's Workmen and Employees

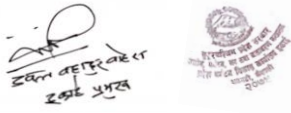
The Contractor shall produce the insurance policy from any insuring company operative and recognized within Nepal. The Contractor shall, immediately after securing the insurance policy (ies) shall produce to the Engineer the original bills paid against the premiums.

Insurance of Works

- The Contractor shall take out Insurance for the Works from approved agency/institution staff if provided in the contract
- Payments made to the agency/institution and stamp charges/duties incurred if any, by the contractor in compliance of the above work shall be paid from Provisional Sum included for the item in the BOQ after submission of the insurance document to the satisfaction of the Engineer.

Third Party Insurance

- The Contractor shall take out Third-Party Insurance from an approved agency/institution staff if provided in the contract



- Payments made to the agency/institution and stamp charges/duties incurred if any, by the Contractor in compliance of the above work shall be paid from the Provisional Sum included for the item in the BOQ after submission of the documents to the satisfaction of the Engineer.

Insurance of Contractor's Workmen and Employees

- The Contractor shall take out Insurance for the Contractor's Workmen and Employees from approved agency/institution staff if provided in the contract
- Payments made to the agency/institution and stamp charges/duties incurred if any, by the Contractor in compliance of the above work shall be paid from the Provisional Sum included for the item in the BOQ after submission of the documents to the satisfaction of the Engineer.

Insurance of Equipment

- The Contractor shall take out Equipment insurance from an approved agency/institution staff if provided in the contract
- The cost for works under this Sub-Clause shall be covered by the Contractor's overhead included in unit rates of other items in the BOQ.

1.3 QUALITY CONTROL

The Contractor shall submit and agree with the Engineer a Quality Assurance Plan (QAP) prior to commencement of Works at site. The QAP shall clearly set out working procedures, workmanship, testing and process control the Contractor will adopt in carrying out the Works so that the material and works shall comply with the requirements of the Contract and the Technical Specifications. Only after receiving approval of QAP from the Engineer shall the Contractor proceed with the Works at site.

For all testing which cannot be carried out in the Laboratory at Site, if any, the Contractor shall be responsible for arranging for such testing to be carried out at an independent laboratory to be approved by the Engineer. The test results of laboratories other than those approved by the Engineer shall not be acceptable. The Contractor shall ensure that the test samples are transported to the laboratories by quickest means and laboratory tests are conducted with minimum turnaround time for laboratory test results so that quality control and progress of work at site are not affected. All the costs related with the testing of materials are assumed to be included in the unit rates of Bill of Quantities items.

In addition, the National Vigilance Centre may conduct technical audits on the work done to ensure all works are carried out in accordance with the Contract and Specifications.

1.4 TEST OF MATERIALS AND CONCRETE CUBE

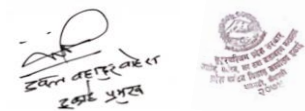
The contractor shall carry out different laboratory tests of construction material like cement, rod, sand, aggregate, soil, concrete cubes etc. during construction works in the laboratory approved by the Engineer. The number and frequency of such tests shall be as determined by the Engineer at the site during the construction of works.

Measurement and Payment

Measurement of work under this Clause shall be in number of tests fully executed to the satisfaction of the Engineer. Payment will be made from the Provisional Sum set aside for the purpose and shall be full and final compensation for all material, labor, and equipment to complete the works as specified.

1.5 CONSTRUCTION FACILITIES

(1) Transportation Facilities



The Contractor shall investigate the availability of transportation facilities and shall make all arrangements necessary for the delivery of materials to be used on the work. The Contractor shall make his own investigations on the condition of available public roads, access rights of way, and of restrictions, bridge load limits and other limitations affecting transportation and ingress.

(2) Sanitation

The Contractor shall maintain the Site and all working areas in a sanitary condition and in all matters of health and sanitation shall comply with the requirements of the local medical office or other competent authority.

(3) Potable Water Supply

The Contractor shall install, operate and maintain an adequate supply of fresh potable water to all staff quarters, labour camps, offices, workshops and other sheds and places of work on the Site. The supply shall be continuously available at all the Contractor's housing sites. Potable water shall mean water free of harmful impurities.

(4) Safety Measures and Public Convenience

- (a) The Contractor shall provide for the protection of all persons and property at all times. The Contractor shall comply with a manual acceptable to the Engineer, to the extent that such provisions do not conflict with the applicable laws. The Contractor shall take all necessary measures to protect the work and prevent accidents during the construction. He shall provide and maintain sufficient night lights, barricades, guards, temporary sidewalks, temporary bridges, danger signals, watchmen and necessary appliances and safeguards to properly safeguard life and property. He shall also protect all excavations, equipment and materials so that the public will not be endangered.
- (b) The Contractor shall so conduct his operations as to offer the least possible obstruction and inconvenience to traffic, and he shall have under construction no greater amount of work than he can handle properly with due regard for the rights of the public. Where existing streets or footpaths are not available as detours, the Contractor shall make suitable temporary detours as necessary, as directed by the Engineer.
- (c) The Contractor shall be responsible for all damage or injury which may be caused on any property by trespass by the Contractor or his employees in the course of their employment, whether the said trespass by the Contractor or his employees in the course of their employment, was committed with or without the consent or knowledge of the Contractor.

(5) Temporary Fencing

If and where required the Contractor shall erect, maintain, and remove suitable and approved temporary fencing to enclose such areas of the works and all areas of land occupied by the Contractor within the site as may be necessary. Where any temporary fencing has to be erected alongside a public road, footpath, etc. it shall be of the type required by and shall be erected to the satisfaction of the authority concerned.

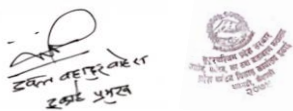
(6) Notice Board

The Contractor shall erect a notice board of a size of not less than 1.0 m by 2.5 m at each work Site. The notice boards shall be painted, and the inscription shall be approved by the Engineer. The board is to be erected at a suitable place upon the commencement of the works.

(7) Progress Photographs

The Contractor shall take progress photographs of key measurement events throughout the Contract period. The monthly statements of the estimated value of the work executed shall be accompanied by photographs of the key measurement events with measuring tapes or poles to indicate scale. The final statement should be accompanied by progress photographs of all completed main works.

(8) Health and safety



- (a) Health and Safety Plan, Design: The Contractor shall prepare a Construction Health and Safety Plan to fully consider the hazards and risks that may arise during construction, operation and maintenance of the Site, and design shall be carried out accordingly to avoid risks to health and safety as far as is reasonably practicable;
- (b) Hygiene Requirements: Before commencing work the Contractor shall ensure that all his employees are instructed in the necessity for hygienic practices. The Contractor shall immediately dismiss and remove from the Site any employee or representative of the Contractor who has been polluting or fouling the Site and shall take appropriate remedial measures to prevent a repetition of the occurrence and to disinfect the areas concerned.
- (c) Site Safety: The Contractor shall be solely responsible for all aspects of site safety within the project area. A proper standard of safety supervision and care shall be exercised by the Contractor during the construction works. The Contractor shall attend monthly Site Safety Meetings. The Employer shall be invited to attend these meetings, which shall be chaired by the Contractor or his designated representative. The Contractor shall be represented at senior management level together with their nominated Site Safety Officers. The Contractor shall provide the Employer with the minutes of these meetings within 7 calendar days.
- (d) Safety Plan: Prior to the start of construction, the Contractor shall prepare a Construction Phase Health and Safety Plan covering all aspects of the Works. This plan shall form part of the Contractor's Documents and shall be submitted to the Employer for his consent prior to the Commencement Date. The plan shall include coordinated emergency evacuation procedures for both land and marine based activities. It shall be coordinated with other Contractors working on Site or on adjacent sites, and the Employer. The Contractor shall identify, as part of the plan, all potential risks and hazards, and his proposed procedure for dealing with them should they arise during construction. The plan shall be reviewed and developed / updated as necessary during the construction phase.

Measurement and payment

The works under this heading (construction facilities) shall not be measured separately and hence no separate payment shall be made. The costs of providing such facilities shall be deemed to be included in the item rates for the various items of the Bill of Quantities.

2. SITE CLEARANCE WORKS:

2.1 CLEARING AND GRUBBING (SITE PREPARATION)

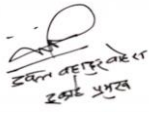
(1) Scope

The Section covers the clearing and grubbing necessary for the construction of the works covered by the contract. Conservation of the top soil and flora is also covered under this Section.

(2) Description of Work

(a) Clearing

Clearing shall consist of the cutting, removing and disposal of all tree, bushes, shrubs, grass, weeds, other vegetation, anthills, rubbish, fences, top organic soil not exceeding 150 mm in thickness and all other objectionable material, resulting from the clearing and grubbing. It shall



also include the removal and disposal of structures that obtrude, encroach upon or otherwise obstruct the work.

The moving of a certain amount of soil or gravel material may be inherent to or unavoidable during the process of clearing and no extra payment shall be made for this. Clearing shall include the removal of all rocks and boulders of up to 0.15 m³ in size exposed or lying on the surface.

(b) Grubbing

In the road/track way all trees up to 300 mm girth, stumps and roots shall be removed to a depth of not less than 500 mm below the original ground level and a minimum of 700 mm below the original ground level.

Except in borrow areas the cavities resulting from the grubbing shall be backfilled with approved material and compacted to a density not less than the density of the surrounding ground.

(c) Conservation of Top Soil

Where suitable top soil exists within the limits of the area to be cleared and grubbed, the Contractor shall, if ordered by the Engineer, remove the top soil together with any grass and other suitable vegetation. If not used immediately, the top soil shall be transported and deposited in stockpiles for later use.

(d) Conservation of Flora

Where provided for in the contract, certain designated flora encountered in the road reserve and borrow areas shall be carefully protected by the Contractor. In his tendered rate for Site Clearance, he shall include for the careful removal and planting of the flora in a protected and fenced-off area and, on completion of the road/track, for there planting of the flora in suitable positions in the canal reserve in accordance with the Engineer's instructions.

(3) Execution of Work

(a) Areas to be Cleared and Grubbed

Stumps, embedded logs, roots and all other vegetation growth and accumulated rubbish of whatsoever nature and all other objectionable material shall be completely removed to adept has specified in Sub-clause 2.1 (2) (a) and (b).

Normally the portions of the road/track reserve that fall within the limits of the track prism, as well as certain borrow areas shall be cleared and/or grubbed. The full width of the track reserve shall be cleared and/or grubbed except for such trees designated by the Engineer to be left standing and uninjured.

The Contractor shall mark the boundaries of the area for clearing and grubbing and seek the approval of the Engineer before commencement of the work. The Engineer shall designate in detail the exact areas to be cleared, and grubbed and the time at which it shall be done.

(4) Measurement and Payment:

Site clearance works executed as per this Specification shall be measured in square meter and shall be paid at the contract unit rate which shall be the full and the final compensation to the Contractor.

3. EARTHWORKS

3.1 SCOPE

This Section covers the works related to the landscaping and steps excavation, excavation for foundation, and backfilling for structures, drains, channels etc. The excavation will be in soft soil, hard boulder and gravel mixed soil, stone breaking during excavation and stone cutting using chisels etc.

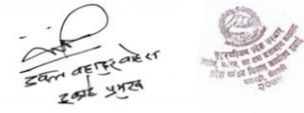
3.2 DEFINITIONS AND GENERAL REQUIREMENTS

(1) Earthwork includes two types of operations i.e. (i) earth excavation and disposal of the excavated materials (ii) earth excavation and use of excavated materials. The use of excavated material may be in the form of filling embankment, backfilling, filling other areas as required.

Excavation and filling implies excavation of materials and shaping the exposed surface of excavated as stated, removal hauling and use of the excavated material at the location and in the manner as specified or directed by the Engineer.

Excavation and disposal shall include:

- (i) Excavation and disposal of any type of material for landscaping and steps formation.
- (ii) The excavation and disposal of existing surfacing.
- (iii) Excavation and disposal of slides, breakages and caving-ins.



- (iv) Excavation and disposal for stream channel, trenches and drains etc.
- (v) Excavation required in cuts
- (vi) Excavation and disposal of unsuitable materials.
- (vii) Excavation for foundation and disposal of materials.

Excavation and filling shall include:

- (i) Filling for road/track surface where required
- (ii) Backfilling in trenches, foundation pits, structures etc.
- (iii) Any type of other filling or backfilling required

(2) The following definitions of earthworks materials shall apply to this and other Clauses of these specifications, if otherwise not specified.

- (i) "Topsoil" shall mean the top layer of soil that can support vegetation. It shall include all turf acceptable for turfing.
- (ii) "Suitable Material" shall comprise all that is acceptable in the accordance with the Contract for use in the Works and which is capable of being compacted in the manner specified in Clause 3.9 and 3.10 to form a stable fill having side slopes as indicated in the Drawing. The material used in fill (except for rock fill) shall not contain rock fragments with dimensions of more than 75 mm.
- (iii) "Unsuitable Material" which cannot be considered suitable for embankment shall mean other than suitable material and shall include:
 - a. Material from swamp, marshes or bogs;
 - b. Peat, logs, stumps, perishable material, organic clays;
 - c. Material susceptible to spontaneous combustion;
 - d. Material in a frozen condition;
 - e. Clay of liquid limit exceeding 50 and/or plasticity index exceeding 25;
 - f. Dispersive soil (Soil with predominance of sodium cations);

Material stated above in (d) if otherwise suitable shall be classified suitable when unfrozen.

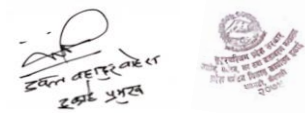
- (iv) "Unsuitable Material" which cannot be considered suitable for construction of side drainage shall mean other than suitable material and shall include:
 - a. Dispersive soil (Soil with predominance of sodium cations);
- (v) "Rock Fill" shall consist of hard material of suitable size for deposition and compaction as given in Clause 3.9 and also may comprise rock as defined in Clause 3.3 and broken stones.
- (vi) "Well Graded Granular Material" consists of gravel and/or sand conforming to relate IS Codes.

(3) No excavated suitable material other than surplus to requirements of the contract shall be removed from the site except on the direction of the Engineer. Should the Contractor be permitted to remove suitable material from Site to suit his operational procedure, then he shall make good at this own expense any consequent deficit of filling arising therefrom.

(4) Material in surplus to the total requirements of works, and all unsuitable material shall, unless the Engineer permits otherwise, be run to spoil dumps.

(5) Where the excavation reveals a combination of suitable and unsuitable materials the Contractor shall carry out the excavation in such a manner that the suitable materials are excavated separately for use in the works without contamination by the unsuitable materials.

(6) The Contractor shall make his own arrangements for the stockpiling of top-soil and/or suitable material.



(7) At all times the Contractor shall ensure that earthworks are not damaged by weather or traffic. In event of such damage, the Engineer may withdraw approval from the affected works until the Contractor has carried out repairs to restore the works to their original condition.

The cost of all such repairs and any additional testing shall be borne by the Contractor.

(8) Works on embankments and/or cutting in areas required for the construction of bridges and other structures shall not be carried out until the Engineer agrees that construction of such structures is sufficiently advanced that there is no interference or damage to them.

(9) The Contractor shall get approval of the Engineer in respect of method of earthwork, type of equipment to be used, disposal and other details before commencement of the earthwork.

3.3 CLASSIFICATION OF EXCAVATED MATERIALS

The excavated materials shall be classified under the following categories. The decision of the Engineer in respect of the classification of excavated materials shall be the final and binding upon the Contractor.

Classification: All materials involved in excavation shall be classified by the Engineer in the following manner:

(1) Soil

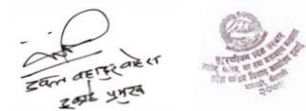
This shall comprise topsoil, turf, sand, silt, loam, clay, mud, peat, black cotton soil, soft shale or loose moorum, a mixture of these and similar material which yields to the ordinary application of pick, spade and/or shovel, rake or other ordinary digging implement. Removal of gravel or any other nodular material having dimension in any one direction not exceeding 75 mm occurring in such strata shall be deemed to be covered under this category.

(2) Gravel Boulder Mixed Soil (GBM Soil)

Gravel Boulder Mixed (GBM) soil refers to a type of soil composition that contains a mixture of gravel, cobbles, and other materials. It is a coarse-grained soil type that typically has a higher percentage of larger particles such as gravel and cobbles compared to finer particles like sand or silt. GBM soil is commonly found in areas with rocky or mountainous terrains where weathering and erosion have led to the accumulation of large-sized particles. It is often challenging to work with GBM soil due to its coarse nature, which can affect construction as well as excavation activities. This shall comprise topsoil mixed with gravel less than 75mm and cobbles not more than 300 mm and similar material which yields to the ordinary application of pick, spade and/or shovel, rake or other digging equipment (Cobbles pass a 300-mm equal to 12-inch square opening but are retained on a 75-mm sieve whereas boulders are too large to pass a 300-mm square opening).

(3) Dispersive Clay

Dispersive soil refers to a type of soil composition that have a preponderance of sodium cations. This soil is not suitable for construction of canal in cutting or in embankment and for construction of any type of hydraulic structures. Dispersive clay soil erodes in the presence of flowing water when individual clay platelets are split off and carried away. The hydraulic structures including irrigation/drainage canal constructed in dispersive soil fail by piping. Using dispersive clay soils in irrigation/drainage canal construction, hydraulic structures, embankment, dams, or other structures such as roadway embankments can cause serious engineering problems if these soils are not identified and used appropriately with due treatment. Problem due to dispersive soil is worldwide, and structural failures attributed to dispersive soils have occurred in many countries. The principal difference between dispersive clays and ordinary erosion resistant clays appears to be the nature of the cations in the pore water of the clay mass. Dispersive soil has predominance of sodium cations whereas ordinary clays have a preponderance of calcium, potassium, and magnesium cations in the pore water. Dispersive clays have not been definitively associated with any specific geologic origin but most have been found as alluvial clays in the form of slope wash, lake bed deposits, loess deposits, and flood plain deposits. Dispersive clay soils, which are available in red, brown, gray, yellow, or various combinations of these colors look like ordinary clay and hence cannot be distinguished by naked eyes. Dispersive clays cannot be identified by the standard laboratory index tests such as



visual classification, grain size analysis, specific gravity, or Atterberg's limits either and, therefore, other laboratory tests such as the crumb test, the double hydrometer test, the pinhole test and chemical test have been devised for this purpose.

(4) Ordinary Rock (not requiring blasting)

This shall include:

- (i) rock types such as laterites, shales and conglomerates, varieties of limestone and sandstone etc., which may be quarried or split with crow bars, also including any rock which in dry state may be hard, requiring blasting but which, when wet, becomes soft and manageable by means other than blasting; macadam surface such as water bound and bitumen/tar bound; soling of roads, paths etc. and hard core; compact moorum or stabilized soil requiring grafting tool or pick or both and shovel, closely applied; gravel and cobble stone having maximum dimension in any one direction between 75 and 300 mm; lime concrete, stone masonry in lime mortar and brick work in lime/cement mortar below ground level, reinforced cement concrete which may be broken up with crow bars or picks and stone masonry in cement mortar below ground level; and bounders which do not require blasting having maximum dimension in any direction of more than 300mm, found lying loose on the surface or embedded in river bed, soil, talus, slope wash and terrace material of dissimilar origin.

(5) Hard Rock (requiring blasting)

This shall comprise:

- (i) any rock or cement concrete for the excavation of which the use of mechanical plant and/or blasting is required;
- (ii) reinforced cement concrete (reinforcement cut through but not separated from the concrete) below ground level; and
- (iii) Boulders requiring blasting.

(6) Hard Rock (blasting prohibited)

Hard rock requiring blasting as described under (c) but where blasting is prohibited for any reason and excavation has to be carried out by chiseling, wedging or any other agreed method.

(7) Marshy Soil

This shall include soils like soft clays and peats excavated below the original ground level of marshes and swamps and soils excavated from other areas requiring continuous pumping or bailing out of water.

(8) Authority for classification:

The classification of excavation shall be decided by the Engineer and his decision shall be final and binding on the Contractor. Merely the use of explosives in excavation will not be considered as a reason for higher classification unless blasting is clearly necessary in the opinion of the Engineer.

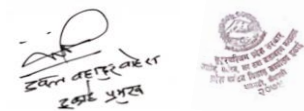
3.4 EXPLOSIVES AND BLASTING

(1) General

The procurement, transportation, storage, use, account and disposal of balance and defective explosive materials shall be strictly as per prevalent laws and ordinances applicable to the work site. Should there be any discrepancy found between procedures described hereunder and the prevalent laws and ordinance, the later shall supersede.

Blasting shall be carried out in a manner that completes the excavation to the

Lines indicated on the Drawing or as directed by the Engineer, with the least disturbance to adjacent material. It shall be done only with the written permission of the Engineer.



The Contractor shall adopt such method that is consistent with the safety and job requirements. Prior to starting any phase of the operation, the Contractor shall provide information describing pertinent blasting procedures, dimensions and notes.

(2) Material, Tools and Equipment

All the material, tools and equipment used for blasting operations shall be of approved type. The Engineer may specify the type of explosives to be allowed in special cases. The fuse to be used in wet locations shall be water-resistant and shall remain unaffected when immersed in water for 30 minutes. The rate of burning of the fuse shall be uniform and definitely known to permit such a length being cut as shall permit sufficient time to the firer to reach to a safe place before explosion takes place. Detonators shall be capable for giving effective blasting of the explosives. The blasting powder, explosives, detonators, fuses, etc., shall be fresh and not damaged due to dampness, moisture or any other cause. They shall be inspected before use. The damaged articles, if any, shall be discarded totally and removed from the site immediately.

(3) Personnel

The blasting operation shall remain in the charge of competent and experienced blaster with legal license and thorough knowledge of handling explosives and blasting operations.

(4) Blasting Operations

Explosives shall be used in the quantities and manner recommended by the manufacturers. The written permission of the Engineer shall be obtained for each location or series of locations where the Contractor wishes to use more than 5 kg of explosives in one series of blast. Such permission shall not in any way relieve the Contractor of his liabilities under the Conditions of Contract.

The blasting shall be carried out during fixed hours of the day preferably during the mid-day luncheon hour or at the close of the work as ordered in writing by the Engineer. The hours shall be made known to the people in the vicinity. All the charges shall be prepared by the blaster only.

The Engineer must be notified at least 24 hours in advance on any blasting operation. When blasting is to be carried out, the Contractor shall determine the danger zone likely to be created, and shall ensure that all personnel, vehicles and livestock are clear of the zone before and during the blast. In settled areas, the Contractor shall take steps to avoid damage to property from flying rock by using blasting mats or other suitable blanketing materials.

The Contractor shall notify each public utility organization/company having structures in proximity to the site of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury.

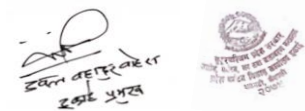
Danger red flags shall be displayed prominently in all directions during the blasting operations. The flags shall be planted 200 m from the blasting site in all directions. People, except those who actually light the fuse, shall be prohibited from entering this area, and all persons including workmen shall be excluded from the flagged area at least 10 minutes before the firing, a warning siren being sounded for the purpose.

The charge holes shall be drilled to required depths and at suitable places. Blasting shall be as light as possible consistent with thorough breakage of the material necessary for economic loading and hauling. Any method of blasting which leads to overshooting shall be discontinued. Not more than 10 charges shall be prepared and fired at a time. The man in charge shall blow a siren in a recognized manner for cautioning the people. The charges shall be lighted by the blasters only. The blaster shall count the number of explosions. He shall satisfy himself that all the charges have been exploded before allowing the workmen to go back to the work site.

After blasting operations, the Contractor shall compact the loose residual material removed below sub-grade and replace the material removed below sub-grade with suitable material.

When forming final cut faces, pre-split blasting techniques as recommended in the Specification for Road and Bridge (IRC) shall be carried out to ensure that blasting damaged to the cut face is minimized. Details of the pre-splitting technique to be used shall be notified to and approved by the Engineer at least 24 hours in advance of the blasting operation.

(5) Misfire



In case of misfire, the following procedure shall be observed:

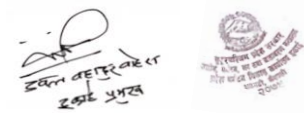
- a. Sufficient time shall be allowed to account for the delayed blast. The blaster shall inspect all the charges and determine the missed charge.
- b. If it is blasting powder charge, it shall be completely flooded with water. A new hole shall be drilled at about 450 mm from the old hole and fired. This should blast the old charge. Should it not blast the old charge, the procedure shall be repeated till the old charge is blasted.
- c. In case of charges of gelignite, the blaster shall gently remove the tamping and the primer with the detonator. A fresh detonator and primer shall then be used to blast the charge. Alternatively, the hole may be cleared of 30 mm of tamping and the direction then ascertained by placing a stick in the hole. Another hole may then be drilled 150 mm away and parallel to it. This hole shall then be charged and fired when the misfired hole should explode at the same time. The blaster shall at once report to the Contractor's office and the Engineer all cases of misfire, the cause of the same and what steps were taken in connection therewith.
- d. If a misfire had been found to be due to defective detonator or gelignite/dynamite, the whole quantity in the box from which defective article was taken must be sent to the authority as directed by the Engineer for inspection to ascertain whether all or part of the remaining materials in the box are also defective.

(6) Account

A careful and day to day account of the explosive shall be maintained by the Contractor in an approved register and manner which shall be open to inspection by the Engineer at all times. Records must be kept by the Contractor of all drilling and blasting operations showing holes diameters and depths, drilling pattern, explosive charge and type per hole, detonator delay times and total charge per blast. These records must be submitted to the Engineer on completion of charging.

3.5 EXCAVATION IN CUTTING

- (1) Cleaning and grubbing shall be performed as specified in Section 200.
- (2) While executing excavations, the Contractor shall take adequate precautions against soil erosion and water pollution.
- (3) All suitable excavated materials shall be used in construction of the canal banks/embankment to the extent as required.
- (4) Hauling of material from cutting or borrow pits to embankments other areas of fill shall proceed only when plant or labour is operating at the place of deposition to ensure that adequate spreading and compaction of material can take place.
- (5) Over-excavation shall not be permitted. Any excess depth excavated below the formation levels as specified shall be made good by the Contractor at his own expense by backfilling with suitable material of similar characteristics to those of moved materials with compaction as specified in Clauses 3.9 and 3.10.
- (6) The slopes of cutting shall be cleared of all rock fragments which move when prized by a crowbar, unless otherwise directed by the Engineer. Where the Engineer considers that the slope, immediately after dressing, shall not be permanently stable, he shall direct the Contractor as to the stabilization measures required. The Contractor shall carry out these measures soon after Engineer's instruction.
When completed, the excavation slopes shall be true to the lines and levels as shown on the Drawing or directed by the Engineer. When completed, no point on slopes shall vary from the designated slopes by more than 150 mm measured at right angles to the slope, except where excavation is in rock, no point shall vary more than 300 mm from the designated slope.
- (7) If slips, slides, over breaks or subsidence occur in cutting, they shall be removed. Adequate precautions shall be taken to ensure that during construction, the slopes are not rendered unstable or give rise to recurrent slides after construction.



- (8) If water is encountered in excavations due to seepage, springs, or other causes, it shall be removed by suitable diversions or bailing out and the excavation shall be kept dry. The drained water shall be discharged into suitable outlets as not to damage to the works, crops or any other property. If any such damage is caused due to any negligence of the Contractor, it shall be the sole responsibility of the Contractor to repair/restore to the original condition at his own cost or compensate for the damage.

3.6 EXCAVATION BELOW EMBANKMENTS

- (1) Where any unsuitable material below the natural ground level under proposed embankments is required to be excavated, it shall be removed to such depth and over such areas as shown on the Drawing or as directed by the Engineer. The excavated materials shall be disposed off as indicated on the Drawing or directed by the Engineer. The resultant excavation shall be backfilled with suitable material and shall be levelled and compacted to the density as specified for forming of the embankments. Nevertheless, if such backfill has to be carried out in standing water, the Contractor shall use only an approved non-plastic well-graded granular material having maximum size of not greater than 75 mm. Such materials may be deposited in water without use of compaction equipment.
- (2) Where shown on the Drawing, approved, graded stones having size from 380 mm to 150 mm and containing not more than 10 percent, below 150 mm in size shall be placed directly on the natural occurring unsuitable material. This type of rock fill material shall be deposited in accordance with the requirements of Clause 3.9 and compacted as per Clause 3.10.
- (3) If after the removal of material as specified in Sub-clause 3.6 (1), the Contractor allows the materials so exposed to reach a condition where compaction of back filling is impracticable, he shall make good at his own expense either by additional excavation and filling in the manner specified in this Clause, or by waiting until the condition of the exposed material is fit to receive the approved backfill.

3.7 EXCAVATION FOR FOUNDATION

(1) Slope

Excavation shall consist of the removal of material for the construction of foundations for drainage structures, retaining walls, head walls, cut off walls, culvert, bridges and other similar structures to the lines and dimensions shown on the Drawing or as instructed by the Engineer in accordance with the requirements of these specifications. The work shall include construction of the necessary cofferdams and cribs and subsequent removal of all necessary sheeting, shoring, bracing, diversion of water/flow, draining and pumping, the removal of all logs, stumps, grubs and other deleterious matters and obstructions necessary for placing the foundation; trimming bottoms of excavations; and cleaning up the site and the disposal of all surplus material.

