



**TENDER DOCUMENT
FOR**

**Construction of Embankment, Road and Earth Protection Works at
Patuakhali 1320 (2x660) MW Coal Fired Thermal Power Plant Project**

**By
Open Tendering Method (OTM)**

Reference NO.: PUR-001 (LW/PATUAKHALI/OTM)/2023-24

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Package-A, Lot-01

**RNPL-NORINCO INTL POWER LIMITED (RNPL)
Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04,
Uttara, Dhaka-1230, Bangladesh**

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Section 1. Instructions to Tenderers

A. General

- 1. Scope of Tender**
- 1.1 The Procuring Entity, as indicated in the Tender Data Sheet (**TDS**) issues this Tender Document for the procurement of Works and physical services incidental thereto as specified in the **TDS** and as detailed in **Section 6: Bill of Quantities**. The name of the Tender and the number and identification of its constituent lot(s) are stated in the **TDS**.
- 1.2 The successful Tenderer shall be required to execute the Works and physical services as specified in the General Conditions of Contract
- 2. Interpretation**
- 2.1 Throughout this Tender Document:
- (a) the term “in writing” means communication written by hand or machine duly signed and includes properly authenticated messages by facsimile or electronic mail;
 - (b) if the context so requires, singular means plural and vice versa;
 - (c) “day” means calendar days unless otherwise specified as working days;
 - (d) “Person” means and includes an individual, body of individuals, sole proprietorship, partnership, company, association or cooperative society that wishes to participate in Procurement proceedings;
 - (e) “Tenderer” means a Person who submits a Tender;
 - (f) “Tender Document” means the Document provided by a Procuring Entity to a Tenderer as a basis for preparation of the Tender; and
 - (g) “Tender” depending on the context, means a Tender submitted by a Tenderer for execution of Works and physical services to a Procuring Entity in response to an Invitation for Tender.
- 3. Source of Funds**
- 3.1 The Procuring Entity has been allocated public funds as indicated in the **TDS** and intends to apply a portion of the funds to eligible payments under the Contract for which this Tender Document is issued.
- 3.2 For the purpose of this provision, “public funds” means any monetary resources appropriated to the Procuring Entity under Government budget, or loan, grants and credits placed at the disposal of the Procuring Entity through the Government by the development partners or foreign states or organisations.
- 3.3 Payments by the development partner, if so indicated in the **TDS**, will be made only at the request of the Government and upon approval by the development partner or foreign state or Organisation in accordance with the applicable Loan / Credit / Grant Agreement, and will be subject in all respects to the terms and conditions of that Agreement.

4. Corrupt, Fraudulent, Collusive, Coercive (or Obstructive in case of Development Partner) Practices

- 4.1 The Government and the Development Partner, if applicable requires that the Procuring Entity as well as the Tenderers and Contracts (including , sub-contractors, agents, personnel, consultants, and service providers) shall observe the highest standard of ethics during implementation of procurement proceedings and the execution of Contracts under public funds.
- 4.2 For the purposes of ITT Sub Clause 4.3, the terms set forth below as follows:
- (a) “corrupt practice” means offering, giving or promising to give, receiving, or soliciting either directly or indirectly, to any officer or employee of the Procuring Entity or other public or private authority or individual, a gratuity in any form; employment or any other thing or service of value as an inducement with respect to an act or decision or method followed by the Procuring Entity in connection with a Procurement proceeding or Contract execution;
 - (b) “fraudulent practice” means the misrepresentation or omission of facts in order to influence a decision to be taken in a Procurement proceeding or Contract execution;
 - (c) “collusive practice” means a scheme or arrangement between two (2) or more Persons, with or without the knowledge of the Procuring Entity, that is designed to arbitrarily reduce the number of Tenders submitted or fix Tender prices at artificial, non-competitive levels, thereby denying the Procuring Entity the benefits of competitive price arising from genuine and open competition;
 - (d) “coercive practice” means harming or threatening to harm, directly or indirectly, Persons or their property to influence a decision to be taken in the Procurement proceeding or the execution of a Contract, and this will include creating obstructions in the normal submission process used for Tenders.
 - (e) “Obstructive practice” (applicable in case of Development Partner) means deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and /or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.
- 4.3 Should any corrupt, fraudulent, collusive, coercive (or obstructive in case of Development Partner) practice of any kind is determined by the Procuring Entity or the Development Partner, if applicable, this will be dealt in accordance with the provisions of the Public Procurement Act and Rules and Guidelines of the Development Partners as stated in the ITT sub-clause 3.3. In case of obstructive practice, this will be dealt in accordance with Development Partners Guidelines.

- 4.4 If corrupt, fraudulent, collusive, coercive (or obstructive in case of Development Partner) practices of any kind is determined by the Procuring Entity against any Tenderer or Contracts (including sub-contractors, agents, personnel, consultants, and service providers) in competing for, or in executing, a contract under public fund:
- (a) Procuring Entity and/or the Development Partner shall exclude the concerned Tenderer from further participation in the concerned procurement proceedings;
 - (b) Procuring Entity and/or the Development Partner shall reject any recommendation for award that had been proposed for that concerned Tenderer;
 - (c) Procuring Entity and/or the Development Partner shall declare, at its discretion, the concerned Tenderer to be ineligible to participate in further Procurement proceedings, either indefinitely or for a specific period of time;
 - (d) Development Partner shall sanction the concerned Tenderer or individual, at any time, in accordance with prevailing Development Partner' sanctions procedures, including by publicly declaring such Tenderer or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Development Partner-financed contract; and (ii) to be a nominated sub-contractor, consultant, manufacturer or Contractor, or service provider of an otherwise eligible firm being awarded a Development Partner-financed contract; and
 - (e) Development Partner shall cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Procuring Entity or of a beneficiary of the loan engaged in corrupt, fraudulent, collusive, coercive or obstructive practices during the procurement or the execution of that Development Partner financed contract, without the Procuring Entity having taken timely and appropriate action satisfactory to the Development Partner to remedy the situation.
- 4.5 Tenderer shall be aware of the provisions on corruption, fraudulence, collusion, coercion (and obstruction, in case of Development Partner) of the Public Procurement Act, 2006, the Public Procurement Rules, 2008 and others as stated in GCC Clause 38.
- 4.6 In further pursuance of this policy, Tenderers, Contractors and their sub-contractors, agents, personnel, consultants, service providers shall permit the Government and the Development Partner to inspect any accounts and records and other documents relating to the Tender submission and contract performance, and to have them audited by auditors appointed by the Government and/or the Development Partner during the procurement or the execution of that

5. Eligible Tenderers

- Development Partner financed contract.
- 5.1 This Invitation for Tenders is open to all potential Tenderers from all countries, except for any specified in the **TDS**.
 - 5.2 Tenderers shall have the legal capacity to enter into the Contract under the Applicable law.
 - 5.3 Tenderers shall be enrolled in the relevant professional or trade organisations registered in Bangladesh.
 - 5.4 Tenderers may be a physical or juridical individual or body of individuals, or company, association or any combination of them in the form of a Joint Venture(JV) invited to take part in public procurement or seeking to be so invited or submitting a Tender in response to an Invitation for Tenders.
 - 5.5 Tenderers shall have fulfilled its obligations to pay taxes and social security contributions under the provisions of laws and regulations of the country of its origin.
 - 5.6 Tenderers should not be associated, or have been associated in the past, directly or indirectly, with a consultant or any of its affiliates which have been engaged by the Procuring Entity to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the works to be performed under this Invitation for Tenders.
 - 5.7 Tenderers in its own name or its other names or also in the case of its Persons in different names shall not be under a declaration of ineligibility for corrupt, fraudulent, collusive or coercive practices as stated under ITT Sub Clause 4.4 (or obstructive practice, in case of Development Partner) in relation to the Development Partner's Guidelines in projects financed by Development Partner.
 - 5.8 Tenderers are not restrained or barred from participating in Public Procurement on grounds of poor performance in the past under any Contract.
 - 5.9 Tenderers shall not be insolvent, be in receivership, be bankrupt, be in the process of bankruptcy, be not temporarily barred from undertaking business and it shall not be the subject of legal proceedings for any of the foregoing.
 - 5.10 Government-owned enterprise in Bangladesh may also participate in the Tender if it is legally and financially autonomous, it operates under commercial law, and it is not a dependent agency of the Procuring Entity.
 - 5.11 Tenderers shall provide such evidence of their continued eligibility satisfactory to the Procuring Entity, as the Procuring Entity will reasonably request.
 - 5.12 These above requirements for eligibility will extend, as applicable, to each JV partner and Subcontractor proposed by the Tenderers.

6. Eligible Materials, Equipment and Associated Services

5.13 Tenderers shall have the up-to-date valid license(s), issued by the corresponding competent authority, as specified in the **TDS**.

6.1 All materials, equipment and associated services to be supplied under the Contract are from eligible sources, unless their origin is from a country specified in the **TDS**.

6.2 For the purposes of this Clause, "origin" means the place where the Materials and Equipment are mined, grown, cultivated, produced or manufactured or processed, or through manufacturing, processing, or assembling, another commercially recognized new product results that differs substantially in its basic characteristics from its components or the place from which the associated services are supplied.

6.3 The origin of materials and equipment and associated services is distinct from the nationality of the Tenderer.

7. Site Visit

7.1 Tenderers are advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at Tenderer's own expense.

B. Tender Document

8. Tender Document: General

8.1 The Sections comprising the Tender Document are listed below, and should be read in conjunction with any Addendum issued under ITT Clause 11.

- Section 1 Instructions to Tenderers (ITT)
- Section 2 Tender Data Sheet (**TDS**)
- Section 3 General Conditions of Contract (GCC)
- Section 4 Particular Conditions of Contract (**PCC**)
- Section 5 Tender and Contract Forms
- Section 6 Bill of Quantities (**BOQ**)
- Section 7 General Specifications
- Section 8 Particular Specifications
- Section 9 Drawings

8.2 The Procuring Entity is not responsible for the completeness of the Tender Document and their addenda, if these were not purchased directly from the Procuring Entity, or through its agent as specified in the **TDS**.

8.3 Tenderers are expected to examine all instructions, forms, terms, and specifications in the Tender Document as well as in addendum to Tender, if any.

9. Clarification of Tender Document

9.1 A prospective Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address and within time

as specified in the **TDS**.

- 9.2 The Procuring Entity is not obliged to answer any clarification request received after that date as stated under ITT Sub Clause 9.1.
- 9.3 The Procuring Entity shall respond in writing within five (5) working days of receipt of any such request for clarification received under ITT Sub Clause 9.1.
- 9.4 The Procuring Entity shall forward copies of its response to all those who have purchased the Tender Document, including a description of the enquiry but without identifying its source.
- 9.5 Should the Procuring Entity deem it necessary to revise the Tender Document as a result of a clarification, it will do so following the procedure under ITT Clause 11.

10. Pre-Tender Meeting

- 10.1 To clarify issues and to answer questions on any matter arising in the Tender Document, the Procuring Entity may, if stated in the **TDS**, hold a pre-Tender Meeting at the place, date and time as specified in the **TDS**. All potential Tenderers are encouraged and invited to attend the meeting, if it is held.
- 10.2 Tenderers are requested to submit any questions in writing so as to reach the Procuring Entity not later than one day prior to the date of the meeting.
- 10.3 Minutes of the pre-Tender meeting, including the text of the questions raised and the responses given, together with any responses prepared after the meeting, will be transmitted within five (5) working days after holding the meeting to all those who purchased the Tender document and to even those who did not attend the meeting. Any revision to the Tender Document listed in ITT Sub Clause 8.1 that may become necessary as a result of the pre-Tender meeting will be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT Sub Clause 11 and not through the minutes of the pre-Tender meeting.
- 10.4 Non-attendance at the Pre-Tender meeting will not be a cause for disqualification of a Tenderer.

11. Addendum to Tender Document

- 11.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity, on its own initiative or in response to an inquiry in writing from a Tenderer, having purchased the Tender Document, or as a result of a pre-Tender meeting may revise the Tender Document by issuing an Addendum.
- 11.2 The Addendum issued under ITT Sub Clause 11.1 shall become an integral part of the Tender Document and shall have a date and an issue number and must be circulated by fax, mail or e-mail, to Tenderers who have purchased the Tender Documents, within five (5) working days of issuance of such Addendum, to enable Tenderers to take appropriate action

- 11.3 The Procuring Entity shall also ensure posting of the relevant addenda with the reference number and date on their websites including notice boards, where the Procuring Entity had originally posted the IFTs.
- 11.4 To give a prospective Tenderer reasonable time in which to take an addendum into account in preparing its Tender, the Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders, pursuant to ITT Sub Clause 42.2.
- 11.5 If an addendum is issued when time remaining is less than **one-third** of the time allowed for the preparation of Tenders, the Procuring Entity at its discretion shall extend the deadline by an appropriate number of days for the submission of Tenders, depending upon the nature of the Procurement requirement and the addendum. In any case, the minimum time for such extension shall not be less than three (3) working days.

C. Qualification Criteria

12. General Criteria

- 12.1 Tenderers shall possess the necessary professional and technical qualifications and competence, financial resources, equipment and other physical facilities, managerial capability, specific experience, reputation, and the personnel, to perform the contract, which entails setting pass/fail criteria, which if not met by the Tenderers, will result in consideration of its Tender as non-responsive.
- 12.2 In addition to meeting the eligibility criteria, as stated in ITT Clause 5, Tenderers must satisfy the other criteria stated in ITT Clauses 13 to 18 inclusive
- 12.3 To qualify for multiple number of contracts/lots in a package made up of this and other individual contracts/lots for which Tenders are invited in the Invitation for Tenders, the Tenderers shall demonstrate having resources sufficient to meet the aggregate of the qualifying criteria for the individual contracts. The requirement of general experience as stated under ITT Sub Clause 14.1(a) and specific experience, unless otherwise of different nature, as stated under ITT Sub Clause 15.1(b) shall not be separately applicable for each individual lot.

13. Litigation History

- 13.1 Litigation history shall comply with the requirement as stated under ITT Sub Clause 15.1(c).

14. Experience Criteria

- 14.1 Tenderers shall have the following minimum level of construction experience to qualify for the performance of the Works under the Contract:
 - (a) a minimum number of years of general experience in the construction of works as Prime Contractor or

Subcontractor or Management Contractor as specified in the **TDS**; and

- (b) specific experience as a Prime Contractor or Subcontractor or Management Contractor in construction works of a nature, complexity and methods/construction technology similar to the proposed Works, in at least a number of contract(s) and, each with a minimum value over the period, as specified in the **TDS**.

15. Financial Criteria

15.1 Tenderers shall have the following minimum level of financial capacity to qualify for the performance of the Works under the Contract.

- (a) the average annual **construction** turnover as specified in the **TDS** during the period specified in the **TDS**;
- (b) availability of minimum liquid assets i.e. working capital or credit facilities from any scheduled Bank of Bangladesh, net of other contractual commitments, of the amount as specified in the **TDS**;
- (c) satisfactory resolution of all claims under litigation cases and shall not have serious negative impact on the financial capacity of the Tenderers. All pending litigation shall be treated as resolved against the Tenderers; and
- (d) The Minimum Tender Capacity as specified in the **TDS**.

16. Personnel Capacity

16.1 Tenderers shall have the following minimum level of personnel capacity to qualify for the performance of the Works under the Contract consisting of a Construction Project Manager, Engineers, and other key staff with qualifications and experience as specified in the **TDS**.

17. Equipment Capacity

17.1 Tenderers shall own suitable equipment and other physical facilities or have proven access through contractual arrangement to hire or lease such equipment or facilities for the desired period, where necessary or have assured access through lease, hire, or other such method, of the essential equipment, in full working order, as specified in the **TDS**.

18. Joint Venture (JV)

18.1 Tenderers may participate in the procurement proceedings forming a Joint Venture(JV) by an agreement, executed case by case on a non-judicial stamp of value as specified in the **TDS** or alternately with the intent to enter into such an agreement supported by a Letter of Intent along with the proposed agreement duly signed by all legally authorised partners of the intended JV and authenticated by a Notary Public, with the declaration that the partners will execute the JV agreement in the event the Tenderer is successful.

18.2 The figures for each of the partners of a JV shall be added together to determine the Tenderer's compliance with the

minimum qualifying criteria; however, for a JV under ITT Sub Clause 18.1, with number of partners as specified in the **TDS** to qualify, Leading partner and other partners must meet the criteria as specified in the **TDS**. Failure to comply with these requirements will result in non-responsiveness of the JV Tender.

18.3 Each partner of the JV shall be jointly and severally liable for the execution of the Contract, all liabilities and ethical and legal obligations in accordance with the Contract terms.

18.4 JV shall nominate the **Leading Partner** as **REPRESENTATIVE** being entrusted with the Contract administration and management at Site who shall have the authority to conduct all business for and on behalf of any and all the partners of the JV during the Tendering process and, in the event the JV is awarded the Contract, during contract execution including the receipt of payments for and on behalf of the JV.

19. Subcontractor(s)

19.1 Tenderers may intend to subcontract an activity or part of the Works, in which case such elements and the proposed Subcontractor shall be clearly identified.

19.2 The Procuring Entity may require Tenderers to provide more information about their subcontracting arrangements. If any Subcontractor is found ineligible or unsuitable to carry out the subcontracted tasks, the Procuring Entity may request the Tenderers to propose an acceptable substitute.

19.3 A Subcontractor may participate in more than one Tender, but only in that capacity.

19.4 The Procuring Entity may also select in advance Nominated Subcontractor(s) to execute certain specific components of the Works and if so, those will be specified in the **TDS**.

19.5 The successful Tenderer shall under no circumstances assign the Works or any part of it to a Subcontractor.

D. Tender Preparation

20. Only one Tender

20.1 Tenderers shall submit only one (1) Tender for each lot, either individually or as a JV. Tenderer who submits or participates in more than one (1) Tender in one (1) lot of a package or in one (1) package with one (1) lot will cause all the Tenders of that particular Tenderer to be rejected.

21. Cost of Tendering

21.1 Tenderers shall bear all costs associated with the preparation and submission of its Tender, and the Procuring Entity shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

- 22. Issuance and Sale of Tender Document**
- 22.1 The Procuring Entity shall make Tender Documents available immediately to the potential Tenderers, requesting and willing to purchase at the corresponding price by the date the advertisement has been published in the newspaper.
- 22.2 There shall not be any pre-conditions whatsoever, for sale of Tender Documents and the sale of such Document shall be permitted up to the day prior to the day of deadline for the submission of Tender.
- 23. Language of Tender**
- 23.1 Tenders shall be written in the English language. Correspondences and documents relating to the Tender may be written in English or *Bangla*. Supporting documents and printed literature furnished by the Tenderers that are part of the Tender may be in another language, provided they are accompanied by an accurate translation of the relevant passages in the English or *Bangla* language, in which case, for purposes of interpretation of the Tender, such translation shall govern.
- 23.2 Tenderers shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.
- 24. Contents of Tender**
- 24.1 The Tender prepared by the Tenderers will comprise the following:
- (a) the Tender Submission Letter(**Form PW3-1**), as stated under ITT Sub Clause 25.1;
 - (b) the Tenderer Information as stated under ITT Clauses 5,29 and 32 (**Form PW3-2**);
 - (c) the priced BOQ for each lot in accordance with ITT Clauses 25,27and 28;
 - (d) the Tender Security as stated under ITT Clauses 35, 36 and 37.
 - (e) the alternatives, if permissible, as stated under ITT Clause 26;
 - (f) the written confirmation authorizing the signatory of the Tender to commit the Tenderer, as stated under ITT Sub Clause 40.3;
 - (g) the Valid Trade license ;
 - (h) documentary evidence of Tax Identification Number (TIN) and Value Added Tax (VAT) as a proof of taxation obligations as stated under ITT Sub Clause 5.5;
 - (i) the Technical Proposal describing work plan & method, personnel, equipment and schedules as stated under ITT Clause 31;
 - (j) documentary evidence as stated under ITT Clause 29 and 32 establishing the Tenderer's eligibility and the minimum qualifications of the Tenderers required to be met for due performance of the Works and physical services under the Contract;

- (k) document establishing legal and financial autonomy and compliance with commercial law, as stated under ITT Sub Clause 5.10 in case of government owned entity;
- (l) tenderer's past performance information in **(Form PW3-5a)** & documentary evidence for past performance evaluation and rating matrix as stated under ITT Sub Clause 50.2;
- (m) tenderer's capacity information in **(Form PW3-5B)** & documentary evidence for tenderer's capacity; and
- (n) any other document as specified in the **TDS**.

25. Tender Submission Letter and Bill of Quantities

- 25.1 Tenderers shall submit the Tender Submission Letter **(Form PW3-1)**, which shall be completed without any alterations to its format, filling in all blank spaces with the information requested, failing which the Tender may be rejected as being incomplete.
- 25.2 Tenderers shall submit the priced BOQ using the form(s) furnished in **Section 6: Bill of Quantities**.
- 25.3 If in preparing its Tender, the Tenderer has made errors in the unit rate or the total price, and wishes to correct such errors prior to submission of its Tender, it may do so, but shall ensure that each correction is initialled by the authorised person of the Tenderer.

26. Alternatives

- 26.1 Unless otherwise specified in the **TDS**, alternative technical solutions shall not be considered.
- 26.2 When specified in ITT clause 26.1, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the **TDS**.
- 26.3 Only the technical alternatives, if any, of the lowest evaluated Tenderer conforming to the basic technical requirements will be considered by the Procuring Entity.

27. Tender Prices, Discounts and Price Adjustment

- 27.1 The prices and discounts quoted by the Tenderers in the Tender Submission Letter **(Form PW3-1)** and in the BOQ shall conform to the requirements specified below.
- 27.2 Tenderers shall fill in unit rates for all items of the Works both in figures and in words as described in the BOQ, excluding any discount offered.
- 27.3 The items quantified in the BOQ for which no unit rates have been quoted by the Tenderer will not be paid for, by the Procuring Entity when executed and shall be deemed covered by the amounts of other rates in the BOQ and, it shall not be a reason to change the Tender price.
- 27.4 The price to be quoted in the Tender Submission Letter, as stated under ITT Sub Clause 25.1, shall be the total price of the Tender, excluding any discounts offered.

- 27.5 Tenderers shall quote any unconditional discounts in the Tender Submission Letter as stated under ITT Sub Clause 25.1.
- 27.6 Tenderers wishing to offer any unconditional discount to any package or lot as applicable shall mention discount in percentage (%) in the Tender Submission Letter. Discount shall be equally applicable on all the items of BOQ and shall be applied after arithmetic correction of the tender.
- 27.7 All applicable taxes, custom duties, VAT and other levies payable by the Contractor under the Contract, or for any other causes, as of the date twenty-eight (28) days prior to the deadline for submission of Tenders, shall be included in the unit rates and the total Tender price submitted by the Tenderers.
- 27.8 Unless otherwise specified in the **TDS** and provided in the Contract, the price of a Contract shall be fixed in which case the unit rates may not be modified in response to changes in economic or commercial conditions.
- 27.9 If so stated under ITT Sub Clause 27.9, Tenders are being invited with a provision for price adjustments. The unit rates quoted by the Tenderers are subject to adjustment during the performance of the Contract in accordance with the provisions of General Condition of Contract (GCC) Clause 69 and, in such case the Procuring Entity shall provide the indexes and weightings or coefficients in **Appendix to the Tender (Table 1.1 and Table 1.2)** for the price adjustment formulae as specified in the Particular Conditions of Contract (**PCC**).

28. Tender Currency

- 28.1 Tenderers shall quote all prices in the Tender Submission Letter and in the BOQ in Bangladesh Taka (BDT) currency.

29. Documents Establishing Eligibility of the Tenderer

- 29.1 Tenderers, if applying as a sole Tenderer, shall submit documentary evidence to establish its eligibility as stated under ITT Clause 5 and, in particular, it shall:
- (a) complete the eligibility declarations in the Tender Submission Letter (**Form PW3-1**);
 - (b) complete the Tenderer Information (**Form PW3-2**);
 - (c) complete Subcontractor Information (**Form PW3-4**), if it intends to engage any Subcontractor(s).
- 29.2 Tenderers, if applying as a partner of an existing or intended JV shall submit documentary evidence to establish its eligibility as stated under ITT Clause 5 and, in particular, in addition to as stated under ITT Sub Clause 29.1, it shall:
- (a) provide for each JV partner, completed JV Partner Information (**Form PW3-3**);
 - (b) provide the JV agreement or Letter of Intent along with the proposed agreement of the intended JV as stated under ITT Sub Clause 18.1

**30. Documents
Establishing the Eligibility
and Conformity of
Materials, Equipment and
Services**

30.1 Tenderers shall submit documentary evidence to establish the origin of all Materials, Equipment and services to be supplied under the Contract as stated under ITT Clause 6.

30.2 To establish the conformity of the Materials, Equipment and services to be supplied under the Contract, the Tenderers shall furnish, as part of its Tender, the documentary evidence (which may be in the form of literature, specifications and brochures, drawings or data) that these conform to the technical specifications and standards specified in **Section 7, General Specifications** and **Section 8, Particular Specifications**.

**31. Documents
Establishing Technical
Proposal**

31.1 Tenderers shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in **TDS**, in sufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work requirements and the completion time.

**32. Documents
Establishing the
Tenderer's Qualification**

32.1 Tenderers shall complete and submit the Tenderer Information (**Form PW3-2/PW3-3**) and shall include documentary evidence, as applicable to satisfy the following:

- (a) general experience, of the entity(s) participating in the Tender, in construction works as stated under ITT Sub Clause 14.1(a), substantiated by the year of registration/constitution/licensing in its country of origin;
- (b) specific experience, of the entity(s) participating in the Tender, in construction works under public sector of similar nature and size as stated under ITT Sub Clause 14.1(b), substantiated by Completion Certificate (s) issued by the relevant Procuring Entity(s);
- (c) average annual **construction** turnover i.e. total certified payments received for contracts in progress or completed under public sector for a period as stated under ITT Sub Clause 15.1(a), substantiated by Statement(s) of Receipts, from any scheduled Bank of Bangladesh, issued not earlier than twenty-eight (28) days prior to the day of the original deadline for submission of Tenders;
- (d) adequacy of minimum liquid assets i.e. working capital substantiated by Audit Reports mentioned in (i) below or credit line(s) substantiated by any scheduled Bank of Bangladesh in the format as specified (**Form PW3-7**), without alteration, issued not earlier than twenty-eight (28) days prior to the day of the original deadline for submission of Tenders for this Contract as stated under ITT Sub Clause 15.1(b);
- (e) information regarding claims under litigation,

current or during the last years as specified in the **TDS**, in which the Tenderer is involved, the parties concerned, and value of claim as stated under ITT Sub Clause 15.1(c), substantiated by statement(s) of the entity(s) participating in the Tender in its letter-head pad;

- (f) technical and administrative personnel along with their qualification and experience proposed for the Contract as stated under ITT Clause 16;
- (g) major items of construction equipment proposed to carry out the Contract as stated under ITT Clause 17, substantiated by statement(s) of the entity(s) participating in the Tender in its letter-head pad declaring source of its availability;
- (h) authority(s), to seek references from the Tenderer's Bankers or any other sources, of the entity(s) participating in the Tender in its letter-head pad;
- (i) reports on the financial standing of the Tenderer, such as profit and loss statements and audited balance sheet for the past years as specified in the **TDS**, of the entity(s) participating in the Tender, substantiated by Audit Reports.

33. Validity Period of Tender

33.1 Tenders shall remain valid for the period as specified in the **TDS** after the date of Tender submission deadline. A Tender valid for a period shorter than that specified will be considered, non-responsive.

34. Extension of Tender Validity and Tender Security

34.1 In exceptional circumstances, prior to the expiration of the Tender Validity period, the Procuring Entity may solicit all the Tenderers' consent to an extension of the period of validity of their Tenders; provided that those Tenderers have passed the preliminary examination as stated under ITT Sub Clause 51.3.

34.2 The request for extension of Tender Validity period shall state the new date of the validity of the Tender.

34.2 The request and the responses shall be made in writing. Validity of the Tender Security provided under ITT Clause 35 shall also be suitably extended for twenty-eight (28) days beyond the new date for the expiry of the Tender Validity. If a Tenderer does not respond or refuses the request it shall not forfeit its Tender Security, but its Tender shall no longer be considered in the evaluation proceedings. A Tenderer agreeing to the request will not be required or permitted to modify its Tender.

35. Tender Security

35.1 Tenderers shall furnish as part of its Tender, in favour of the Procuring Entity or as otherwise directed on account of the Tenderer, a Tender Security in original form (not copy) and in the amount, as specified in the **TDS**.

35.2 If the Tender is a Joint Venture, the Tenderer shall furnish as part of its Tender, in favour of the Procuring Entity or as otherwise directed on account of the title of the existing or

intended JV or any of the partners of that JV or in the names of all future partners as named in the Letter of Intent of the JV, a Tender Security in original form and in the amount as stated under ITT Sub Clause 35.1.

35.3 In case of substitution of the Tender as stated under ITT Clause 46 a new Tender Security shall be required in the substituted Tender.

36. Form of Tender Security

36.1 The Tender Security shall:

- (a) at the Tenderer's option, be either;
 - i. in the form of a Bank Draft or Pay Order, or
 - ii. in the form of an irrevocable unconditional Bank Guarantee issued by any scheduled Bank of Bangladesh, in the format (**Form PW3-6**), without any alteration, furnished in **Section 5: Tender and Contract Forms**;
- (b) be payable promptly upon written demand by the Procuring Entity in the case of the conditions as stated under ITT Sub Clause 39.1 being invoked; and
- (c) remain valid for at least twenty-eight (28) days beyond the expiry date of the Tender Validity in order to make a claim in due course against a Tenderer in the circumstances as stated under ITT Sub Clause 39.1.

37. Authenticity of Tender Security

37.1 The authenticity of the Tender Security submitted by a Tenderer may be examined and verified by the Procuring Entity at its discretion in writing from the Bank issuing the security.

37.2 If a Tender Security is found to be not authentic, the Procuring Entity may proceed to take measures against that Tenderer as stated under ITT Sub Clause 4.4.

37.3 A Tender not accompanied by a valid Tender Security will be considered non-responsive.

38. Return of Tender Security

38.1 No Tender Security shall be returned to the Tenderers before contract signing.

38.2 Unsuccessful Tenderer's Tender Security will be discharged or returned as soon as possible but within twenty-eight (28) days after the expiry of the Tender Validity period as stated under ITT Sub Clauses 33.1.

38.3 The Tender Security of the successful Tenderer will be discharged upon the Tenderer's furnishing of the performance security and signing of the Contract Agreement.

39. Forfeiture of Tender Security

39.1 The Tender Security may be forfeited, if a Tenderer:

- (a) withdraws its Tender after opening of Tenders but within the validity of the Tender as stated under ITT Clause 33 and 34; or
- (b) refuses to accept a Notification of Award as stated

under ITT Sub Clause 64.3; or

- (c) fails to furnish Performance Security as stated under ITT Sub Clause 65.1 and 65.2; or
- (d) refuses to sign the Contract as stated under ITT Sub Clause 70.2; or
- (e) does not accept the correction of the Tender price following the correction of the arithmetic errors as stated under ITT Clause 55.

40. Format and Signing of Tender

- 40.1 Tenderers shall prepare one (1) original of the documents comprising the Tender as described in ITT Clause 24 and clearly mark it "ORIGINAL" In addition, the Tenderers shall prepare the number of copies of the Tender, as specified in the **TDS** and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the ORIGINAL shall prevail.
- 40.2 Alternatives, if permitted as stated under ITT Clause 26, shall be clearly marked "Alternative".
- 40.3 The original and each copy of the Tender shall be typed or written in indelible ink and shall be signed by the Person duly authorized to sign on behalf of the Tenderer. This Tender specific authorization shall be attached to the Tender Submission Letter (**Form PW3-1**). The name and position held by each Person(s) signing the authorization must be typed or printed below the signature. All pages of the original and of each copy of the Tender, except for un-amended printed literature, shall be numbered sequentially and signed by the person signing the Tender.
- 40.4 Any interlineations, erasures, or overwriting will be valid only if they are signed or initialled by the Person(s) signing the Tender.

E. Tender Submission

41. Sealing, Marking and Submission of Tender

- 41.1 Tenderers shall enclose the original in one (1) envelope and all the copies of the Tender, including the alternatives, if permitted under ITT Clause 26, in another envelope, duly marking the envelopes as "ORIGINAL (O)" "ALTERNATIVE (A)" (if permitted) and "COPY." These sealed envelopes will then be enclosed and sealed in one (1) single outer envelope.
- 41.2 The inner and outer envelopes shall:
 - (a) be addressed to the Procuring Entity at the address as stated under ITT Sub Clause 42.1;
 - (b) bear the name of the Tender and the Tender Number as stated under ITT Sub Clause 1.1;
 - (c) bear the name and address of the Tenderer;
 - (d) bear a statement "DO NOT OPEN BEFORE -----" "-----" the time and date for Tender opening as

stated under ITT Sub Clause 48.1;

(e) bear any additional identification marks as specified in the **TDS**.