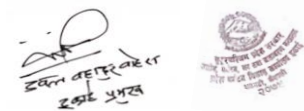
(2) Excavation

Excavation shall be taken to the length and width of the lowest step of the footing and the sides shall be left to plumb where the nature of soil allows it. Where the nature of soil or the depth of the trench does not permit vertical sides, the Contractor at his own expense shall put up necessary shoring, strutting and planking or cut slopes to a safer to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer.

The depth to which the excavation is to be carried out shall be as shown on the Drawing or as directed by the Engineer.

Where blasting is to be restored to, the same shall be carried out in accordance with Clause 3.4.

3.8 REFILLING OF FOUNDATION PITS AND TRENCHES, REMOVAL OF SUPPORTS AND FILLING TO STRUCTURES



Refilling of foundation pits and trenches shall consist of previous backfill and/or common backfill as shown on the Drawing or as directed by the Engineer.

(1) Materials

a. Pervious Backfill

Unless otherwise specified in the contract, it shall be of gravel, crushed gravel, crushed rock, natural sands, manufactured sands or combinations thereof. It shall conform to the grading limits set out in Table 3.1.

Table 3.1: Grading Limits of Pervious Backfill

Sieve Size (mm)	Percentage Passing by Weight
40	100
10	45-100
2.36	25-80
0.60	8-48
0.075	0-6

b. Common Backfill

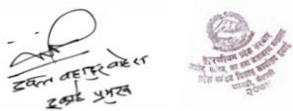
Common backfill materials other than pervious backfill shall be suitable material as defined in Sub-clause 3.2 (2).

(2) Method of Filling

Backfilling material shall be placed and compacted in layers in compliance with the requirements of Clause 3.10. Any support structures for the excavation shall be withdrawn as the filling proceeds unless described in the contract or ordered by the Engineer to be left in. The backfill shall be placed in by such methods which shall avoid loading the structure in any manner which may affect its stability or overload its underlying foundation material or substructure. The backfill in front of abutments and wing walls shall be placed first to avoid the Possibility of forward movement. Precautions shall be taken to prevent any wedge action against upright surfaces, and the slopes bounding the excavation shall be stepped as directed by the Engineer before backfill is placed. The backfill material around box culverts, piers and curtain walls shall be placed simultaneously on both sides of the structure. When the structure is so designed that its strength is dependent on the restraining effect of the superstructure (such as in portal frames and propped abutments), the backfill shall not be placed until the superstructure has been completed to the extent and strength necessary to provide the required restraint. When the Contract requires wedges between steel superstructure and the parapet of wing type abutments, the wedges shall be placed in advance of placing any fill above the lower 1/3 of the abutment and shall be removed when directed by the Engineer.

3.9 FORMING OF EMBANKMENT AND OTHERS AREAS OF FILL

- (1)** The work shall consist of the construction of embankment, filling on other areas and backfill not specified elsewhere by providing material as specified or approved by the Engineer, placing, compacting and shaping to lines, levels, grades and cross sections as shown on the Drawing or as directed by the Engineer. The maximum size of the coarse material in the mixture shall not exceed 75 mm for general earth fill.
- (2)** The limits of embankment shall be built sufficiently wider than the design dimension to facilitate in achieving required compaction nearby outer faces of the embankment. The surplus material shall be trimmed to conform the specified side slopes and width of the embankment.
- (3)** Where necessary, the original ground shall be scarified, mixed with water, levelled and then compacted so as to achieve the density mentioned in Clause 3.10. In case of Road construction, where the height of embankment, as measured from formation level to the



original ground level, is less than 200 mm, the embankment foundation shall be compacted in accordance with the requirements of Clause 3.10 such that the required compaction is achieved within the upper 300 mm below formation level.

Where necessary, embankment foundations shall be excavated/furrowed and brought under OMC and re-compacted in layers of 150 mm each in order to achieve the required level of compaction.

(4) Embankments shall be built up evenly over the entire width and shall be maintained at all times with a sufficient camber to enable surface water to drain rapidly from them. Damage to compacted layers by constructional or other traffic shall be made good by the Contractor.

(5) The natural moisture content and the optimum moisture content of the material to be placed in the embankment shall be checked before start of the placing material. If found to be out of the specified limits, the same shall be made good. Where water is required to be added in such constructions, water shall be sprinkled from a water tanker fitted with sprinkler capable of applying water uniformly with a controllable rate of flow to variable widths of surface but without any flooding. Water shall be sprinkled uniformly and thoroughly mixed in soil by blading or harrowing until a uniform moisture content as specified is obtained.

Moisture content, checked in accordance with IS 2720 (Part 2), at the time of compaction shall be between 90% and 105% of the Optimum Moisture Content as determined in accordance with IS 2720 (Part 8).

If the material delivered for fill/backfill is too wet, it shall be dried by aeration and exposure to sun, till the moisture content is acceptable for compaction. Should circumstances arise, where owing to wet weather, the moisture content cannot be reduced by the above procedure, compaction work shall be suspended.

If the material deposited as fill subsequently reaches a condition such that it cannot be compacted in accordance with the requirements of the specifications the Contractor shall

- (i) Make good by removing the material off the embankment and placing suitable material; or
- (ii) Make good by tipping it elsewhere until it is in a suitable physical condition for re-use; or
- (iii) Make good the material by mechanical or chemical means to improve its properties acceptable to the Engineer.

(6) Where fill is required to be constructed across water logged or soft clayey ground that displays excessive movement under normal constructional equipment, it may be necessary to construct a capping layer.

(7) Rock use in rock fill embankments shall be deposited in horizontal layers not exceeding 450 mm each extending up to the full width of the embankment.

Material shall be spread, levelled and compacted in accordance with Clause 3.10. Each layer shall consist of reasonably graded rock and all surface voids shall be filled with broken fragments before the next layer is placed. The top surface and side slopes of embankments so formed shall be thoroughly blinded with approved well graded material to seal the surface

(8) While filling embankment up to or over culverts or pipe drains, and where required in the contract, up to bridges, the Contractor shall bring the embankments up equally on both sides. In rock fill embankments the rock shall be carefully packed for such distance from the structure as is described in the contract.

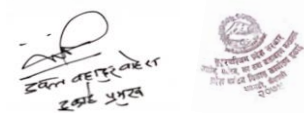
Where provision of filter membrane is specified behind structures, the same shall be laid in layers simultaneously with the laying of fill material.

3.10 COMPACTION OF EMBANKMENT AND OTHER AREAS OF FILL /BACKFILL

(1) The Contractor shall obtain the Engineer approval of all fill layers before covering with subsequent layers.

(2) All fill shall be compacted to the depth and degree of compaction as specified in Table 3.2 or as shown on the Drawing. Formation level if this context shall mean top of subgrade.

Table 3.2: Compaction Requirements

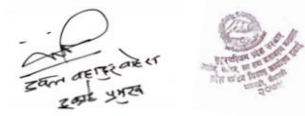


Location	Depth below Formation Level (mm)	Minimum Compaction (%MDD Heavy Compaction)
Roadway Embankment	0-300	95
Roadway Cut	0-300	95
All other roadway fills and backfill not separately specified		93

- (3) Each layer of rock used to fill in embankments shall be spread and levelled in accordance with Sub-clause 3.9 (7) and systematically compacted.
- (4) Layers of material other than rock fill shall not exceed 150 mm compacted depth unless and until the Contractor can demonstrate to the satisfaction of the Engineer that he can successfully Compact layers of a greater thickness.
- (5) Each layer shall be constructed in lengths suitable to the compaction and working methods used. Materials of each layer shall be thoroughly mixed with water as necessary to facilitate its compaction to the specified density.
- (6) In cut areas, the subgrade shall be processed as necessary and compacted to the depth and compaction requirements as given in Table 3.2. In the event that the Contractor is unable to achieve the minimum compaction requirements below formation level he shall excavate and re compact in layer as necessary.
- (7) Where it may be impracticable to use to conventional rollers, the compaction shall be carried out by appropriate mechanical means such as small vibratory rollers, power rammers or plate compactor. Care shall be taken to ensure that the compaction equipment does not hit or come too close to any structural member so as to cause any damage to it.

3.11 COMPACTION TRIALS

- (1) Before commencing filling embankment and from time to time as may be considered necessary by the Engineer, the Contractor shall carry out compaction trials in the presence of the Engineer on each of the main types of soil and rock fill to be used and compacted in the Works. He shall carry out all necessary laboratory and field testing as required by the Engineer and shall submit to the Engineer the results of all tests.
The trial procedure shall include the compaction of trial areas selected by the Engineer. The surface of each area shall first be well compacted to the satisfaction of the Engineer. Each type of material being used shall be compacted in equal layers at uniform but differing moisture contents to a predetermined number of passes using the Contractor's proposed compaction equipment.
- (2) Following completion of the compaction trials, the Contractor shall submit to the Engineer, for his approval, his proposals for the compaction of each type of material to be encountered in the Works and its degree of compaction specified. The Contractor's proposals shall include reference to the types of equipment, the operating weights and type pressure, the methods of adjusting the moisture content, the number of passes and the loose depth of each layer.
If, in the opinion of the Engineer, the results of the compaction trials indicate that the Contractor's proposed plant and methods shall achieve the densities as specified, the Engineer shall approve the same. Otherwise, the Contractor shall submit, in writing, proposals for modifying the plant and/or methods and shall, if the Engineer so requires, compact further trial areas in accordance with these modified proposals until the Engineer approves of Contractor's proposals.
- (3) When compaction of earthworks is in progress, the Contractor shall adhere to the compaction procedure approved by the Engineer.



- (4) Notwithstanding the Engineer's approval of any of the Contractor's plant or methods, the Contractor shall at all times be solely responsible for executing the earthworks in accordance with the Specifications and the Drawing.

3.12 TEST FOR DISPERSIVE SOIL

Dispersive clays cannot be distinguished from nondispersive clays by conventional index tests such as gradation, Atterberg's limits, or compaction characteristics. The five laboratory tests most generally performed to identify dispersive clays are the crumb test (as specified in USBR 5400), the double hydrometer test (as specified in USBR 5405), the pinhole test (as specified in USBR 5410), the test of dissolved salts in the pore water, and the ESP (exchangeable sodium percentage) based tests.

However, results from the individual tests often do not agree, and the pinhole test is considered the most reliable since it is a direct physical test. It is emphasized that all of the tests should be performed on each soil sample for the most complete information and most reliable identification.

The primary requirement for taking soil samples in the field for any method of dispersive testing whether in the United States or elsewhere is to ensure that there is no moisture loss from the sample. Samples should be shipped to the laboratory in airtight containers. It is important that all soil specimens be maintained and tested at their natural water content since drying, especially oven drying, may alter dispersive characteristics.

3.13 MEASUREMENT

- (1) The quantities of the various classes of earthwork to be measured for payment under the contract shall be limited to the lines, grades, slopes and dimensions shown on the Drawing or as determined by the Engineer.
- (2) Except for foundation, all excavation including side drains, filling and backfilling compacted in place shall be measured in cubic meters by the average end area method as computed from the original and final cross-sections of the completed work. The distance between two end areas shall be the distance measured along central line of the canal/embankment. Where due to changed conditions, or the nature of a particular operation, or for any other reason, it is impossible or impractical to measure the quantities by means of average end areas, the Engineer shall compute the quantities by a volumetric method, if in his opinion, it is the best suited method to obtain an accurate determination.

No separate measurement for payment shall be made for excavation made on borrows, quarries, temporary works or in places outside the scope of permanent works specified in the contract.

Foundation excavation for structures shall be measured in cubic meters irrespective of all classes of materials except rock encountered. The quantities to be measured shall be the net cubic content of the voids formed by the removal of the materials enclosed between the bottom of the footing and existing ground level by a surface generated by vertical lines passing through the periphery of the bottom of the footing. No payment shall be made for any excavation other than the limited excavation described above. Excavation over increased width or length, cutting of slopes, removal of slides, shoring, shuttering and planking shall be deemed as convenience for the Contractor in executing the work and shall not be measured and paid for. Backfill to be measured shall be limited to this void only with due consideration of the nature of the structure.

Foundation excavation in rock shall be deemed to be covered by the rate for rock excavation.

- (3) Consumption of explosive materials, levelling, watering and compaction of original ground, construction of coffer dams, pumping out water and other ancillary and incidental works necessary to complete the item as per this specification shall not be measured for payment. They are deemed included in the measurement of the concerned item.

- The quantities of excavation and filling of the distances under reference shall be calculated separately adopting the method described as above in this Section. The computed quantity of filling shall be measured in filling while difference between quantities of excavation and filling shall be measured in excavation. The same excavated material shall not be measured both in excavation and filling.

(1) Various classes of earthworks i.e. excavation, filling, backfilling, additional leads and lifts measured as described above shall be paid at contract unit rate of the respective item.

(i) Arrangement of land as source of materials as much as needed.

(ii) Process Control tests.

(iii) Execution of all relevant operations described above in this Section and necessary to complete the item as per this specification.

- (2)** Foundation excavation for structures, measured as described above, shall be paid for at the contract unit rate for all classes of excavation. The contract unit rate for foundation excavation shall be the full and the final compensation to the Contractor and for the cost of carrying out the required operations to excavate to the lines and levels as required by the Drawing or as directed by the Engineer.

4.1 SCOPE

This Section covers the materials, design of mixes, transport, placing, compaction and curing of concrete and mortar required in the works. It also covers reinforcement for concrete.

4.2 DEFINITIONS

Structural concrete is any class of concrete which is used in reinforced, prestressed or unreinforced concrete construction which is subject to stress. Non-structural concrete is composed of materials complying with the Specification but for which no strength requirements are specified and which is used only for filling foundations and similar purpose where it is not subjected to significant stress.

4.3 MATERIAL FOR CONCRETE

(1) Cement

Cement shall be free flowing and free of lumps. It shall be supplied in the manufacturer's sealed unbroken bags or in bulk. Bagged cement shall be transported in vehicles provided with effective means of ensuring that it is protected from the weather.

Bulk cement shall be transported in vehicles or in containers built and equipped for the purpose. Cement in bags shall be stored in a suitable weatherproof structure of which the interior shall be dry and well-ventilated at all times. The floor shall be raised above the surrounding ground level not less than 30 cm and shall be so constructed that no moisture rises through it. Each delivery of cement in bags shall be stacked together in one place. The bags shall be closely stacked so as to reduce air circulation with min gap of 500 mm from outside wall. If pallets are used, they shall be constructed so that bags are not damaged during handling and stacking. Stack of cement bags shall not exceed 8 bags in height. Different types of cement in bags shall be clearly distinguished by visible marking and shall be

The Contractor shall provide sufficient storage capacity on site to ensure that his anticipated programme of work is not interrupted due to lack of cement. Cement which has become hardened or lumpy or fails to comply with the Specification in any way shall be removed from the Site. All cement for any one structure shall be from the same source as far as possible.

Fine aggregate shall be clean hard and durable and shall be natural sand, crushed gravel sand or crushed rock sand complying with IS 383. All the material shall pass through a 4.75 mm IS sieve and the grading shall be in accordance with IS 383. In order to achieve an acceptable grading, it may be necessary to blend materials from more than one source.

The deviation from the initial fineness modulus shall be no more than ± 0.30 for ordinary concrete and ± 0.20 for high quality concrete. However, in respect of the presence of deleterious materials the fine aggregate shall not contain iron pyrites, iron oxides, mica, shale, coal or other laminar soft or porous materials or organic matter unless the Contractor can show by comparative tests on finished concrete and as per the direction of the Engineer, that presence of such materials does not affect the properties of the concrete.

Coarse aggregate shall be clean hard and durable crushed rock, crushed gravel or natural gravel corresponding to the following classes:

Class B: Aggregate shall consist of crushed quarry rock other than class A from an approved source.

Class C: Aggregate shall consist of natural or partly crushed gravel pebbles obtained from an approved gravel deposit. It may contain a quantity of material obtained from crushing the oversize stone in the deposit provide such material is uniformly mixed with the natural uncrushed particles.

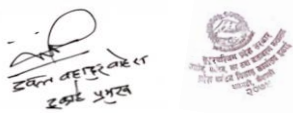
Class D: Aggregate shall consist entirely of crushed gravel. The crushed gravel shall be produce from material retained on a standard sieve having an opening at least twice as large as the maximum size of aggregate particle specified.

Class E: Aggregate shall consist an artificial mixture of any of the above classes of aggregate. The aggregate use of Class E aggregate and the relative proportions of the constituent materials shall be approved by the Engineer.

Coarse aggregate shall be supplied in the nominal size called for in the contract and shall be of the grading as single sized aggregate or graded aggregate of nominal size 40 mm, 20 mm, 12.5 mm and 10 mm in accordance with IS 383.

Aggregate shall be delivered to site in clean and suitable vehicles. Different type or sizes of aggregate shall not be delivered in one vehicle. Each type or size of aggregate shall be stored in a separate bin or compartment having a base such that the contamination of aggregate is prevented. Dividing walls between bins shall be substantial and continuous so that no mixing of types or sizes occurs. The storage of aggregate shall be arranged in such a way that drying out in hot weather is prevented in order to avoid fluctuations in water content. Storage of fine aggregates shall be arranged in such way that they can drain sufficiently before use in order to prevent fluctuations in water content of the concrete.

Water shall be clean and free from harmful matter and shall comply with the requirements of IS 456. Brackish water containing more than 1000 ppm chloride ion 2000 ppm sulphate ion shall not be used for mixing or curing concrete. The Contractor shall carry out tests in compliance with IS 456 to establish compliance with Specifications.



4.4 MIXING CONCRETE

Concrete for the works shall be batched and mixed in one or more plants or concrete mixer unless the Engineer agrees to some other arrangement.

Batching and mixing plants shall be complying with the requirements of IS 1791 and capable of producing a uniform distribution of the ingredients throughout the mass. Truck mixers shall comply with the requirements of IS 4925 and shall only be used with the prior approval of the Engineer. If the plant proposed by the Contractor does not fall within the scope of IS 1791 it shall have been tested in accordance with IS 4634 and shall have a mixing performance within the limits of IS 1791.

All mixing operations shall be under the control of an experienced supervisor. The aggregate storage bins shall be provided with drainage facilities arranged so that the drainage water is not discharged to the weigh hoppers. Each bin shall be drawn at least once per week and any accumulations of mud or silt shall be removed.

If bulk cement is used, the scale and weight hopper for cement shall be distinct from the scale and weight hopper for aggregates.

Cement and aggregates shall be batched by weight. Water may be measured by weight or volume.

The weighing and water dispensing mechanisms shall be maintained in good order. Their accuracy shall be maintained within the tolerances described in IS 1791 and not more than plus or minus one percent, and checked against accurate weights and volumes when required by the Engineer.

The weights of cement and each size of aggregate and the weight or volume of water as indicated by the mechanism employed shall be within a tolerance of plus or minus three per cent of the respective weight per batch agreed by the Engineer.

The Contractor shall provide standard test weights at least equivalent to the maximum working load used on the most heavily loaded scale and other auxiliary equipment required for checking the satisfactory operation of each scale or measuring device. Tests shall be made by the Contractor in the presence of the Engineer but not less than once per three months.

The nominal drum or pan capacity of the mixer shall not be exceeded. The turning speed and the mixing time shall be as recommended by the manufacturer, but in addition, when water is the last ingredient to be added, mixing shall continue for at least one minute after all the water has been added to the drum or the pan.

The blades of pan mixers shall be maintained within the tolerances specified by the manufacturer of the mixer and the blades shall be replaced when it is no longer possible to maintain the tolerances by adjustment. Mixers shall be fitted with an automatic recorder registering the number of batches discharged.

The water to be added to the mix shall be reduced by the amount of free water contained in the coarse and fine aggregates. This amount shall be determined by the Contractor by a method agreed by the Engineer immediately before mixing begins each day and thereafter at least once per hour and for each delivery of aggregates during concreting. When the correct quantity of water, determined as set out in the Specification, has been added to the mix, no further water shall be added, either during mixing or subsequently.

4.5 TRANSPORTATION OF CONCRETE

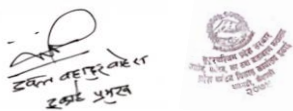
The concrete shall be discharged from the mixer and transported to the works by means which shall prevent adulteration, segregation or loss of ingredients, and shall ensure that the concrete is of the required workability at the point and time of placing. The loss of slump between discharge from the mixer and placing shall be within the tolerances specified. The capacity of the means of transport shall not be less than the full volume of a batch.

4.6 PLACING OF CONCRETE

(1) Consent for Placing

The Contractor shall give the Engineer at least two full working day notice of his intention to place concrete.

If concrete placing is not commenced within 24 hours of the Engineer's consent the Contractor shall again request consent as specified above.



(2) Preparation of Surface to Receive Concrete

Excavated surfaces on which concrete is to be deposited shall be already prepared.

Existing concrete surfaces shall be prepared as directed by an Engineer.

Before deposition of further concrete they shall be clean, hard and sound and shall be wet but without any free standing water.

Any flow of water into an excavation shall be diverted through proper side drains to a sump or be removed by other suitable which will prevent washing away the freshly deposited concrete or any of its constituents. Any under drain constructed for this purpose shall be completely grouted up when they are no longer required by a method agreed by the Engineer.

Unless otherwise instructed by the Engineer surfaces against which concrete is to be placed shall receive prior coating of cement slurry or mortar mixed in the proportions similar to those of the fines proportions similar to those of the fines portion in the concrete to be placed. The mortar shall be kept ahead of the concrete. The mortar shall be placed into all parts of the excavated surface and shall not be less than 5 mm thick. If any fissures have been cleaned out they shall be filled with mortar or with concrete as instructed by the Engineer.

The amount of mortar placed at one time shall be limited so that it does not dry out or set before being covered with concrete.

(3) Placing Procedures

The Concrete shall be deposited as nearly as possible in its final position. It shall be placed so as to avoid segregation of the concrete and displacement of the reinforcement, other embedded items or form work. It shall be brought up in layers approximately parallel to the construction joint planes and not exceeding 300 mm in compacted thickness unless otherwise permitted or directed by the Engineer, but the layers shall not be thinner than four times the maximum nominal size of aggregate.

When placing on a nearly horizontal surface, placing shall start at the lower end of the surface to avoid decompaction of concrete. Layers shall not be placed so that they form feather edges nor shall they be placed on a previous layer which has taken its initial set. In order to comply with this requirement, another layer may be started before initial set of the preceding layer.

All the concrete in a single bay or pour shall be placed as a continuous operation. It shall be carefully worked round all obstructions, irregularities in the foundations and the like so that all parts are completely full of compacted concrete with no segregation or honey combing. It shall also be carefully worked round and between waterstops, reinforcement, embedded steelwork and similar items which protrude above the surface of the completed pour.

All work shall be completed on each batch of concrete before its initial set commences and thereafter the concrete shall not be disturbed before it has set hard. No concrete that has partially hardened during transit shall be used in the works and the transport of concrete from the mixer to the point of placing shall be such that this requirement can be complied with. Concrete shall not be placed during rain which is sufficiently heavy or prolonged to wash mortar from coarse aggregate on the exposed faces of fresh concrete. Means shall be provided to remove any water accumulating on the surface of the placed concrete. Concrete shall not be deposited into such accumulations of water.

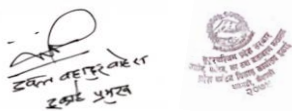
In dry weather, covers shall be provided for all fresh concrete surfaces which are not being worked on. Water shall not be added to concrete for any reason.

When concrete is discharged from the place above its final deposition, segregation shall be prevented by the use of chutes, down pipes, trunking, baffles or other appropriate devices.

Forms for walls shall be provided with openings or other devices that will permit the concrete to be placed in a manner that will prevent segregation and accumulations of hardened concrete on the formwork or reinforcement above the level of the placed concrete.

When it is necessary to place concrete under water the Contractor shall submit to the Engineer his proposals for the method and equipment to be employed. The concrete shall be deposited either by bottom-discharging watertight containers or through funnel-shaped termite pipes which are kept continuously full with concrete in order to reduce to a minimum the contact of the concrete with the water. Special care shall be taken to avoid segregation.

If the level of concrete in a termite pipe is allowed to fall to such extent that the water enters the pipe, the latter shall be removed from the pour and filled with concrete before being again



lowered into the placing position. During and after concreting under water, pumping or dewatering in the immediate vicinity shall be suspended if there is any danger that such work will disturb the freshly placed concrete.

4.7 COMPACTION OF CONCRETE

Concrete shall be fully compacted throughout the full extent of the placed layer. It shall be thoroughly worked against the formwork and around any reinforcement and other embedded item, without displacing them. Care shall be taken at arises or other confined spaces. Successive layers of the same pour shall be thoroughly worked together.

Concrete shall be compacted with the assistance of mechanical of immersion vibrators, unless the Engineer agrees another method. Immersion and surface vibrators shall operate at a frequency of between 70 and 200 hertz. The Contractor shall ensure that vibrators are operated at pressures and voltages not less than those recommended by the manufacturer in order that the compactive effort is not reduced.

A sufficient number of vibrators shall be operated to enable the entire quantity of concrete being placed to be vibrated for the necessary period and, in addition, stand-by vibrators shall be available for instant use at each place where concrete is being placed.

Vibration shall be continued at each until the concrete ceases to contract, air bubbles have ceased to appear, and a thin layer of mortar has appeared on the surface. Vibrators shall not be used to move concrete laterally and shall be withdrawn slowly to prevent the formation of voids. The vibrators shall be inserted vertically into the concrete to penetrate the layer underneath at regular spacing which shall not exceed the distance from the vibrator over which vibration is visibly effective and some extent of vibration is overlapped. Vibration shall not be applied by way of reinforcement nor shall the vibrator be allowed to touch reinforcement, sheathing ducts or other embedded items.

4.8 CURING OF CONCRETE

Concrete shall be protected during the first stage of hardening from loss of moisture and from the development of temperatures differentials within the concrete sufficient to cause cracking. The methods used for curing shall not cause damage of any kind to the concrete. Curing shall be continued for as long as may be necessary to achieve the above objectives but not less than seven days or until the concrete is covered by successive construction whichever is the shorter period.

The curing process shall commence as soon as the concrete is hard enough to resist damage from the process. In the case of large areas or continuous pours, it shall commence on the completed Section of the pour before the rest of the pour is finished.

Exposed concrete surfaces shall be closely covered with impermeable sheeting, properly secured to prevent its removal by wind and the development of air spaces beneath it. Joints in the sheeting shall be lapped by at least 300 mm.

If it is not possible to use impermeable sheeting, the Contractor shall keep the exposed surfaces continuously wet by means of water spray or by covering with a water absorbent material which shall be kept wet.

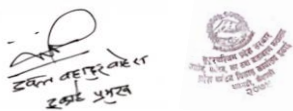
Water used for curing shall be of the same quality as that used for mixing. Formed surfaces may be cured by retaining the formwork in place for the required curing period.

If instructed by the Engineer, the Contractor shall, in addition to the curing provisions set out above provide a suitable form of shading to prevent the direct rays of the sun reaching the concrete surfaces for at least the first four days of the curing period.

4.9 MEASUREMENT AND PAYMENT

Concrete laid in place as specified in the Drawing or directed by the Engineer shall be measured in cubic meter separately for each class. No deduction shall be made in the measurement for:

- (a) Bolt holes, pockets, box outs and cast in components provided that the volume of each is less than 0.15 cubic meters;



(b) mortar beds, fillets, drips, rebates, recesses, grooves, chamfers and the like of 100 mm total width or less;

Payment of Concrete Works shall be made as per unit rate quoted in the bill of quantity of the contract.

4.10 REINFORCEMENT BARS

(1) General

Reinforcement as plain bars and deformed bars and steel fabric shall comply with the following Indian Standards.

IS 1786 for high strength deformed steel bars and wires.

IS 1566 for steel mesh fabric.

IS 432 mild steel and medium tensile steel bars.

All reinforcement shall be from an approved manufacturer and, if required by the Engineer, the Contractor shall submit the ISI certification mark or other test certificate from the manufacturer acceptable to the Engineer. The sampling and frequency of testing shall be as set out in the NS 84-2042 and NS 191-2045.

All reinforcement not complying with the Specification shall be removed from site.

(2) Storage of Reinforcement

All reinforcement shall be delivered to site either in straight lengths or cut and bent. No reinforcement shall be accepted in long lengths which have been transported bent over double.

Any reinforcement which is likely to remain in storage for a long period shall be protected from the weather so as to avoid corrosion and pitting. All reinforcement which has become corroded or pitted to an extent which, in the opinion of the Engineer, will affect its properties shall either be removed from site or may be tested for compliance with the appropriate Indian Standard in accordance with Sub-clause 4.14 (1) at the Contractor expense.

Reinforcement shall be stored at least 150 mm above the ground on clean area free of mud and dirt and sorted out according to category, quality and diameter.

(3) Bending and Fixing of Reinforcement

Unless otherwise shown on the Drawing, bending and cutting shall comply with IS 2052.

The Contractor shall satisfy himself as to the accuracy of any bar bending schedules supplied and shall be responsible for cutting, bending, and fixing the reinforcement in accordance with the Drawing.

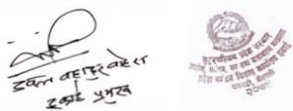
Bars shall be bent mechanically using appropriate bar benders. Bars shall be bent cold by the application of slow steady pressure. At temperature below 50°C the rate of bending shall be reduced if necessary to prevent fracture in the steel. Bending reinforcement inside the forms shall not be permitted except for mild steel bars of diameter less or equal to 12 mm, when it is absolutely necessary.

After bending, bars shall be securely tied together in bundles or groups and legibly labeled as set out in IS 2502. and other contaminants shall be removed before placing it in position. If the reinforcement is contaminated with concrete from previous operation, it shall be cleaned before concreting in that Section.

Reinforcement shall be securely placed and fixed in position as shown in the drawing or directed by the Engineer.

Unless otherwise agreed by the Engineer, all intersecting bars shall be either tied together with not less than 1.6 mm diameter soft annealed iron wire and the end of the wire turned into the body of the concrete, or shall be secured

with a wire clip of a type agreed by the Engineer. Spacer blocks shall be used for ensuring that the correct cover is maintained on the reinforcement. Blocks shall be as small as practicable and of a shape agreed by the Engineer. They shall be made of mortar mixed in the proportions of one part of cement to two parts of sand by weight. Wires cast into the block for tying in to the reinforcement shall have not less than 1.6 mm diameter and shall be soft annealed iron.



Alternatively, another type of spacer block may be used subjected to the Engineer's approval. All reinforcement shall be checked of shape, size, diameter and number where necessary. Reinforcement shall be rigidly fixed so that it remains intact during placing of concrete. Any fixers made to the formwork shall not remain within the space to be occupied by the concrete being placed.

No splices shall be made in the reinforcement except where it is shown on the Drawing or agreed by the Engineer. Splice lengths shall be as shown on the Drawing or directed by the Engineer.

Reinforcement shall not be welded except where required by the contract or agreed by the Engineer. If welding is employed, all welded splices shall be full penetration butt welds complying with the procedures set out in IS 2751 or IS 9417 as applicable. Mechanical splices shall not be used unless the Engineer agrees otherwise. Acceptance for welded or mechanical splices of approved design shall be based on qualification tests to be carried out by the Contractor prior to start of the work. Construction control testing as instructed by the Engineer shall be also carried out.

The Contractor shall ensure that reinforcement left exposed in the works shall not suffer distortion, displacement or other damage. When it is necessary to bend protruding reinforcement aside temporarily, the radius of the bend shall not be less than four times the bar diameter for mild steel bars of six times the bar diameter for high yield bars. Such bends shall be carefully straightened without leaving residual kinks or damaging the concrete round them before concrete placing. In no circumstances heating and bending of high yield bars shall be permitted.

(4) Measurement and Payment

All types of reinforcement shall be measured in metric ton or kilogram in the ranges from less than 8 mm, to above of 16mm. range.

Only that reinforcement which is required and placed in work as per Drawing or as directed by the Engineer shall be measured. Other reinforcement not shown on the Drawing or directed by the Engineer such as splices, chairs, cap lengths hangers and the like and the reinforcements not conforming to shape, size and length as shown on the Drawing or as directed by the Engineer shall not be measured. Rolling margin or cutting waste shall not be measured. Length along centre line of the individual reinforcement of each type placed as described above shall be measured including their hooks, and bents, if any. An average weight of at least 5 samples each one metre length shall be determined by the laboratory approved by the Engineer. The weight of each type of the reinforcement shall be determined by multiplying average weight of the respective reinforcement by its length.

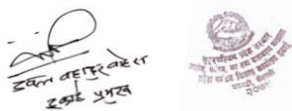
Payment of Reinforcement works shall be made as per unit rate quoted in the bill of quantity of the contract.

5. FORMWORK FOR CEMENT CONCRETE

5.1 DEFINITIONS AND GENERAL REQUIREMENTS

Formwork means the surface against which concrete is placed to form a face. All the immediate support necessary to retain the surface in position while concrete is placed, shall be treated an integral part of formwork. Falsework means the structural elements supporting both the formwork and the concrete until the concrete becomes self-supporting. A formed face is one which has been cast against formwork. An unformed surface means a horizontal or nearly horizontal surface which is not cast against form work. An exposed face is one which will remain visible when construction has been completed.

The Contractor shall be responsible for designing and construction falsework and formwork so that they will support the loads imposed on them by the fresh concrete together with additional stresses imposed by vibrating equipment and by construction traffic, and so that after the concrete has hardened the formed face shall be in the positions shown on the Drawing. Before construction begins, the Contractor shall submit to the Engineer Drawing showing



details of the proposed formwork and falsework in accordance with this Section and other relevant Section of these Specification.

5.2 CONSTRUCTION OF FORMWORK

Joints in formwork for exposed faces shall, unless otherwise specified, be evenly spaced and horizontal or vertical and shall be continuous in a regular pattern. All joints in formwork shall be water tight. Where reinforcement projects through formwork, the form shall fit closely round the bars. Formwork shall be so designed that it may be easily removed from the work without damage to the faces of the concrete. It shall also incorporate provisions for making minor adjustments in position, if required, to ensure the correct location of concrete faces. Due allowance shall be made in the position of all formwork for movement and settlement under the weight of fresh concrete. Surfaces at slopes less than 20o may be formed by screeding. Horizontal or inclined formwork to the upper surface of concrete shall be adequately secured against uplift due to the pressure of fresh concrete. Formwork shall also be tied down or otherwise secured against floating within the body of the concrete. The internal and external angles on concrete surfaces shall be formed with fillets and chamfers of the sizes shown on the Drawing unless otherwise instructed by the Engineer.

Supports for formwork may be bolted to previous placed concrete provide the type of bolt used is acceptable to the Engineer. If metal ties through the concrete are used in conjunction with bolts, the metal left in shall not be close to the face of the concrete by less than 50 mm. Formwork shall not be re-used after it has suffered damage which is sufficient to impair the finished surfaces of the concrete. Where circumstances prevent easy access within the form, temporary openings shall be provided through the formwork for cleaning and inspection.

Shear keys of the size and shape as indicated on the Drawing shall be provided in all construction joints. Where precast concrete elements are specified for use as permanent formwork, or proposed by the Contractor and agreed by the Engineer, they shall comply with the requirements of formwork as specified in the Specification in respect of surface finish, strength and rigidity. Such elements shall be set true to line and level within the tolerances prescribed for the appropriate class of finish and fixed so that they cannot move when concrete is placed against them.

5.3 PREPARATION OF FORMWORK

Before any reinforcement is placed into position within formwork, the latter shall be thoroughly cleaned and then dressed with a release agent. The agent shall be either a suitable oil incorporating a wetting agent, an emulsion of water suspended in oil or a low viscosity oil containing chemical agents. The Contractor shall not use an emulsion of oil suspended in water nor any release agent which causes staining or discoloration of the concrete, air holes on the concrete surface, or retards the set of the concrete or affects the strength of concrete. In order to avoid colour differences on adjacent concrete surfaces, only one type of release agent shall be used in any one section of the works. In cases where it is necessary to fix reinforcement before placing formwork, all surface preparation of formwork shall be carried out before it is placed into position. The Contractor shall not allow reinforcement or prestressing tendons to be contaminated with formwork release agent. Before placing concrete all dirt, construction debris and other foreign matter shall be removed completely from within the placing area. Before concrete placing commences, all wedges and other adjusting devices shall be secured against movement during concrete placing and the Contractor shall maintain a watch on the formwork during placing to ensure that no movement occurs. If any movement noticed, the formwork shall be set right immediately.

5.4 REMOVAL OF FORMWORK

Formwork shall be carefully removed without shock or disturbance to the concrete. No formwork shall be removed until the concrete has gained sufficient strength to withstand any stresses safely to which it may thereby be subjected. The minimum periods which shall elapse between completion of placing concrete and removal of forms as specified and apply to ambient temperatures higher than 10o C. At lower temperatures or if cement other than ordinary Portland are involved, the Engineer may instruct longer periods. Alternatively,

If the Contractor wishes to strip formwork from the underside of arches, beams and slabs before the expiry of the period for supports set out above, it shall be designed so that it can be removed without disturbing the supports.

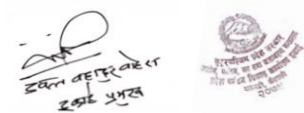
5.5 MEASUREMENT AND PAYMENT

6. FLOORING WORKS

6.1 CONCRETE FLOORING

(1) Materials:

Cement: Portland cement as per specification under “Concrete Work” Aggregate of 12mm nominal gauge shall be properly gauged. Sieving may be insisted upon in which case the contractor shall provide/ supply necessary sieves and labour at his own cost. Sand shall be clean inner bed.



Grain distribution shall be same as described under 'Plastering'.

(2) Proportion:

The concrete shall be either 1:2:4 mix or 1:4:8 mix or as specified in the drawing. All mix shall be batched by volume except cement, which shall be proportioned by weight and as specified.

(3) Mixing:

Mixing shall be done on a water tight platform. Material shall be dry mixed after accurately gauging different materials in wooden boxes. The dry mixture shall be turned over thrice (at least) till the colour is uniform and then twice while wet. Water shall be added gradually and no more than necessary to sufficiently wet the materials. Only that much concrete shall be mixed which can be used within half an hour. Each stock of dry mix shall not be larger than consuming one bag of cement. In case of machine mixing IS. Code shall be strictly followed and the mixing done under the supervision of the site In-charge.

(4) Preparation of Sub-grade

The sub-grade shall be cleared of all loose earth, rubbish, and other foreign matter. If necessary the sub-grade shall be cleaned with wire brushes. Cleaned sub-grade shall then be wetted with water thoroughly, but no water pool shall be allowed. Necessary slope shall be given in the sub-grade itself. If the sub-grade is of lean concrete the flooring shall be commenced within 48 hours.

(5) Placing

Concrete shall be laid in horizontal layers and gently rammed.

(6) Finishing

It shall be compacted first with wood float. The blows shall be fairly heavy but as consolidation takes place, light rapid strokes shall be given. Beating shall continue till all hollows in concrete are filled with mortar paste. Then the surface

shall be trawled till the moisture disappears. The surface shall be checked with straight edge. The surface must be uniform in color. Immediately after trawling, well mixed neat cement slurry mixed integrally with hardening liquid 2 liters to 50kg of cement shall be sprinkled in a uniform layer at the rate of 2.2kg. Per sq.m The cement slurry shall be trawled smooth with a steel float several times till approved finish is achieved. The surface shall be without the float marks or air holes. Sample of workmanship shall be got to approved prior to work.

(7) Curing

Curing shall not be commenced until the top layer has hardened. Hardened concrete shall be kept wet for 15 days. Covering with empty cement gunnies shall be avoided, as the colour is likely to be bleached with the remnants of cement matter from the bags

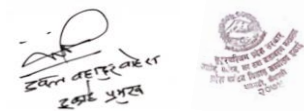
(8) Measurement and payment

It shall be measured in square meter for specified thickness measured from wall to wall exclusive of any finishing or as per instructions of Engineer. Unless otherwise stated in the schedule of quantities, nothing extra shall be admissible for small areas and corners and work in any shape. No deductions shall however, be made for protruding or independent columns occurring in the floors, doorframes embedded in floor or any other part out when the area does not exceed 0.1 m² for each. However, nothing extra shall be allowed for the cutting involved at such places. Payment for work will be made on the basis of contract unit price indicated in the BOQ. The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified

6.2 TILING

(1) Tiles:

The tile material for Glazed/Non-glazed Vitrified Porcelain (Granite Vitrificera- Vietnam, Portobello-Brazil or equivalent make)/Glazed/Non-glazed Ceramic tiles (Somany, Kajaria or equivalent make), shall confirm to IS:777(respective IS standards) or Equivalent approved by



the Engineer The tiles shall be of approved colour, size and shape or as shown in the drawings. And shall be laid to the pattern approved by the Engineer. The tiles shall be of uniform colour, true to size and shape and free from cracks, twists, uneven edges, crazing and other defects. all defective work shall be replaced and repaired to the satisfaction of the Engineer at the Contractor's expense.

(2) Grouting the Tile Joints

After tiles have been set firm and strings removed, the tiles shall be dampened and joints grouted full with a plastic mix of neat cement by trowel, brush or finger application. Unless otherwise directed, grout shall be white cement.

During grouting all excess grout shall be cleaned off the tile surface with damp cloth sponges the finished floor surface shall be true to required levels.

All tile work finishing shall be adequately protected from damage during the progress of construction till completion and any damage shall be repaired to the satisfaction of the Engineer at the Contractor's expense. Upon completion prior to final inspection and acceptance, the Contractor shall clean all tilework.

Acids or agents liable to damage the work shall be avoided. If tile surface show mass scratches, crack or other imperfections, which cannot be removed by cleaning; the new material at no additional expense. Sample of workmanship and tile grout proposed (silicone) shall be approved prior to execution of work.

(3) Measurement and payment

The measurement shall be in square meters of the work done including the setting mortar. The rate shall be for the material and labor, all complete. Payment for work will be made on the basis of contract unit price indicated in the BOQ. The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified

6.3 FLAG STONE PAVING

Flag stone of specified thickness shall be of uniform colour free from cracks and other defects. Each of the four edges shall be trimmed to four straight lines with right angle to other edge unless otherwise stated. The size of the flagstone as specified in drawings shall be variable in width and length with width ranging from 25 cm to 45cm. Thickness of the slab shall not exceed more than 75mm nor be less than 37.5 mm.

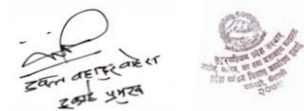
(1) Laying

Stone slab of specified thickness shall be laid on sand bed or 1:4 cement sand bed as specified in the drawings or by engineer. Joints shall be kept as thin as possible and shall not exceed 6mm and all the joints are pointed with 1:1 Cement sand mortar unless specified otherwise by engineer.

Laying shall start from one side in the slope as indicated in drawing or instruction. Under no circumstances shall the contractor insert small stone chips underneath the slab to raise its level to desired level. After the slabs of stone are laid, the mortar in the joints shall be raked to a depth of 12.5mm to 20mm. Joints flush pointed with 1:1 cement sand mortar. Special care shall be taken to protect the floor from walking over it before it is completely dry or in any event not earlier than 3days.

Sample of floor stone shall be produced before site In-charge for approval and the contractor shall procure only those stone slabs that clearly and definitely confirm with the approved sample. At any case, the procured slabs shall be exhibited before using as floor slab.

(2) Measurement and payment



It shall be measured in square meter for specified thickness. Payment for work will be made on the basis of contract unit price indicated in the BOQ. The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified

6.4 BRICK / STONE SOLING

(1) Material

The bricks to be used shall be durable and strong. The stones to be used shall be durable and angular in shape. If boulders are used, they shall be broken into angular pieces. The stones shall be sound, hard, and free from iron bands, spots, sand holes, flaws, shakes, cracks or other defects. Soling material shall be laid in the foundation as per drawing and instruction and shall be compacted.

(2) Measurement and payment

It shall be measured in cubic meter for the specified thickness. Payment for the soling work will be made on the basis of contract unit price indicated in the BOQ. The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified

6.5 STONE MASONRY

(1) Material

The stones to be used shall be durable and angular in shape. If boulders are used, they shall be broken into angular pieces. The stones shall be sound, hard, and free from iron bands, spots, sand holes, flaws, shakes, cracks or other defects. The stone shall not absorb water more than 5 per cent. The specific gravity of the stone shall not be less than 2.50. Except otherwise described in the contract, the length of any stone shall not exceed three times its height. The breadth of the stone on the bed shall not be less than 150 mm nor greater than $\frac{3}{4}$ the thickness of the wall. At least 85% of the stones used in masonry, except those used for chinking as chips or spalls of stones shall have individual volumes of more than 0.01 m³. The chips or spalls used (including voids) in the dry-stone masonry shall not be more than 20% of the stone masonry by volume. In case of mortared masonry, the total volume of mortar and spalls taken together shall not be more than 30% of the mortared masonry. Representative samples of the stones intended for use in the works shall be submitted to the Engineer for prior approval. Further representative samples shall be submitted for approval whenever there is a change in the type or strength of the rock that the Contractor intends to use in masonry work.

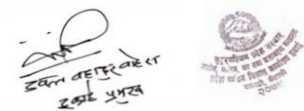
Mortar

Mortar shall comply with IS 2250-1981; Code of Practice for preparation and use of masonry mortar. The mortar used in work shall have the strength not less than 5 N/mm² or 7.5 N/mm² at 28 days as specified.

However, if provided in the Contract, cement and sand may also be mixed in specified proportions. Cement shall be proportioned only by weight, by taking its unit weight as 1.44 ton per cubic meter and sand shall be proportioned by volume after making due allowance for bulking.

The mixing shall be done in a mechanical mixer unless hand-mixing is permitted by the Engineer. If hand-mixing is allowed, the operation shall be carried out on a clear water tight platform. In the required proportion cement and sand shall be first mixed dry to obtain a uniform colour. Then required quantity of water shall be added and the mortar shall be mixed to produce workable consistency. The mortar shall be mixed for at least three minutes after addition of water in the case of mechanical mixing. In the case of hand mixing, the mortar shall be hoed back and forth for about 10 minutes after addition of water in order to obtain uniform consistency.

Only that quantity of mortar shall be mixed at a time which can be used completely before it becomes unworkable. Any mortar that has become unworkable due to loss of water before



elapsing the initial setting time of cement shall be rewet to make it workable and shall be used in the works. On no account mortar shall be used after elapsing the initial setting time of cement.

(2) Construction

The method of construction described herein shall hold well in all Clauses of Section, wherever applicable.

General

Construction shall be carried out in accordance with I.S. 1597-1992, Code of Practice for construction of stone masonry, Part 1 Rubble stone masonry or Part 2 Ashlar Masonry as appropriate. All stratified stone possessing bedding planes shall be laid with its natural bed as nearly as possible at right angles to the direction of load. In the case of arch rings, the natural bed shall be radial. Face work groins shall be built to a height not exceeding one meter in advance of the main body of the work and adjacent walling stepped down on either side. Masonry face work between the groins shall then be built to a height not exceeding 500 mm above the backing which shall then be brought up level with the completed face work. At no time shall the backing be built up higher than the face work.

Except for dry rubble walling, all joints (gaps) shall be sufficiently thick to prevent stone to stone contact and the gaps shall be completely filled with mortar. Stones shall be clean and sufficiently wetted before laying to prevent absorption of water from mortar. Placing loose mortar on the course and pouring water upon it to fill the gaps in stones shall not be allowed. Mortar shall be fluid, mixed thoroughly and then poured in the joints. No dry or hollow space shall be left anywhere in the masonry and each stone shall have all its faces completely covered with mortar of the thickness as specified for joints.

The bed which is to receive the stone shall be cleaned, wetted and covered with a layer of fresh mortar. All stones shall be laid full in mortar both in bed and vertical joints and settled carefully in place with a wooden mallet immediately after placement and solidly embedded in mortar before it has set. Clean and wet chips and spalls shall be wedged into the mortar joints and bed whenever necessary to avoid thick joints or bed of mortar. When the foundation masonry is laid directly on rock, the bedding face of the stones of the first course shall be dressed to fit into rock snugly when pressed down in the mortar bedding over the rock. For masonry works over rock, a levelling course of M15/40 or M15/20 concrete 100mm thickness shall be laid over rock and then stone masonry work shall be laid without foundation concrete block.

In case, any stone already set in mortar is disturbed or the joints broken, it shall be taken out without disturbing the adjoining stones and joints. Dry mortar and stones thoroughly cleaned from the joints and the stones shall be reset in fresh mortar. Sliding one stone on top of another which is freshly laid shall not be allowed.

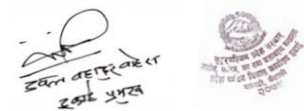
Shaping and dressing of stone shall be done before it is laid in the work. Dressing and hammering of the laid stones which will loosen the masonry shall not be allowed.

Building up face wall tied with occasional through stones and filling up the middle with stones spalls and chips or dry packing shall not be allowed. Vertical joints shall be staggered. Distance between the nearer vertical joints of upper layer and lower layer in coursed rubble masonry shall not be less than half the height of the course. Masonry in a structure between two expansion joints shall be carried up nearly at one uniform level throughout but when breaks are unavoidable the masonry shall be raked insufficiently long steps to facilitate jointing of old and new work. The stepping of raking shall not be more than 45 degrees with the horizontal. Masonry shall not be laid when the air temperature in the shade is less than 3°C. Newly laid masonry shall be protected from the harmful effects of weather.

Dry Random Rubble

Dry random rubble masonry shall be constructed generally to the requirements of coursed random rubble masonry but with the omission of mortar. All stones shall be carefully shaped to obtain as close as fit as possible at all beds and joints, any interstices between the stones being filled with selected stone spalls. The stones in courses shall be laid perpendicular to the batter face. The exposed tops or capping of dry rubble structures shall be formed as shown on the Drawing.

(3) Test and Standard of Acceptance



Before laying any mortar, the Contractor shall make six sets of mortar test cubes from each source of sand to demonstrate the compliance of the mix to the specified strength. Each set shall comprise six cubes, three to be tested at 7 days and the other to be tested at 28 days. During construction, the Contractor shall make and test mortar cubes at the rate of three cubes for every 10m³ of masonry to assess the strength subject to a minimum of 3 cubes samples for a days work. Testing of cubes shall be in accordance with IS 2250. The stones shall be tested for the water absorption as per IS: 1124 and it shall not be more than 5 percent. The stones shall also be tested for Specification gravity and it shall not be less than 2.65. Sand shall be tested as directed by the Engineer. At least 3 set of tests for stone and sand shall be conducted for every source.

About one square meter (1mx1m) measured in front face of the completed stone masonry in every 200 sq.m or part of it shall be dismantled during the process of construction up to complete depth and the aggregate volume of the stones having volume more than 0.01m³ shall be obtained by the method of displacement of water to find the volume of spalls and mortars in the case of mortared masonry and the volume of spalls and voids in the case of dry masonry. The dismantling shall be made in such a manner that the quality of the surrounding work is least affected. While dismantling, the tightness of the joints shall also be compared with the thickness of joints as specified for assessment of the quality of work. If the volume of spalls and mortars is more than the specified volume and/or the joints are not filled completely with mortar, then the entire work which the sample and test represent shall be rejected. The dismantled portion shall be made good by the Contractor at his own cost after completion of the test.

(4) Measurement and Payment

Stone masonry work (dry-wall or mortared wall) actually executed shall be measured in cubic meter and shall be paid at the respective contract unit prices which shall be the full and the final compensation to the Contractor.

6.6 SAND FILLING

Sand filling in floor shall be done with proper ramming in 23mm layers, after sprinkling with water and consolidating. Sand shall be free from rubbish, organic materials etc. Particular care shall be exercised not to dump sand in space between foundation trench and inside face of the masonry.

Measurement of sand filling work shall be in cum. Sand filling work shall be **paid** at the unit rate specified in the BOQ of the contract.

7. WOOD WORKS

7.1 SCOPE

This Section covers timber construction and doors and windows works at locations as shown in the Drawing. The woodwork specified herein may not be relevant for the temporary facilities like formworks (centering and shuttering).

7.2 MATERIALS

(1) Timber

Timber (sal wood) used for timber construction, doors and windows works shall be straight and free from twist, sapwood, shakes, dead and loose knots, worm holes, other holes, signs of decay and other defects, and seasoned and shall comply with the requirements of IS: 883 The Engineer shall inspect and stamp each timber to be used as structural members. The natural moisture content of any untreated timber delivered to site shall not exceed those as recommended by IS: 287. When timber is specified as unsawn it shall be cut above the ground swell and shall taper from butt to tip. A straight line drawn from the center of the tip to the centre of the butt shall not fall outside the center line of the piece at any point more than 1% of the

Timber species (sal wood) for the manufacture of specified door and window shutters shall have adequate strength, weight, retention of shape, ease of working, finish smooth and shall be sufficiently durable and/or treatable and shall have excellent appearance and figure and show good gloss after polishing. Timber species (sal wood) for the manufacture of specified door and window frames shall have adequate strength, weight, retention of shape, finish smooth and shall be sufficiently durable and/or treatable.

Hardware used for timber construction, doors and windows shall consist of bolts, with the necessary nuts and washers, timber connectors, drift pins, dowels, nails, screw nails, coach bolts, spikes, handles, holdfast, hinge, different lock, spring and other metal fasteners. They shall be galvanized or ungalvanized as specified. Bolts, nuts and washers shall be mild steel and comply with IS: 1363. Timber connector shall be of the type shown on the Drawing. Drift Pins and dowels shall be mild steel. Nails shall comply with IS: 723. Screw nails and screws shall comply with IS: 451/IS: 2585. Coach bolts shall comply with IS: 2609. Spikes, handles, holdfast, hinge, spring, different locks and other metal fastenings shall be of mild steel.

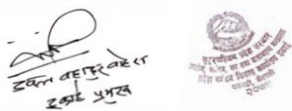
When described in the contract or shown on the Drawing timber shall be treated with preservative in accordance with the Indian Standard Code of Practice for the preservation of timber IS: 401.

When described in the contract or shown on the Drawing, all hardware shall be galvanized in accordance with the Indian Standard Recommended Practice for Hot-Dip Galvanizing of Iron and Steel: IS: 2629 and IS: 1367 Part 13: Hot Dip Galvanized Coating on threaded Fasteners. The Engineer may require galvanized hardware to be tested in accordance with IS: 2633.

Plywood shall be commercial or teak plywood as specified in contract or shown on the drawing. The faces of the plywood panels shall be smooth with uniform thickness within the tolerance limit of $\pm 10\%$. The moisture content of one test piece cut from each panel when determined as per IS 1734 (Part 1) shall not be less than 5 % and not more than 15 %. Plywood shall have adequate tensile strength and resistance to microorganisms.

Sunmica/Formica or laminate which is made by layering multiple sheets of resin-impregnated kraft paper together bonded under high heat and pressure shall be used for making shutters as specified in the contract or on the drawing. Its top layer shall be typically a decorative paper with various patterns, colors, and textures, while the bottom layers provide strength and stability. Sunmica and Formica to be used shall have adequate resistance to surface wear and surface blow.

Glasses of various thickness as specified in contract or on drawing shall be used for Doors, Shutters and Windows Frames. Glasses to be used for doors and windows shall be Heat strengthened glass having the surface compressive stress to be greater than 24 MPa but less than 52 MPa and Ultimate design strength (*py*) under short-term load duration shall not be less than 40 MPa. Its temperature resistivity should not be less than 100° Celsius.



(8) Aluminum Doors and Window frames and shutters

Aluminum Doors and Windows frames and shutters shall be fabricated in different sizes as specified in contract and on the drawings. Extruded aluminum components shall be manufactured from aluminum alloy B 6063 - T5. The lining to louver panels shall be 1.0 mm thick sheet aluminum powdered as specified. Hardware and hinges shall be as approved by the Engineer. Aluminum work shall be fabricated in accordance with the prevalent practice among the local Manufacturers and as per drawings showing jointing details, hardware and extrusion profiles. Contractor shall be liable to ensure that all fabricated aluminum work is carried out in accordance with contract and the drawings.

A thick layer of clear transparent lacquer based on methacrylate or cellulose butyrate, shall be applied on aluminum doors, windows by the suppliers/contractors to protect the surface from wet cement during installation. This lacquer coating shall be removed after installation is completed.

The sizes for door. Window or ventilator frames shall not vary by more than ± 1.5 mm as per IS code: 1948-1961. Main members shall be of such strength that a wind pressure of 1.16 kPa shall cause a deflection of not more than $1/240$ of the span of the member.

No permanent deflection shall result from such conditions of loading. Fixing to members shall be such that the above loading shall be generated in the members without sufficient stress to cause failure or movement to be evident at any joint. The Contractor shall take full responsibility that all fabricated aluminium work shall comply with the above conditions. Load bearing brackets shall be manufactured from 40 x 6 mm. mild steel bent to shape, hot dipped galvanized, bitumen coated only on surfaces coming in contact with aluminium and spaced at not more than 500 mm. centers. Load bearing brackets shall be fabricated and fixed as per drawings and direction of Engineer.

Vertical and horizontal expansion joints shall be so designed as to cover all weather conditions likely to be encountered on the site. All flashing required to be built in as the work proceeds shall be supplied by the contractor and built in by the trade concerned. All other flashing as detailed on the drawings shall be supplied and fixed in position contractor. The aluminium door, window, frames shall be installed in position and fixed rigidly in the wall, columns with metal grips confirming ISI and stainless-steel screws of dia. 6 - 8 mm. The spacing of grips shall be kept at 600mm. Approved British weather piles seals shall be metal backed, siliconized, of the required size called for.

(9) Others

The material used for other works like GI Flush Shutter, Mosquito proof GI net, Steel bar in window frame, etc shall be as per this specification and other relevant specification under this specification.

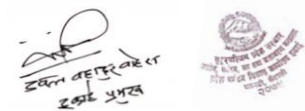
7.3 CONSTRUCTION OF TIMBER WORKS

(1) Handling and Storage of Materials

Timber shall be stored in piles at the site unless it is to be immediately incorporated in the structure. It shall be stacked so as to allow free air circulation and inspection on skids above the ground and standing water. It shall be protected from the sun to prevent warping. It shall be handled in a manner that will avoid injury or breakage. Treated timber shall be handled with rope slings. Cant hooks or other sharp instruments shall not be used. Undue injury during handling will be cause for rejection. Flashing, hardware, preservatives and other material shall be stored under cover in such a manner as to obviate deterioration.