41.3 Tenderers are solely and entirely responsible for pre-disclosure of Tender information if the envelope(s) are not properly sealed and marked.

41.4 Tenders shall be delivered by hand or by mail, including courier services at the address(s) as stated under ITT Sub Clause 42.1.

41.5 The Procuring Entity will, on request, provide the Tenderer with acknowledgement of receipt showing the date and time when it's Tender was received.

42. Deadline for Submission of Tender

42.1 Tenders shall be delivered to the Procuring Entity at the address specified in the **TDS** and not later than the date and time specified in the **TDS**.

42.2 The Procuring Entity may, at its discretion, extend the deadline for submission of Tender as stated under ITT Sub Clause 42.1, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline will thereafter be subject to the new deadline as extended.

42.3 If submission of Tenders is allowed in more than one location, the date and time, for submission of Tenders for both the primary and the secondary place(s), shall be the "**same and not different**" as specified in the **TDS**.

42.4 The Procuring Entity shall ensure that the Tenders received at the secondary place(s) are hand-delivered at the primary place as stated under ITT Sub Clause 42.1, within THREE (3) HOURS after the deadline for submission of Tenders at the secondary place (s), in case of MULTIPLE DROPPING as stated under ITT Sub Clause 42.3, as specified in the **TDS**.

43. Late Tender

43.1 Any Tender received by the Procuring Entity after the deadline for submission of Tenders as stated under ITT Sub Clause 42.1 shall be declared LATE and returned unopened to the Tenderer.

44. Modification, Substitution or Withdrawal of Tender

44.1 Tenderers may modify, substitute or withdraw its Tender after it has been submitted by sending a written notice duly signed by the authorized signatory and properly sealed, and shall include a copy of the authorization ; provided that such written notice including the affidavit is received by the Procuring Entity prior to the deadline for submission of Tenders as stated under ITT Clause 42.

45. Tender Modification

45.1 Tenderers shall not be allowed to retrieve its original Tender, but shall be allowed to submit corresponding modification to its original Tender marked as "**MODIFICATION (M)**".

46. Tender Substitution

46.1 Tenderers shall not be allowed to retrieve its original Tender, but shall be allowed to submit another Tender

marked as “**SUBSTITUTION (S)**”.

47. Tender Withdrawal

- 47.1 Tenderers shall be allowed to withdraw its Tender by a Letter of Withdrawal marked as “**WITHDRAWAL(W)**”.

F. Tender Opening and Evaluation

48. Tender Opening

- 48.1 Tenders shall be opened immediately after the deadline for submission of Tenders at the primary place as specified in the **TDS** but not later than **ONE HOUR** after expiry of the submission deadline at the same primary place unless otherwise stated under ITT Sub Clause 48.2.
- 48.2 If submission of Tenders is allowed in more than one location as stated under ITT Sub Clause 42.3 and 42.4, Tenders shall be opened, immediately after receipt of Tenders from all the secondary place(s), at the primary place at the date and time as stated under ITT Sub Clause 48.1.
- 48.3 Persons not associated with the Tender may not be allowed to attend the public opening of Tenders.
- 48.4 Tenderers’ representatives shall be duly authorised by the Tenderer. Tenderers or their authorised representatives will be allowed to attend and witness the opening of Tenders, and will sign a register evidencing their attendance.
- 48.5 The authenticity of withdrawal or substitution of, or modifications to original Tender, if any made by a Tenderer in specified manner, shall be examined and verified by the Tender Opening Committee (TOC) based on documents submitted as stated under ITT Sub Clause 44.1.
- 48.6 Ensuring that only the correct (M), (S), (A), (O) envelopes are opened, details of each Tender will be dealt with as follows:
- (a) the Chairperson of the TOC will read aloud each Tender and record in the Tender Opening Sheet (TOS):
- (i) the name and address of the Tenderer;
 - (ii) state if it is a withdrawn, modified, substituted or original Tender;
 - (iii) the Tender price;
 - (iv) the official cost estimate;
 - (v) any discounts;
 - (vi) any alternatives;
 - (vii) the presence or absence of any requisite

- Tender Security; and
- (viii) such other details as the Procuring Entity, at its discretion, may consider appropriate
 - (b) only discounts and alternatives read aloud at the Tender opening will be considered in evaluation.
 - (c) all pages of the original version of the Tender, except for un-amended printed literature, will be initialled by members of the TOC.
- 48.7 Upon completion of Tender opening, all members of the TOC and the Tenderers or Tenderer's duly authorised representatives attending the Tender opening shall sign by name, address, designation, the TOS, copies of which shall be issued to the Head of the Procuring Entity or an officer authorised by him or her and also to the members of the TOC and any authorised Consultants and, to the Tenderers immediately.
- 48.8 The omission of a Tenderer's signature on the record shall not invalidate the contents and effect of the record under ITT Sub Clause 48.6.
- 48.9 No Tender will be rejected at the Tender opening stage except the LATE Tenders as stated in the ITT Clause 43.
- 49. Evaluation of Tenders**
- 49.1 Tenders shall be examined and evaluated only on the basis of the criteria specified in the Tender Document.
- 49.2 **Tender Evaluation Committee (TEC)** shall examine, evaluate and compare Tenders that are responsive to the requirements of Tender Documents in order to identify the successful Tenderer.
- 49.3 Tenderers having quoted the tender price more than 10 (Ten) percent above or below the official cost estimate, the tender will be rejected.
- 50. Evaluation Process**
- 50.1 TEC may consider a Tender as responsive in the Evaluation, only if it is submitted in compliance with the mandatory requirements set out in the Tender Document. The evaluation process should begin immediately after Tender opening following four steps:
- (a) Preliminary examination
 - (b) Technical examination and responsiveness
 - (c) Financial evaluation and price comparison
 - (d) Post-qualification of the Tender.
- 50.2 In case of tie for the evaluated price, the tenderer shall be selected based on the "Past Performance Evaluation and rating matrix for different aspects" to be used in assessing the Tenderer's quality as stated below:

Past Performance Evaluation Matrix

Aspect No.	Aspect	Point	Score	Note
1	Total Number of Works Contract successfully completed within only PE's organization during last 5 years	140	$\text{Score 1} = \frac{A}{B} \times 140$ <p>A= Number of Completed Contracts of the Tenderer B= Highest Number of Completed Contracts among the Tenderers</p>	Tenderers shall submit a list of Successfully Completed Contracts (in Form-PW3-5.1) during the last 5 years under the Procuring Entity's organization inviting tender, supported by Completion Certificates. A Contract not supported by Completion Certificate shall not be taken into evaluation.
2	Total Value of Works Contract successfully completed within only PE's organization during last 5 years	100	$\text{Score 2} = \frac{C}{D} \times 100$ <p>C= Value of Completed Contracts of the Tenderer D= Highest Value of Completed Contracts among the Tenderers</p>	TEC shall determine the Total Number and Total Value of Contracts from the List as provided by the Tenderers for which the Contract Value of each Contract is up to +75% of the Official Cost Estimate of the proposed Work.
3	Total Value of On-going works and Current Commitment under all PEs Organization as shown in Tender Capacity Formula	60	$\text{Score 3} = \frac{E}{F} \times 60$ <p>E= Value of On-Going Works and Current Commitments of the Tenderer F= Highest Value of On-Going Works and Current Commitments among the Tenderers</p>	Tenderers shall submit a list of On-going Contracts and Current Commitments (in Form-PW3-5.1) under any government organization supported by Contract Agreement / Notice to Proceed A Contract not supported by Contract Agreement / Notice to Proceed shall not be taken into consideration.
	Total Point	300	Total Score =Score 1+Score 2+Score 3	

50.3 In case of the Tenderer is a JV, the business share of the JV Partners of this Tender shall be applied in determining the JV Total Contract Numbers and Values.

50.4 If the total score of all the Tenderers become 0.00 (zero), the Tender shall be rejected for Re-Tendering.

50.5 In very rare case of highest equal Total Scores, Winner shall be selected according to Score 1, if Score 1 is same then Winner shall be selected according to Score 2. Otherwise Tender shall be rejected for Re-Tendering.

51. Preliminary Examination

- 51.2 TEC shall examine the Tenders to confirm that all documentation as stated under ITT Clause 24 has been provided, to determine the completeness of each document submitted.
- 51.3 TEC shall confirm that the following documents and information have been provided in the Tender. If any of these documents or information is missing, the Tender shall be considered rejected.
- (a) Tender Submission Letter;
 - (b) Priced Bill of Quantities;
 - (c) Written confirmation authorizing the signatory of the Tender to commit the Tenderer; and
 - (d) Valid Tender Security.

52. Technical Responsiveness and Technical Evaluation

- 52.1 TEC's determination of a Tender's responsiveness is to be based on the contents of the Tender itself without recourse to extrinsic evidence.
- 52.2 A responsive Tender is one that conforms in all respects to the requirements of the Tender Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) affects in any substantial way the scope, quality, or performance of the Works and physical services specified in the Contract; or
 - (b) limits in any substantial way, or is inconsistent with the Tender Documents, the Procuring Entity's rights or the Tenderer's obligations under the Contract; or
 - (c) if rectified would unfairly affect the competitive position of other Tenderers presenting responsive Tenders.

During the evaluation of Tenders, the following definitions shall apply:

"Deviation" is a departure from the requirements specified in the Tender Document;

"Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Document; and

"Omission" is the failure to submit part or all of the information or documentation required in the Tender Document.

- 52.3 If a Tender is not responsive to the mandatory requirements set out in the Tender Document, shall not subsequently be made responsive by the Tenderer by correction of the material deviation, reservation, or omission.
- 52.4 There shall be no requirement as to the minimum number of responsive Tenders.
- 52.5 There shall be no automatic exclusion of Tenders which are above or below the official estimate except ITT sub-Clause 49.3.
- 52.6 TEC shall evaluate the aspects of the Tender submitted as stated under ITT Clauses 29, 30,31 and 32 and, to

confirm that all requirements specified in Section 7: General Specifications and Section 8: Particular Specifications of the Tender Document have been met without any material deviation, reservation or omission.

52.7 Provided that a Tender is responsive, TEC may request that the Tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Tender related to documentation requirements. Such omission shall not be related to any aspect of the rates of the Tender reflected in the Priced BOQ or any mandatory criteria. Failure of the Tenderer to comply with the request may result in the consideration of its Tender as non-responsive.

52.8 TEC may regard a Tender as responsive even if it contains;

(a) minor or insignificant deviations which do not meaningfully alter or depart from the technical specifications, characteristics and commercial terms and, conditions or other mandatory requirements set out in the Tender Document; or

(b) errors or oversights, that if corrected, would not alter the key aspects of the Tender.

53. Clarification on Tender

53.1 TEC may ask Tenderers for clarification of their Tenders, including breakdowns of unit rates, in order to facilitate the examination and evaluation of Tenders. The request for clarification by the TEC and the response from the Tenderer shall be in writing, and Tender clarifications which may lead to a change in the substance of the Tender or in any of the key elements of the Tender as stated under ITT Sub Clause 52.2, will neither be sought nor be permitted.

53.2 Changes in the Tender price shall also not be sought or permitted, except to confirm the correction of arithmetical errors discovered by the TEC in the evaluation of the Tenders, as stated under ITT Sub Clause 55.1.

53.3 Any request for clarifications by the TEC shall not be directed towards making an apparently non-responsive Tender responsive and reciprocally the response from the concerned Tenderer shall not be articulated towards any addition, alteration or modification to its Tender.

53.4 If a Tenderer does not provide clarifications of its Tender by the date and time, its Tender shall not be considered in the evaluation

54. Restrictions on Disclosure of Information

54.1 Following the opening of Tenders until issuance of Notification of Award no Tenderer shall, unless requested to provide clarification to its Tender or unless necessary for submission of a complaint, communicate with the concerned Procuring Entity

54.2 Tenderers shall not seek to influence in anyway, the

examination and evaluation of the Tenders

54.3 Any effort by a Tenderer to influence the Procuring Entity in its decision concerning the evaluation of Tenders, Contract awards may result in the non-responsiveness of its Tender as well as further action in accordance with Section 64 (5) of the Public Procurement Act, 2006.

54.4 All clarification requests shall remind Tenderers of the need for confidentiality and that any breach of confidentiality on the part of the Tenderer may result in their Tender being non-responsive.

55. Correction of Arithmetical Errors

55.1 Provided that the Tender is responsive, the TEC shall correct arithmetical errors on the following basis:

(a) if there is a discrepancy between the unit price and the line item total price that is obtained by multiplying the unit price and quantity, the unit price will prevail and the line item total price shall be corrected, unless in the opinion of the TEC there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted will govern and the unit price will be corrected; and

(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; and

(c) 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) and (b) above.

55.2 TEC shall correct the arithmetic errors and shall promptly notify the concerned Tenderer(s). If the Tenderer does not accept the correction of arithmetic errors, its Tender shall be rejected.

56. Financial Evaluation

56.1 TEC will evaluate each Tender that has been determined, up to this stage of the evaluation, to be responsive to the requirements set out in the Tender Document.

56.2 To evaluate a Tender, the TEC will consider the following:

(a) the Tender price, excluding Provisional Sums and the provision, if any, for contingencies in the priced BOQ, but including Daywork items ;

(b) adjustments for correction of arithmetical errors, as stated under ITT Sub Clause 55.1;

(c) adjustments in order to take into consideration the unconditional discounts as stated under ITT Sub Clause 27.5 and 27.6, if any..

56.3 Variations, deviations, alternatives and other factors which are in excess of the requirements of the Tender Document or otherwise result in unsolicited benefits for the Procuring

Entity will not be taken into account in Tender evaluation.

- 56.4 The estimated effect of any price adjustment provisions under GCC Clause 71, applied over the period of execution of the Contract, will not be taken into account in Tender evaluation.
- 56.5 If so indicated in the ITT Sub Clause 1.1 the Procuring Entity may award one or multiple lots to one Tenderer following the methodology specified in ITT Sub Clause 56.6.
- 56.6 To determine the lowest-evaluated lot/package the TEC will take into account:
- (a) the lowest-evaluated Tender for each lot;
 - (b) the resources sufficient to meet the qualifying criteria for the individual lot or aggregate of the qualifying criteria for the multiple lots;
 - (c) the price reduction on account of discount per lot/package as offered by the Tenderer in its Tender; and
 - (d) the Contract-award sequence that provides the optimum economic combination on the basis of least overall cost of the total Contract package taking into account any limitations due to constraints in Works or execution capacity determined in accordance with the tender capacity as stated in ITT Sub Clause 15.1 (d) and post-qualification criteria as stated under ITT Clause 59.
- 56.7 TEC may recommend to increase the amount of the Performance Security above the amounts as stated under ITT Sub Clause 65.1 but not exceeding twenty-five (25) percent of the Contract Price, if in the opinion of TEC, it is found that the Tender is significantly below the updated official estimated cost or unbalanced as a result of front loading.

57. Price Comparison

- 57.1 TEC shall compare all responsive Tenders to determine the lowest-evaluated Tender, as stated under ITT Clause 56.
- 57.2 In the extremely unlikely event that there is a tie for the lowest evaluated price, the Tenderer with the superior past performance as stated in ITT sub-clause 50.2 shall be selected.
- 57.3 In the event that there is a tie for the lowest price and none of the Tenderers has the record of past performance with the Procuring Entity as stated under ITT Sub Clause 57.2, then the Tenderer shall be selected, subject to firm confirmation through the Post-qualification process, after consideration as to whether the Tenderer has demonstrated in its Tender superior past performance with the other Procuring Entities or a more efficient work programme and work methodology.
- 57.4 The successful Tenderer as stated under ITT Sub Clause 57.1, 57.2 and 57.3 shall not be selected through lottery

under any circumstances.

58. Negotiations

- 58.1 No negotiations shall be held during the Tender evaluation or award, with the lowest or any other Tenderer.
- 58.2 The Procuring Entity through the TEC may, however, negotiate with the lowest evaluated Tenderer with the objective to reduce the Contract Price by reducing the scope of works or a reallocation of risks and responsibilities, only when it is found that the lowest evaluated Tender is significantly higher than the official estimated cost; the reasons for such higher price being duly investigated.
- 58.3 If the Procuring Entity decides to negotiate for reducing the scope of the requirements under ITT Sub Clause 58.2, it will be required to guarantee that the lowest Tenderer remains the lowest Tenderer even after the scope of work has been revised and shall further be ensured that the objective of the Procurement will not be seriously affected through this reduction.
- 58.4 In the event that the Procuring Entity decides because of a high Tender price to reduce the scope of the requirements to meet the available budget, the Tenderer is not obliged to accept the award and shall not be penalised in any way for un-accepting the proposed award.