(2) Framing

All timber shall be accurately cut and framed to a close fit and shall have even bearing over the entire contact surfaces. No shimming shall be permitted in making joints. Holes for drift pins and dowels in untreated timber shall be bored with a bit 1.5 mm less in diameter than the pin or dowel. Holes for drift pins and dowels in treated timber shall be bored to the same diameter as the pin or dowel. Holes in small timbers for spikes may be bored with a bit with the same diameter as the smaller end of the spike, when necessary to prevent splitting. All bolts shall be fitted with washers. Ground sills shall be firmly and evenly bedded in solid material. Posts shall



be framed true and have full even bearing on the sills, caps shall be framed true and have full bearing on the posts or piles. Bents shall be properly aligned before bracing is placed. The minimum distance between the outside bolt and the end of any brace shall be 200 mm. In placing beams and/or stringers for bridge decks the better edge shall be place downwards.

The top of beams and stringers after placing shall not vary from a plane more than that will permit bearing of the superstructure timber on all the beams and/or stringers. Kerbs and railings shall be accurately framed and aligned so that on completion they present a smooth visual line vertically and horizontally. Floor planks shall be laid such that no joints will occur over any one stringer or beam close than every third plank. No planks other than required to fill out skews, shall be less than 2 meters in length and at least 50% of the planks shall be 5 metres or more in length. Close boarded floor planks shall be laid longitudinally breaking joint by at least 600 mm. They shall be secured in place by barbed nails, screws or coach bolts as shown on the Drawing, or described in the contract. These fastenings shall be spaced at not more than 250 mm and be staggered. Two fasteners shall be placed at each end of each plank.

7.4 TESTS AND STANDARDS OF ACCEPTANCE

The materials shall be tested in accordance with the relevant standards specified and shall meet the prescribed criteria. The Contractor shall furnish necessary test certificates as required by the Engineer

The work shall conform to these Specifications and shall be to the true lines, levels and dimensions as indicated on the Drawing or as directed by the Engineer.

7.5 MEASUREMNT AND PAYMENT

Depending upon the nature of work, the quantities of different works shall be measured in numbers, in the units of weight or volume or area or length as specified in the contract. The quantities of different works measured shall be paid at the contract unit rate applicable for the particular type of work. The Contract unit rate shall be the full and the final payment to the Contractor to complete the work as per these Specifications.

8. PLASTER WORK

8.1 SCOPE

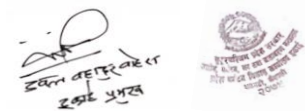
This section covers the cement plastering works, cement punning works and pointing works also if necessary.

8.2 PLASTERING WORKS AND PUNNING WORKS

Plastering shall be started from top and worked down. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. Wooden screeds 75 mm wide and of the thickness of the plaster shall be fixed vertically 2.5 to 4 meters apart to act as gauges and guides in applying the plaster. The mortar shall be laid on the wall between the screeds using the plaster's float and pressing the mortar so that the raked joints are properly filled. The plaster shall then be finished off with a wooden straight edge reaching across the screeds. The straight edge shall be worked on the screeds with a small upward and sideways motion 50 mm or 75 mm at a time.

Finally, the surface shall be finished off with a plaster's wooden float. Metal floats shall not be used. When recommencing the plastering beyond the work suspended earlier the edges of the old plaster shall be scraped, cleaned and wetted before plaster is applied to the adjacent areas. No portion of the surface shall be left out in a condition to be patched up later on.

The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required by the Engineer. The average thickness of plaster shall not be less



than the specified thickness. The minimum Thickness over any portion of the surface shall not be less than the specified thickness minus 3 mm.

Any cracks which appear in the surface and all portions, which sound hollow when tapped, or are found to be soft or otherwise defective, shall be cut out in rectangular shape and re-done as directed by the Engineer.

The surface to be plastered shall be brushed clean mortar joints of brick masonry or hollow concrete walls or any other surface to be plastered shall be raked to a depth of approximately 12mm, and the surface brushed down with a stiff brush and thoroughly wetted. The surface shall be free of all dust, loose materials, grease etc. The mortar shall be first dry mixed, by measuring with boxes to required proportion, and then water added slowly and gradually and mixed thoroughly to uniform consistency. The thickness of the plaster shall not be less than 12 mm not more than 20mm. In case of plaster thicker than 20mm, it shall be built by two or more coats each coat not exceeding 12mm in thickness.

Cement shall be as specified above. Sand shall be as before specified but shall be graded to a suitable fineness in accordance with the nature of the plaster, etc., in order to obtain the finish required. All other mixes shall be constructed in a like manner. Moist curing shall be accomplished by keeping the plaster uniformly damp by suitable means. Moist curing shall start during application and continue for not less than 7 days. Screeds shall be in cement and sand (1:4) and rates shall include for thoroughly hacking, cleaning and soaking the receiving structure in water. No creed shall be laid on a dry structure in any circumstances.

Where changes of floor finish occur, they shall be divided by strips as specified. The Contractor's special attention is drawn to the fact that all screeds, immediately after the initial set has taken place, will be required to be continuously covered in water by the sand trap or other approved method for at least 10 days. Any screed panel that is found to be dry before the end of this period shall be removed at the discretion of the Project Engineer. Waterproofed external rendering shall consist of minimum 12mm cement and sand (1:4) rendering at the rate of 2.05 litre to 41 kgs of cement all in accordance with the manufacturer's instructions and finished perfectly true and even with a wood float.

- External Plastering and Rendering:

External Plaster work of building walls shall consist of minimum 20 mm thickness as detailed in the Bill of Quantity with cement/ sand ratio 1:3 with racking of the joints and complete curing work.

- Internal Plastering and Rendering:

Internal Plastering work shall consist of minimum 12.5mm thickness as detailed in the Bill of Quantities with cement/ sand ratio 1:4 with racking of the joints and complete curing work.

Flush rulled pointing on rubble stone masonry surface shall be carried out in Cement sand plaster (1:2) of good finish including racking the joints, wetting the surface and curing the work. The finished rulled pointing work should be even.

Thickness of cement sand (1:1) punning shall not be less than 3 mm laid over the finished concrete surface. The finished surface of the punning work shall be smooth after required curing.

8.3 MEASUREMENT AND PAYMENT

Measurement of plastering, punning and pointing works will be made in m² of works executed as specified in BOQ. Payment for works shall be made on the basis of contract unit price indicated in the BOQ. The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified.

9.1 SCOPE OF WORK

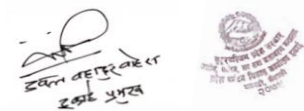
9.2 GENERAL

9.3 MATERIALS AND PAINTING WORKS

Materials:

Pigments – Pigments if required to be used in painting shall be blue vitriol. Blue vitriol shall be fresh crystals of hydrous copper sulphate (blue vitriol) conforming to IS: 261-19667 and shall be grounded to fine powder during use.

Application of whitewash:



Whitewash shall be applied with suitable brush to the number of coats specified in the contract or on the drawing. The operation for each coat shall consist of a stroke of the brush given from the top downwards, another from the bottom upwards over the first stroke, and similarly one stroke horizontally from the right and another from the left before it dries. Each coat shall be allowed to dry before the next coat is applied. No portion of the surface shall be left out initially to be patched up later on. The brush shall be dipped in whitewash pressed lightly against the wall of the container, and then applied by lightly pressing against the surface with full swing of hand. The whitewashing on ceiling should be done prior to that on walls.

For new surface, generally minimum two coats shall be applied so that the surface presents a smooth and uniform finish through which the plaster does not show. However, it can be one coat or three coats either depending upon the condition of the surfaces to be whitewashed. The finished dry surface shall not show any signs of cracking and peeling and the whitewash shall not come off readily on the hand, when rubbed.

For old surface, after the surface has been prepared, a coat of whitewash shall be applied over the patches and repairs first. After that one coat of whitewash shall be applied thoroughly. If required and mentioned in contract or on the drawing, two or more coats of whitewash may be applied over the entire surface. The whitewashed surface shall present a uniform finish through which the plaster patches do not show.

(2) Distemper

Material

The material shall be in the form of a fine dry, homogeneous powder free from odour of putrefaction as such and when mixed with water. The material shall consist of suitable pigments, extenders lime-proof tinters, water-soluble binders and preservatives mixed in suitable proportions to comply with the requirements of IS427:2005. The material, when mixed with an adequate quantity of water, shall comply with requirements as given in IS 427:2005.

Preparation of surface:

a. New Surface Preparation:

If the surface is newly plastered surface, it shall be allowed to cure completely. And then allowed to dry such that entire moisture get dried completely. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using wire brush or putty knife. After that, the whole surface shall be wiped off using a dry cloth.

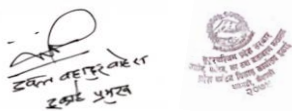
b. Old Surface Preparation:

If the distemper is to be applied on the existing painted surface, the loose particles, dust, dirt, grease, wax, mortar droppings, growth of fungus, algae, dampness, etc. shall be removed first with the help of a putty knife or wire brush. The surface shall be thoroughly rubbed with sandpaper. After that, the entire surface shall be washed and allowed to dry fully. The holes and cracks (upto 3 mm) shall be filled with the putty and allowed for hardening. The wall shall be made smooth with the use of sandpaper. Finally, the dust shall be wiped off with dry cloth.

Application of distemper:

Distemper can be applied as Base / Lining (Astar) Coat or Single coat or two coat or more than two coat depending upon the nature of the surface, finished surface desired as specified in the contract or on the drawing. Wall putty may be applied if required, before the application of base coat / primer coat. The primer coat/base coat is applied to ensure a good bond between distemper paint and the surface and create a better finish. Primer coat provides the foundation for the paint job and increases the coverage of the paint.

The material (paint) shall be diluted as per the dilution ratio recommended by the manufacturer. The material after thinning shall be suitable for application by brush or a roller. After the application of base coat/primer coat, the first coat of distemper paint as specified shall be applied with the help of a brush or a roller. The painted surface shall be left to dry. After the drying of the first coat of distemper paint, the second coat as specified shall be applied and surface allowed to dry overnight. After finishing the application of distemper paint, the surface shall be prevented from any dirty materials. The resulting painted surface shall be smooth and uniform and give a fresh new look.



(3) Water Proof Cement Paint

Materials:

Water proofing cement shall be of Nerolac, Burger, Asian Paints or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins.

Application:

Water proof cement paint shall be applied in single (one) coat or double (two) coats as mentioned in the contract or on the drawing. Before painting is commenced on surface, all dirt and foreign matters shall be completely removed. The surface shall be wetted by sprinkling water with a fine spray. The surface shall be sprayed several times with a few minutes intervals between each spraying to allow the moisture to soak into the surface. Paint shall be applied on the cleaned surface with a hair brush or a roller. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

A vertical stroke with another horizontal stroke of painting shall be termed as one coat. Paint shall be applied to the surface with hair brushes in a number of coats as specified to get uniform finish. After the first coat of the paint has hardened, it shall be cured with water at least for 24 hours before the second coat is applied. Second coat shall be applied over the first coat and finished smooth and uniform surface shall be kept damp at least for seven days.

(4) Readymade Enamel Paint

Materials

The Enamel paints shall be of Nerolac, Burger, Asian Paints or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins.

Preparation of surface

All surfaces shall be thoroughly planed and sand papered. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using wire brush or putty knife.

Application

Enamel paint shall be applied as Base / Lining (Astar) Coat, single coat (first coat only) or two coats (first and second coat) as mentioned in the contract or on the drawing. After preparing the surface and after the priming coat has been applied a top coat (single coat) as specified shall be applied. Another coat (Second coat) as specified shall be applied after the previous coat (first coat) is dry. Care should be taken that dust or other foreign materials do not settle as they will disfigure the painted surface.

The same brand of materials will be used for various coats. The paints shall be used and applied as per manufacturer's printed instruction and direction of the Engineer. The paint shall be applied with bristle brushes and not horse hair ones. The paints shall be applied in the thinnest possible layers with parallel drawings. No flowing down shall be allowed. Painting to false ceiling and acoustic tile, soft board etc. shall be done by spray painting only. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(5) Plastic Emulsion Paint

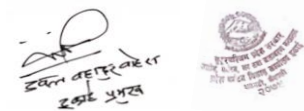
Materials

Acrylic coat plastic emulsion shall be of Nerolac, Burger, Asian Paints or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins.

The material shall consists of pigments and if required suitable extenders in appropriate proportion in a medium consisting of any stable synthetic polymer emulsion in water with other suitable ingredients as may be necessary to produce a material so as to satisfy the requirements of the code IS15489:2004.

The material shall be free from odour of putrefaction. It shall be free from lumps, skins and the conditions of the material shall be such that settling, if any, maybe easily incorporated on stirring.

When suitably thinned with water, the material shall mix readily with minimum amount of foaming to a smooth and homogeneous state. The foaming, if any, shall dissipate rapidly. The



material after recommended thinning shall be suitable for application by brush, spray or roller. The resulting film shall not show pigment flocculation, coarseness or other undesirable characteristics.

Application

Plastic Emulsion paint shall be applied as Base / Lining (Astar) Coat, single coat (first coat only) or two coats (first and second coat) as mentioned in the contract or on the drawing. Before application of plastic emulsion paint, all surfaces shall be thoroughly planed and sand papered. Knotting and stopping as required shall be attended. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using wire brush or putty knife.

After preparing the surface and after the priming coat has been applied a top coat (single coat) as specified shall be applied. Another coat (Second coat) as specified shall be applied after the previous coat (first coat) is dry. Care should be taken that dust or other foreign materials do not settle as they will disfigure the painted surface.

The same brand of materials will be used for various coats. The paints shall be used and applied as per manufacturer's printed instruction and direction of the Engineer. The paint shall be applied with brush, spray or roller. The paints shall be applied in the thinnest possible layers with parallel drawings. No flowing down shall be allowed. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(6) Aluminum Paint

Materials

Aluminum Paint shall be of Nerolac, Burger, Asian Paints or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer.

The materials shall be sealed in tins.

Application

Aluminum paint shall be applied as Base / Lining (Astar) Coat, single coat excluding astar, two coats excluding astar or two coats including astar as mentioned in the contract or on the drawing. Before application of aluminum paint, all surfaces shall be thoroughly planed and sand papered. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using wire brush or putty knife.

After preparing the surface, the base/astar primer coat shall be applied as specified in the contract. After the priming coat has been applied a top coat (single coat) as specified shall be applied. Another coat (Second coat) as specified shall be applied after the previous coat (first coat) is dry. Care should be taken that dust or other foreign materials do not settle as they will disfigure the painted surface.

The same brand of materials will be used throughout the painting process. The paints shall be used and applied as per manufacturer's printed instruction and direction of the Engineer. The paint shall be applied with brush, roller or spray as the case may be applicable. The paints shall be applied in the thinnest possible layers with parallel drawings. No flowing down shall be allowed. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

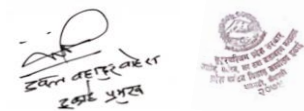
(7) Double boiled linseed oil

Materials:

Double boiled linseed oil shall be of Pure Tung Oil (manufactured in China), Watco Danish Oil, Behlen's Boiled Linseed Oil (both manufactured in USA) or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins. It shall be clear and free from sediment and other insoluble matter.

Application:

Double boiled linseed oil can be used on wood surfaces, or metal for rust prevention, water repellence, as a lubricant or a sealer. Double boiled linseed oil shall be applied as single coat or Second coat or additional coats as mentioned in the contract or on the drawing. Before application of double boiled linseed oil, all surfaces shall be thoroughly planed and sand papered. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using appropriate brush or wire brush.



The oil shall be applied in layers (one layer or two layers or more than two layers) as required by the contract using cloth or brush. The previous layer shall be allowed to dry for at least 6 hours before placing another layer. The surface shall be made smooth by using sandpaper between layers. . The resulting oiled surface shall be smooth and uniform and give a fresh new look. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(8) Varnish

Materials:

Varnish shall be of Berger, Asian paints, Nippon, Shalimar or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins. The material shall be clear, transparent and free from foreign matter, sediment and undissolved water. It shall have required resistance to water when tasted as per IS: 101-1964.

Application:

Varnish can be used on wood surfaces as water repellence, a lubricant or a sealer. Varnish shall be applied as single coat or Second coat or additional coats as mentioned in the contract or on the drawing. Before application of Varnish, all surfaces shall be thoroughly planed and sand papered. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using appropriate brush or sandpaper.

The varnish shall be thoroughly stirred using a stir stick or a wooden dowel. Due care shall be taken to avoid shaking the container vigorously as it can introduce air bubbles which are not desirable. The varnish shall be applied in layers (one layer or two layers or more than two layers) as required by the contract using high-quality brush specifically designed for varnish application. The previous layer shall be allowed to dry sufficiently before placing another layer. The surface shall be made smooth by using sandpaper and soft cloth between layers. The resulting finished surface shall be smooth and uniform and give a pleasant look. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(9) Bitumen paint

Materials:

Bitumen paint shall be of Asian paints or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins. The material shall be adequately flexible and elastic having water proofing, corrosion protecting and adhesive characteristics.

Application:

Bitumen paint can be used on roof as water proofing material and even on the metal surface to create protective coating. Bitumen paint shall be applied as single coat or Second coat or additional coats as mentioned in the contract or on the drawing. Before application of bituminous paint, all surfaces shall be thoroughly cleaned. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using appropriate brush or sandpaper.

The bituminous paint shall be thoroughly stirred using a stir stick or a paint mixer to ensure a consistent mixture and proper application. The bituminous paint shall be applied in layers (one layer or two layers or more than two layers) as required by the contract using brush, roller, or spray gun.

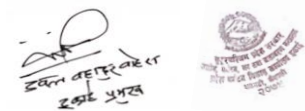
The previous layer shall be allowed to dry sufficiently before placing another layer. The surface shall be made smooth by using sandpaper and soft cloth between layers. The resulting finished surface shall be smooth and uniform and give a pleasant look. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(10) Chapra (Resin) Polish

Materials

The material required for Chapra polish shall be Chapra, Ramtilak, Sprit, Geru, sand paper, color, shining polish, etc. as specified in contract or on the drawing.

Preparation of surface



Chapra polish is generally applied on wood works such as wooden parqueting, wooden railings, wooden furniture, wooden cupboards, wooden doors and windows, frames and shutters, etc. All surfaces, where polish is to be applied shall be thoroughly planed and sand papered. Knotting and stopping as required shall be attended. The loose particles, dust, dirt, grease, wax, mortar dropping, etc. shall be removed using appropriate brush or sandpaper.

Application

After applying the priming coat on the prepared surface, a topcoat shall be applied. It shall be allowed sufficiently to get dry. Following coats as required and specified in contract shall be applied when the previous coat is completely dry. Due care should be taken that dust or other foreign materials do not settle on the painted surface as they will disfigure the painting. The finished surface shall be smooth, pleasant and glowing/shining to the satisfaction of the Engineer. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(11) Red oxide paint

Materials

Red oxide paint shall be of Berger, Asian paints, Shalimar or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials shall be sealed in tins.

Preparation of surface

Red oxide paint is generally applied on metals to protect them from rusting. The surface to be painted shall be clean, dry, and free from dust, grease, rust, and other contaminants. Any loose paint or rust shall be removed using wire brushing or sanding.

Application

Red oxide paint shall be applied as single coat or double coat as mentioned in the contract or on the drawing. The red oxide paint shall be thoroughly stirred to ensure uniform consistency. If the paint has separated or settled, it shall be mixed well using a stir stick or a paint mixer. After applying the priming coat, if required and specified in the contract, on the prepared surface, a topcoat shall be applied using high-quality brush, roller, or spray equipment. It shall be allowed sufficiently to get dry. Following coats as required and specified in contract shall be applied when the previous coat is completely dry. Due care should be taken that dust or other foreign materials do not settle on the painted surface as they will disfigure the painting. The finished surface shall be smooth, protective and agreeable to the satisfaction of the Engineer. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(12) Cement paint

Materials:

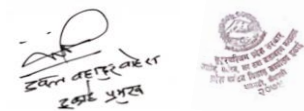
Cement paint shall be of different brands or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials are found sealed in sacks.

Application:

Cement paint shall be applied in single (one) coat or double (two) coats as mentioned in the contract or on the drawing. Before painting is commenced on surface, all dirt and foreign matters shall be completely removed. The surface shall be wetted by sprinkling water with a fine spray. The surface shall be sprayed several times with a few minutes intervals between each spraying to allow the moisture to soak into the surface. Paint shall be applied on the cleaned surface with an appropriate brush or a roller. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

A vertical stroke with another horizontal stroke of painting shall be termed as one coat. Paint shall be applied to the surface with hair brushes in a number of coats as specified to get uniform finish. After the first coat of the paint has hardened, it shall be cured with water at least for 24 hours before the second coat is applied. Second coat shall be applied over the first coat and finished smooth and uniform surface shall be kept damp at least for seven days.

(13) Plastic Felt

**General:**

Plastic felt, also known as synthetic roofing underlayment or synthetic roofing felt, is a synthetic material used as an alternative to traditional roofing felt. It provides waterproofing and protection for roofs during construction or as an additional layer under roofing materials.

Materials:

Plastic Felt shall be of different brands or any other equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The materials are found in rolls.

Application:

Plastic felt shall be applied in single (one) layer or double (two) layers as mentioned in the contract or on the drawing. Before laying plastic felt on surface, all dirt and foreign matters shall be completely removed. The surface shall be cleaned with brush and by sprinkling water with a fine spray. Plastic felt shall be spread over the cleaned surface with due over lapping. The plastic felt shall be secured to the roof surface using appropriate fasteners such as nails, staples, or plastic cap nails, following the manufacturer's recommendations for the spacing and type of fasteners to ensure proper attachment. Subsequent rows of plastic felt shall be installed with overlapping each sheet by a specified distance (typically around 6 inches or as recommended by the manufacturer) to help create a continuous waterproof barrier. Finished surface shall be smooth and well stretched with due gradient for drainage. Sample of workmanship shall be approved by the Engineer prior to commencement of work.

(14) Primer**Materials:**

The primers shall be of Nerolac, Burger, Asian Paints (tractor) or equivalent brand as specified in the contract or on the drawing and approved by the Engineer. The primers shall be in sealed tins.

Preparation

All surfaces shall be papered by sandpaper rubbing and cleaned properly. The surface to be treated shall be clean, dry, and free from dust, grease, rust, and other contaminants. Any loose matter or rust shall be removed using wire brushing or sanding. In case of metal, derusting shall be done and properly cleaned after sand papering.

Application

Primer shall be applied in single (one) coat as mentioned in the contract or on the drawing. After preparing the surface, the priming coat shall be smoothly applied with hair brushes or other applicable tool as per manufacturer's printed instructions. The finished surface shall be smooth to receive other coat of paintings.

(15) Anti-Termite Chemical**General:**

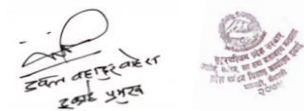
Termites are basically of two types - Subterranean or ground nesting termites and non-subterranean or wood nesting termites. Subterranean or ground nesting termites build nests in the soil and live in them, whereas non-subterranean or wood nesting termites live in wood with no contact with soil.

Anti-Termite chemicals are used for the eradication and control of termites. These chemicals also known as wood preservatives are used as paint or coating to protect wooden structures from non-subterranean or wood nesting termites. These chemicals, commonly known as termiticides, are designed to either repel termites or kill them upon contact.

Materials and applications:

Anti-termite chemicals such as Chlorpyrifos 20EC, etc. available in packed tins are used after required dilution as barrier between the soil and the foundation of the building for eradication and control of Subterranean or ground nesting termites.

Non-subterranean or wood nesting termites shall be controlled or killed using different chemicals, as specified in the contract and approved by Engineer, such as Borate-based wood preservatives, Copper-based wood preservatives, Synthetic pyrethroid-based wood preservatives, etc available in packed tins.



Borate-based wood preservatives: Borate compounds, such as disodium octaborate tetra hydrate (DOT), if approved by engineer to use, shall be used as a termite deterrent. Borate compounds shall be dissolved in water and applied as a paint or sprayed onto the wood surface.

Copper-based wood preservatives: Copper compounds, such as copper naphthenate or copper azole, if approved by engineer to use, shall be used in wood preservatives. Copper compounds have insecticidal properties and help protect the wood from termite attacks. These preservatives shall be applied as a coating or pressure-treated into the wood.

Synthetic pyrethroid-based wood preservatives: Some wood preservatives utilize synthetic pyrethroids, such as permethrin or cypermethrin. These chemicals have insecticidal properties and can repel or kill termites. They shall be applied as a paint or coating on the wood surface.

(16) Plaster of Paris

General:

The plaster of Paris shall be of semi – hydrate variety calcium sulphate. Its fineness shall be such that when sieved through a sieve of IS sieve designation 3.35mm for 5 minutes, after drying the residue left on it shall be not more than 1% by weight. It shall not be too quick setting. Initial setting time shall not be less than 13 minutes.

Preparation of Surface:

Projecting burrs of mortar formed during existing cement plaster shall be removed. The surface shall be scrubbed clean with wire brushes. In addition the plastered surface shall be pock marked with pointed tool, at spacing of not more than 4cm centers and depth of pocks to be approx. 3mm deep. This is to ensure a proper key for the plaster. The surface shall be cleaned of oil and grease marks etc.

Application:

The material shall be mixed with water to a workable consistency. Plaster of Paris shall be applied directly on the wall and ceiling plasters as required in suitable size panels and finished to a smooth surface by a steel trowels. The plaster shall be applied in such a manner that it fully fills the gaps the thickness over the plastered surface shall be as specified in the contract or on the drawing and approved by Engineer. The finished surface shall be smooth and true to plane, slopes or curves as required and to the satisfaction of the Engineer.

(17) Rain Seal Paint

Material:

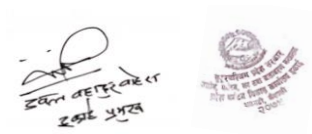
Rain seal paint is a type of paint that provides enhanced water resistance and protection against moisture-related damage. It is commonly used on exterior surfaces exposed to rain, such as wood, concrete, masonry, and stucco. Rain seal paint available in packed tins in different brands such as Behr Premium Plus Ultra Exterior Paint, Sherwin-Williams Duration Exterior Acrylic Coating, Benjamin Moore Aura Exterior Paint, Dulux Weather shield Exterior Paint shall be used as per contract or drawing and the approval of Engineer.

Preparation of Surface:

The surface shall be prepared such that it is clean, dry, and free from dirt, dust, grease, and loose or peeling paint. Any cracks or imperfections on the surface shall be repaired properly. Finally, the surface shall be made smooth using sandpaper if needed.

Application:

After the preparation of surface, Rain seal paint shall be applied. Primer, if required and mentioned in the contract shall be used before the application of paint. The rain seal paint shall be applied using a brush, roller, or sprayer, following the manufacturer's recommended application techniques and coverage rates. Painting shall be started from the top and worked the way down to ensure even and smooth coverage. The painted surface shall be allowed to dry according to the manufacturer's instructions. The dry surface shall be cured for 1 to 2 hours depending on temperature and humidity conditions of the work area. Additional coats shall be applied depending on the desired level of protection and the specific product as specified in the contract. If additional coats are necessary as per the contract, following coats shall be applied only after drying the previous coat.



9.4 MEASUREMENT AND PAYMENT

Unless stated otherwise, painting works shall be measured in Sqm and payment shall be made as per the contract unit rate. The Contract unit rate shall be the full and the final compensation to the Contractor.

10. METAL WORKS

10.1 BLACK PIPE TUBULAR TRUSS

Tubes shall be designated by their nominal bore. These shall be light, medium or heavy as specified depending upon the wall thickness. Tubes shall be clean finished and reasonably free from scale. They shall be free from cracks, surface flaws, laminations and other defects. The ends shall be cut clean and square with axis of tube, unless otherwise specified.

Wall thickness of tubes used for construction exposed to weather shall be not less than 4 mm and for construction not exposed to weather it shall be not less than 3.2 mm where structures are not readily accessible for maintenance, the minimum thickness shall be 5 mm.

Fabrication

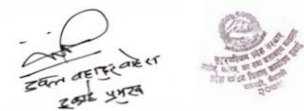
The component parts of the structure shall be assembled in such a manner that they are neither twisted nor otherwise damaged and be so prepared that the specified cambers, if any, are maintained. The tubular steel work shall be painted with one coat of approved steel primer after fabrication. All fabrication and welding is to be done in an approved workshop.

Straightening: All material before being assembled shall be straightened, if necessary, unless required to be of curvilinear form and shall be free from twist.

Bolting: Washers shall be specially shaped where necessary, or other means, used to give the nuts and the heads of bolts a satisfactory bearing. In all cases, where the full area of the bolts is to be developed, the threaded portion of the bolt shall not be within the thickness of the parts bolted together and washers of appropriate thickness shall be provided to allow the nuts to be completely tightened.

Welding: Where welding is adopted, it shall be as specified.

Caps and Bases for Columns: The ends of all the tubes, for columns transmitting loads through the ends, should be true and square to the axis of the tubes and should be provided with a cap or base accurately fitted to the end of the tube and screwed, welded or shrunk on. The cap or base plate should be true and square to the axis of the column.



Sealing of Tubes: When the end of a tube is not automatically sealed by virtue of its connection be welding to another member the end shall be properly and completely sealed. Before sealing, the inside of the tubes should be dry and free from loose scale.