59. Post-qualification

- 59.1 The determination on Post-qualification shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT Clause 32, clarifications as stated under ITT Clause 53 and the qualification criteria indicated in ITT Clauses 12 to 17. Factors not included therein shall not be used in the evaluation of the Tenderer's qualification.
- 59.2 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in non-responsiveness of the Tenderer's Tender, in which event the Procuring Entity shall proceed to the next lowest evaluated Tender to make a similar determination of that Tenderer's capabilities to perform the Contract satisfactorily, if awarded.
- 59.3 TEC may verify information contained in the Tender by visiting the premises of the Tenderer as a part of the post qualification process, if practical and appropriate.

60. Procuring Entity's Right to Accept any or to Reject Any or All Tenders

- 60.1 The Procuring Entity reserves the right to accept any Tender or to reject any or all the Tenders any time prior to contract award and , to annul the Procurement proceedings with prior approval of the Head of the Procuring Entity, any time prior to the deadline for submission of Tenders following specified procedures, without thereby incurring any liability to Tenderers, or any obligations to inform the Tenderers of the grounds for the Procuring Entity's action.

61. Rejection of All Tenders

61.1 The Procuring Entity may, in the circumstances as stated under ITT Sub Clause 61.2 reject all Tenders following recommendations from the TEC only after the approval of such recommendations by the Head of the Procuring Entity.

61.2 All Tenders can be rejected, if -

- (a) the price of the lowest evaluated Tender exceeds the official estimated cost, provided the estimate is realistic, subject to ITT Sub Clause 58.2 ; or
- (b) there is evidence of lack of effective competition; such as non-participation by a number of potential Tenderers; or
- (c) the Tenderers are unable to propose completion of the contract within the stipulated time in its Tender, though the stipulated time is reasonable and realistic; or
- (d) all Tenders are non-responsive; or
- (e) evidence of professional misconduct, affecting seriously the Procurement process, is established pursuant to Rule 127 of the Public Procurement Rules, 2008

61.3 Notwithstanding anything contained in ITT Sub-Clause 61.2 Tenders may not be rejected if the lowest evaluated price is in conformity with the market price.

62. Informing Reasons for Rejection

62.1 Notice of the rejection will be given promptly within seven (7) working days of decision taken by the Procuring Entity to all Tenderers and, the Procuring Entity will, upon receipt of a written request, communicate to any Tenderer the reason(s) for its rejection but is not required to justify those reason(s).

G. Contract Award

63. Award Criteria

63.1 The Procuring Entity shall award the Contract to the Tenderer whose Tender is responsive to all the requirements of the Tender Document and that has been determined to be the lowest evaluated Tender, provided further that the Tenderer is determined to be Post-qualified in accordance with ITT Clause 59.

63.2 Tenderer will not be required, as a condition for award, to undertake responsibilities not stipulated in the Tender Documents, to change its price, or otherwise to modify its Tender.

- 64. Notification of Award**
- 64.1 Prior to the expiry of the Tender Validity period and within one (1) week of receipt of the approval of the award by the Approving Authority, the Procuring Entity shall issue the Notification of Award (NOA) to the successful Tenderer.
- 64.2 The NOA, attaching the contract as per the sample (**Form PW3-8**) to be signed, shall state :
- (a) the acceptance of the Tender by the Procuring Entity;
 - (b) the price at which the contract is awarded;
 - (c) the amount of the Performance Security and its format;
 - (d) the date and time within which the Performance Security shall be furnished; and
 - (e) the date and time within which the Contract shall be signed.
- 64.3 The NOA shall be accepted by the successful Tenderer within seven (7) working days from the date of its issuance.
- 64.4 Until a formal contract is signed, the NOA will constitute a Contract, which shall become binding upon the furnishing of a Performance Security and the signing of the Contract by both parties.
- 65. Performance Security**
- 65.1 Performance Security shall be provided by the successful Tenderer in BDT currency, of the amount as specified in the **TDS**.
- 65.2 The Procuring Entity shall increase the amount of the Performance Security on the recommendation of TEC above the amounts as stated under ITT Sub Clause 56.7.
- 65.3 The proceeds of the Performance Security shall be payable to the Procuring Entity unconditionally upon first written demand as compensation for Contractor's failure to complete its obligations under the Contract.
- 65.4 In the event a Government owned enterprise as stated under ITT Sub Clause 5.10 is the successful Tenderer, Performance Security, as stated under ITT Sub Clause 65.1, shall not be required and, in lieu, there shall be Retention Money as specified in the **TDS**.
- 66. Form and Time Limit for Furnishing of Performance Security**
- 66.1 Performance Security, as stated under ITT Clause 65, may be in the form of a Bank Draft, Pay Order or an irrevocable unconditional Bank Guarantee in the format (**Form PW3-10**), without any alteration, issued by any scheduled Bank of Bangladesh acceptable to the Procuring Entity.

- 66.2 Within fourteen (14) days from the date of acceptance of the NOA but not later than the date specified therein, the successful Tenderer shall furnish the Performance Security for the due performance of the Contract in the amount as stated under ITT Sub Clauses 65.1 or 65.2.
- 67. Validity of Performance Security** 67.1 Performance Security shall be required to be valid until a date twenty-eight (28) days beyond the Intended Completion Date as specified in Tender Document.
- 68. Authenticity of Performance Security** 68.1 The Procuring Entity shall verify the authenticity of the Performance Security submitted by the successful Tenderer by sending a written request to the branch of the Bank issuing the Pay Order, Bank Draft or irrevocable unconditional Bank Guarantee in specified format.
- 69. Contract Signing** 69.1 At the same time as the Procuring Entity issues the NOA, the Procuring Entity will send the draft Contract Agreement and all documents forming the Contract to the successful Tenderer.
- 69.2 Within twenty-eight (28) days of the issuance of the NOA, the successful Tenderer and the Procuring Entity shall sign the contract. In the event the successful Tenderer is a JV, all partners of that JV must sign.
- 69.3 Failure of the successful Tenderer to submit the Performance Security, as stated under ITT Sub Clause 65.1, or to sign the Contract, as stated under ITT Sub Clause 69.2, shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the next lowest evaluated responsive Tenderer, who is determined by the TEC to be qualified to perform the Contract satisfactorily.
- 70. Publication of Notification of Award of Contract** 70.1 The NOA for Contract shall be notified by the Procuring Entity to the Central Procurement Technical Unit within seven (7) days of its issuance for publication in their website, and that notice shall be kept posted for not less than a month.
- 71. Debriefing of Tenderers** 71.1 Debriefing of Tenderers by the Procuring Entity shall outline the relative status and weakness only of his or her Tender requesting to be informed of the grounds for not accepting the Tender submitted by him or her, without disclosing information about any other Tenderer.
- 71.2 In the case of debriefing, confidentiality of the evaluation process shall be maintained.
- 72. Adjudicator** 72.1 The Procuring Entity proposes the person named in the **TDS** to be appointed as Adjudicator under the Contract, at an hourly fee and for those reimbursable expenses as specified in the **TDS**.
- 73. Right to Complain** 73.1 Tenderer has the right to complain in accordance with the Public Procurement Act 2006 and the Public Procurement Rules, 2008.

Section 2. Tender Data Sheet

<i>Instructions for completing Tender Data Sheet are provided in italics in parenthesis for the relevant ITT clauses</i>	
ITT Clause	Amendments of, and Supplements to, Clauses in the Instructions to Tenderers
A. General	
ITT 1.1	The Procuring Entity is RPCL-NORINCO Intl Power Limited (RNPL) . The Name of the Tender is: Construction of Embankment, Road and Earth Protection Works at Patuakhali 1320 (2×660) MW Coal Fired Thermal Power Plant Project Tender Ref: PUR-001 (LW/PATUAKHALI/OTM)/2023-24 Dated 14.08.2023 Package: A, Lot-01
ITT3.1	The source of funds is RNPL Own fund.
ITT3.3	The name of the Development Partner is N/A
ITT5.1	Tenderers from the following countries are not eligible Only Bangladeshi Contractors are Eligible.
ITT 5.13	Tenderers shall have the following up to date valid License 1st class licensed contractor of any Govt./Semi-Govt./autonomous body. Updated enlistment documents must be submitted.
ITT6.1	Materials, Equipment and associated services from the following countries are not eligible: Israel
B. Tender Document	
ITT8.2	The following are authorised agents/offices of the Procuring Entity for the purpose of issuing the Tender Document: <u>Name:</u> Project Director, Patuakhali 1320 (2×660) MW Coal Fired Thermal Power Plant Project, RPCL-Norinco Intl Power Limited (RNPL) <u>Address:</u> Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh <u>Telephone No.:</u> +88 02 48956157, +88 02 48956158 <u>e-mail address:</u> pd1320rnpl@gmail.com
ITT9.1	For clarification of Tender Document purposes only, the Procuring Entity's address is: Attention: Project Director, Patuakhali 1320 (2×660) MW Coal Fired Thermal Power Plant Project, RPCL-Norinco Intl Power Limited (RNPL) Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh Telephone No.: +88 02 48956157, +88 02 48956158 e-mail address: pd1320rnpl@gmail.com and contact the Procuring Entity within 31-08-2023 at 12.00 PM Noon (Local Time)
ITT10.1	A Pre-Tender meeting will be held at Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh On 31.08.2023 time 10:00 AM

C. Qualification Criteria

ITT 14.1(a)	The minimum number of years of general experience of the tenderer in the construction works as prime contractor or sub-contractor or management contractor shall be 5 (five) years.																				
ITT 14.1(b)	The minimum specific experience as a Prime Contractor or Subcontractor or Management Contractor in construction works of at least 1 (one) contract of similar nature in public sector successfully completed within the last 5 (five) years, each with a value of at least Tk. 5.00 Crore <i>[for Tenders where the package contains more than one (1) lot, this qualification requirements, only when applicable, shall be mentioned separately for each lot in the package]</i>																				
ITT 15.1(a)	The required average annual construction turnover shall be greater than Tk. 14.00 Crore over the last 5 (Five) years. <i>[for Tenders where the package contains more than one (1) lot, this qualification requirements shall be mentioned separately for each lot in the package]</i>																				
ITT 15.1(b)	The minimum amount of liquid assets or working capital or credit facilities of the Tenderer shall be Tk 4.50 Crore <i>[for Tenders where the package contains more than one (1) lot, this qualification requirements shall be mentioned separately for each lot in the package]</i>																				
ITT 15.1(d).	<p>The minimum capacity shall be: Tk 5.50 Crore</p> <p>The following formulae shall be used to calculate the Tender Capacity</p> <p>Assessed Tender Capacity = (A*N*1.5-B)</p> <p>Where</p> <p>A=Maximum value of Works performed in any one year during last five years</p> <p>N= Completion time of the proposed work in years</p> <p>B= Value of Existing commitments and works to be completed during the next N Years</p> <p>For Tenders where the package contains more than one (1) Lot, this qualification requirement shall be mentioned separately for each lot in the package</p> <p>Note 1: In case the value of N is less than 12 (twelve) months the value of N shall be considered as 01 (one)</p> <p>Note 2: In case of JV tender capacity requirement for leading partner shall be minimum 40% and for other partners shall be minimum 25%.</p>																				
ITT 16.1	<p>A Construction Project Manager, Engineer, and other key staff shall have the following qualifications and experience:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">SN</th> <th style="width: 60%;">Position and Educational Qualification</th> <th style="width: 15%;">Total Works Experience (years)</th> <th style="width: 15%;">Similar Works Experience (years)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Project Manager- B.Sc in Civil Engineering -1 No.</td> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Site Engineer- Diploma in Civil Engineering-2 No</td> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Site Supervisor-H.SC-1 No.</td> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Forman (Civil)-SSC-1 No.</td> <td style="text-align: center;">10</td> <td style="text-align: center;">5</td> </tr> </tbody> </table>	SN	Position and Educational Qualification	Total Works Experience (years)	Similar Works Experience (years)	1	Project Manager- B.Sc in Civil Engineering -1 No.	10	5	2	Site Engineer- Diploma in Civil Engineering-2 No	10	5	3	Site Supervisor-H.SC-1 No.	10	5	4	Forman (Civil)-SSC-1 No.	10	5
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4	Forman (Civil)-SSC-1 No.	10	5																		