Flattened Ends: In tubular construction the ends of tubes may be flattened or otherwise formed to provide for welded. Riveted or bolted connections provide that the methods adopted for such flattening do not injure the material. The change of sections shall be gradual.

Hoisting and Erection

Tubular trusses shall be hoisted and erected in position carefully, without damage to themselves, other structure, equipment and injury to workman. The method of hoisting and erection proposed to be adopted shall be got approved from the Engineer-in-charge. The contractor shall however be fully responsible, for the work being carried out in a safe and proper manner without unduly stressing the various members. Proper equipment such as derricks, lifting tackles, winches, ropes etc. shall be used.

10.2 MS IRON CHANNEL AND SHEET

MS iron channel and sheet shall be of standard dimensions and quality as specified in the contract drawing. These shall be well galvanized and smoothly painted with red oxide primer before being used in the specified work.

Measurement and payment

The finished work as fixed in place shall be measured in running metres correct to a centimeter and their weights calculated on the basis of standard tables correct to the nearest kilogram unless otherwise specified. Weight of cleats, brackets, packing pieces bolts nuts, washers distance pieces separators diaphragm gussets, fish plates, etc. shall not be measured separately. No deduction shall be made for skew cuts. The rate shall include the cost of labour and materials involved in all the operations described above including application of one coat of approved steel primer, i.e. red oxide zinc chrome primer.

The payment of the works shall be made at unit price of the respective items quoted in the BOQ of the contract. The Contract unit rate shall be the full and the final compensation to the Contractor.

11. ROOFING WORKS

11.1 CGI SHEET

The corrugated iron sheet shall be of the specified gauge. A 24 B.G. sheet shall weigh 5.4kg/m². The sheet shall be free from rust and the zinc covering at the time of fixing shall be on perfect condition. Each sheet shall have 10 corrugations 75mm wide and 19mm deep with overall flat width of 800mm, referred to as 24 B.G. 10/3 sheets.

Each sheet shall be laid on wooden or steel purling with an end overlap of 150mm minimum or as per drawing and side overlap of two and half corrugations. The sheet shall be joined together with galvanized hook-bolts of L type of 8mm diameter, with bitumen and limpet washers. L hook shall be fixed at 300mm interval along bearer and 600mm along edge. Each bolt shall have "limpet" dome washer in addition to bitumen washer.

Wind ties of 40 mm x 6mm flat iron shall be fixed at the eaves end softie sheets fixing the same with purling by L hook bolts at 1200mm centre to centre distance.

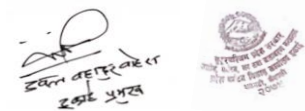
Ridge and hips shall be covered by special ridges and shall be bolted with 300mm lap on either side so as to prevent the rain driving under it.

Holes in sheets shall be made on the ground; the sheets shall be placed on trestles and holes punched in the ridge of corrugations from below upward. Unnecessary holes made on the roof shall be rejected in total.

Measurement and Payment

Measurement of all the works will be made in m² of works as specified.

Payment for work will be made on the basis of contract unit price indicated in the BOQ.



The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified.

11.2 GUTTERS

Gutter shall be fabricated from plain G.S. Sheets of thickness as specified in the item. Eaves gutters shall be of the shape and section specified in the description of the item. The overall width of the sheet referred to therein shall mean the peripheral width of the gutter including the rounded edges. The longitudinal edges shall be turned back to the extent of 12 mm and beaten to form a rounded edge. The ends of the sheets at junctions of pieces shall be hooked into each other and beaten flush to avoid leakage.

Gutter shall be laid with a minimum slope of 1 in 120.

Gutter shall be supported on and fixed to M.S. flat iron brackets bent to shape and fixed to the requisite slope. The maximum spacing of brackets shall be 1.20 metres.

The gutter shall be fixed to the brackets with 2 Nos. G.I. bolts and nuts 6 mm dia, each fitted with a pair of G.I. and bitumen washers.

The connecting bolts shall be above the waterline of the gutters. For connection to down take pipes, a proper drop end or funnel shaped connecting piece shall be made out of G.S. sheet of the same thickness as the gutter and riveted to the gutter, the other end tailing into the socket of the rain-water pipe. Wherever necessary stop ends, angles etc., should be provided.

The gutters when fixed shall be true to line and slope and shall be leak proof.

Measurement and Payment

Measurement of all the works will be made in running metre of works as specified.

Payment for work will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labour, and equipment to complete the works as specified.

12. WATER SUPPLY, SANITATION & PLUMBING WORKS

12.1 GENERAL

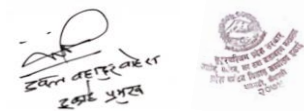
(1) Scope

This specification shall cover all materials and labors required for such work like pipes, fittings, clamps, nails etc. The work shall also include line marking, jointing the pipes, fixing in position, painting, groove cutting and reinstating to its original finish etc., complete with testing and ready for operation for internal and external works.

(2) I.S. Standards/Specifications

- (a) In case where the specifications given are found wanting the latest I.S. Specifications shall hold good. Wherever reference has been made to Indian Standard or any other specifications, the same shall mean to refer to the latest specifications irrespective of any particular edition of such specifications being mentioned in the specifications or Bill of Quantities.
- (b) All materials shall be best of their kind and shall conform to the latest Indian Standards.
- (c) The Engineer prior to procuring any materials shall approve all samples.
- (d) A set of specimen samples of all approved materials shall be kept at site as well as in the office of the Engineer, cost of which to be borne by the Contractor.
- (e) Each sample, or set of samples, shall be accompanied by the manufacture's specifications, brochures, test certificates and guarantee statement for approval of the Engineer.

(3) Workmanship



The workmanship shall be the best of its kind and shall conform to the specifications or Indian standard Specifications in every respect or latest trade practices and shall be subject to the approval of the Engineer. All materials and /or workmanship which in the opinion of the Engineer are defective or unsuitable shall be removed immediately from the site and shall be substituted with proper materials and/or workman ship forth with.

12.2 SANITARY FIXTURES AND ACCESSORIES

(1) General

Sanitary ware, accessories and C.P. fittings shall be of the best quality, approved by the Engineer. Wherever particular makes are mentioned, the choice of selection shall remain with the Engineer.

All fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned in the Specifications, Bill of Quantities, or drawings. Accessories shall include proper fixing arrangement, brackets, nut, bolt, screws and required connection pieces.

Porcelain sanitary ware shall be glazed vitreous China of best quality free from warps, cracks and glazing defects. All sanitary ware shall be white unless otherwise given in the Bill of Quantities. Colour of sanitary ware, when specified shall be selected by the Engineer. Fixtures shall conform to I.S. 2556-1967 and latest revisions.

Sinks for Kitchen shall be stainless steel single bowl as specified. Chromium plated or brass oxidized fittings shall be cast brass suitably finished & rendered fittings for the best quality approved by the Engineer.

All fittings and fixtures shall be fixed in a neat workman like manner true to level at heights shown on drawings and in accordance with the manufacturer's recommendations. Care shall be taken to fix all inlet and outlet pipes at correct position. Faulty locations shall be made good and any damage to the finished floor, tiling or terrace shall be made good by the Contractor at his cost.

When directed, contractor shall fix fixtures and accessories in a sample room for the approval of the Engineer. Sample room fixtures may be reused on the works if undamaged, but no additional payment of fixing or dismantling shall be admissible.

Before commissioning and testing of fixtures, contractor shall ensure that all soil waste stacks and drainage system are connected to the respective manholes and the outfall sewer. He shall also ensure that the water supply system has been commissioned and tested. Fixtures shall be cleaned and all debris and dirt removed. All stickers, labels etc. shall be removed with hot water. Cold water shall be let in each fixture individually. The fixtures shall then be observed for any leakage or drip at inlet connection. The rate of flow for each fixture shall be adjusted by control valves. All defective parts shall be replaced and re-tested.

On satisfactory testing and commissioning of the fixtures, contractor shall clean all fixtures and accessories by a suitable detergent and hand-over in the absolutely clean and usable condition.

(2) Water Closets

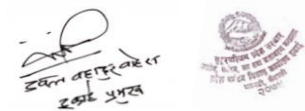
(a) Indian W.C. Set

Indian W.C. Pan with integrated footrests shall be Orissa type as specified in the Bill of Quantities. Each Indian W.C. shall be provided with on 100mm diameter cast iron or porcelain 'P' or 'S' trap with or without vent. Cistern shall be of low level porcelain of approved brand and quality.

The W.C. Pan shall be laid in floor sloping towards the pan in a workman like manner so that no damage is made on the pan in the process of fixing. If damaged in any way, it shall be replaced at no cost to the Employer. The pan shall be fixed on a proper base of cement concrete 1:2:4 mix (1 cement: 2 coarse and: 4 stone ballast 20 mm, nominal size) taking care that cushion is uniform and even without having any hollows between the concrete base and pan. Joint between the pan and finished floor shall be neatly done and no hair cracks shall be visible. Joint to HDPE/UPVC waste line shall be as detailed.

(b) European W.C. Set

European W.C. Set shall be of white vitreous 1st quality, single/double symphonic close, 'P' or 'S' trap with 10.5 liters capacity push bottom type porcelain low level cistern including brackets



complete in all respects. The W.C. and cistern shall be free from cracks, blisters and shall have smooth surfaces.

Seat and its lid shall be of solid bake lite "ADMIRAL OR EQUIVALENT" make and fitted exactly on the rim of the W.C. with C.P. brass hinges, rubber buffers and C.P. brass nuts. Angle valve shall be of 12.7mm diameter C.P. brass with inlet connection of required length, with unions and C.P. brass cap. The connection between angle valve and supply line shall be laid in a manner so that the union is flush with finished face of the wall and no threaded portion of the angle valve or supply line is visible.

Fixing: W.C. shall be fixed on the floor with C.P. brass counter sunk screws as per the manufacturer's specifications.

The central axis of the W.C. shall be perpendicular to the finished face of wall on which the flushing cistern is fixed. The outlet of the W.C. shall be centrally placed in the socket of HDPE/UPVC pipe with a uniform space around for jointing. Jointing shall be done with but welding push fitting cement and waterproofing compound and made water tight. The distance between centre line of outlet of W.C. pan and finished wall face shall be as adjusted as to rest squarely against the finished wall face.

Measurement shall be done by number. Rate shall include the cost of all materials and labour involved in all the operations described above.

(3) Urinals And Partitions

(a) Urinals

Urinals shall be lipped type of size 465 x 355 x 265mm or large flat back type of size 610 x 400 x 380mm or small type as specified in the Bill of Quantities.

Each lipped type urinal (large or small) shall be provided with one 40mm diameter chromium plated brass bottle trap with pipe to wall and wall flange. Small urinals shall be provided with one C.P. reducer to receive the flush pipe stall and large urinals shall be provided with chromium plated spreader and 32 mm C.P. waste as recommended by manufacturer. Angle valve shall be of 12.7mm C.P. brass with inlet connection of required length with unions and C.P. brass cap.

Flush Pipe shall be of C.P. brass 25 mm diameter main with 12.7mm diameter distribution pipes of required length complete with C.P. brass clamps tees, crosses, bends, with unions, spreaders etc. of approved make.

Bottle Trap shall be 40 mm cast C.P. brass heavy type with wall discharge pipe of required length with flange. Discharge pipe shall be connected to HDP/UPVC waste pipe in such a manner so that the flange is flush with finished face of wall.

Urinals shall be fixed to wall by concealed hangers, brackets, C.P. screws as required and recommended by manufacturers. Each range of urinals shall be provided with an automatic flushing cistern with cover of vitreous China with brackets as specified. The size of the cistern, main flush pipe and spreader pipes shall be as follows:

No. of urinals in range	Capacity of cistern liters	Size of main flush pipe mm	Size of branch pipe mm	Size of distribution pipe mm
One	5	-	-	15
Two	10	20	-	15
Three	10	25	-	15
Four	12.5	25	20	15

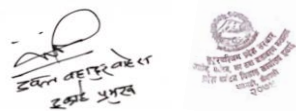
Painting: The brackets shall be painted with 2 coats of white synthetic enamel paint of approved manufacture over and including a priming coat or red lead.

Measurement shall be per urinal set for different ranges as specified in the schedule of quantities. Rate shall include the cost of all materials and labour involved in all the operations described above.

(b) Urinal Partitions

(i) Porcelain Partitions

Porcelain Urinal Partition shall be large size of white vitreous China 1st quality. These shall be free from any cracks, crazes etc. and shall have smooth surfaces.



(ii) Marble Partitions:

Marble partitions shall be of 1" to 1½" thick approved quality. Partitions shall be of required size and shall be embedded 5" in wall with cement concrete 1:2:4. Marble shall be table polished on both sides (except portion going in wall) all corners and edges shall be rounded. These shall conform to the specifications for Civil Works.

(iii) White Glazed Channels:

White glaze channels shall be white vitreous China block channels and shall include special bands outlets, etc. Channels shall be fixed in proper slope over 1" layer of cement mortar 1:3. Joints shall be grouted with white cement.

(iv) Chromium accessories

Chromium plated accessories shall be heavy type fixed to wall by C.P. screws. Fittings e.g. coat hooks, tumbler holders, liquid soap holders shall be of 'Lotus' brand or equivalent approved. This shall be fixed to wall with coach screws or as directed by the Engineer. Measurements shall be by numbers. Rate shall include cost of all materials, labors involved in all the operations described above.

(4) Lavatory (Basins)

Basins shall be white vitreous China of 1st quality with three tap holes or with single tap hole, as specified in the bill of quantities. These shall be free from cracks, crazes, blisters and shall have smooth surfaces. They shall be wall-mounted units with the heavy C.P. bottle trap below. Basins shall be Hindustan Tw fords or equivalent.

Fittings shall be 12.7mm diameter C.P. brass basin mixing fittings with modern head for hot and cold stop cocks a central spout, with pop up waste. Pillar Tap shall be 12.7 mm diameter C.P. brass with modern head. Angle Valve shall be 12.7 mm diameter C.P. brass with 12.7 mm diameter C.P. copper supply pipe of 610 mm length and C.P. brass cap. Waste shall be 32 mm diameter C.P. brass heavy type, with solid rubber plug and ball chain.

The basin shall be supported on a pair of C.I. brackets cantilevering from wall face as directed by the Engineer. There shall not be any gap between top edge of the basin and finished face of wall. Measurement shall be by numbers. Rate shall include cost of labours and materials mentioned in bill of quantities.

(5) STAINLESS STEEL SINK & DRAININGBOARD

Stainless steel sink and draining board shall be of "ORIENT" or equivalent of pressed stainless steel 2mm thick sheets and shall have 32 mm diameter C.P, brass 'P' or 'S' bottle traps. These shall be supported on C.I. cantilever brackets placed on wooden or marble counter. The joint between the masonry and wood work shall be filled with mastic filler to make it absolutely watertight. The draining board shall be sloped towards the sink in order to drain out all the water in the sink.

Bib cock shall be 12.7 mm diameter with modern head or as specified in Bill of Quantities.

(6) BATHROOM FITTING

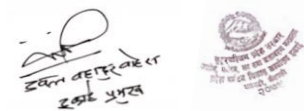
(a) Mirror

Mirror shall be 5.5 mm thick plate glass of imported quality shall be free from bubbles, ripples or any other defects. The glass shall be uniformly silver-plated at the back. Silvering shall have and uniform protective coating of red lead paint. Size shall be as per drawing/ Bill of Quantity.

The mirror shall have hard board ground of 6mm thickness, projecting all-round conforming to the size wooden frame. The mirror and its backing shall be fixed on wall face with wooden cleats, with C.P. brass, crews and washers. The frame shall be enamel painted. Measurement shall be by numbers. Rate shall include cost of labour and all materials involved in all the operations described above.

(b) Towel Ring

Towel ring shall be heavy C.P. brass or oxidized bronze as approved by the Engineer.



Brackets shall be fixed to wall by means of C.P. brass screws. Expansion shields shall be firmly embedded in the wall. Measurement shall be by numbers. Rate shall include cost of labour and materials involved in all the above operations.

(c) Hooks

Hooks shall be C.P. brass 'BILMAT' or equivalent make as shall be approved by the Engineer. Fixing shall be same as for towel rail. Rate shall include cost of labour and materials involved in all the above operations.

(d) Toilet Paper Holders

Toilet Paper Holders shall be white vitreous China, recessed or semi-recessed type unless mentioned in the bill of quantity. These shall be of 1st quality, free from cracks and crazes etc. These shall be fitted in recess in masonry on 80 mm thick cushion of cement concrete 1:2:4 and jointing to the masonry with the white cement or with approved materials to match with dado work. Measurement; shall be by numbers. Rate shall include cost of labour and all materials involved in the above operations.

(e) Soap Dish

Soap Dish shall be of vitreous China or heavy type C.P. unless otherwise mentioned in the bill of quantity. Fixing shall be by screw on the wall. Measurement shall be by numbers. Rate shall include cost of labour and all materials involved in the above operations.

(f) C. P. Fittings

All mixing fittings, additional bibcock, shall be of the best quality heavy pattern approved by the Engineer and conforming to IS: 781. All C.P. fittings shall be fixed in a neat workman like manner and shall not carry tool marks and scratches. All valves shall carry identical C.P. handles approved by the Engineer.

(g) Shower Sets

Shower Set shall comprise of C.P. shower mixer, 15mm inclined shower arm with wall flange and 60 mm bud shower rose with swivel joint. Shower mixer shall be fixed on one level 4'0" above finished floor level.

(h) Miscellaneous White Glazed Fittings

White glazed fittings, e.g. toilet paper holders, soap dishes, shelves, partitions, etc. shall be of white glazed vitreous China of the same colour and shade as that of the main fittings. All fittings shall be fixed in wall in a neat workman like manner. Recess in wall, where required, shall be provided. All fittings shall be fixed with C.P. brass screws, where required.

(i) Floor Traps

Floor traps shall be uPVC as per bill of quantities with a water seal. All waste shall be discharge to the trap. The trap and waste pipes shall be set in cement concrete blocks firmly supported on the structural floor. The blocks shall be in 1:2:4 and extended 1½" below finished floor level. Contractor shall provide all necessary shuttering and centering for the blocks. Size of the block shall be 12" x 12" of the required depth. The floor finish around the floor trap shall be carefully executed by skilled workmen to provide a perfect finish with slopes.

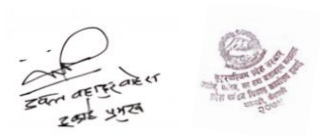
(j) Urinal Traps

Urinal traps shall be P or S traps C.I. brass heavy type as per bill of quantities with or without vent and set in cement concrete blocks.

(k) Trap Inlets

Where specified contract or shall provide a special type cast iron/ HDP in let hopper without or with one, two or three in let sockets to receive the waste pipes. Joints between waste and hopper inlet socket shall be lead caulked joint. Hopper shall be connected to a P or Strap with at least 2: seal (Hopper and traps shall be paid for separately). Floor trap inlet hoppers and traps shall be set in cement concrete blocks.

(7) C.P. GRATING



Floor and urinal traps shall be provided with heavy C.P. brass grating, with rim or approved design and shape. Minimum thickness shall be 1/8".

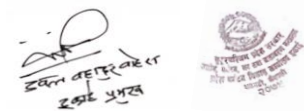
13. MISCELLANEOUS WORKS

13.1 TURFING

The area from where the grass roots are to be obtained shall be specified by the Engineer-in-Charge at the time of execution of the work and no royalty shall be charged on this account from the contractor.

The soil shall be suitably moistened and then the operation of planting grass shall be commenced. The grass shall be dibbled at 10 cm, 7.5 cm, and 5 cm apart in any direction or other spacing as described in the item. Dead grass and weeded shall not be planted.

The contractor shall be responsible for watering and maintenance of level sand the lawn for 30 days or till the grass forms a thick lawn free from weeded and fit for moving whichever is later. Generally planting in other direction at 15 cm, 10 cm, spacing is done in the case of large open



spaces, at 7.5 cm spacing in residential lawn and at 5cm spacing for Tennis Court and sports ground lawn.

During the maintenance period, any irregularities arising in ground levels due to watering or due to trampling by labour, or due to cattle straying there on, shall be constantly made up to the proper levels with earth as available or brought from outside as necessary, Constant watch shall be maintained to ensure that dead patches are replanted and weeds are removed.

Measurement and payment

Length, breadth of the lawn grassed shall be measured and the area shall be calculated in sqm correct to two places of decimal. The rate shall include of all the labour and material involved in all the operations described above. Payment shall be made at unit rate given in the BOQ of contract.

13.2 TREE PLANTING INCLUSIVE TREE GUARDS

In ordinary soil, including refilling earth after mixing with oil cake, manure and watering. Holes of circular shape in ordinary soil shall be excavated to the dimensions described in the items and excavate soil broken to clods of size not exceeding 75 mm in any direction, shall be stacked outside the hole, stones, brick bats, unsuitable earth and other rubbish, all roots and other undesirable growth met with during excavation shall be separated out and unserviceable material removed from the size as directed. Useful material, if any, shall be stacked properly and separately. Good earth in quantities as required to replace such discarded stuff shall be brought and stacked at site by the contractor.

The tree holes shall be manured with powdered Neam/castor oil cake at the specified rate along with farm yard manure over sludge shall be uniformly mixed with the excavated soil after the manure has been broken down to powder, (size of particle not be exceeded 6 mm in any direction) in the specified proportion, the mixture shall be filled in to the hole up to the level of adjoining ground and then profusely watered and enable the soil to subside the refilled soil shall then be dressed evenly with its surface about 50 to 75 mm below the adjoining ground level or as directed by the Engineer-in charge.

Tree Guard

The tree guard shall be 450 mm in diameter and 1 meter high above ground level and 25 cm in below ground level. The tree guard shall be framed of 4 nos. 20 x 3 mm MS. Flat welded to 50x50 wire mesh. The entire tree guard shall be given two coats of synthetic enamel paint of approved brand and manufacturer of required shade brand and manufacturer of required shade over a priming coat of ready mixed steel primer of approved brand and manufacturer.

Measurement and payment

The tree guard shall be enumerated.

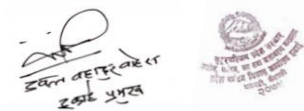
The rate shall include the cost of all the labour and material involved in all the operations described above. Payment shall be made at unit rate quoted in bill of quantities of contract.

13.3 HDPE PIPE WORK

(1) Material

HDPE pipes shall conform to IS: 4984/72/ NS 40/2042 and uPVC pipes shall conform to IS 4985. The high-density polyethylene/uPVC shall be of medium quality and of wall thickness conforming to a working pressure of 6kg/sq.m. The pipes shall be manufactured using virgin GM 5010 T2 raw materials as manufactured by Nepal Polyethylene and Plastic Industries or their equivalents.

Fitting shall be of high-density polyethylene pipe of series II, made at site therefrom shall be true to shape, smooth and cylindrical, their inner and outer surface being as far as practicable concentric. These shall be sound and cast so as to be free from cracks, pin- holes or other imperfections.



The fitting indicated in the schedule are to be jointed with the HDP pipes as to cause the required expansion and laid in position.

(2) Fixing

Jointing, laying and testing shall be as per the manufacturer's specifications. Pipes shall be of colour specified by the Engineer. Fitting for HDPE pipes shall include couplings, tees, bends, elbows, unions, reducers, nipples and plugs. Outlets of suitable diameter for connection to the appliance shall be provided.

No joints shall be covered until these are checked and tested by the Engineer

The contractor shall ensure that only workman experienced in HDP pipe works if they are used. The Engineer shall reject any and all works found to be not up to the standards required and request replacement of workman if found necessary.

(3) Testing

All the pipes shall be tested by smoke testing machine, at the expense and charge of the contractor. All the defective pipes and fittings shall be rejected and removed from the site.

(4) Measurement And Payment

HDP pipes shall be measured per running meter and include items as stated in the Bill of Quantities. Unit Rate shall include all material and labour for the completion of the job.

Payment of HDPE pipe laying works shall be made as per unit rate quoted in the bill of quantity of the contract.

13.4 GALVANIZED IRON PIPES

(1) Materials

Where specified, pipes shall be galvanized mild steel welded pipes seamless and screwed and socket tubes conforming to IS1239- 1964 for medium grade. They shall be of the diameter (nominal bore) specified in the description of the item.

The pipes, sockets and pipe fittings shall be clearly finished well galvanized and free from cracks, surface flaws, laminations and other defects. The fittings shall have screw threads at the ends, clean and well cut. The ends shall be cut clearly and square with the axis of tube. Female threads on fitting shall be parallel and male threads shall be tapered.

(2) Cutting, Laying & Joining

The pipes shall be inspected before use to ascertain that they conform to the specification given above. Where pipes have to be cut or rethreaded, the ends shall be carefully filed out so that no obstruction to bore is offered. The end of the pipe shall be threaded conforming to the IS 554 with pipe dies and taps carefully in such a manner as will not result in slackness of joints when the two pieces are screwed together. The taps and dies shall not be used for turning the thread so as to make them slack, resulting in the joints being not water tight. The screw threads of pipes shall be protected from damage until they are fitted.

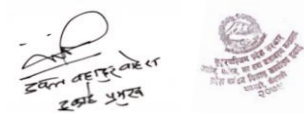
In jointing the pipes the insides of the socket and the screwed end of pipes shall be oiled and rubbed over with white lead and a few turns of yarn wrapped round the screwed end of the pipe. The end shall then be screwed in the socket, Tee, bed with the pipe wrench. Ground piping, it shall be thickly coated with approved anticorrosive paint to prevent corrosion.

All pipes shall be provided with unions at the location fixing valves, pumps, or any other fixed equipment.

(3) Testing

After laying and jointing, the pipes and fittings shall be inspected under working conditions of pressure and flow. Any joint found leaking shall be redone and all leaking pipes removed and replaced without extra cost. The pipes shall be slowly and carefully charged with water so that all air is expelled from the lines. Required hydraulic pressure shall be applied gradually. Pressure gauge shall be accurate and recalibrated before the test pump having been stopped. The test pressure shall maintain itself without measurable loss for at least half an hour.

(4) Measurement And Payment



G.I. waste pipes shall be measured in running meter and include items as stated in the Bill of Quantities. Rate shall include all material and labor to complete the job. Payment of GI Pipe Works shall be made as per unit rate quoted in the bill of quantity of the contract.

13.5 EXCAVATION RELATED WORKS FOR PIPES

(1) Alignment And Grade

The irrigation, and water supply pipes are to be laid to alignment and gradients shown on the drawings but subject to such modifications as shall be ordered by the Engineer from time to time to meet the requirements of the Works. No deviations from the lines, depths cuttings or gradients shown on the plans shall be permitted except in writing of the Engineer.

(2) Opening Out Trenches

In excavation of the trenches, cutting shall be done to required width and depth, not disturbing the adjoining area. The surface of all trenches and holes shall be restored and maintained to the satisfaction of the Engineer. The Contractor shall not cut or break down any fence or tress in the line of the proposed works but shall tunnel under them, unless the Engineer shall order to the contrary.

The surface of all trenches and holes shall be restored and maintained to the satisfaction of the Engineer and of the owners of the roads or other property traversed and the contractor shall not cut or break down any live fence of tress in the line of the proposed works but shall tunnel under them unless the Engineer shall order to the contrary.

The contractor shall grub up and clear the surface over the trenches and other excavations of all trees, stumps roots and all other encumbrances affecting execution of the work and shall remove them from the site to the approval of the Engineer.

(3) Refilling

After the pipe work has been laid and proved to be watertight, the trench or other excavations shall be refilled. Utmost care shall be taken in doing this so that no damage shall be caused to these work and other permanent work. After this has been laid, the trench and other excavation shall be refilled carefully in 15 cm layers with materials taken from the excavation, each layer being watered to assist in the consolidation. Unless otherwise the Engineer direct turving shall be laid over as instructed.

(4) Disposal Of Surplus Soil

The contractor shall at his own costs and charges provide, places for disposal of all surplus materials not required to be used on the works. As each trench is refilled the surplus soil shall be immediately removed, the surface properly restored and roadways and sides left clear.

(5) Measurement And Payment

Measurement of Earthwork (Excavation and Refilling) for pipe laying shall be made in cubic meters. Payment of Earthwork for pipe laying shall be made as per unit rate quoted in the bill of quantity of the contract.

13.6 PIPE FITTINGS

(1) Full-Way Valves

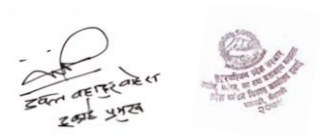
Full-way valves shall be of heavy duty gunmetal make conforming to IS: 778-1957.

(2) Ball Valves

Ball valves shall be of brass with float of copper sheet 0.58 mm thick for float up to 115 mm. size. The body of the valve shall with stand pressure of 14kg/sq.m and shall conform to IS: 1708-1962.

(3) Anchor blocks

Contractor shall provide anchor blocks at all bends, tee connections and at other places as directed by the Engineer. These blocks shall be of cement concrete 1:2:4 and of size as shown on the drawings.



(4) Valve Chambers

All underground sluice valves, air valves, scour valves and fire hydrants shall be located in brick masonry chambers of sizes as given in the bill of quantities conforming to the drawings.

(5) Measurement And Payment

Measurement of pipe fittings, anchor block and Valve chambers shall be in units specified for these works in Bill of Quantities and Payment shall be made as per unit rate of respective items quoted in the bill of quantity of the contract.

ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY (ESHS) REQUIREMENTS

A. General Requirements

The Contractor shall, throughout the execution of the Works, comply with all applicable environmental, social, occupational health and safety (ESHS) requirements specified in the Contract, including the project safeguard documents, applicable laws and regulations of the Government of Nepal, and the requirements of the Employer and Engineer.

1. Compliance with Safeguard Documents

- The Contractor shall comply with all applicable measures and requirements set forth in the following documents, as applicable to the Works:
 - a. Initial Environmental Examination (IEE);
 - b. Environmental Management Plan (EMP);
 - c. Indigenous Peoples Plan (IPP), where applicable;
 - d. Site-specific Environmental, Social, Health and Safety Management Plan (ESHSM/CESMP), as approved by the Employer/Engineer; and
 - e. Safeguard Monitoring Reports, corrective action plans, and other instructions issued by the Employer/Engineer from time to time.

All applicable mitigation, management, monitoring, and corrective measures contained in the above documents shall be binding obligations of the Contractor and its Subcontractors.

2. Budgetary Provisions

- The Contractor shall allocate and make available adequate financial, human, technical, and material resources for the effective implementation of all environmental, social, health and safety mitigation measures, monitoring requirements, and other safeguard provisions.
- Unless otherwise explicitly provided as a separate item in the Bill of Quantities (BoQ), all costs associated with compliance with these ESHS requirements shall be deemed to be included in the Contract Price.

3. Notification of Unanticipated Impacts

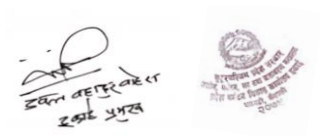
- In the event of any unanticipated environmental, social, resettlement, occupational health and safety, or indigenous peoples' risks or impacts arising during construction, which were not identified or adequately addressed in the approved safeguard documents, the Contractor shall immediately:
 - a. Take necessary measures to prevent or minimize further impacts;
 - b. Notify the Employer/Engineer in writing without delay;
 - c. Investigate and document the nature and extent of the impact; and
 - d. Cooperate with the Employer/Engineer in developing and implementing appropriate corrective and mitigation measures.

The Contractor shall not proceed with any activity likely to cause significant unanticipated impacts without appropriate instructions or approval from the Employer/Engineer.

4. Recording of Baseline Conditions

Prior to commencement of construction activities and transportation of construction materials, the Contractor shall adequately record and document the baseline condition of:

- a. Access roads and transportation routes;
- b. Agricultural land and other private or community land likely to be affected;
- c. Existing pathways and local infrastructure;



d. Watercourses, drainage structures, and other sensitive environmental features; and

e. Other properties and facilities potentially affected by construction activities.

The baseline documentation shall include dated, high-quality photographs and/or videos and shall be submitted to the Engineer for verification and record.

5. Reinstatement of Infrastructure and Land

Upon completion of the Works, the Contractor shall reinstate all temporarily affected areas, including access roads, pathways, agricultural land, drainage facilities, local infrastructure, and other disturbed areas, to at least their pre-construction condition or as otherwise agreed with the affected parties and the Employer/Engineer.

- Reinstatement shall be verified against the baseline records prepared prior to commencement of the Works.
- Final payment, retention release, or other contractual clearance may be withheld until all required reinstatement and site restoration works have been completed to the satisfaction of the Engineer and Employer.

B. Legal and Regulatory Compliance

1. General Compliance

The Contractor shall, at all times during the performance of the Works, fully comply with all applicable laws, regulations, rules, standards, by-laws, permits, and directives of the Government of Nepal, the concerned Provincial Government, and relevant local authorities, including all subsequent amendments and revisions.

The applicable legal and regulatory framework includes, but is not limited to, the following:

a. Environmental Protection

- Environmental Protection Act, 2019;
- Environmental Protection Rules/Regulations, 2020;
- Applicable Provincial Environmental Protection Act and Regulations;
- Solid Waste Management Act, 2011 and Rules, 2013; and
- Climate Change Policy, 2019.

b. Natural Resources

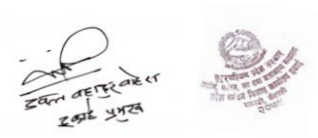
- Forest Act, 2019 and Forest Regulations, 2022;
- Water Resources Act, 1992 and Water Resources Regulation, 1993; and
- Soil and Watershed Conservation Act, 1982 and Regulations, 1985.

C. Agriculture and Irrigation

- Applicable irrigation policies, plans, and regulations;
- National Agriculture Policy, 2004;
- Nepal Agricultural Extension Strategy (NAES), 2007; and
- Agriculture Development Strategy, 2015–2035.

d. Labour and Occupational Safety

- Labour Act, 2017 (2074);
- Child Labour (Prohibition and Regulation) Act, 2000;



- Applicable labour rules and occupational health and safety requirements; and
- Other applicable laws concerning employment, worker welfare, and workplace safety.

2. Permits and Clearances

- The Contractor shall be responsible for obtaining, maintaining, renewing, and complying with all permits, licenses, approvals, and clearances required for the execution of the Works, unless otherwise specifically stated in the Contract.
- All associated costs, responsibilities, and consequences of delays arising from the Contractor's failure to obtain or maintain such permits and clearances shall be borne by the Contractor.

C. Environmental Standards and On-Site Controls

- The Contractor shall implement all necessary measures to ensure that construction activities comply with applicable national environmental standards and good international industry practices within all areas under the Contractor's control.

1. Air Quality and Emissions

The Contractor shall comply with applicable National Ambient Air Quality Standards and emission standards, including requirements applicable to diesel generators, construction equipment, and vehicles.

The Contractor shall, among others:

- Control dust generated from construction activities, material handling, transportation, and stockpiles;
- Ensure regular maintenance of construction equipment and vehicles;
- Prevent excessive exhaust emissions and black smoke;
- Cover vehicles transporting fine materials and spoil, where required;
- Carry out water spraying and other dust suppression measures in sensitive and dusty areas; and
- Prohibit unnecessary idling of vehicles and equipment.

2. Noise and Vibration

The Contractor shall comply with applicable National Noise Standards and shall control noise and vibration generated by construction activities, equipment, and vehicles.

Particular attention shall be given to sensitive receptors, including:

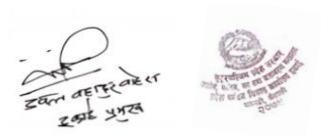
- Settlements and residential areas;
- Schools and educational institutions;
- Health facilities;
- Religious and cultural sites; and
- Other sensitive locations identified by the Engineer.

Noisy activities shall be appropriately planned and managed to minimize disturbance to surrounding communities.

3. Water Quality and Pollution Prevention

The Contractor shall prevent contamination of surface water, groundwater, irrigation channels, and other water bodies.

The Contractor shall implement appropriate measures for:



- a. Control of sedimentation and erosion;
- b. Prevention and management of fuel and oil spills;
- c. Proper collection and treatment/disposal of wastewater;
- d. Prevention of discharge of untreated wastewater or construction waste into water bodies;
- e. Proper storage and handling of hazardous materials; and
- f. Protection of irrigation and drinking-water sources.

Construction methodologies for excavation, material handling, drainage, waste disposal, and other relevant activities shall be designed and implemented to minimize pollution and protect water resources.

D. ADB Safeguard Policy Requirements

Where the Project is financed or supported by the Asian Development Bank (ADB), the Contractor shall comply with the applicable requirements of the ADB Safeguard Policy Statement (SPS), 2009, as incorporated into the Contract.

The Contractor shall ensure that:

- a. The applicable IEE, EMP, IPP, and other approved safeguard documents are implemented throughout the construction period;
- b. The most recent applicable versions of safeguard documents disclosed by the Project and/or ADB, as relevant to the Works, are considered integral to the Contract;
- c. All applicable mitigation, management, monitoring, and reporting measures are implemented by the Contractor and all Subcontractors;
- d. Environmental and social safeguard requirements are incorporated into work planning and construction methodologies; and
- e. ESHS requirements remain effective from mobilization through construction, demobilization, site restoration, and final clearance.

E. Contractor's ESHS Management Plan and Institutional Arrangements

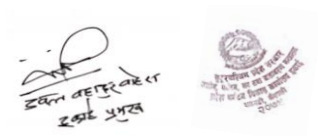
1. Preparation of Site-Specific ESHS Management Plan

- Prior to commencement of construction activities, the Contractor shall prepare and submit a comprehensive Site-Specific Environmental, Social, Health and Safety Management Plan (ESHSM), also referred to as the Contractor's Environmental and Social Management Plan (CESMP) or Construction Environmental and Social Management Plan (CESHMP), as applicable.
- The Plan shall be prepared based on the approved IEE, EMP, IPP, applicable laws and standards, and site-specific conditions.
- The Contractor shall obtain written approval or no-objection from the Employer/Engineer, as required under the Contract, prior to implementation of relevant construction activities.

2. Minimum Contents of the ESHS Management Plan

The ESHS Management Plan shall include, at a minimum:

- a. Project ESHS policy and objectives;
- b. Organizational structure showing dedicated ESHS personnel and their responsibilities;
- c. Names, qualifications, and contact details of key ESHS personnel;
- d. Site-specific environmental and social risk assessment;
- e. Activity-specific method statements and risk assessments for high-risk and high-impact activities;



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- f. Waste management plan covering solid, construction, hazardous, and other wastes;
 - g. Pollution prevention and control measures;
 - h. Water management and drainage plan;
 - i. Soil erosion and sediment control measures;
 - j. Ecological and biodiversity protection measures, where applicable;
 - k. Occupational health and safety management procedures;
 - l. Worker health, welfare, and accommodation requirements;
 - m. Personal protective equipment (PPE) requirements;
 - n. Traffic and road safety management measures;
 - o. Community health and safety measures;
 - p. Emergency preparedness and response plan;
 - q. Labour management and workers' code of conduct;
 - r. Grievance redress arrangements for workers and affected communities;
 - s. Measures for prevention of sexual exploitation, abuse and sexual harassment (SEA/SH), where applicable;
 - t. Training and awareness program;
 - u. Environmental and social monitoring plan;
 - v. Incident and accident reporting procedures; and
 - w. Arrangements for management and supervision of Subcontractors and suppliers.

3. ESHS Personnel

The Contractor shall appoint and maintain qualified and competent ESHS personnel, including an Environmental, Health and Safety Officer or other personnel as specified in the Contract.

The ESHS personnel shall:

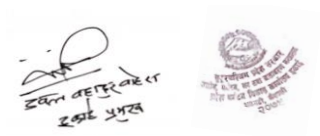
- a. Remain available throughout the construction period;
- b. Conduct regular site inspections;
- c. Ensure implementation of the approved ESHS Management Plan;
- d. Maintain ESHS records and registers;
- e. Provide ESHS orientation and training to workers;
- f. Coordinate with the Employer/Engineer and relevant authorities; and
- g. Prepare and submit required monitoring and progress reports.

F. Occupational Health and Safety Requirements

The Contractor shall provide and maintain a safe and healthy working environment for all workers, visitors, and other persons affected by the Works.

The Contractor shall, at a minimum:

- a. Conduct activity-specific risk assessments before commencement of hazardous activities;



- b. Provide appropriate PPE free of cost to workers and ensure its proper use;
- c. Provide ESHS induction and regular safety training;
- d. Establish and maintain first-aid facilities and adequately trained first-aid personnel;
- e. Provide safe drinking water, sanitation, washing facilities, and other worker welfare facilities;
- f. Maintain safe access, housekeeping, lighting, and working conditions;
- g. Provide appropriate barricading, warning signs, and safety information;
- h. Implement safe procedures for work at height, excavation, lifting operations, electrical works, and operation of machinery;
- i. Ensure regular inspection and maintenance of equipment and vehicles;
- j. Develop and implement emergency response procedures;
- k. Maintain records of accidents, incidents, near misses, and corrective actions; and

Immediately report serious accidents, dangerous occurrences, or fatalities to the Employer/Engineer and relevant authorities, as required by applicable laws and the Contract.

G. Social and Community Health and Safety Requirements

The Contractor shall take all reasonable measures to prevent or minimize adverse impacts on affected communities and local people.

The Contractor shall:

- a. Maintain safe access to residences, businesses, agricultural land, schools, health facilities, and other community facilities;
- b. Provide adequate warning signs, barricades, traffic management, and safety measures around construction sites;
- c. Minimize disruption to local services, utilities, and community activities;
- d. Avoid unnecessary damage to private and community property;
- e. Promptly repair or reinstate any damage caused by construction activities in accordance with the Contract and applicable requirements;
- f. Respect local customs, traditions, cultural heritage, and community sensitivities;
- g. Prohibit child labour, forced labour, harassment, discrimination, and other prohibited practices;
- h. Maintain appropriate mechanisms for receiving and addressing complaints and grievances;
- i. Ensure that workers comply with an approved Code of Conduct; and
- j. Implement appropriate measures to prevent communicable diseases and other community health risks associated with construction activities and labour camps.

I. Monitoring, Reporting and Corrective Actions

1. Monitoring

The Contractor shall establish and maintain a systematic ESHS monitoring, inspection, record-keeping, and reporting system.

Monitoring shall be undertaken in accordance with:

- a. The approved EMP and ESHS Management Plan;
- b. Applicable legal and regulatory requirements;

- c. Relevant environmental standards; and
- d. Instructions issued by the Employer/Engineer.

Monitoring may include, as applicable:

- Air quality;
- Noise and vibration;
- Surface water and groundwater quality;
- Waste generation and disposal;
- Soil erosion and sediment control;
- Occupational health and safety performance;
- Labour and working conditions;
- Community health and safety;
- Grievances and complaints; and
- Implementation status of mitigation measures.

2. Reporting

The Contractor shall submit Monthly ESHS Performance Reports to the Employer/Engineer, unless otherwise specified in the Contract.

The reports shall include, at a minimum:

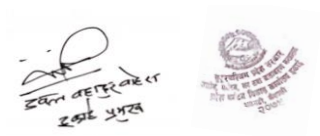
- a. Summary of construction activities undertaken;
- b. Status of implementation of ESHS mitigation measures;
- c. Monitoring results and comparison with applicable standards;
- d. Details of inspections and audits conducted;
- e. Accidents, incidents, near misses, and dangerous occurrences;
- f. Complaints and grievances received and their resolution status;
- g. Training and awareness activities conducted;
- h. non-compliances identified;
- i. Corrective and preventive actions undertaken;
- j. Status of permits and regulatory compliance; and
- k. Photographic evidence of key ESHS activities and site conditions.

3. Corrective and Preventive Actions

Any non-compliance, deficiency, incident, or adverse impact identified through monitoring, reporting, inspection, or instruction by the Employer/Engineer shall be promptly addressed by the Contractor at its own cost.

The Contractor shall:

- a. Immediately take action to control or prevent further impacts;
- b. Identify the root cause of the non-compliance or incident;



-
- c. Prepare and implement appropriate corrective and preventive actions;
 - d. Submit evidence of completion to the Employer/Engineer; and
 - e. Ensure that similar non-compliances do not recur.

Failure to comply with ESHS requirements or to implement required corrective actions may result in actions under the Contract, including withholding of payments, suspension of the affected Works, imposition of contractual remedies or penalties, or termination of the Contract, as applicable.

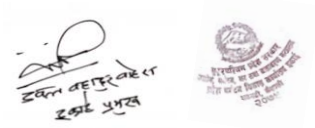
J. Compliance by Subcontractors

- The Contractor shall ensure that all Subcontractors, suppliers, service providers, and workers engaged in the execution of the Works comply with the applicable ESHS requirements of the Contract.
- The Contractor shall remain fully responsible for all ESHS obligations and performance of its Subcontractors.
- All subcontracting arrangements shall incorporate relevant ESHS requirements, and the Contractor shall establish effective procedures for supervision, inspection, and enforcement of such requirements.

K. General Obligation

- Compliance with these Environmental, Social, Health and Safety Requirements shall constitute an essential contractual obligation of the Contractor.
- The Contractor shall not be relieved of any responsibility for ESHS performance by the approval, review, inspection, or monitoring undertaken by the Employer, Engineer, or any other authority.

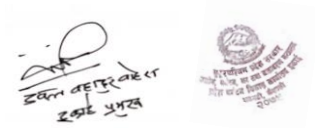
The Contractor shall continuously improve its ESHS performance and shall promptly comply with all reasonable ESHS-related instructions issued by the Employer/Engineer in accordance with the Contract.



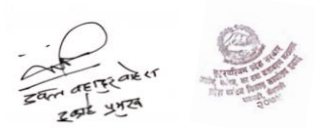
Environmental Management Plan (EMP)

EMP for the Hiking Trail Development Component (*Works will be implemented by the construction firm*)

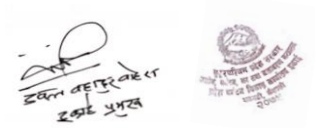
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
Pre-construction				
Pre-construction	Visual intrusion on the natural and traditional aesthetic of the locality; cultural disruption and community discontent	• There will be no construction inside the Khaptad National Park and its buffer zone. • Ensure that any new construction respects the traditional architectural styles, using similar forms, proportions, and materials to maintain a cohesive aesthetic. • Source local materials that blend with the environment, such as stone, wood, and traditional plasters, for construction and landscaping. • Engage with the community to incorporate their views and preferences in the design process, ensuring that changes are in line with the residents' values and expectations.	Contractor	Project Management and Supervision Consultants (PMSC) Provincial Tourism Development Program Implementing Unit PMSC
Camp establishment and construction mobilization				
Camp establishment and construction mobilization	Clearing land for camps and construction can lead to soil erosion, and landscape alteration	• Clear land selectively and retain as much native vegetation as possible to maintain habitat and reduce erosion. • Establish proper sanitation facilities and wastewater treatment processes to prevent contamination of local water sources. • Use water sprays to reduce dust emissions.	Contractor	Provincial Tourism Development Program Implementing Unit PMSC



Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		• Provide workers with adequate living conditions, including safe housing, clean water, and sanitary facilities.		
Construction				
Trail Landscape	Trail development and other components may result in increase of construction wastes	• Designate areas for waste disposal, and proper storage of materials. • Develop a waste disposal plan that identifies how construction waste will be handled, recycled, or disposed of in an environmentally responsible manner. • Regular inspections and monitoring to ensure compliance with environmental regulations and the project's pollution prevention plans. • Manage the storage, and handling of materials to prevent excess materials that end up as waste. • Where existing structures need to be removed, use deconstruction techniques that allow for the recovery and reuse of materials instead of traditional demolition which creates a significant amount of waste. • Set up clearly marked bins for sorting waste on-site, ensuring materials such as wood, metal, and plastic are separated for recycling.	Contractor	Provincial Tourism Development Program Implementing Unit PMSC



Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
Soil environment	Trail development may lead to soil erosion, especially in steeper areas, and soil compaction, which can affect local vegetation.	• During and after trail construction, materials such as geotextiles, erosion control blankets, or coir mats can be used to stabilize soil, especially on slopes. • Design and implement proper drainage systems along trails to manage water flow, which can significantly reduce erosion. • Design trails to follow the natural contour of the land and modify existing trails to include switchbacks or stairs in steep areas, which can help minimize direct runoff and reduce the rate of soil erosion. • Promptly revegetate disturbed areas with native plants to help stabilize the soil and prevent erosion. Choosing deep-rooted species can be particularly effective in holding soil in place (e.g. Khirro tree (<i>Sapindus mukorossi</i>), Sissoo (<i>Dalbergia sissoo</i>), bamboo). • Employ construction techniques that minimize disturbance to the soil surface to prevent compaction and preserve soil structure. This might involve hand/manual building of trails or using light machinery. • Limiting construction activities to drier seasons to avoid working in wet conditions, which can exacerbate soil compaction and erosion.	Contractor	Provincial Tourism Development Program Implementing Unit PMSC
Air quality	Release of dust and particulate matter	• Implement dust suppression techniques such as water spraying, dust screens, or barriers around the	Contractor	Provincial Tourism Development Program Implementing Unit

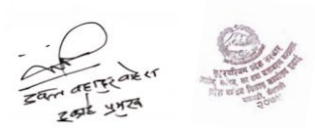


Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
	into the air, which can reduce air quality	construction site to minimize the spread of dust. • Store construction materials properly to prevent them from becoming sources of airborne dust. • Use construction machinery that meets current emissions standards and ensure regular maintenance to minimize exhaust emissions. • Schedule construction activities that produce high levels of dust or emissions during times when they will have the least impact on residents and sensitive populations. Consultation with local people will be a good source of information. • Continuously monitor air quality on-site and in the surrounding areas to ensure levels of particulate matter and pollutants remain within safe limits. • Provide appropriate personal protective equipment (PPE) to workers to minimize inhalation of dust and harmful emissions.		PMSC
Noise levels	Disruption for the local community, disturbing daily activities	• Maintain equipment regularly to minimize noise emissions. • Notify the community in advance about expected noise levels and the duration of noisy activities, and respond promptly to any complaints. • Implement strict noise ordinances that limit construction activities to certain hours within the day to minimize disturbance during early morning and late	Contractor	Provincial Tourism Development Program Implementing Unit PMSC

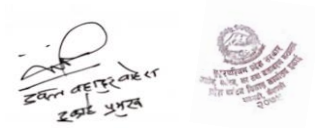
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		evening times. • Regularly monitor sound levels to ensure they stay within established limits, and take corrective action if noise exceeds these levels. • Train workers on noise reduction techniques, such as turning off machinery when not in use and using equipment in ways that minimize noise.		
Health and safety of workers and village people	Injury and spread of disease	• Provide appropriate PPE such as helmets, safety glasses, earplugs, masks, and gloves to all construction workers to protect against accidents and exposure to harmful materials. • Conduct regular health and safety training sessions for all personnel to ensure they are aware of potential hazards and safe work practices. • Implement health surveillance programs to monitor the health of workers, especially for long-term projects, to catch any signs of work-related health issues early. • Ensure that first aid kits are available on-site and staff are trained in their use. Establish clear emergency response procedures and communicate these to all workers. • Maintain a clean and organized construction site to minimize the risk of accidents due to slips, trips, and falls. • Inform the public about construction activities,	Contractor	Provincial Tourism Development Program Implementing Unit PMSC



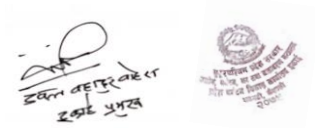
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		potential hazards, and safety measures through signage, community meetings, and public notices.		
Wildlife habitat	Construction could disturb local wildlife habitats	• Limit construction activities to periods that are less sensitive for wildlife, such as outside of breeding or migratory seasons. • Consultations with government authorities will be useful. • Conduct regular environmental monitoring before, during, and after construction to assess impacts on wildlife and habitats. • Establish construction buffer zones around sensitive habitats to minimize disturbances to wildlife from noise and human activity. • Provide training for construction crews on best practices to avoid disturbing wildlife, such as avoiding loud noises or sudden movements near sensitive areas. • Utilize construction methods that minimize land clearing and habitat disruption.	Contractor	Provincial Tourism Development Program Implementing Unit PMSC
Operations				
Soil environment	Increased tourists lead to soil erosion, especially in steeper areas, and soil compaction, which	• Conduct frequent maintenance to repair areas of the trail that show signs of erosion and compaction. This may include reshaping trail surfaces, adding or replacing erosion control structures, and replenishing	Provincial Tourism Development Program Implementing	PMSC Provincial Project Coordination and Management Unit (PPCMU)



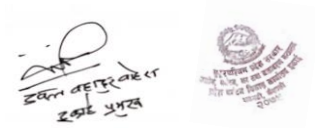
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
	can affect local vegetation.	ground cover. • In high-traffic areas or where erosion is significant, install boardwalks, stepping stones, or other hard surfaces that minimize the direct impact of foot traffic on the soil. • Plant grasses, shrubs, or trees alongside trails to help stabilize the soil, reduce the speed of water runoff, and provide a physical barrier to keep users on established paths. • Implement educational programs for visitors about the importance of staying on established trails to prevent the creation of social trails, which contribute to soil compaction and vegetation loss. • When necessary, temporarily close sections of the trail that are particularly vulnerable to erosion during wet seasons or following heavy use to allow for recovery and maintenance.	Unit	
Water resources	Excessive water use that can affect water quantity in the village	• Promote water-saving practices among residents and visitors, and install water-efficient fixtures in public and private spaces. • Regularly inspect water distribution infrastructure for leaks and promptly repair them to minimize water loss. • Educate the community and visitors about the importance of water conservation and the impacts of water wastage.	Provincial Tourism Development Program Implementing Unit	PMSC PPCMU



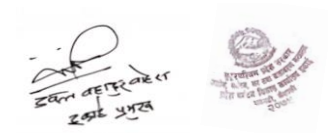
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		• Launch educational campaigns to inform both locals and tourists about the impact of water pollution and ways to prevent it, including the proper disposal of chemicals and waste. • Establish a regular monitoring program to test water quality in bodies of water that receive runoff or wastewater discharge, ensuring early detection of pollution. • Implement and enforce regulations regarding the disposal of hazardous materials into water bodies. • Involve the community in water management efforts, as local residents are more likely to respect and maintain systems, they have a stake in. • Encourage sustainable tourism practices that minimize water use and waste production, including promoting water conservation in the homestays.		
Trail landscape	An increase in tourists can result in pollution, including littering	• Implement educational campaigns for tourists on the principles of "Leave No Trace," encouraging visitors to minimize waste and dispose of it properly. • Open dumping and unauthorized burying of waste materials by any individual, entity, or organization within the trail is strictly prohibited under the Solid Waste Management Act, 2011. Violations of this prohibition will result in penalties, including fines, sanctions, and remediation orders as prescribed by the Solid Waste Management Act, 2011 and other	Provincial Tourism Development Program Implementing Unit	PMSC PPCMU



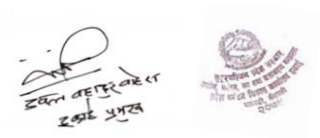
Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		relevant environmental protection laws, enforced by authorized regulatory bodies. • Provide sufficient trash bins and recycling points along trails and at campsites or rest areas. Ensure these facilities are emptied and maintained regularly to avoid overflow. • Develop and install effective wastewater treatment solutions, especially for campsites and rest areas, to prevent contamination of local water sources. • Encourage visitors to pack out all waste they carry in, particularly in remote areas where waste disposal is not readily available. • Establish and enforce anti-littering regulations, with clear signage regarding the penalties for littering. • Promote the use of biodegradable products for food packaging and personal care among tourists and local businesses. • Provincial Tourism Development Program will develop and implement a comprehensive waste awareness campaign aimed at educating and engaging both the local community and tourists. • Garbage bins must be placed in populated areas along the trail and ensure regular emptying and maintenance. These should be designed to prevent animal access, with secure lids and robust construction, to maintain cleanliness and reduce health hazards. Regular waste collection schedules		



Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		should be established and followed to prevent overflow and ensure the effectiveness of waste management. In villages where garbage bins are placed, composting bins for organic waste and small-scale incinerators with pollution control measures must be provided. These facilities ensure efficient composting and safe disposal of waste, complying with environmental regulations and promoting sustainable waste management practices.		
Wildlife habitat	Operations could disturb local wildlife habitats.	- Implement controls on the number of visitors allowed in sensitive areas (Khaptad National Park) at any given time to reduce pressure on wildlife habitats. - Create well-marked trails to channel foot traffic and keep visitors away from sensitive habitat areas, minimizing the chance of human-wildlife encounters and habitat trampling. - Educate tourists about the importance of staying on trails, the value of local habitats, and the impact of their actions on wildlife through interpretative signage and visitor center information. - Regular monitoring of visitor behavior and strict enforcement of conservation rules, with potential penalties for non-compliance to deter off-trail hiking and other harmful activities. - Institute seasonal closures or restrictions in	Provincial Tourism Development Program	PPCMU



Environmental Component/ Construction activities	Environmental impacts	Mitigation measures	Responsible Institution	Monitoring Institution
		particularly sensitive areas, such as during breeding or nesting seasons, to minimize disturbances to wildlife during critical periods of their life cycle. • Strategically locate infrastructure like viewing platforms, rest areas, and campgrounds in less sensitive areas to draw visitors away from sensitive habitats.		



Drawings

Drawings are submitted under a separate Volume II

Supplementary Information Regarding Works to Be Procured

The works to be procured under this contract consist of the tracking trail and eco-tourism assets and services development works along the khaptad - Badimalika - Ramaroshan route (Badimalika section – 6.5 km) in Bajura, Sudurpashchim province.

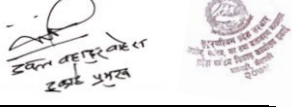
The major works to be constructed are foot trail development 6.5 km, railing works, cross drainage and side works, protection wall, information board and information desk, resting sheds and camp sheds, chautara, wooden seat and wooden bench, first aid room, drinking water taps and public toilets, helipad, water supply system and landscaping works. The weightage of trail improvement works with steps and railing construction is high, almost 53% of the total. The project area is accessible from Doti and Bajura as well.

The works to be constructed are simple in nature. But management of construction materials as well as working manpower will be challenging due to its location at high altitude with mountainous undulating terrain.

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:

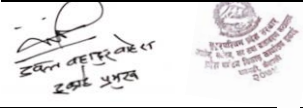
No.	Position	Total Work Experience [years]	Experience In Similar Work [years]
1	Engineer (Project Manager) Master in Civil Engineering/ Project Management/ Construction Management	10	7
2	Quality Assurance/ Quality Control (QA/QC) Expert Master in Civil Engineering	7	5
3	Construction Engineer – Civil Engineer, Bachelor in Civil Engineering.	5	3
4	Mechanical Engineer, Bachelor in Mechanical engineering	5	3
5	Civil Sub-engineer, Diploma in civil engineering	7	5
6	EHS Officer	5	2



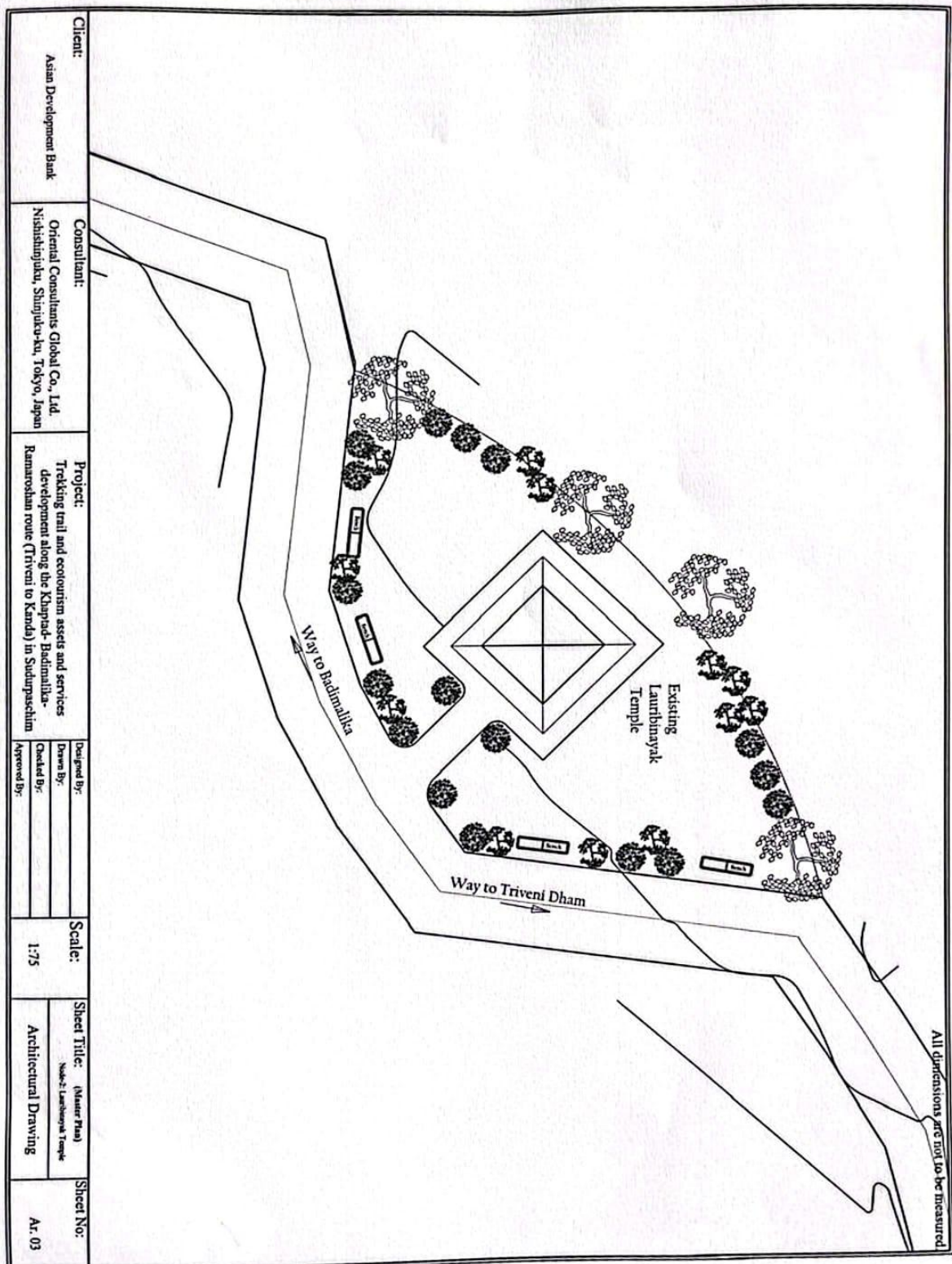
Equipment Requirements

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

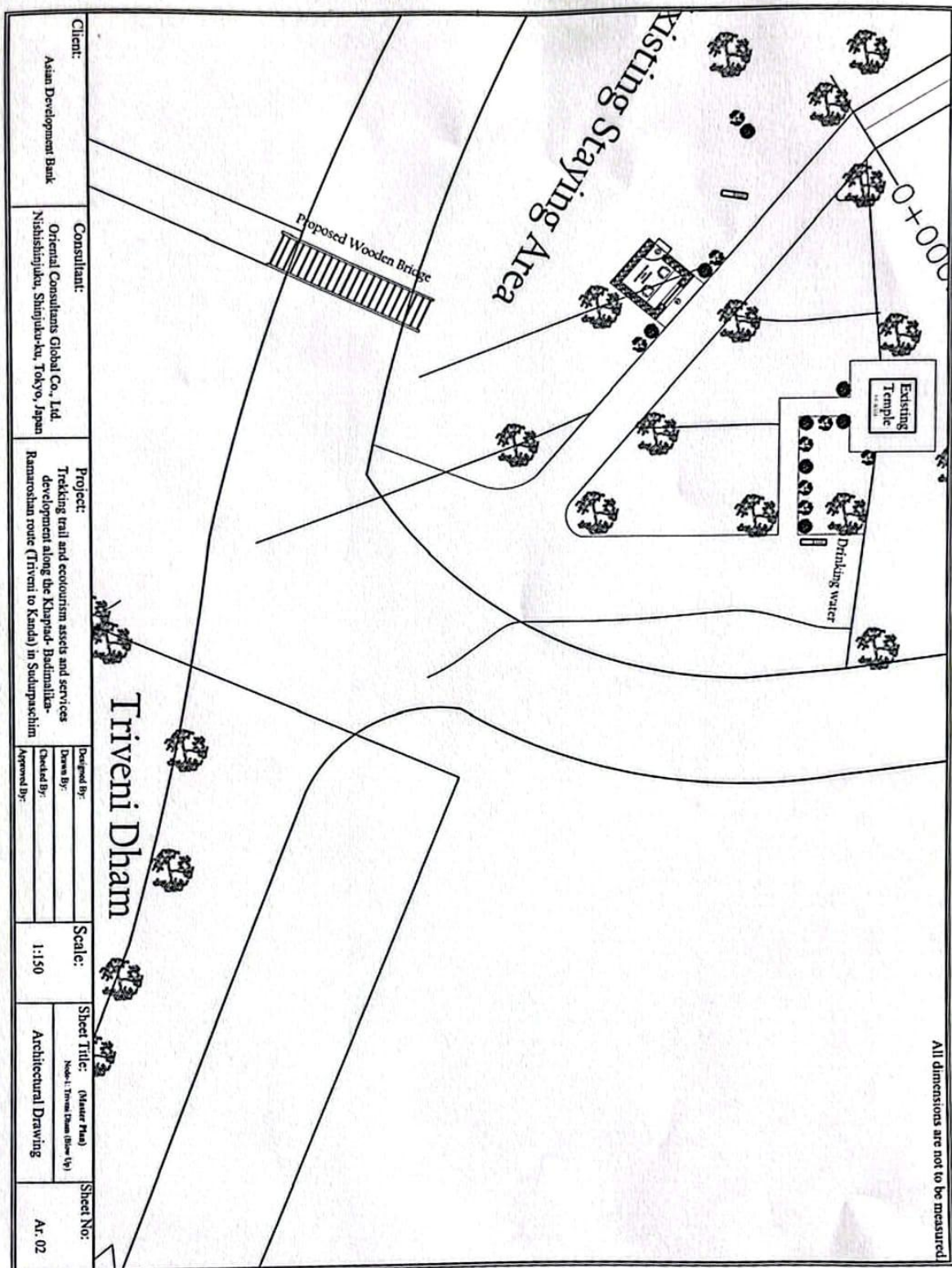
No.	Equipment Type and Characteristics	Minimum Number Required
1	Excavator cum loader (capacity 0.25 m ³)	1
2	Tipper /Truck (capacity 3.5 m ³)	3
3	Tractor	3
4	Concrete mixer	2

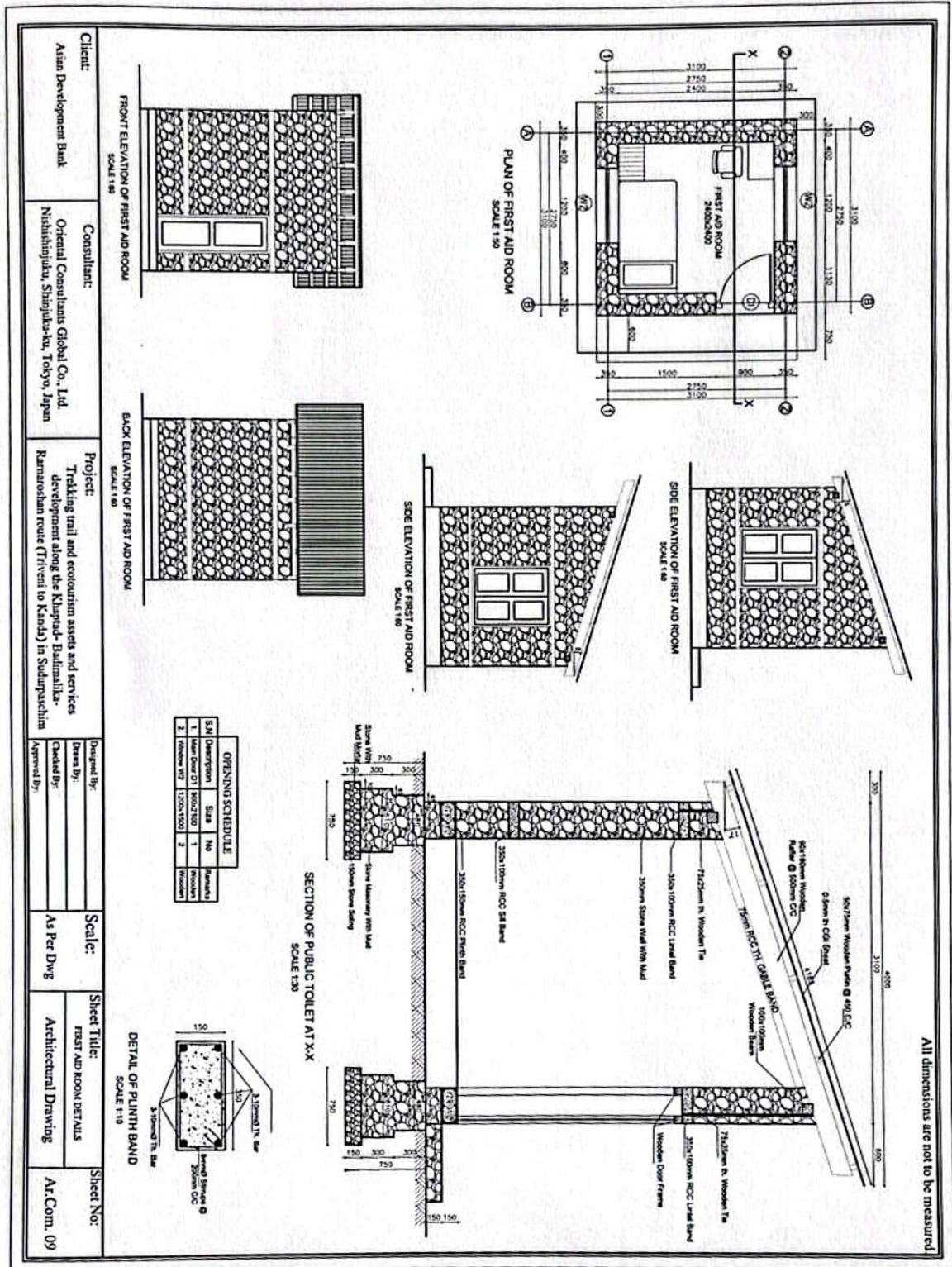


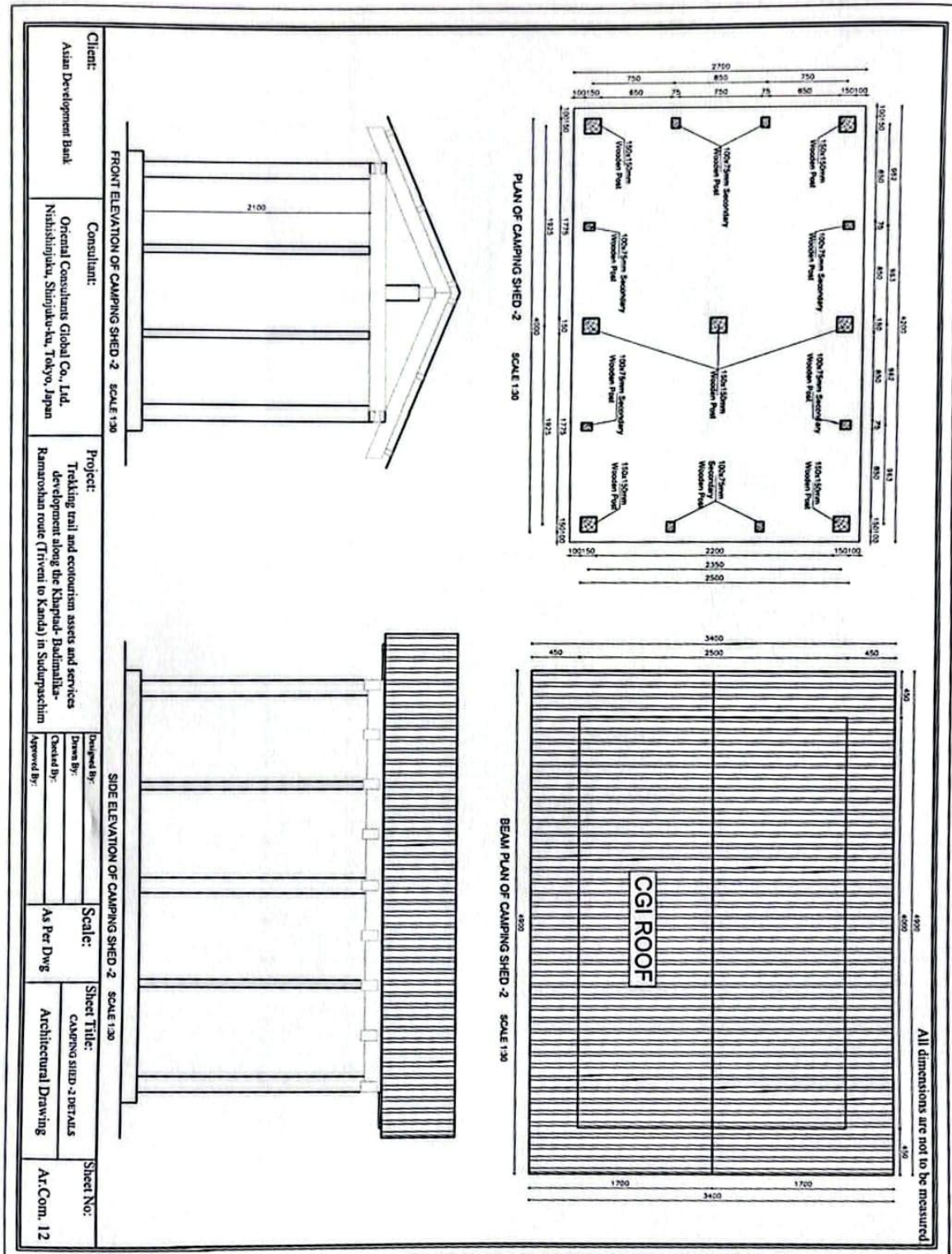
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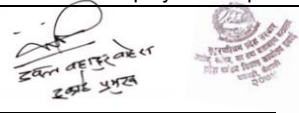




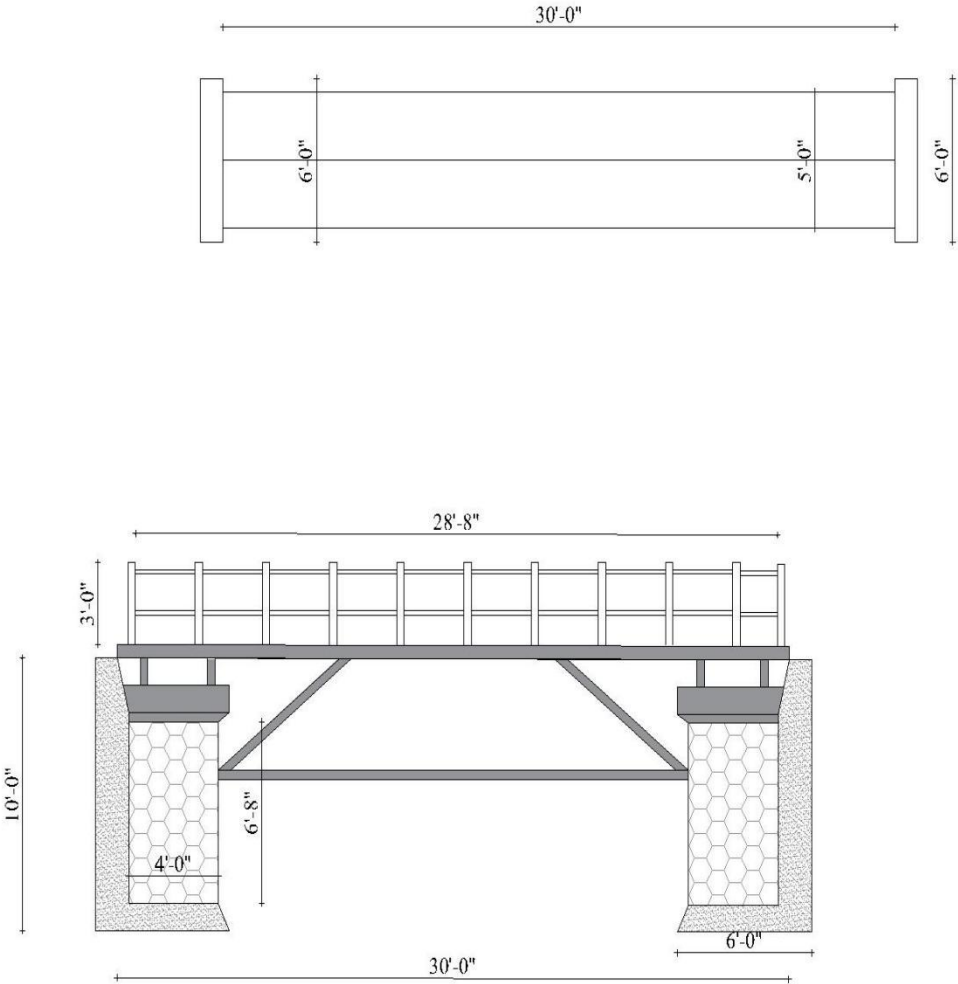
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Client: Asian Development Bank	Consultant: Oriental Consultants Global Co., Ltd. Nishishinjuku, Shinjuku-ku, Tokyo, Japan	Project: Trekking trail and ecotourism assets and services development along the Klapad-Badimalika-Ramroshan route (Triveni to Kanda) in Sindhupalchok	Designed By: Drawn By: Checked By: Approved By:	Scale: 1:400	Sheet Title: (Master Plan) Node-1: Triveni-Daman (Klapad)	Sheet No: At. 01'
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The diagram is a site plan for a development project. It features a large, irregularly shaped plot of land. In the upper right portion of the plot, there is a rectangular area labeled 'Under Construction Building'. In the center of the plot, there is a square area labeled 'HELIPAD' with a circular symbol containing the letter 'H' in the middle. To the right of the helipad, there is a winding line representing a river or stream. Below the river, there is an area labeled 'Existing Staying Area' with several small tree symbols. A note at the bottom right of the diagram states 'All dimensions are not to be measured'.



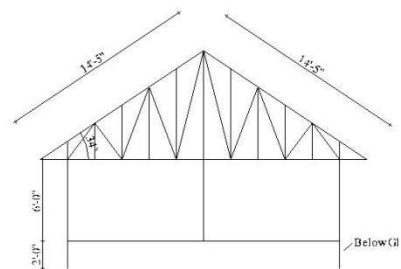
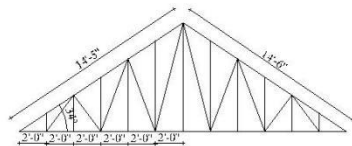
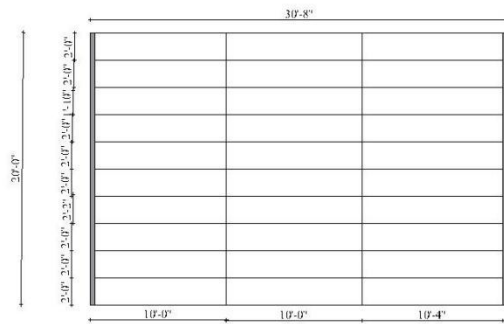
Truss Bridge



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Truss





Section 7: General Conditions of Contract

Table of Clauses

A. General	7-4
1. Definitions	7-4
2. Interpretation	7-6
3. Language and Law	7-7
4. Contract Agreement	7-7
5. Assignment	7-7
6. Care and Supply of Documents	7-7
7. Confidential Details	7-7
8. Compliance with Laws	7-8
9. Joint and Several Liability	7-8
10. Project Manager's Decisions	7-9
11. Delegation	7-9
12. Communications	7-9
13. Subcontracting	7-9
14. Other Contractors	7-9
15. Personnel and Equipment	7-9
16. Employer's and Contractor's Risks	7-10
17. Employer's Risks	7-10
18. Contractor's Risks	7-10
19. Insurance	7-11
20. Site Investigation Reports	7-11
21. Contractor to Construct the Works	7-11
22. The Works to Be Completed by the Intended Completion Date	7-11
23. Designs by Contractor and Approval by the Project Manager	7-11
24. Safety	7-11
25. Discoveries	7-12
26. Possession of the Site	7-12
27. Access to the Site	7-12
28. Instructions, Inspections, and Audits	7-12
29. Appointment of the Adjudicator	7-12
30. Procedure for Disputes	7-13
B. Staff and Labor	7-13
31. Forced Labor	7-13
32. Child Labor	7-13
33. Workers' Organizations	7-13
34. Nondiscrimination and Equal Opportunity	7-13
C. Time Control	7-14

2024/07/01
2024/07/01



35. Program	7-14
36. Extension of the Intended Completion Date	7-15
37. Acceleration	7-15
38. Delays Ordered by the Project Manager	7-15
39. Management Meetings	7-15
40. Early Warning	7-16
D. Quality Control	7-16
41. Identifying Defects	7-16
42. Tests	7-16
43. Correction of Defects	7-16
44. Uncorrected Defects	7-16
E. Cost Control	7-17
45. Contract Price	7-17
46. Changes in the Contract Price	7-17
47. Variations	7-17
48. Cash Flow Forecasts	7-18
49. Payment Certificates	7-18
50. Payments	7-19
51. Compensation Events	7-19
52. Tax	7-20
53. Currencies	7-20
54. Price Adjustment	7-21
55. Retention	7-21
56. Liquidated Damages	7-21
57. Bonus	7-22
58. Advance Payment	7-22
59. Securities	7-22
60. Dayworks	7-22
61. Cost of Repairs	7-23
F. Force Majeure	7-21
62. Definition of Force Majeure	7-21
63. Notice of Force Majeure	7-22
64. Duty to Minimize Delay	7-22
65. Consequences of Force Majeure	7-22
66. Force Majeure Affecting Subcontractor	7-23
67. Optional Termination, Payment, and Release	7-23
68. Release from Performance	7-23
G. Finishing the Contract	7-26
69. Completion	7-26

2024/04/28



Section 7: General Conditions of Contract

7-3

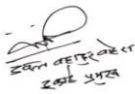
70. Taking Over	7-26
71. Final Account.....	7-26
72. Operating and Maintenance Manuals	7-26
73. Termination.....	7-26
74. Fraud and Corruption.....	7-27
75. Payment upon Termination	7-30
76. Property.....	7-30
77. Release from Performance	7-30
78. Suspension of ADB Loan or Credit	7-30
79. Eligibility.....	7-30

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

- (a) The **Accepted Contract Amount** means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
- (b) The **Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
- (c) The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 29.1[Appointment of Adjudicator] hereunder.
- (d) **Bank** means the financing institutions named in the **Particular Conditions of Contract (PCC)**.
- (e) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- (f) **Compensation Events** are those defined in GCC 51.1[Compensation Events]hereunder.
- (g) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC 69.1 [Completion].
- (h) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC 2.3 below.
- (i) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the Employer.
- (j) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the Employer.
- (k) The **Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
- (l) **Days** are calendar days; months are calendar months.
- (m) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (n) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (o) The **Defects Liability Certificate** is the certificate issued by



- the Project Manager upon correction of defects by the Contractor.
- (p) The **Defects Liability Period** is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects.
 - (q) **Drawings** include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
 - (r) The **Employer** is the party who employs the Contractor to carry out the Works, as specified in the **PCC**.
 - (s) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
 - (t) **Force Majeure** means an exceptional event or circumstance: which is beyond a Party's control; which such Party could not reasonably have provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.
 - (u) **In writing** or **written** means hand-written, type-written, printed, or electronically made, and resulting in a permanent record.
 - (v) The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
 - (w) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the **PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
 - (x) **Letter of Acceptance** means the formal acceptance by the Employer of the Bid and denotes the formation of the Contract at the date of acceptance.
 - (y) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
 - (z) **Party** means the Employer or the Contractor, as the context requires.
 - (aa) **PCC** means Particular Conditions of Contract.
 - (bb) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
 - (cc) The **Project Manager** is the person named in the **PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
 - (dd) **Retention Money** means the aggregate of all monies retained

by the Employer pursuant to GCC 55.1 [Retention].

- (ee) **Schedules** means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Bid, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.
- (ff) The **Site** is the area defined as such in the **PCC**.
- (gg) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (hh) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (ii) The **Start Date** is given in the **PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (jj) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (kk) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (ll) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (mm) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the **PCC**.

2. Interpretation

- 2.1 In interpreting these GCC, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is specified in the **PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Contract Agreement,

2024/01/01
2024/01/01



- (b) Letter of Acceptance,
 - (c) Letter of Bid,
 - (d) Particular Conditions of Contract,
 - (e) the List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) General Conditions of Contract,
 - (g) Specifications,
 - (h) Drawings,
 - (i) Completed Activity Schedules or Bill of Quantities, and
 - (j) any other document listed in the **PCC** as forming part of the Contract.
- 3. Language and Law**
- 3.1 The language of the Contract and the law governing the Contract are stated in **thick**.
- 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when
- (a) 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 from, or any payments to, a particular country, person, or entity. Where the Borrower's country prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded.
- 4. Contract Agreement**
- 4.1 The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the attached Contract forms in Section 8. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.
- 5. Assignment**
- 5.1 Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party
- (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party; and
 - (b) may, as security in favor of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.
- 6. Care and Supply of Documents**
- 6.1 The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 6.2 Each of the Contractor's Documents shall be in the custody and care of

2024/07/08
2024/07/08



the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.

- 6.3 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.
- 6.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

7. Confidential Details

- 7.1 The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow its proper implementation.
- 7.2 Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.
- 7.3 Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this Clause.

8. Compliance with Laws

- 8.1 The Contractor shall, in performing the Contract, comply with applicable Laws.
- 8.2 Unless otherwise stated in the Particular Conditions,
- (a) the Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the [Employer's Country or country where the Site is located] which (i) such authorities or undertakings require the Employer to obtain in the Employer's name, and (ii) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract;
 - (b) the Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government

2024/07/01
2024/07/01



authorities or public service undertakings in the [Employer's Country or country where the Site is located] which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under Subclause 8.2(a) hereof and that are necessary for the performance of the Contract. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Employer or its personnel, including the Subcontractors and their personnel, but without prejudice to Subclause 8.1 hereof.

9. Joint and Several Liability

9.1 If the Contractor is a Joint Venture of two or more persons, all such persons shall be jointly and severally liable to the Employer for the fulfillment of the provisions of the Contract, and shall designate one of such persons to act as a leader with authority to bind the Joint Venture. The composition or the constitution of the Joint Venture shall not be altered without the prior consent of the Employer.