ITT 17.1	<p>Tenderers shall own or have proven access to hire or lease of the major construction equipment, in full working order as follows:</p> <table border="1" data-bbox="325 309 1423 963"> <thead> <tr> <th data-bbox="325 309 416 405">No</th> <th data-bbox="416 309 951 405">Equipment Type and Characteristics</th> <th data-bbox="951 309 1423 405">Minimum Number Required</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 405 416 456">1</td> <td data-bbox="416 405 951 456">Truck 5-10 Tons</td> <td data-bbox="951 405 1423 456">2 Nos.</td> </tr> <tr> <td data-bbox="325 456 416 508">2</td> <td data-bbox="416 456 951 508">Roller 10 Ton</td> <td data-bbox="951 456 1423 508">2 Nos.</td> </tr> <tr> <td data-bbox="325 508 416 560">3</td> <td data-bbox="416 508 951 560">Trolley (mini truck) 2.5-3 Tons</td> <td data-bbox="951 508 1423 560">1 Nos</td> </tr> <tr> <td data-bbox="325 560 416 611">4</td> <td data-bbox="416 560 951 611">Mixture Machine-7.5 cft</td> <td data-bbox="951 560 1423 611">2 Nos.</td> </tr> <tr> <td data-bbox="325 611 416 663">5</td> <td data-bbox="416 611 951 663">Vibrator machine with nozzle</td> <td data-bbox="951 611 1423 663">02 Nos.</td> </tr> <tr> <td data-bbox="325 663 416 714">6</td> <td data-bbox="416 663 951 714">Standard Shuttering Materials</td> <td data-bbox="951 663 1423 714">1500 Sqm</td> </tr> <tr> <td data-bbox="325 714 416 766">7</td> <td data-bbox="416 714 951 766">Prop (Steel pipe/Bamboo)</td> <td data-bbox="951 714 1423 766">3500 Nos</td> </tr> <tr> <td data-bbox="325 766 416 817">8</td> <td data-bbox="416 766 951 817">Pump with motor</td> <td data-bbox="951 766 1423 817">04 Nos.</td> </tr> <tr> <td data-bbox="325 817 416 869">9</td> <td data-bbox="416 817 951 869">Welding machine</td> <td data-bbox="951 817 1423 869">01 set.</td> </tr> <tr> <td data-bbox="325 869 416 920">10</td> <td data-bbox="416 869 951 920">Wince machine</td> <td data-bbox="951 869 1423 920">01 No.</td> </tr> <tr> <td data-bbox="325 920 416 972">11</td> <td data-bbox="416 920 951 972">Rod cutter machine</td> <td data-bbox="951 920 1423 972">01 No.</td> </tr> </tbody> </table> <p data-bbox="325 1003 1447 1061"><i>[for Tenders where the package contains more than one (1) lot, this qualification requirement may be necessary for each lot in the package, subject to the nature of the control required over each package]</i></p>	No	Equipment Type and Characteristics	Minimum Number Required	1	Truck 5-10 Tons	2 Nos.	2	Roller 10 Ton	2 Nos.	3	Trolley (mini truck) 2.5-3 Tons	1 Nos	4	Mixture Machine-7.5 cft	2 Nos.	5	Vibrator machine with nozzle	02 Nos.	6	Standard Shuttering Materials	1500 Sqm	7	Prop (Steel pipe/Bamboo)	3500 Nos	8	Pump with motor	04 Nos.	9	Welding machine	01 set.	10	Wince machine	01 No.	11	Rod cutter machine	01 No.
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ITT 18.1	<p>The value of non-judicial stamp for execution of the Joint Venture Agreement shall be Tk 300 only</p>																																				
ITT 18.2	<p>Maximum number of partners in the JV shall be 3 (Three)</p> <p>The minimum qualification requirements of Leading Partner, other Partner(s) and requirements by summation of a JV shall be as follows :</p> <table border="1" data-bbox="325 1285 1423 1854"> <thead> <tr> <th data-bbox="325 1285 501 1359">TDS Clauses References</th> <th data-bbox="501 1285 708 1359">Requirements by summation</th> <th data-bbox="708 1285 1018 1359">Requirements for Leading Partner</th> <th data-bbox="1018 1285 1423 1359">Requirements for other Partner(s)</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 1359 501 1451">ITT-14.1(a)</td> <td data-bbox="501 1359 708 1451">Summation not applicable</td> <td data-bbox="708 1359 1018 1451">Same as stated in TDS</td> <td data-bbox="1018 1359 1423 1451">Same as for Leading Partner</td> </tr> <tr> <td data-bbox="325 1451 501 1597">ITT-14.1(b)</td> <td data-bbox="501 1451 708 1597">100% (summation of different contracts)</td> <td data-bbox="708 1451 1018 1597">At least one Contract</td> <td data-bbox="1018 1451 1423 1597">Minimum requirement not applicable</td> </tr> <tr> <td data-bbox="325 1597 501 1648">ITT-15.1(a)</td> <td data-bbox="501 1597 708 1648">100%</td> <td data-bbox="708 1597 1018 1648">40%</td> <td data-bbox="1018 1597 1423 1648">25%</td> </tr> <tr> <td data-bbox="325 1648 501 1700">ITT-15.1(b)</td> <td data-bbox="501 1648 708 1700">100%</td> <td data-bbox="708 1648 1018 1700">40%</td> <td data-bbox="1018 1648 1423 1700">25%</td> </tr> <tr> <td data-bbox="325 1700 501 1774">ITT-16.1(a)</td> <td data-bbox="501 1700 708 1774">100%</td> <td data-bbox="708 1700 1018 1774">Minimum requirement not applicable</td> <td data-bbox="1018 1700 1423 1774">Minimum requirement not applicable</td> </tr> <tr> <td data-bbox="325 1774 501 1854">ITT-17.1</td> <td data-bbox="501 1774 708 1854">100%</td> <td data-bbox="708 1774 1018 1854">Minimum requirement not applicable</td> <td data-bbox="1018 1774 1423 1854">Minimum requirement not applicable</td> </tr> </tbody> </table> <p data-bbox="325 1863 1447 1993"><i>[it is suggested that the Procuring Entity adheres to the above proportion of minimum qualifying requirements to meet the specific procurement needs. Percent share of business of the JV partners shall not be taken into account in determining the qualification of a JV]</i></p>	TDS Clauses References	Requirements by summation	Requirements for Leading Partner	Requirements for other Partner(s)	ITT-14.1(a)	Summation not applicable	Same as stated in TDS	Same as for Leading Partner	ITT-14.1(b)	100% (summation of different contracts)	At least one Contract	Minimum requirement not applicable	ITT-15.1(a)	100%	40%	25%	ITT-15.1(b)	100%	40%	25%	ITT-16.1(a)	100%	Minimum requirement not applicable	Minimum requirement not applicable	ITT-17.1	100%	Minimum requirement not applicable	Minimum requirement not applicable								
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ITT 19.4	The Nominated Subcontractor(s) named [insert name(s)] shall execute the following specific components of the proposed Works: None
D. Tender Preparation	
ITT 24.1 (m)	The Tenderer shall submit with its Tender the following additional attested (Not below the rank of executive engineer) documents: (i) Current dated bank solvency certificate (max15 days prior to the tender closing date) stating balance. (ii) Signed CV with Photo, Educational & experience certificate for key personal. (iii) Owner ship/Leased document of listed Transport, tools and equipment.
ITT 26.1	Alternatives will not be permitted.
ITT 26.2	Alternative technical solutions for any parts of works will not be permitted.
ITT 27.9	The prices quoted by the Tenderers shall be fixed for the duration of the Contract.
ITT 31.1	The required Technical Proposal shall include the following additional information: Safety & security planning
ITT 32.1(e)	The required information regarding claims under litigation shall be current or during the last 3 (three) years.
ITT 32.1 (i)	The required reports on the financial standing, such as profit and loss statements and audited balance sheet shall be for the past 3 (three) years.
ITT 33.1	The Tender Validity period shall be 90 (Ninety) days.
ITT 35.1	The amount of the Tender Security shall be Tk. 20 lac in favour of RNPL-NORINCO INTL POWER LIMITED (RNPL) <small>[for more than one lot in a package, the Tender Security for each lot may be determined on different percentage basis and , should be mentioned separately]</small>
ITT 40.1	In addition to the original of the Tender 1 (one) original and 2 (two) copies shall be submitted.
E. Tender Submission	
ITT 41.2(e)	The inner and outer envelopes shall bear the following additional identification marks: None.
ITT 42.1	For <u>Tender submission purposes</u> only, the Procuring Entity's address is: Name: Project Director, Patuakhali 1320 (2x660) MW Coal Fired Thermal Power Plant Project, RPCL-Norinco Intl Power Limited (RNPL) Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh Telephone No.: +88 02 48956157, +88 02 48956158 Time & Date: 11-09-2023 at 12.00 PM Noon (Local Time)
ITT 42.3	N/A
ITT 42.4	N/A
F. Tender Opening and Evaluation	

ITT 48.1	<p>The Tender opening shall take place at: Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh Telephone No.: +88 02 48956157, +88 02 48956158 Time & Date: 11-09-2023 at 12.30 Noon (Local Time)</p>
G. Contract Award	
ITT 65.1	The amount of Performance Security shall be 10% (Ten percent) percent of the Contract Price.
ITT 65.4	The Retention Money shall be: N/A
ITT 72.1	The Adjudicator proposed by the Procuring Entity is Chief Engineer (Project), BREB, Dhaka. The hourly fee shall be Tk 50,000 (Fifty Thousand Taka).

For Information Only

Section 3. General Conditions of Contract

A. General

1. Definitions

- 1.1 In the Conditions of Contract, which include Particular Conditions and these General Conditions, the following words and expressions shall have the meaning hereby assigned to them. Boldface type is used to identify the defined terms:
- (a) **Act means** The Public Procurement Act, 2006 (Act 24 of 2006).
 - (b) **Adjudicator** is the expert appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in GCC Sub Clause 92.2.
 - (c) **Approving Authority** means the authority which, in accordance with the Delegation of Financial Powers, approves the award of contract.
 - (d) **Bill of Quantities (BOQ)** means the priced and completed Bill of Quantities forming part of the Contract defined in GCC Clause 59.
 - (e) **Compensation Events** are those defined in GCC Clause 67.
 - (f) **Competent Authority** means the authority that gives decision on specific issues as per delegation of administrative and/or financial powers.
 - (g) **Completion Certificate** means the Certificate issued by the Project Manager as evidence that the Contractor has executed the Works and physical services in all respects as per design, drawing, specifications and Conditions of Contract.
 - (h) **Completion Date** is the actual date of completion of the Works and physical services certified by the Project Manager, in accordance with GCC Clause 78.
 - (i) **Contract Agreement** means the Agreement entered into between the Procuring Entity and the Contractor, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein to execute, complete, and maintain the Works.
 - (j) **Contract Documents** means the documents listed in GCC Clause 6, including any amendments thereto.
 - (k) **Contractor** means the Person under contract with the Procuring Entity for the execution of Works under the Rules and the Act as stated in the **PCC**.
 - (l) **Contract Price** means the price payable to the Contractor as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, for the execution, completion and maintenance of the Works in accordance with the provisions of the Contract.
 - (m) **Contractor's Tender** is the completed Tender Document including the priced BOQ and the Schedules submitted by the

- Contractor to the Procuring Entity.
- (n) **Cost** means all expenditures reasonably incurred or to be incurred by the Contractor, whether on or off the Site, including overhead, taxes, duties, fees and such other similar levies including corresponding incidental charges and premiums for banking and insurances, as applicable.
 - (o) **Day** means calendar day unless otherwise specified as working days.
 - (p) **Dayworks** means work carried out following the instructions of the Procuring Entity or the authorised Project Manager and is paid for on the basis of time spent by the Contractor's workers and equipment at the rates specified in the Schedules, in addition to payments for associated Materials and Plant.
 - (q) **Defect** is any part of the Works not completed in accordance with the Contract.
 - (r) **Defects Correction Certificate** is the certificate issued by the Project Manager upon correction of defects by the Contractor.
 - (s) **Drawings** include calculations and other information provided in Section 9 or as approved by the Project Manager for the execution and completion of the Contract.
 - (t) **Equipment** is the Contractor's apparatus, machinery, vehicles and other things required for the execution and completion of the Works and remedying any defects excluding Temporary Works and the Procuring Entity's Equipment (if any), Plant, Materials and any other things to form or forming part of the Permanent Works.
 - (u) **Force Majeure** means an event or situation beyond the control of the Contractor that is not foreseeable, is unavoidable, and its origins not due to negligence or lack of care on the part of the Contractor; such events may include, but not be limited to, acts of the Government in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes or more as included in GCC Clause 83;
 - (v) **GCC** means the General Conditions of Contract.
 - (w) **Government** means the Government of the People's Republic of Bangladesh.
 - (x) **Goods** mean the Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.
 - (y) **"Head of the Procuring Entity"** means the Secretary of a Ministry or a Division, the Head of a Government Department or Directorate; or the Chief Executive, or as applicable, Divisional Commissioner, Deputy Commissioner, Zilla Judge; or by whatever designation called, of a local Government agency, an autonomous or semi-autonomous body or a corporation, or a corporate body established under the Companies Act;
 - (z) **Intended Completion Date** is the date calculated from the Commencement Date as specified in the **PCC**, on which it is intended that the Contractor shall complete the Works and physical services as specified in the Contract and may be revised only by the Project Manager by issuing an extension

of time or an acceleration order.

- (aa) **Materials** means things of all kinds other than Plant intended to form or forming part of the Permanent Works, including the supply-only materials, if any, to be supplied by the Contractor under the Contract.
- (bb) **Month** means calendar month.
- (cc) **Original Contract Price** is the Contract Price stated in the Procuring Entity's Notification of Award (**Form PW3-7**) and further clearly determined in the **PCC**.
- (dd) **Permanent works** means the permanent works to be executed by the Contractor under the Contract.
- (ee) **PCC** means the Particular Conditions of Contract.
- (ff) **Plant** means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Procuring Entity and relating to the construction of the Works and physical services.
- (gg) **Procuring Entity** means a Procuring Entity having administrative and financial powers to undertake procurement of Works and physical services using public funds and is as named in the **PCC** who employs the Contractor to carry out the Works.
- (hh) **Project Manager** is the person named in the **PCC** or any other competent person appointed by the Procuring Entity and notified to the Contractor who is responsible for supervising the execution and completion of the Works and physical services and administering the Contract.
- (ii) **Provisional Sums means** amounts of money specified by the Procuring Entity in the BOQ which shall be used, at its discretion for meeting other essential expenditures under the Contract pursuant to GCC Sub Clause 75.
- (jj) **Retention Money** means the accumulated retention moneys which the Procuring Entity retains under GCC Clause 70.
- (kk) **Schedules** means the document(s) entitled schedules, completed by the Contractor and submitted with the Tender Submission Letter, as included in the Contract. Such document may include the data, lists and schedules of rates and/or prices.
- (ll) **Site** means the places where the Permanent Works are to be executed including storage and working areas and to which Plant and Materials are to be delivered, and any other places as may be specified in the **PCC** as forming part of the Site.
- (mm) **Site Investigation Reports** are those that were included in the Tender Document and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (nn) **Specification** means the Specification of the Works included in the Contract and any modifications or additions to the specifications made or approved by the Project Manager in accordance with the Contract.
- (oo) **Start Date** is the date defined in the **PCC** and it is the last date when the Contractor shall commence execution of the

Works under the Contract.

- (pp) **Subcontractor** means 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.
- (qq) **Temporary Works** means all temporary works of every kind other than Contractor's Equipment required on the Site for the execution and completion of the Permanent Works and remedying of any defects.
- (rr) **Variation** means any change to the Works directly procured from the original Contractor to cover increases or decreases in quantities, including the introduction of new work items (non-Tendered items) that are either due to change of plans, design or alignment to suit actual field conditions, within the general scope and physical boundaries of the contract.
- (ss) **Works** means all works associated with the construction, reconstruction, site preparation, demolition, repair, maintenance or renovation of railways, roads, highways, or a building, an infrastructure or structure or an installation or any construction work relating to excavation, installation of equipment and materials, decoration, as well as physical services ancillary to works as detailed in the **PCC**, if the value of those services does not exceed that of the Works themselves.
- (tt) **Writing** means communication written by hand or machine duly signed and includes properly authenticated messages by facsimile or electronic mail.

2. Interpretation

2.1 In interpreting the GCC, singular also means plural, male also means female or neuter, and the other way around. Headings in the GCC shall not be deemed part thereof or be taken into consideration in the interpretation or construction of the Contract. Words have their normal meaning under the language of the Contract unless specifically defined.

2.2 Entire Agreement

The Contract constitutes the entire agreement between the Procuring Entity and the Contractor and supersedes all communications, negotiations and agreements (whether written or verbal) of parties with respect thereto made prior to the date of Contract Agreement; except those stated under GCC Sub Clause 6.1(j).

2.3 Non waiver

- (a) Subject to GCC Sub Clause 2.3(b), no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being

waived.

2.4 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

2.5 Sectional completion

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).

3. Communications & Notices

3.1 Communications between Parties (notice, request or consent required or permitted to be given or made by one party to the other) pursuant to the Contract shall be in writing to the addresses specified in the **PCC**.

3.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

3.3 A Party may change its address for notice hereunder by giving the other Party notice of such change to the address.

4. Governing Law

4.1 The Contract shall be governed by and interpreted in accordance with the laws of the People's Republic of Bangladesh.

5. Governing Language

5.1 The Contract shall be written in English. All correspondences and documents relating to the Contract may be written in English or *Bangla*. Supporting documents and printed literature that are part of the Contract may be in another language, provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, such translation shall govern.

5.2 The Contractor shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.

6. Documents Forming the Contract and Priority of Documents

6.1 The following documents forming the Contract shall be interpreted in the following order of priority:

- (a) the signed Contract Agreement (**Form PW3-9**);
- (b) the Notification of Award (**PW3-8**);
- (c) the completed Tender and the Appendix to the Tender;
- (d) the Particular Conditions of Contract;
- (e) the General Conditions of Contract;
- (f) the Technical Specifications;
- (g) the General Specifications;
- (h) the Drawings;
- (i) the priced BOQ and the Schedules; and
- (j) any other document listed in the **PCC** forming part of the Contract.

- 7. Scope of Works**
- 7.1 The Works to be executed, completed and maintained shall be as specified in the BOQ, the General and Particular Specifications and Drawings.
- 7.2 Unless otherwise stipulated in the Contract, the Works shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for completion of the Works as if such items were expressly mentioned in the Contract.
- 8. Assignment**
- 8.1 Neither the Contractor nor the Procuring Entity shall assign, in whole or in part, its obligations under the Contract.
- 9. Eligibility**
- 9.1 The Contractor and its Subcontractor(s) shall have the nationality of a country other than that specified in the **PCC**.
- 9.2 All materials, equipment, plant, and supplies used by the Contractor in both permanent and temporary works and services supplied under the Contract shall have their origin in the countries except any specified in the **PCC**.
- 10. Gratuities / Agency fees**
- 10.1 No fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the Tender or in the Contract, have been given or received in connection with the procurement process or in the Contract execution.
- 11. Confidential Details**
- 11.1 The Contractor's and the Procuring Entity'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.
- 11.2 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.
- 12. Joint Venture (JV)**
- 12.1 If the Contractor is a JV ,
- (a) each partner of the JV shall be jointly and severally liable for all liabilities and ethical or legal obligations to the Procuring Entity for performance of the Contract;
- (b) the JV partners shall nominate the **Leading Partner** as **REPRESENTATIVE** being entrusted with the Contract administration and management at Site who shall have the authority to conduct all business including the receipt of payments for and on behalf of all partners of the JV;
- (c) If there is a dispute that results in legal action being taken in court then action will be taken against all partners of the JV, if they are available and, if only one partner is available, then that partner alone shall answer on behalf of all partners and, if the complaint lodged is proven, the penalty shall be applicable on that partner alone as whatever penalty all the partners

would have received; provided that if the other partners of the JV subsequently become available before the legal action has been completed, the Procuring Entity shall have the right to take action against those other partners of that JV as well.

- (d) the composition or constitution and legal status of the JV shall not be altered without the prior approval of the Procuring Entity;
- (e) alteration of partners, **except the Leading partner**, shall only be allowed if any of them is found to be incompetent or has any serious difficulties which may impact the overall implementation of the Works, whereby the incoming partner shall require to possess qualifications higher than that of the outgoing partner;
- (f) "if any of the partners of JV has been debarred from participating in any procurement activity due to corrupt, fraudulent, collusive or coercive practices and while in case, the Leading partner is found incompetent or has been debarred due to the same reasons stated herein the Contract shall be terminated pursuant to GCC Sub Clause 87.1(b)."

13. Possession of the Site

13.1 The Procuring Entity shall give possession of the Site or part(s) of the Site, to the Contractor on the date(s) stated in the **PCC**. If possession of a part of the Site is not given by the date stated in the **PCC**, the Procuring Entity will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event as stated under GCC Sub Clause 67.1(a).