10. Project Manager's Decisions

10.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

11. Delegation

11.1 The Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

12. Communications

12.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

13. Subcontracting

13.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

14. Other Contractors

14.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the **PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

15. Personnel and Equipment

15.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the functions stated in the Schedule or

- other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
- 15.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within 7 days and has no further connection with the work in the Contract.
- 15.3 If the Employer, Project Manager, or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the execution of the Works, then that employee shall be removed in accordance with Clause 15.2 above.
- 16. Employer's and Contractor's Risks**
- 16.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.
- 17. Employer's Risks**
- 17.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:
- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.
- 17.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to
- (a) a Defect which existed on the Completion Date,
 - (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
 - (c) the activities of the Contractor on the Site after the Completion Date.
- 18. Contractor's**
- 18.1 From the Starting Date until the Defects Liability Certificate has been

2024/07/28
2024/07/28

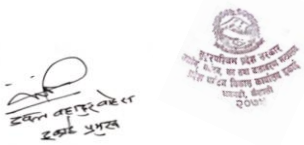


Risks	issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks, are Contractor's risks.
19. Insurance	19.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the PCC for the following events, which are due to the Contractor's risks: (a) loss of or damage to the Works, Plant, and Materials; (b) loss of or damage to Equipment; (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and (d) personal injury or death. 19.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred. 19.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance, which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due. 19.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager. 19.5 Both parties shall comply with any conditions of the insurance policies.
20. Site Investigation Reports	20.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the PCC, supplemented by any information available to the Contractor.
21. Contractor to Construct the Works	21.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.
22. The Works to Be Completed by the Intended Completion Date	22.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
23. Designs by Contractor and Approval by	23.1 The Contractor shall carry out design to the extent specified in the PCC. The Contractor shall promptly submit to the Employer all designs prepared by him. Within 14 days of receipt, the Employer shall notify

2024/05/28
2024/05/28



the Project Manager	any comments. The Contractor shall not construct any element of the permanent work designed by him within 14 days after the design has been submitted to the Employer or where the design for that element has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on, taking these comments into account as necessary.
	23.2 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings..
	23.3 The Contractor shall be responsible for design of Temporary Works.
	23.4 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
	23.5 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.
	23.6 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
24. Safety	24.1 The Contractor shall be responsible for the safety of all activities on the Site.
25. Discoveries	25.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
26. Possession of the Site	26.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the PCC , the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
27. Access to the Site	27.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
28. Instructions, Inspections, and Audits	28.1 The Contractor shall carry out all instructions of the Project Manager, which comply with the applicable laws where the Site is located.
	28.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.
	28.3 The Contractor shall permit ADB to inspect the Contractor's accounts,



records, and other documents relating to the submission of bids and contract performance and to have them audited by auditors appointed by ADB. The Contractor shall maintain all documents and records related to the Contract for a period of three (3) years after completion of the Works. The Contractor shall provide any documents necessary for the investigation of allegations of corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations and require its employees or agents with knowledge of the Contract to respond to questions from ADB.

29. Appointment of the Adjudicator

29.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the **PCC**, to appoint the Adjudicator within 14 days of receipt of such request.

29.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 14 days of receipt of such request.

30. Procedure for Disputes

30.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.

30.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

30.3 The Adjudicator shall be paid by the hour at the rate specified in the **PCC**, together with reimbursable expenses of the types specified in the **PCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision shall be final and binding.

30.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the **PCC**.

B. Staff and Labor

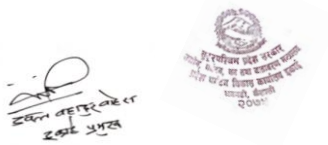
31. Forced Labor

31.1 The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty. This covers any kind of

- involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor—contracting arrangements.
- 32. Child Labor** 32.1 The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where national laws have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.
- 33. Workers' Organizations** 33.1 In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with national law. Where national law substantially restricts workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where national law is silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and bargain collectively. The Contractor shall engage with such workers representatives. Worker organizations are expected to fairly represent the workers in the workforce.
- 34. Nondiscrimination and Equal Opportunity** 34.1 The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of 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, access to training, promotion, termination of employment or retirement, and discipline. In countries where national law provides for non-discrimination in employment, the Contractor shall comply with national law. When national laws are silent on nondiscrimination in employment, the Contractor shall meet this Subclause's requirements. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.

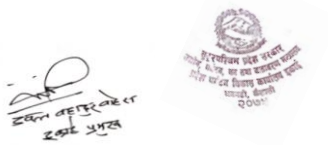
C. Time Control

- 35. Program** 35.1 Within the time stated in the **PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a



- lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
- 35.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 35.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the **PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the **PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
- 35.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
- 36. Extension of the Intended Completion Date**
- 36.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 36.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 37. Acceleration**
- 37.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 37.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
- 38. Delays Ordered by the Project Manager**
- 38.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
- 39. Management**
- 39.1 Either the Project Manager or the Contractor may require the other to

Meetings	attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
39.2	The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
40. Early Warning	40.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
40.2	The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.
D. Quality Control	
41. Identifying Defects	41.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
42. Tests	42.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.
43. Correction of Defects	43.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the PCC . The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
43.2	Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.
44. Uncorrected	44.1 If the Contractor has not corrected a Defect within the time specified in

**Defects**

the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

E. Cost Control**45. Contract Price**

45.1 In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

45.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for Materials on Site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

46. Changes in the Contract Price

46.1 In the case of an admeasurement contract:

- (a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25%, provided the change exceeds 1% of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
- (b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15%, except with the prior approval of the Employer.
- (c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

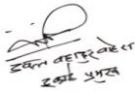
46.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

47. Variations

47.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.

47.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

- 47.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 47.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 47.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 47.6 In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in GCC46.1 [Changes in the Contract Price] or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.
- 48. Cash Flow Forecasts**
- 48.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.
- 49. Payment Certificates**
- 49.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 49.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 49.3 The value of work executed shall be determined by the Project Manager.
- 49.4 The value of work executed shall comprise,
- (a) in the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been completed; or
 - (b) in the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.



49.5 The value of work executed shall include the valuation of Variations and Compensation Events.

49.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

50. Payments

50.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

50.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

50.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

50.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

51. Compensation Events

51.1 The following shall be Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC 26.1 [Possession of the Site].
- (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could

reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effects on the Contractor of any of the Employer's Risks.
- (k) The Project Manager unreasonably delays issuing a Certificate of Completion.

51.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

51.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

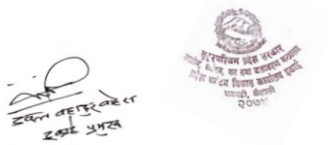
51.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

52. Tax

52.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC 54.1 [Price Adjustment].

53. Currencies

53.1 Where payments are made in currencies other than the currency of the Employer's country specified in the **PCC**, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated



in the Contractor's Bid.

54. Price Adjustment

- 54.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the **PCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{Imc}/\text{loc}$$

where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c."

A_c and B_c are coefficients¹ specified in the **PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c;" and

Imc is a consolidated index prevailing at the end of the month being invoiced and loc is the same consolidated index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c."

- 54.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

55. Retention

- 55.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the **PCC** until Completion of the whole of the Works.
- 55.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 69.1 [Completion], half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" bank guarantee.

56. Liquidated Damages

- 56.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the **PCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **PCC**.

¹ The sum of the two coefficients A_c and B_c should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulas for all currencies, since coefficient A_c , for the nonadjustable portion of the payments, is a very approximate figure (usually 0.10 ~ 0.20) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency is added to the Contract Price.

The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

- 56.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC 50.1 [Payments].

57. Bonus

- 57.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the **PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

58. Advance Payment

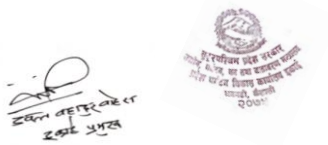
- 58.1 The Employer shall make advance payment to the Contractor of the amounts stated in the **PCC** by the date stated in the **PCC**, against provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.
- 58.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
- 58.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

59. Securities

- 59.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the **PCC**, by a bank acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a bank guarantee.

60. Dayworks

- 60.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used



for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

60.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within 2 days of the work being done.

60.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

61. Cost of Repairs 61.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

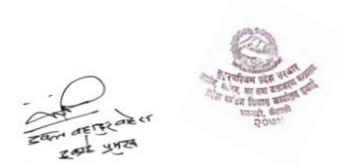
F. Force Majeure

62. Definition of Force Majeure 62.1 In this Clause, "Force Majeure" means an exceptional event or circumstance,

- (a) which is beyond a Party's control;
- (b) which such Party could not reasonably have provided against before entering into the Contract;
- (c) which, having arisen, such Party could not reasonably have avoided or overcome; and
- (d) which is not substantially attributable to the other Party.

62.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war;
- (c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;
- (d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; and
- (e) natural catastrophes such as earthquake, hurricane, typhoon, or volcanic activity.



- 63. Notice of Force Majeure**
- 63.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
- 63.2 The Party shall, having given notice, be excused from performance of its obligations for so long as such Force Majeure prevents it from performing them.
- 63.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.
- 64. Duty to Minimize Delay**
- 64.1 Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure.
- 64.2 A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.
- 65. Consequences of Force Majeure**
- 65.1 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to GCC Subclause 30.1 [Procedure for Disputes] to
- (a) an extension of time for any such delay, if completion is or will be delayed, under GCC Subclause 36 [Extension of the Intended Completion Date]; and
 - (b) if the event or circumstance is of the kind described in subparagraphs (a) to (d) of GCC Subclause 62.2 [Definition of Force Majeure] and, in the case of subparagraphs (b) to (d), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in GCC Subclause 19 [Insurance].
- 65.2 After receiving this notice, the Project Manager shall proceed in accordance with GCC Subclause 10 [Project Manager's Decisions] to agree or determine these matters.
- 66. Force Majeure Affecting Subcontractor**
- 66.1 If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader



Force Majeure events or circumstances shall not excuse the Contractor's nonperformance or entitle him to relief under this Clause.

**67. Optional
Termination,
Payment and
Release**

67.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with GCC Subclause 73.5 [Termination].

67.2 Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate, which shall include

- (a) the amounts payable for any work carried out for which a price is stated in the Contract;
- (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;
- (c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- (d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- (e) the Cost of repatriation of the Contractor's staff and labor employed wholly in connection with the Works at the date of termination.

**68. Release from
Performance**

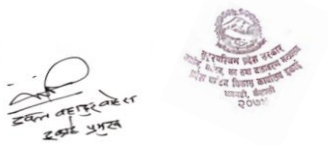
68.1 Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises, which makes it impossible or unlawful for either or both Parties to fulfill its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance,

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract; and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under GCC Subclause 67

[Optional Termination, Payment and Release] if the Contract had been terminated under GCC Subclause 67.

G. Finishing the Contract

- 69. Completion** 69.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed.
- 70. Taking Over** 70.1 The Employer shall take over the Site and the Works within 7 days of the Project Manager's issuing a certificate of Completion.
- 71. Final Account** 71.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.
- 72. Operating and Maintenance Manuals** 72.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **PCC**.
- 72.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **PCC** pursuant to GCC 72.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the **PCC** from payments due to the Contractor.
- 73. Termination** 73.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 73.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:
- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
 - (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;
 - (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (d) a payment certified by the Project Manager is not paid by the



Employer to the Contractor within 84 days of the date of the Project Manager's certificate;

- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Project Manager gives two consecutive Notices to update the Program and accelerate the works to ensure compliance with GCC Subclause 22.1 [The Works to Be Completed by the Intended Completion Date] and the Contractor fails to update the Program and demonstrate acceleration of the works within a reasonable period of time determined by the Project Manager;
- (g) the Contractor does not maintain a Security, which is required;
- (h) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **PCC**; and
- (i) if the Contractor, in the judgment of the Employer has engaged in integrity violations in competing for or in executing the Contract, pursuant to GCC 74.1 [Fraud and Corruption].

73.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC 73.2 above, the Project Manager shall decide whether the breach is fundamental or not.

73.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

73.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

74. Fraud and Corruption

74.1 ADB's Anticorruption Policy (1998, As amended to date) requires Borrowers (including beneficiaries of ADB-financed activity), as well as Contractors, 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, the 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) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
 - (vi) "Conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;
 - (vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation, or deliberately making false statements to investigators, with the intent to impede an ADB investigation; (b) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and
 - (viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines(2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: 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, including declaring ineligible, either indefinitely or for a stated period of time, to participate² 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.

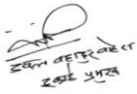
74.2 All Bidders, consultants, contractors, suppliers, and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:

- (a) being available to be interviewed and replying fully and truthfully to all questions asked;
- (b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;
- (c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;
- (d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communications Technology (ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);
- (e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and
- (f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.

74.3 All Bidders, consultants, contractors and suppliers shall ensure that, in

² Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

- its contract with its sub-consultants, Subcontractors and other third parties engaged or involved in ADB-related activities, such sub-consultants, Subcontractors and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.
- 75. Payment upon Termination**
- 75.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the **PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
- 75.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.
- 76. Property**
- 76.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
- 77. Release from Performance**
- 77.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterward to which a commitment was made.
- 78. Suspension of ADB Loan or Credit**
- 78.1 In the event that ADB suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made,
- (a) the Employer is obligated to notify the Contractor, with copy to the Project Manager, of such suspension within 7 days of having received ADB's suspension notice.
 - (b) if the Contractor has not received sums due it within the 28 days for payment provided for in GCC50.1 [Payments], the Contractor may immediately issue a 14-day termination notice.
- 79. Eligibility**
- 79.1 The Contractor shall have the nationality of an eligible country as specified in Section 5(Eligible Countries) of the bidding document. The Contractor shall be deemed to have the nationality of a country if the



Contractor 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.

79.2 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as specified in Section 5 (Eligible Countries) of the bidding document and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment, and services.

79.3 For purposes of GCC 79.2, "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.



Section 8: Particular Conditions of Contract

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

A. General	
GCC 1.1 (d)	The financing institutions is: Asian Development Bank (ADB)
GCC 1.1 (r)	The Employer is: Project Coordination and Management Unit Sudurpashchim, Provincial Tourism Development Program Implementation Unit (PTDPIU), Dhangadhi, Nepal.
GCC 1.1 (w)	The Intended Completion Date for the whole of the Works shall be: 36 months from the start date.
GCC 1.1 (cc)	The Project Manager is: Office Chief, Provincial Tourism Development Program Implementing Unit (PTDPIU), Dhangadhi, Nepal
GCC 1.1 (ff)	The Site is located at Bajura district and is defined in drawings: Layout drawings
GCC 1.1 (ii)	The Start Date shall be: 21 days from the date of signing of contract
GCC 1.1 (mm)	The Works consist of: Trekking Trail and Eco-tourism Assets and Services Development Works, Khaptad - Badimalika - Ramaroshan Route, Badimalika Section (6.5 km) in Bajura district.
GCC 2.2	Sectional Completions are: Not Applicable
GCC 2.3(j)	The following documents also form part of the Contract: i. Initial Environmental Examination (IEE) and Environmental Management Plan (EMP)
GCC 3.1	The language of the contract is: English The law that applies to the Contract is the law of: Nepal
GCC 11.1	The Project Manager may delegate any of his duties and responsibilities.
GCC 14.1	Schedule of other contractors: Not Applicable
GCC 19.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: 110% of the Contract Price Deductible: NPR 500,000.00



	(b) for loss or damage to Equipment: All equipment shall be insured before mobilizing to the site for a sum sufficient for replacement of the machine. The insurance shall be in the name of the legal owner. Deductible: NPR 100,000.00 (c) For Third Party Liability Insurance in connection with Contract: NPR 200,000 for 10 persons for 2 years with unlimited number of Occurrences. Deductible: NPR 100,000.00 (d) for personal injury or death: (i) of the Contractor's employees including labor: As per the labor Act of Nepal (ii) of other people: NPR 1,000,000 for 10 persons at a time with unlimited number of Occurrences
GCC 20.1	Site Investigation Reports are: Not Applicable
GCC 23.1	The following shall be designed by the Contractor: Joint survey will be carried out with the team of representative of the Project Manager and representative of the Project Implementation Consultant (PIC). Any missing data or errors in design and drawings shall be duly corrected and produced for approval.
GCC 24.1	GCC 24 is replaced as: The contractor shall be responsible for the safety of all activities at site The contractor shall at all times take all reasonable precaution to maintain the health and safety of the contractor's personnel and to provide a safe working environment The contractor shall conduct health and safety programs for workers employed under the project and shall include information on the trafficking of women and the risk of sexually transmitted diseases, including HIV AIDS.
GCC 26.1	The Site Possession Date(s) shall be: 15 days from the date of signing of contract
GCC 29.1	Appointing Authority for the Adjudicator: President, Nepal Council of Arbitration (NEPCA)
GCC 30.3	The Adjudicator shall be paid by the hour at the rate of: NPR 3,000.00 The reimbursable expenses are: As per the schedule 1 of Arbitral Procedures Regulations of NEPCA, 2072
GCC 30.4	Institution whose arbitration procedures shall be used: (a) Contracts with foreign contractors:



	International arbitration shall be conducted in accordance with the rules of Singapore International Arbitration Centre (SIAC) Arbitration shall be administered by: SIAC The place of arbitration shall be: the place of the institution administering the arbitration. (b) Contracts with domestic contractors: Arbitration shall be conducted in accordance with the laws of Nepal.
GCC 34.2	The following sentence shall apply: Respectful Work Environment The Contractor shall ensure that its employees and Subcontractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct and harassment, including sexual harassment and shall, at all times, behave in a manner that creates an environment free of unethical behavior, bullying, misconduct and harassment, including sexual harassment. The Contractor shall take appropriate action against any employees or Subcontractors, including suspension or termination of employment or sub-contract, if any form of unethical or inappropriate behavior is identified. The Contractor shall conduct training programs for its employees and sub-contractors to raise awareness on and prevent any form of bullying, discrimination, misconduct and harassment including sexual harassment, and to promote a respectful work environment. The Contractor shall keep an up to date record of its employees and Subcontractors who have attended and completed such training programs and provide such records to the Employer or the Engineer at their first written request.

C. Time Control

GCC 35.1	The Contractor shall submit for approval a Program for the Works within 28 days from the date of the Letter of Acceptance.
GCC 35.3	The period between Program updates is 60 days. The amount to be withheld for late submission of an updated Program is: NPR. 200,000.00

D. Quality Control

GCC 43.1	The Defects Liability Period is: 365 days .
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E. Cost Control

GCC 53.1	The currency of the Employer's country is: Nepalese Rupees (NPR)
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GCC 54.1	The Contract is subject to price adjustment in accordance with GCC Clause 54, and the following information regarding coefficients does apply. The Nonadjustable and adjustable Coefficients shall be as follows Ac = 0.15 Bc = 0.85 The index shall be the National Wholesale Price Index: Overall index as published by Nepal Rastra Bank If the contractor fails to complete the works within the Intended Date of Completion, adjustment of prices thereafter shall be made using either (i) index applicable on the date 28 days prior to the expiry of the intended date of completion or (ii) the current index, whichever is more favorable to the Employer. The Price Adjustment amount shall be limited to a maximum of: 25% percentage of the initial Contract Amount
GCC 55.1	The proportion of payments retained is: Five (5) percent
GCC 56.1	The liquidated damages for the whole of the Works are: 0.05% of the final contract price per day. The maximum amount of liquidated damages for the whole of the Works is Ten (10) percent of the final Contract Price.
GCC 57.1	The Bonus for the whole of the Works is: Not Applicable
GCC 58.1	The Advance Payments shall be 15% of the contract price (Excluding VAT and Provisional Sum) and shall be paid to the Contractor in two installments. The first installment of 7.5% shall be paid to the contractor within 28 days upon submission of acceptable Bank Guarantee for Advance Payment. The second installment of 7.5% shall be paid after the contractor completes full mobilization to the satisfaction of the Project Manager at site upon submission of acceptable Bank Guarantee for Advance Payment and has fulfilled contractual obligations such as insurance policies and updated work program.
GCC 58.3	Repayment of the Advance Payments shall be: Deductions from each payment certificates will commence from the first payment certificate in which the value of works executed exceeds 30% of the contract price. Deduction will be at the rate of 40% of the respective interim payment certificate until such time as the advance payment has been completely repaid, provided that the advance payment shall be completely repaid prior to the payment of 90% of the contract price
GCC 59.1	The Performance Security amount is Five (5) percent of the contract price. And as per ITB 36.5, if in the opinion of the Employer the Evaluated Bid Price is seriously unbalanced, front loaded or substantially below the updated estimates,



	the Employer may require the bidder to produce detailed price analysis for any or all items of the Bill of Quantities (BOQ), to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analysis, 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.
G. Finishing the Contract	
GCC 69	The following paragraph has been added to the existing requirement Upon completion of construction, the contractor shall fully reinstate local infrastructure and agricultural land to at least their pre-project condition as recorded by the contractor in concurrence with its obligation in clause 22. If, in the opinion of the Project Manager, the contractor shall have failed to take reasonable and prompt action to comply with his obligations, the Project Manager will inform the contractor in writing. If, within 28 days after receiving written notice from the Project manager, the contractor still fails to comply with his obligation, the Employer shall have the right to employ others to perform the reinstatement and to deduct the cost thereof from any money due or which shall become due to the contractor.
GCC 72.1	The date by which operating and maintenance manuals are required is Not Applicable The date by which "as built" drawings are required is: within 56 days after the Project Manager issues the Certificate of Completion of works.
GCC 72.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required in GCC 72.1 is NPR. 117,470.97
GCC 73.2 (h)	The maximum number of days is: 200
GCC 75.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is 25%
ADDITIONAL CLAUSES	
GCC 80.1 Safety, Security and Protection of the Environment	The Contractor shall, throughout the execution of the Works and the remedying of any defects therein: - Have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so as the same is under his control) and the works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons. - Provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when necessary or required by the Project Manager or by any



	duly constituted authority, for the protection of the Works for the safety and convenience of the public or others. c) Take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. d) Make his own arrangements for the supply of alternative sources of energy instead of firewood for cooking purpose at his camps and as a means of heating during the processing or preparation of any materials forming part of the Works. Collection of firewood from Government owned or privately-owned forest is strictly forbidden. e) Take all necessary precautions for the efficient protection of all surface and subsurface watercourses against all kinds of pollution arising from the execution of the Works f) Provide and maintain at his own cost efficient, adequate and sanitary latrine accommodation constructed to comply with the regulation in force in the Country for the use of the employees and labours and shall keep the latrines in a clean and sanitary condition. g) Modify any working practice or activity should the Project Manager consider, on the advice of the relevant Government Departments, that the practices or activities will be harmful to wildlife. The Contractor shall comply with all applicable national, regional and local environmental laws and regulations. The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out all of the monitoring and mitigation measures in accordance to Initial Environment Examination (IEE) and Environmental Management Plan (EMP), Environmental Assessment and Review Framework (EARF) disclosed in ADB website¹, (c) allocate the budget required to ensure that such measures are carried out, and (d) comply with 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 IEE and EMP. The Contractor shall submit monthly reports on the carrying out of such measures to the Employer. Within 20 days of the Effective Date the Contractor shall submit a detailed site-specific environment, health and safety management plan (EHSMP), based on the EHSMP submitted in the technical proposal and EMP disclosed in ADB website, for the Project Manager 's no objection showing how he/she intends to comply with the local Health and Safety laws and regulations and other specific requirements prescribed in the Contract,	
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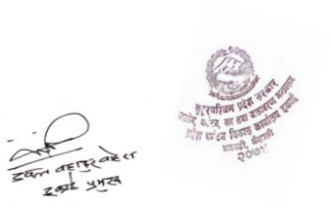
¹ See most IEE & EMP and EARF for the proposed works in this link https://www.adb.org/sites/default/files/projectdocuments/56073/56073-001-iee-en_0.pdf



	taking into account the Supplementary Information in Section 6- Employer's Requirements. Work shall not commence on the Site until the confirmation of no objection of the SSHSMP has been obtained from the Project Manager and is being implemented. Where unanticipated health and safety hazards or risks become apparent during the Contract, the Contractor is required to update the site-specific EHSMP to outline the potential impacts to site works and associated mitigation measures for the Project Manager's no objection. The Contractor shall comply with the approved site-specific EHSMP and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the project site-specific EHSMP. In particular, the Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc., in accordance with the Contractor's SSHSMP. The Contractor should ensure that his Subcontractors comply with the site-specific EHSMP and provide all such necessary equipment to their personnel. The Contractor shall bear the costs to ensure that such measures, requirements and actions are carried out
Add GCC 80.2 Obligation of the Contractor	The Contractor shall pay compensation for all temporary use of private or community/village lands and for any loss of livelihood arising there from.
GCC 83 Provisional Sums	"Provisional Sum" means a sum included in the Contract and so designated in the Bill of Quantities for the execution of the Works which may be used in part or in whole, or not at all, on the instructions of the Project Manager. The Contractor shall be entitled to only such amounts in respect of the work to which the Provisional Sums relate as the Project Manager may determine. The Project Manager shall notify the Contractor of any determination made with a copy to the Employer. The Contractor shall produce to the Project Manager all quotations, expenditure in respect of Provisional Sums except where work is valued in accordance with rates or prices set out in the Bid. Where the Contractor is required to purchase goods or pay for services under the provisions of this Clause and such payments or purchases are not covered under the work items within the Bill of Quantities or under new work items agreed with the Project Manager then the Contractor shall be entitled to receive additional compensation for all overheads, ancillary costs and profit involved in such expenditure by adding an amount of 10% over the sum expended, whatsoever specified elsewhere in the Contract.
Add GCC 81.1	The contractor shall provide the Employer with quarterly reports of its activities, including each of its obligations in clauses 22, 24, 27, 31, 32, 34, and 80.

Handwritten signature and text in Devanagari script.

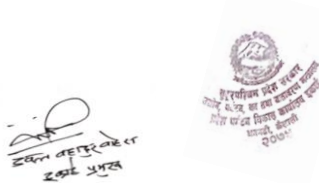




Section 9: Contract Forms

Table of Forms

Notice of Intention for Award of Contract.....	9-2
Notification of Award	9-3
Contract Agreement	9-6
Performance Security	9-8
Advance Payment Security	9-10



Notice of Intention for Award of Contract

[on letterhead paper of the Employer]

[date of notification]

To: [name of the Bidder]
Attention: [insert name of the Bidder's authorized representative]
Address: [insert address of the Bidder's authorized representative]
Telephone/Fax numbers: [insert telephone/fax numbers of the Bidder's authorized representative]
E-mail Address: [insert e-mail address of the Bidder's authorized representative]

This is to notify you of our intention to award the contract [insert name of the contract and identification number, as given in the Bid Data Sheet]. You have [insert number of days as specified in ITB 41.1 of the BDS] days from the date of this notification to (i) request for a debriefing in relation to the evaluation of your Bid; and/or (ii) submit a bidding-related complaint in relation to the intention for award of contract, in accordance with the procedures specified in ITB 46.1.

The summary of the evaluation are as follows:

1. List of Bidders

Name of Bidder	Bid Price as Read Out at Opening	Evaluated Bid Price

2. Reason/s Why Your Bid Was Unsuccessful

.....
.....
.....

3. The Successful Bidder

Name of Bidder:	
Address:	
Contract Price:	
Duration of Contract:	
Scope of the Contract Awarded:	
Amount Performance Security Required:	



Section 9:Contract Forms

9-3

Authorized Signature:

Name and Title of Signatory:

Name of Agency:



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. [please specify]]

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 and any additional security required as a result of the evaluation of your bid, using for that purpose the Performance Security Form included in Section 9 (Contract Forms) of the Bidding Document.

[Choose one of the following statements:]

We accept that [insert the name of adjudicator proposed by the Bidder] be appointed as the Adjudicator.

[or]

We do not accept that [insert the name of the adjudicator proposed by the Bidder] be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to [insert name of the appointing authority], the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with GCC 29.1.

Authorized Signature:

Name and Title of Signatory:



Name of Agency:

Attachment: Contract Agreement



Contract Agreement

THIS AGREEMENT made the [date] day of [month], [year], between *Provincial tourism development Project Implementation Unit, Dhangadhi* (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) Contract Agreement,
 - (b) Letter of Acceptance,
 - (c) Letters of Technical Bid and Price Bid,
 - (d) Particular Conditions of Contract,
 - (e) List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) General Conditions of Contract,
 - (g) Specifications,
 - (h) Drawings,
 - (i) Completed Activity Schedules or Bill of Quantities, and
 - (j) any other documents shall be added here.¹
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.

¹) The most recent version of the IEE and EMP for the proposed works, prepared in accordance with the ADB Safeguards Policy Statement (2009), is disclosed at the following link: <https://www.adb.org/projects/56073-001/main>



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
for and on behalf of the Employer

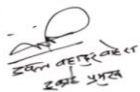
Signed by
for and on behalf the Contractor

in the presence of:

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 office]

Beneficiary: *Provincial tourism development Project Implementation Unit, Dhangadhi 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 [date] 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 words]¹ [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.

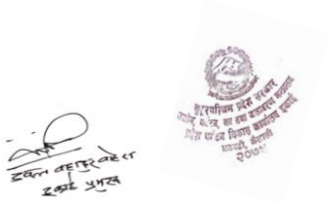
This guarantee shall expire, no later than the [date] day of [month], [year]², and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.³

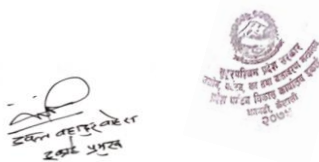
.....
[Signature(s) and seal of bank (where appropriate)]

-- Note to Bidder --

- ¹ 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. If the bank 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.
- ² 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."
- ³ Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758 where applicable.



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.



Advance Payment Security

[Bank's name and address of issuing branch or office]

Beneficiary: *Provincial tourism development Project Implementation Unit, Dhangadhi*

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 [date] 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 words]¹ [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 words]² [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:

- (a) used the advance payment for purposes other than the costs of mobilization and cash flow support in respect of the Works; or
- (b) has failed to repay the advance payment when it has become due and payable in accordance with the conditions of the Contract, specifying the amount payable by the Contractor.

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 eighty percent (80%) of the Contract Price has been certified for payment, or on the [date] day of [month], [year]³, 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. 458 (or ICC Publication No. 758 as applicable).

¹ 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.

² Footnote 1.

³ 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."



.....
[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.