14. Access to the Site

14.1 The Contractor shall allow the Project Manager and any person authorised 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.

15. Procuring Entity's Responsibilities

15.1 The Procuring Entity shall pay the Contractor, in consideration of the satisfactory progress of execution and completion of the Works and physical services, 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 Agreement.

15.2 The Procuring Entity shall make its best effort to guide and assist the Contractor in obtaining, if required, any permit, licence, and approvals from local public authorities for the purpose of execution of the Works and physical services under the Contract.

16. Approval of the Contractor's Temporary Works

16.1 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.

16.2 The Contractor shall be responsible for design of Temporary Works.

16.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

16.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17. **Contractor's Responsibilities** 17.1 The Contractor shall execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract Agreement.
18. **Taxes and Duties** 18.1 The Contractor shall be entirely responsible for all applicable taxes, custom duties, VAT, and other levies imposed or incurred inside and outside Bangladesh.
19. **Contractor's Personnel** 19.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the **PCC**, to carry out the functions stated in the Schedule or other personnel approved by the Project Manager.
- 19.2 The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or higher than those of the personnel named in the Schedule.
- 19.3 If the Project Manager asks the Contractor to remove a particular person who is a member of the Contractor's staff or work force from the Site, he or she shall state the reasons, and the Contractor shall ensure that the person leaves the Site within three (3) days and has no further connection with the work in the Contract.
20. **Subcontracting** 20.1 Subcontracting the whole of the Works by the Contractor shall not be permissible. The Contractor shall be responsible for the acts or defaults of any Subcontractor, his or her agents or employees, as if they were the acts or defaults of the Contractor.
- 20.2 The prior consent, in writing, of the Project Manager shall however be obtained for other proposed Subcontractor(s).
- 20.3 Nominated Subcontractor named in the Contract shall be entitled to execute the specific components of the Works stated in the **PCC**.
- 20.4 Subcontractors shall comply with the provisions of GCC Clause 38.
21. **Other Contractors** 21.1 The Contractor shall cooperate and share the Site with other Contractors, public authorities, utilities, the Project Manager and the Procuring Entity between the dates given in the Schedule of other Contractors. The Contractor shall also provide facilities and services for them as described in the Schedule. The Procuring Entity may modify the Schedule of other Contractors, and shall notify the Contractor of any such modification.
22. **Project Manager's Decisions** 22.1 Except where otherwise specifically stated in the **PCC**, the Project Manager will decide Contractual matters between the Procuring Entity and the Contractor in its role as representative of the Procuring Entity.
23. **Delegation** 23.1 The Project Manager may delegate any of his duties and responsibilities to his representative except to the Adjudicator, after notifying the Contractor, and may cancel any delegation, without retroactivity, after notifying the Contractor.
- 23.2 Any communications to the Contractor in accordance with such delegation shall have the same effect as if it was given by the Project Manager.

- 24. Instructions** 24.1 The Contractor shall carry out all instructions of the Project Manager that comply with the applicable law.
- 25. Queries About the Contract Conditions** 25.1 The Project Manager, on behalf of the Procuring Entity, will clarify queries on the Conditions of Contract.
- 26. Safety, Security and Protection of the Environment** 26.1 The Contractor shall throughout the execution and completion of the Works and the remedying of any defects therein:
- (a) take all reasonable steps to safeguard the health and safety of all workers working on the Site and other persons entitled to be on it, and to keep the Site in an orderly state;
 - (b) provide and maintain at the Contractor's own cost all lights, guards, fencing, warning signs and watching for the protection of the Works or for the safety on-site; and
 - (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 the Contractor's methods of operation.
- 27. Working Hours** 27.1 The Contractor shall not perform any work on the Site on the weekly holidays, or during the night or outside the normal working hours, or on any religious or public holiday, without the prior written approval of the Project Manager.
- 28. Welfare of Labourers** 28.1 The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's personnel relating to their employment, health, safety, welfare, immigration and shall allow them all their legal rights.
- 28.2 The Contractor, in particular, shall provide proper accommodation to his or her labourers and arrange proper water supply, conservancy and sanitation arrangements at the site for all necessary hygienic requirements and for the prevention of epidemics in accordance with relevant regulations, rules and orders of the government.
- 28.3 The Contractor, further in particular, shall pay reasonable wages to his or her labourers, and pay them in time. In the event of delay in payment the Procuring Entity may effect payments to the labourers and recover the cost from the Contractor.
- 29. Child Labour** 29.1 The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, 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 in compliance with the applicable labor laws and other relevant treaties ratified by the government.
- 30. Discoveries** 30.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Procuring Entity. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

- 31. Procuring Entity's and Contractor's Risks** 31.1 The Procuring Entity carries the risks that the Contract states are Procuring Entity's risks and the Contractor carries the risks that the Contract states are Contractor's risks.
- 32. Procuring Entity's Risks** 32.1 From the Start Date until the Defects Correction Certificate has been issued, the following are Procuring Entity'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 Procuring Entity 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 Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.
- 32.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is Procuring Entity'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 Procuring Entity's risk; or
 - (c) the activities of the Contractor on the Site after the Completion Date.
- 33. Contractor's Risks** 33.1 From the Start Date until the Defects Correction Certificate has been 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 Procuring Entity's risks are Contractor's risks.
- 34. Copyright** 34.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Procuring Entity by the Contractor herein shall remain vested in the Contractor, or, if they are furnished to the Procuring Entity directly or through the Contractor by any third party, including Suppliers of materials, the copyright in such materials shall remain vested in such third party.
- 34.2 The Contractor shall not, except for the purposes of performing the obligations under the Contract, without the written permission of the Procuring Entity disclose or make use of any specification, plan, design and drawing, pattern, sample or information furnished by or on behalf of the Procuring Entity.

- 35. Limitation of Liability**
- 35.1 Except in cases of criminal negligence or wilful misconduct:
- (a) the Contractor shall not be liable to the Procuring Entity, whether in Contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Procuring Entity; and
 - (b) the aggregate liability of the Contractor to the Procuring Entity, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective Works, or to any obligation of the Contractor to indemnify the Procuring Entity with respect to patent infringement.
- 36. Insurance**
- 36.1 The Contractor shall provide, in the joint names of the Procuring Entity and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles specified 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.
- 36.2 The Contractor shall deliver policies and certificates of insurance to the Project Manager, for the Project Manager's approval, before the Start Date. All such insurances shall provide for compensation to be payable in the types and proportions required to rectify the loss or damage incurred.
- 36.3 If the Contractor does not provide any of the policies and certificates required, the Procuring Entity may effect the insurance which the Contractor should have provided and recover the premiums the Procuring Entity 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.
- 36.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.
- 36.5 Both parties shall comply with conditions of the insurance policies.
- 37. Management and Progress Meetings**
- 37.1 Either the Project Manager or the Contractor may require the other to attend a management and progress meeting. The business of such meeting shall be to review the progress and plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

- 37.2 The Project Manager shall record the business of the meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management and progress meeting or after the meeting, and stated in writing to all concerned.
- 38. Corrupt, Fraudulent, Collusive, Coercive(and Obstructive in case of Development Partner) Practices**
- 38.1 The Government and the Development Partner requires that the Procuring Entity as well as the Contractor (including sub-contractors, agents, personnel, consultants and service providers), shall observe the highest standard of ethics during the implementation of procurement proceedings and the execution of contracts under public funds.
- 38.2 The Contractor (including sub-contractors, agents, personnel, consultants and service providers) shall permit the Government and/or the Development Partner to inspect the Contractor's accounts and records and other documents relating to the submission of Tender and contract performance, and to have them audited by auditors appointed by the Government and/or the Development Partner, if so required.
- 38.3 For the purposes of GCC Sub Clause 38.4, the terms set forth below as follows:
- (a) "corrupt practice" means offering, giving or promising to give, receiving, or soliciting either directly or indirectly, to any officer or employee of a Procuring Entity or other public or private authority or individual, a gratuity in any form; employment or any other thing or service of value as an inducement with respect to an act or decision or method followed by a Procuring Entity in connection with a Procurement proceeding or Contract execution;
 - (b) "fraudulent practice" means the misrepresentation or omission of facts in order to influence a decision to be taken in a Procurement proceeding or Contract execution;

- (c) "collusive practice" means a scheme or arrangement between two (2) or more Persons, with or without the knowledge of the Procuring Entity, that is designed to arbitrarily reduce the number of Tenders submitted or fix Tender prices at artificial, non-competitive levels, thereby denying a Procuring Entity the benefits of competitive price arising from genuine and open competition;
- (d) "coercive practice" means harming or threatening to harm, directly or indirectly, Persons or their property to influence a decision to be taken in the Procurement proceeding or the execution of the Contract, and this will include creating obstructions in the normal submission process used for Tenders; or
- (e) "Obstructive practice" (applicable in case of Development Partner) means deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and /or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.
- 38.4 Should any corrupt, fraudulent, collusive, coercive practice (or obstructive practice in case of Development Partner) of any kind, in competing for or in executing the Contract, is determined by the Procuring Entity, then the Procuring Entity may, upon giving 28 days' notice to the Contractor, terminate the Contractor's employment under the Contract and the provisions of Clause 87 shall apply as if such expulsion had been made under sub-clause 87.1 (Termination for Default).
- 38.5 If corrupt, fraudulent, collusive or coercive (or obstructive in case of Development Partners) practices of any kind determined by the Procuring Entity or the Development Partner against the Contractor alleged to have carried out such practices, the Procuring Entity and/or the Development Partner shall:
- (a) exclude the Contractor from further participation in the particular Procurement proceeding; or
- (b) declare, at its discretion, the Contractor to be ineligible to participate in further Procurement proceedings, either indefinitely or for a specific period of time; or
- (c) PE can debar the Contractor for a period of 1 (one) to 2 (two) years for the procurement of all procuring entities due to fundamental breach of contract.
- 38.6 The Contractor shall be aware of the provisions on corruption, fraudulence, collusion and coercion in Section 64 of the Public Procurement Act, 2006 and Rule 127 of the Public Procurement Rules, 2008 and in case of Development Partner financed contract, the Procurement Guidelines of the Development Partner.

B. Time Control

39. Commencement of Works
- 39.1 Except otherwise specified in the **PCC**, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Project Manager's instruction recording the agreement of both Parties on such fulfilment and instructing to commence the Works is received by the Contractor:
- (a) signing of the Contract Agreement by both parties upon approval of the by relevant authorities;
 - (b) possession of the Site given to the Contractor as required for the commencement of the Works; and
 - (c) receipt by the Contractor of the Advance Payment under GCC Clause 73 provided that the corresponding Bank Guarantee has been delivered by the Contractor, if any.
- 39.2 The Contractor shall commence the execution of the Works as soon as is reasonably practicable by the **Start Date** as specified in the GCC Sub Clause **1.1(oo)** after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.
40. Completion of Works
- 40.1 The Contractor shall carry out the Works in accordance with the Programme of Works submitted by the Contractor and as updated with the approval of the Project Manager as stated under GCC Clause 41 to complete them in all respects by the Intended Completion Date, as specified in the **PCC**.
41. Programme of Works
- 41.1 Within the time stated in the **PCC**, the Contractor shall submit to the Project Manager for approval a Programme of Works showing the general methods, arrangements, order, and timing for all the activities in the Works. The programme may be in the form of an Implementation Schedule prepared in any software or other form acceptable to the Project Manager.
- 41.2 The Contractor shall submit to the Project Manager for approval of an updated Programme at intervals no longer than the period stated in the **PCC**. An update of the Programme shall be a Programme 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.
- 41.3 If the Contractor does not submit an updated Programme of Works at the intervals as stated under GCC Sub Clause 41.2, the Project Manager may withhold an amount as stated in the **PCC** from the next payment certificate and continue to withhold this amount until the next due payment after the date on which the overdue Programme of Works has been submitted.
- 41.4 The Project Manager's approval of the Programme of Works shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Project Manager again at any time for approval. A revised Programme shall show the effect of Variations and Compensation Events.
42. Pro Rata
- 42.1 The Contractor shall maintain Pro Rata progress of the Works.

Progress

Progress to be achieved shall be pursuant to GCC Clause 41 and shall be determined in terms of the value of the works done.

43. Early Warning

- 43.1 If at any time during performance of the Contract, the Contractor or its Subcontractors should encounter events, circumstances, conditions that may adversely affect the quality of the work, increase the original Contract Price or delay the execution of the Works, the Contractor shall promptly notify the Project Manager in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Contractor's notice, the Project Manager shall evaluate the situation, and 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.
- 43.2 The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the original Contract Price and Completion Date. The Contractor shall provide the estimate and the Project Manager shall further proceed as soon as reasonably possible.

44. Extension of Intended Completion Date

- 44.1 The Contractor shall be entitled to an extension of the Intended Completion Date, if and to the extent that completion of the Works or any part thereof is or will be delayed by Compensation Events or a Variation or Extra Work Order.
- 44.2 If the Contractor considers itself to be entitled to an extension of the execution period as stated under GCC Sub Clause 44.1, the Contractor shall give notice, not later than twenty-eight (28) days after the Contractor became aware or should have become aware of the event or circumstance, to the Project Manager.
- 44.3 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within twenty-one (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 extension of Intended Completion Date.
- 44.4 The Project Manager may extend the Intended Completion Date by twenty (20) percent of the original Contract time as stated under GCC Sub Clause 44.1, if a Compensation Event occurs or Variation Order or extra work Order issued, which does not make it possible to complete the execution of works without incurring additional cost.
- 44.5 In the case an extension of the Intended Completion Date required under GCC Sub Clause 44.3 is or will be more than twenty (20) percent of the original Contract time, approval of the Head of the Procuring Entity or an officer authorized by him or her for the same shall be required to be obtained.
- 44.6 Except in case of Force Majeure, as provided under GCC Clause 83, a delay by the Contractor in the execution Works shall render the Contractor liable to the imposition of Liquidated Damages pursuant to GCC Clause 71, unless an extension of the Intended

- Completion Date is agreed upon, pursuant to GCC Clause 44.3.
- 45. Delays Caused by Authorities**
- 45.1 If the following conditions apply, namely:
- (a) the Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities,
 - (b) these public authorities delay or disrupt the Contractor's work, and
 - (c) the delay or disruption was unforeseeable;
- then this delay or disruption will be considered as a cause of delay under GCC Sub Clause 44.1.
- 45.2 The Project Manager shall notify the Contractor accordingly keeping the Procuring Entity posted.
- 46. Acceleration**
- 46.1 When the Procuring Entity wants the Contractor to finish the Works before the Intended Completion Date, the Project Manager will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be advanced accordingly and confirmed by both the Procuring Entity and the Contractor.
- 46.2 If the Procuring Entity accepts the Contractor's priced proposals for acceleration, they will be incorporated in the Contract Price and treated as a **Variation** under GCC Clause 61.
- 47. Delays Ordered by the Project Manager**
- 47.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.
- 48. Suspension of Work**
- 48.1 The Project Manager may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.
- 49. Consequences of Suspension**
- 49.1 If the Contractor suffers delay and/or incurs Cost from complying with the Project Manager's instructions under GCC Clause 48 and/or from resuming the work, the Contractor shall give notice to the Project Manager and shall be entitled subject to GCC Clause 91 to:
- (a) an extension of time for any such delay, if Completion is or will be delayed and
 - (b) payment of any such cost, which shall be included in the Contract Price.
- 49.2 After receiving this notice, the Project Manager shall proceed to agree or determine these matters.
- 49.3 The Contractor shall not be entitled to any extension of time for, or to any payment of the cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with GCC Clause 48.

C. Quality Control

- 50. Execution of Works** 50.1 The Contractor shall construct, install and carry out the Works and physical services in accordance with the Specifications and Drawings as scheduled in GCC Clause 6.
- 51. Examination of Works before covering up** 51.1 All works under the Contract shall at all times be open to examination, inspection, measurements, testing and supervision of the Project Manager, and the Contractor shall ensure presence of its representatives at such actions provided proper advance notice is given by the Project Manager.
- 51.2 No part of the Works shall be covered up or put out of sight without the approval of the Project Manager. The Contractor shall give notice in writing to the Project Manager whenever any such part of the Works is ready for examination and, the Project Manager shall attend to such examination without unreasonable delay.
- 52. Identifying Defects** 52.1 The Project Manager shall check the works executed by the Contractor and notify the Contractor of any Defects found. Such checking shall not relieve the Contractor from his or her obligations. The Project Manager may also instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.
- 53. Testing** 53.1 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 pursuant to GCC Sub Clause 67.
- 54. Rejection of Works** 54.1 If, as a result of an examination, inspection, measurement or testing, of Works it is found to be defective or otherwise not in accordance with the Contract, the Project Manager may reject the Works by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected Works subsequently complies with the Contract.
- 55. Remedial Work** 55.1 Notwithstanding any test or certification, the Project Manager may instruct the Contractor to:
- (a) remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
 - (b) remove and re-execute any other work which is not in accordance with the Contract, and
 - (c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.
- 55.2 The Contractor shall comply with the instruction issued under GCC Sub Clause 55.1 within a reasonable time, which shall be specified in the instruction, or immediately if urgency is specified under GCC Sub Clause 55.1(c).

- 55.3 If the Contractor fails to comply with the instruction issued under GCC Sub Clause 55.2, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall be liable to pay all such costs arising from this failure.
- 56. Correction of Defects**
- 56.1 The Project Manager shall give notice to the Contractor, with a copy to the Procuring Entity and others concerned, of any Defects before the end of the Defects Liability Period, which begins at Completion Date, and is defined in the **PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 56.2 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.
- 57. Uncorrected Defects**
- 57.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected by it, and the Contractor shall remain liable to pay the expenditures incurred on account of correction of such Defect.

D. Cost Control

- 58. Contract Price**
- 58.1 The Contract Price shall be as specified in the Contract Agreement subject to any additions and adjustments thereto, or deductions therefrom, as may be made pursuant to Contract.
- 59. Bill of Quantities**
- 59.1 The Bill of Quantities (BOQ) shall contain priced items for the construction, installation, testing, and commissioning work to be done by the Contractor.
- 59.2 The BOQ is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the BOQ for each item.
- 59.3 Items of works quantified in the BOQ for which no rates have been quoted shall be deemed covered by the amounts at rates of other items in the Contract and, shall under no circumstances be paid for, by the Procuring Entity.
- 60. Changes in the Quantities and Unit Rate**
- 60.1 If the final quantity of the work done for any particular item in the BOQ increases by more than twenty-five (25) percent and, such increase in quantity of that particular item alone concurrently causes the original Contract Price to exceed by more than one (1) percent, the Project Manager shall adjust the unit rate of the item to allow for the change.
- 60.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the BOQ.
- 61. Issue Variation or Extra Work**
- 61.1 The Project Manager may issue a **Variation Order** to the Contractor to cover increase or decrease in quantities, including

Order

the introduction of new work items (non-Tendered items) that are either due to change of plans, design or alignment to suit actual field conditions, within the general scope and physical boundaries of the contract.

- 61.2 The Project Manager may issue an **Extra Work Order** to cover the introduction of such new works necessary for the completion, improvement or protection of the original works which were not included in the original contract, on the grounds where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those usually encountered and generally recognized as inherent in the work or character provided for in the Contract.
- 61.3 The Project Manager deems it necessary that a Variation or Extra Work Order should be issued, he or she shall prepare the proposed order, the necessary plans, his or her computations as to the quantities of the additional Works involved per item indicating the specific locations where such Works are needed, the date of his or her inspections and investigations thereon, and the log book thereof, and a detailed estimate of the unit cost of such items of work as stated under GCC Clause 62, together with his or her justifications for the need of such Variation or Extra Work Order, and shall submit the same to the Approving Authority. Any Amend to the contract that happens within the approved BOQ items and doesn't change the contract price shall be approved by the HOPE or delegated officer.
- 61.4 The Head of the Procuring Entity may, in exceptions to the GCC Sub Clause 61.3 and subject to the availability of funds, in the event of extreme emergency and when time is of the essence, authorize the immediate start of work under any Variation or Extra Work Order; provided that the cumulative increase in the value of Works not yet duly approved exceeded ten (10) percent of the adjusted original Contract Price.
- 61.5 Increase or decrease in the quantities of any item of work included in the BOQ for the reasons other than those stated under GCC Sub Clause 61.1 and 61.2, in particular for field level actual measurements under this contract (admeasurements), not necessarily however, shall constitute a **Variation**.
- 61.6 All Variations and Extra work orders under the Contract shall be included in the updated Programme of Works produced by the Contractor.
- 62.1 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) working days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 62.2 If the item of work in the Variation corresponds to an item of work in the BOQ and if, in the opinion of the Project Manager, the increased quantity and cost of the works of that particular item does not concurrently cause to exceed the limit stated in GCC

62. Costing of Variations or Extra Orders

Sub Clause 60.1, the same unit rate in the BOQ shall be used to calculate the cost of the Variation. If the item of work in the Variation does not correspond to an item in the BOQ, the unit rates for the new items of works shall be determined based on (i) the direct unit costs used in the original Contract for other items (e.g. unit cost of cement, steel bar, labour rate, equipment rental, etc) as indicated in the Contractor's price breakdown of the cost estimate, if available or (ii) fixed prices acceptable to both, the Procuring Entity and the Contractor, based on market prices. The direct cost of the new work items based on (i) or (ii) stated herein shall then be combined with the mark-up factor (i.e. profit, overhead and VAT) used by the Contractor in its Tender to determine the unit rate of the new items of work.

- 62.3 If the Contractor's quotation is found to be 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.
- 62.4 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning under GCC Sub Clause 43.1.
- 62.5 The time for processing of a Variation and an Extra Work Order from its preparation to approval shall not exceed thirty (30) working days.

63. Cash Flow Forecasts

- 63.1 When the Programme of Works is updated under GCC Sub Clause 41.2, the Contractor shall provide the Project Manager with an updated cash flow forecast.

64. Payment Certificates

- 64.1 The basis for payment certificates shall be BOQ used to determine the Contract Price.
- 64.2 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the works executed less the cumulative amount certified previously.
- 64.3 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 64.4 The value of work executed shall be determined by the Project Manager.
- 64.5 The value of work executed may also include the valuation of Variations or Extra Work Orders, Certified Dayworks and Compensation Events.
- 64.6 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.

65. Payments to the Contractor

- 65.1 Payments shall be adjusted for deductions for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Project Manager within twenty-eight (28) days of the date of each certificate after due adjustments for deductions for advance payments, retention and any other additions or deductions which may have become due under the Contract or otherwise, including those under GCC Clause 91.

- 65.2 Payments for Works under Variation Orders or Extra Work Orders satisfactorily accomplished pursuant to GCC Sub Clause 61 may be made only after approval of the same by the Approving Authority or next higher, as appropriate.
- 65.3 Payments due to the Contractor in each certificate shall be made into the Bank Account, in any scheduled Bank of Bangladesh, of the legal title of the Contract specified in the **PCC**, nominated by the Contractor in the currency specified in the Contract.
- 66. Delayed Payment**
- 66.1 If the Procuring Entity makes a late payment, the Contractor shall be paid interest on the late payment in the next payment at the rate as specified in the **PCC**. 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.
- 66.2 If an amount certified is increased in a subsequent certificate 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.
- 67. Compensation Events**
- 67.1 The following shall be Compensation Events:
- (a) The Procuring Entity does not give access to or possession of the Site or part of the Site by the Site Possession Date stated in the GCC Sub Clause 13.1;
 - (b) The Procuring Entity modifies the Schedule of other Contractors in a way that affects the works 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, if applicable;
 - (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Notification of Award from the information issued to Tenderers (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site; Other Contractors, public authorities, utilities, or the Procuring Entity do not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor;
 - (g) The advance payment is delayed;
 - (h) The effects on the Contractor of any of the Procuring Entity's Risks;
 - (i) The Project Manager unreasonably delays issuing a Completion Certificate;

- (j) A situation of Force Majeure has occurred, as defined in GCC Clause 83; and
- (k) Other Compensation Events described in the Contract or determined by the Project Manager in the **PCC** shall apply.

67.2 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, only on justifiably acceptable grounds duly recorded.

67.3 As soon as the Contractor has provided information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost, the Project Manager shall assess it, 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 will assume that the Contractor will react competently and promptly to the event.

67.4 The Contractor shall not be entitled to compensation to the extent that the Procuring Entity's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Project Manager.

68. Adjustments for Changes in Legislation

68.1 Unless otherwise specified in the Contract, if between the date twenty-eight (28) days before the submission of Tenders for the Contract and the date of the last Completion Certificate, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in Bangladesh (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Completion Date and/or the Contract Price, then such Completion Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract.

68.2 The Project Manager shall adjust the Contract Price on the basis of the change in the amount of taxes, duties, and other levies payable by the Contractor, provided such changes have not already been accounted for in the price adjustment as defined in GCC Clause 69 and/or reflected in the Contract Price.

69. Price Adjustment

69.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the **PCC**. If so provided, the amounts as certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amount. The formulae indicated below applies:

$$P = A + B (I_m/I_o)$$

where:

P is the adjustment factor

A and **B** are Coefficients specified in the **PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract; and

Im is the Index during the month the work has been executed and

Io is the Index prevailing twenty-eight (28) days prior to the deadline for submission of Tender.

The Indexes to be used is as published by the Bangladesh Bureau of Statistics (BBS) on a monthly basis. In case not available, then other countries or authorities of the sources mentioned in **Appendix to the Tender** may be used.

- 70. Retention Money**
- 70.1 The Procuring Entity may retain from each progressive payment due to the Contractor at the percentage specified in the **PCC** until completion of the whole of the Works under the Contract.
- 70.2 On completion of the whole of the Works, the first half of the total amount retained under GCC Sub Clause 70.1 shall be returned to the Contractor and the remaining second half after the Defects Liability Period has passed and the Project Manager has certified in the form of **Defects Corrections Certificate**.
- 70.3 On completion of the whole of the Works, the Contractor may substitute an irrevocable unconditional Bank Guarantee from any scheduled Bank of Bangladesh, in the format as specified (**Form PW3-12**), without any alteration, acceptable to the Procuring Entity for the second half of the retention money as stated under GCC Sub Clause 70.2.
- 71. Liquidated Damages**
- 71.1 Except as provided under GCC Sub Clause 83, if the Contractor fails to complete the Works and physical services within the Intended Completion Date or extended Intended Completion Date, the Procuring Entity shall, as Liquidated Damages, deduct from the Contract Price, a sum at the percent-rate per day of delay as specified in the **PCC**, of the contract value of the uncompleted works or part thereof completed after the Intended Completion Date or extended Intended Completion Date, as applicable. The total amount of Liquidated Damages or Delay Damages shall not exceed the amount specified in the **PCC**. The Procuring Entity may deduct Liquidated Damages from payments due to the Contractor. Payment of Liquidated damages shall not affect the Contractor's liabilities.
- 71.2 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.
- 72. Bonus**
- 72.1 The Contractor shall be paid a Bonus calculated at the percent-rate per day **if stated in the PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion of the whole of the Works is earlier than the Intended Completion Date. The Project Manager shall require certifying that the Works are complete, although they may not have fallen due to being complete as per approved updated Programme of Works.
- 73. Advance**
- 73.1 The Procuring Entity shall make advance payment, if so

Payment

specified in the **PCC**, to the Contractor in the amounts and by the dates specified in the **PCC** against an irrevocable unconditional Bank Guarantee issued by any scheduled Bank of Bangladesh in the format as specified (**Form PW3-11**), without alteration, and acceptable to the Procuring Entity of an amount equal to the advance payment. The Guarantee shall remain effective until the advance payment has been amortized, but the amount of the Guarantee shall be progressively reduced by the amounts amortized by the Contractor. Interest will not be charged on the advance payment.

73.2 The Contractor shall 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 for such specific purposes by supplying copies of invoices or other documents to the Project Manager.

73.3 The advance payment shall be amortized by deducting at proportionate rate from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works as specified in the **PCC**. No account shall be taken of the advance payment or its amortization in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

73.4 If the amortization of advance payment has not been completed by twenty-eight (28) days prior to the expiry date of the Guarantee stated under GCC Sub Clause 73.1, the Contractor shall correspondingly extend the validity of the Guarantee for a period so long the advance payment is fully amortized. The Bank Guarantee for advance payment shall be released when the same has been fully amortized.

74. Performance Security

74.1 The Procuring Entity shall notify the Contractor of any claim made against the Bank issuing the Performance Security.

74.2 The Procuring Entity may claim against the security if any of the following events occurs for fourteen (14) days or more.

(a) The Contractor is in breach of the Contract and the Procuring Entity has duly notified him or her ; and

(b) The Contractor has not paid an amount due to the Procuring Entity and the Procuring Entity has duly notified him or her.

74.3 In the event as stated under GCC Sub Clause 74.2, the Contractor is liable to pay compensation under the Contract amounting to the full value of the security or more, the Procuring Entity may call the full amount of the security.

74.4 The Performance Security furnished at the time of signing of the Contract Agreement shall be substituted, after the issuance of certificate of Completion of works by the Project Manager, by a new Security covering fifty (50) percent amount of the Performance Security to cover the Defects Liability Period.

74.5 If there is no reason to call the security, the security shall be discharged by the Procuring Entity and returned to the Contractor after the Defects Liability period has passed and the

Project Manager has certified in the form of Defects Corrections Certificates and the Procuring Entity shall not make any claim under the security, except for amounts to which the Procuring Entity is entitled under this Contract. In the event this Contract is significantly below the updated official estimated cost or unbalanced as a result of front loading, the Procuring Entity shall call the full amount of the security in the circumstances stated under GCC Sub Clause 74.3.

- 75. Provisional Sums**
- 75.1 Provisional Sums shall only be used, in whole or in part, in accordance with the Project Manager's instructions.
- 75.2 Plants, Materials or Services to be purchased by the Contractor under the provisions of GCC Sub Clause 75.1 from Nominated Subcontractor(s) or for meeting the other expenditures under the Contract, and for which there shall be included in the Contract price, the actual amounts paid or due to be paid by the Contractor, and a sum for profit, overhead and VAT, as applicable, calculated as a percentage of these actual amounts by applying the relevant percentage rate as specified in the **PCC**.
- 76. Dayworks**
- 76.1 If applicable, the Dayworks rates in the Contractor's Tender 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.
- 76.2 All works to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be certified and signed by the Project Manager within seven (7) days of the works being done.
- 76.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.
- 77. Cost of Repairs to Loss or Damages**
- 77.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability Period shall be remedied by the Contractor at the Contractor's own cost, if the loss or damage arises from the Contractor's acts or omissions.

E. Completion of the Contract

- 78. Completion**
- 78.1 The Contractor shall apply by notice to the Project Manager for issuing a Completion Certificate of the Works, and the Project Manager shall do so upon deciding that the work is completed.
- 79. Taking Over**
- 79.1 The Procuring Entity shall take over the Site and the Works within seven (7) days of the Project Manager's issuing a certificate of Completion.
- 80. Amendment to Contract**
- 80.1 The amendment to Contract shall generally include extension of time to the Intended Completion Date, increase or decrease in original Contract Price and any other changes acceptable under the conditions of the Contract.
- 80.2 The Procuring Entity shall amend the Contract, incorporating the changes approved, in accordance with the Delegation of

Financial Power or Sub-delegation thereof and, introduced to the original terms and conditions of the Contract

81. Final Account

- 81.1 The Contractor shall submit with a detailed account of the total amount that the Contractor considers payable under the Contract to the Project Manager before the end of the **Defects Liability Period**.
- 81.2 The Project Manager shall certify the **Final Payment** within fifty six (56) days of receiving the Contractor's account if the payable amount claimed by the Contractor is correct and the corresponding works are completed.
- 81.3 If it is not, the Project Manager shall issue within fifty six (56) days a **Defects Liability Schedule** that states the scope of the corrections or additions that are necessary.
- 81.4 If the **Final Account of Works** submitted under GCC Sub Clause 81.1 is unsatisfactory even after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

82. As-built Drawings and Manuals

- 82.1 If "As Built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **PCC**.
- 82.2 If the Contractor does not supply the Drawings and/or Manuals by the dates specified in GCC Sub Clause 82.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold a nominal amount specified in the **PCC** from payments due to the Contractor.

83. Force Majeure

- 83.1 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind stated below;
- (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, ionising 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 fires, floods, epidemics, quarantine restrictions, freight embargoes, cyclone, hurricane, typhoon, tsunami, storm surge, earthquake, hill slides, landslides, and volcanic activities.
- 83.2 The Head of Procuring Entity decides the existence of a Force Majeure that will be the basis of the issuance of order for suspension of Works as stated under GCC Sub Clause 48.1.

84. Notice of Force

- 84.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall

Majeure

give notice, within fourteen (14) days after the party became aware, 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.

84.2 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.

85. Consequences of Force Majeure

85.1 The Contractor shall not be liable for forfeiture of its security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

85.2 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under GCC Sub Clause 84, and suffers delay and/or incurs cost by reason of such Force Majeure, the Contractor shall be entitled subject to GCC Sub Clause 91 to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under GCC Clause 44, and
- (b) if the event or circumstance is of the kind described subparagraphs (a) to (e) of GCC Sub Clause 83.1 occurs in the country, payment of any such cost, including the costs of rectifying or replacing the Works and physical services damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in GCC Clause 36.

85.3 After receiving notice under GCC Sub Clause 84.1, the Project Manager shall proceed to determine these matters under the provisions of the Contract.

86. Release from Performance

86.1 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 fulfil 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 Procuring Entity to the Contractor shall be the same as would have been payable under GCC Sub Clause 88.3 if the Contract had been terminated under GCC Sub Clause 87.3.

F. Termination and Settlement of Disputes

87. Termination

87.1 Termination for Default

- (a) The Procuring Entity or the Contractor, without prejudice to any other remedy for breach of Contract, by giving twenty-eight (28) days written notice of default to the other party, may terminate the Contract in whole or in part if the other party causes a fundamental breach of Contract. Fundamental breaches of the Contract shall include, but shall not be limited to, the following:
- (i) the Contractor stops work for twenty-eight (28) days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Project Manager;
 - (ii) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within eighty four (84) days;
 - (iii) 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;
 - (iv) the Contractor does not maintain a Security, which is required;
 - (v) 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 specified in GCC Sub Clause 71;
 - (vi) the Contractor has subcontracted the whole of the Works or has assigned the Contract without the required agreement and without the approval of the Project Manager;
 - (vii) the Contractor, in the judgment of the Procuring Entity has engaged in corrupt or fraudulent practices, as defined in GCC Sub Clause 38, in competing for or in executing the Contract.
 - (viii) A payment certified by the Project Manager is not paid by the Procuring Entity to the Contractor within eighty-four (84) days of the date of the Project Manager's certificate.

87.2 Termination for Insolvency

The Procuring Entity and the Contractor may at any time terminate the Contract by giving twenty-eight (28) days written notice to the other party if either of the party becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to any party, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the other party.

87.3 Termination for Convenience

- (a) The Procuring Entity, by giving twenty-eight (28) days written notice sent to the Contractor, may terminate the Contract, in whole or in part, at any time for its

convenience. The notice of termination shall specify that termination is for the Procuring Entity's convenience, the extent to which performance of the Contractor under the Contract is terminated, and the date upon which such termination becomes effective.

- (b) The Procuring Entity shall not terminate the contract under GCC Sub Clause 87.3 (a) in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor as stated under GCC Sub Clause 87.1(a).

87.4 In the event the Procuring Entity terminates the Contract in whole or in part, the Procuring Entity shall accept the portion of the Works that are complete and ready for handing over after the Contractor's receipt of notice of termination of the Contract. For the remaining portion of the Works, the Procuring Entity may elect:

- (a) to have any portion completed by the Contractor at the Contract terms and prices; and/or
- (b) to cancel the remainder and pay to the Contractor an agreed amount for partially completed Works and for materials and parts previously procured by the Contractor, or
- (c) except in the case of termination for convenience as stated under GCC Sub Clause 87.3, engage another Contractor to complete the Works, and in that case the Contractor shall be liable to the Procuring Entity for any cost that may be incurred in excess of the sum that would have been paid to the Contractor, if the work would have been executed and completed by him or her.

87.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as is reasonably possible.

87.6 The expiration of the Intended Completion Date under GCC Clause 44 and, the initiation of settlement of disputes like amicable or adjudication and arbitration under GCC Clause 92 shall not be deemed a termination of the Contract under GCC Clause 87.

88. Payment upon Termination

88.1 If the Contract is terminated because of a fundamental breach of Contract under GCC Sub Clause 87.1 by the Contractor, the Project Manager shall issue a certificate for the value of the Works done and Plant and Materials ordered less advance payments received up to the date of the issue of the certificate and, further less the amount from percentage to apply to the contract value of the works not completed, as indicated in the **PCC**. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

88.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract

by the Procuring Entity, the Project Manager shall issue a payment certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's foreign personnel employed solely on the Works and recruited specifically for 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.

- 88.3 If the Contract is terminated for reasons of Force Majeure, 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 unit rates or prices are 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 Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity'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
 - (e) the cost of repatriation of the Contractor's staff and labour employed wholly in connection with the Works at the date of termination.

89. Property

- 89.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Procuring Entity if the Contract is terminated because of the Contractor's default stated under GCC Sub Clause 87.1.

90. Frustration

- 90.1 If the Contract is frustrated by the occurrence of a situation of Force Majeure as defined in GCC Sub Clause 83, 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 works carried out before receiving it and for any work carried out afterwards to which a commitment was made.

G. Claims, Disputes and Arbitration

91. Contractor's Claims

- 91.1 If the Contractor considers himself to be entitled to any extension of the Completion Time and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Procuring Entity, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as

practicable, and not later than twenty-eight (28) days after the Contractor became aware, or should have become aware, of the event or circumstance.

91.2 If the Contractor fails to give notice of a claim within such period of twenty-eight (28) days, the Intended Completion Date shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim.

91.3 Within forty two (42) days after the Contractor became aware or should have become aware of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed, for settlement.

92. Settlement of Disputes

92.1 Amicable settlement

The procuring Entity and the Contractor shall use their best efforts to settle amicably all possible disputes arising out of or in connection with this Contract or its interpretation.

92.2 Adjudication

(a) 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 fourteen (14) days of notification of the Project Manager's decision in writing.

(b) The Adjudicator named in the **PCC** is jointly appointed by the parties. In case of disagreement between the parties, the Appointing Authority designated in the **PCC** shall appoint the Adjudicator within fourteen (14) days of receipt of a request from either party.

(c) The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it.

(d) The Contractor shall make all payments (fees and reimbursable expenses) to the Adjudicator, and the Procuring Entity shall reimburse half of these fees through the regular progress payments.

(e) Should the Adjudicator resign or die, or should the Procuring Entity and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator will be jointly appointed by the Procuring Entity and the Contractor. In case of disagreement between the Procuring Entity and the Contractor the Adjudicator shall

be designated by the Appointing Authority within fourteen (14) days of receipt of a request from either party as stated under GCC Sub Clause 92.2 (b)

92.3 Arbitration

- (a) If the parties are unable to reach a settlement as per GCC Clauses 92.1 and 92.2 within twenty-eight (28) days of the first written correspondence on the matter of disagreement, then either party may give notice to the other party of its intention to commence arbitration in accordance with GCC Sub Clause 94.3(b).
- (b) The arbitration shall be conducted in accordance with the Arbitration Act (**Act No 1 of 2001**) of Bangladesh as at present in force and in the place shown in the **PCC**.

For Information Only

Section 4. Particular Conditions of Contract

<i>Instructions for completing the Particular Conditions of Contract are provided in italics in parenthesis for the relevant GCC Clauses.</i>	
GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 1.1(j)	The Contractor is <i>[Name, address, and name of authorized representative]</i>
GCC 1.1(ff)	The Procuring Entity is Project Director, RNPL-NORINCO INTL POWER LIMITED (RNPL) Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh Telephone No.: +88 02 48956157, +88 02 48956158 e-mail address: pd1320rnpl@gmail.com
GCC 1.1(gg)	The Project Manager is Project Director, RNPL-NORINCO INTL POWER LIMITED (RNPL) Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04, Uttara, Dhaka-1230, Bangladesh Telephone No.: +88 02 48956157, +88 02 48956158 e-mail address: Pd1320rnpl@gmail.com <i>[Project Manager may assign anyone else as a representative]</i>
GCC 1.1 (bb)	The original Contract Price is <i>[insert the amount in the NOA]</i>
GCC 1.1(y)	The Intended Completion Date for the whole of the Works shall be: 150 days from the date of site handover.
GCC 1.1(kk)	The Site is located at Dhankhali Union, Kalapara Upazila of Patuakhali District.
GCC 1.1(nn)	The Start Date shall be 07(Seven) days from the commencement date & the commencement date shall be the date of site hand over to the contractor by RNPL.
GCC 1.1(rr)	The Works consist of As mentioned in Section 7, General Specification
GCC 2.5	The Sectional Completion Dates are:N/A
GCC 3.1	The Procuring Entity's address for the purpose of communications under this contract is : Attention: Project Manager Project Director, RNPL-NORINCO INTL POWER LIMITED (RNPL) Address: Atlanta Trade Center (Level-7), House # 01, Road # 1/A, Sector # 04,

	<p>Uttara, Dhaka-1230, Bangladesh</p> <p>Telephone No.: +88 02 48956157, +88 02 48956158</p> <p>e-mail address: Pd1320rnpl@gmail.com</p> <p><i>[The Project Manager may assign anyone else as a representative]</i></p>						
	<p>The Contractor's address for the purpose of communications under this contract is :</p> <p>Contact person:</p> <p>Address:</p> <p>Tel:</p> <p>Fax:</p> <p>e-mail address:</p>						
GCC 6.1 (j)	<p>Other documents forming part of the Contract are;</p> <p>All correspondences between Procuring Entity and Contractor prior to signing of the Contract agreement.</p>						
GCC 9.1	<p>The Contractor or the Subcontractor that is a national of, or registered in, the following countries are not eligible: Israel</p>						
GCC 9.2	<p>Materials, Equipment Plants and supplies shall not have their origin in the following countries: Israel</p>						
GCC 13.1	<p>Possession of the Site or part(s) of the Site, to the Contractor shall be given within 15 (fifteen) days from the date of Contract Sign.</p>						
GCC 19.1	<p>Following Key Personnel to carry out the functions stated in the Schedule shall be employed by the Contractor;</p> <p><i>[insert name(s)]</i></p>						
GCC 20.3	<p>Nominated Subcontractor(s) named below; None</p>						
GCC 22.1	<p>The Contractual matters between the Procuring Entity and the Contractor shall be decided by</p> <p><i>[state only if other than the Project Manager]</i></p>						
GCC 36.1	<p>The insurance cover shall be:</p>						
	<table border="1"> <tr> <td>(a)</td> <td> <p>The minimum cover for the Works and of Plant and Materials is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the value of the works, plant and materials]</i></p> </td> </tr> <tr> <td>(b)</td> <td> <p>The maximum deductible for insurance of the Works and of Plant and Materials is <i>[state amount]</i>.</p> <p><i>[the Contractor shall state this amount at the time of Contract signing.]</i></p> </td> </tr> <tr> <td>(c)</td> <td> <p>The minimum cover for loss or damage to Equipment is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the replacement value of the equipment]</i></p> </td> </tr> </table>	(a)	<p>The minimum cover for the Works and of Plant and Materials is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the value of the works, plant and materials]</i></p>	(b)	<p>The maximum deductible for insurance of the Works and of Plant and Materials is <i>[state amount]</i>.</p> <p><i>[the Contractor shall state this amount at the time of Contract signing.]</i></p>	(c)	<p>The minimum cover for loss or damage to Equipment is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the replacement value of the equipment]</i></p>
(a)	<p>The minimum cover for the Works and of Plant and Materials is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the value of the works, plant and materials]</i></p>						
(b)	<p>The maximum deductible for insurance of the Works and of Plant and Materials is <i>[state amount]</i>.</p> <p><i>[the Contractor shall state this amount at the time of Contract signing.]</i></p>						
(c)	<p>The minimum cover for loss or damage to Equipment is Tk <i>[state amount]</i>.</p> <p><i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 110% of the replacement value of the equipment]</i></p>						

	(d)	The maximum deductible for insurance of Equipment is <i>[state amount]</i> . <i>[the Contractor shall state this amount at the time of Contract signing.]</i>								
	(e)	The minimum cover for other property is <i>[state amount]</i> . <i>[the Procuring Entity shall state the amount at the time of preparing PCC. Amount could be 10% of the Contract Price]</i>								
	(f)	The maximum deductible for insurance of other property is <i>[state amount]</i> . <i>[the Contractor shall state this amount at the time of Contract signing.]</i>								
	(g)	The minimum cover for personal injury or death: (i) for the Contractor's employees is as per the law and common practice in Bangladesh. (ii) and for third parties is as per the law and common practice in Bangladesh.								
GCC 39.1		The commencement date shall be the date of site hand over to the contractor by RNPL								
GCC 40.1		The Intended Completion Date of the Works shall be 150 days.								
GCC 41.1		The Contractor shall submit a Programme for the Works within 07 days of signing the Contract.								
GCC 41.2		The period between Programme updates is monthly.								
GCC 41.3		The amount to be withheld for late submission of an updated Programme is TK. 10,000(Ten Thousand Taka)								
GCC 56.1		The Defects Liability Period is 12 (Twelve) months								
GCC 64.2		<p>Bill payment shall be made as per following 3 phases only:</p> <table border="1"> <thead> <tr> <th>Number of Bill statement</th> <th>Payment Condition</th> </tr> </thead> <tbody> <tr> <td>1st R/A Bill</td> <td>After 40% of Total Physical Progress</td> </tr> <tr> <td>2nd R/A Bill</td> <td>After 70% of Total Physical Progress</td> </tr> <tr> <td>Final Bill</td> <td>After issuance of Completion Certificate</td> </tr> </tbody> </table> <p>No bill application will be accepted without completion of above-mentioned physical Progress.</p>	Number of Bill statement	Payment Condition	1 st R/A Bill	After 40% of Total Physical Progress	2 nd R/A Bill	After 70% of Total Physical Progress	Final Bill	After issuance of Completion Certificate
Number of Bill statement	Payment Condition									
1 st R/A Bill	After 40% of Total Physical Progress									
2 nd R/A Bill	After 70% of Total Physical Progress									
Final Bill	After issuance of Completion Certificate									
GCC 65.3		<p>The particulars of the Bank Account nominated are as follows :</p> <p>Title of the Account : <i>[insert title to whom the Contract awarded]</i></p> <p>Name of the Bank : <i>[insert name with code, if any]</i></p> <p>Name of the Branch : <i>[insert branch name with code ,if any]</i></p>								

	Account Number : [insert number] Address : [insert location with district] Tel : Fax : e-mail address : <i>[information furnished by the Contractor shall be substantiated by the concerned Bank and authenticated by the Procuring Entity]</i>
GCC 66.1	N/A
GCC 67.1(m)	The following additional events shall also be the Compensation Events: None
GCC 69.1	The Contract is not subject to price adjustment. N.A
GCC 70.1	The proportion of payments to be retained is NA
GCC 71.1	<p>The amount of Liquidated Damages is 0.10 of ONE (1) percent of the contract value of the uncompleted works or any part thereof completed after expiry of the Intended Completion Date or extended Intended Completion Date, as applicable, per day of delay.</p> <p><u>Guide to application of GCC Sub Clause 71.1 above</u></p> <p><i>[Liquidated damages is equivalent to an amount to be determined in accordance with the following formulae</i></p> <p>$T = V \times P \times n$</p> <p>Where;</p> <p>T = Total amount of Liquidated Damages</p> <p>V = Contract Value of Uncompleted Works, completed after the expiry of the Intended Completion Date or extended Intended Completion Date, as applicable</p> <p>P = Percent-rate at which the Liquidated Damages shall be imposed per day of delay</p> <p>n = No of days delayed for completion of uncompleted works or part thereof after the expiry of the Intended Completion Date or extended Intended Completion Date, as applicable.</p>
GCC 71.1	The maximum amount of Liquidated Damages for the uncompleted Works or any part thereof is 10% (ten percent) of the final Contract price of the whole of the Works
GCC 72.1	The Bonus for the whole of the Works is N.A
GCC 73.1	The Advance Payment shall be ten (10) percent of the final Contract price for the whole of the Works and will be paid within 30 days from the signing of the contract upon submission of application by the contractor along with Advance Payment Guarantee (In the form of irrevocable Bank Guarantee).
GCC 73.4	<p>Advance Payment shall be amortized at the rate of ten (10) percentage from the progressive payments of invoices.</p> <p>The amortization of the Advance Payment shall commence when the progress payments have reached twenty (20) percent of the Contract Price and, be completed when the progress payments have reached eighty (80) percent of the Contract Price</p>

	<i>[The amortization of the Advance Payment shall commence when the progress payments have reached twenty (20) percent of the Contract Price and, be completed when the progress payments have reached eighty (80) percent of the Contract Price]</i>
GCC 75.2	N.A
GCC 82.1	The date by which “ as-built ” drawings are required within 15 (Fifteen) days of completion of works
GCC 82.2	The amount to be withheld for failing to produce “ as-built ” drawings and/or operating and maintenance manuals by the date required is Tk.50, 000 (Fifty thousand).
GCC 88.1	The percentage to apply to the contract value of the works not completed, representing the Procuring Entity’s additional cost for completing the incomplete Works, is 20% (Twenty percent).
GCC 92.2 (b)	The Adjudicator jointly appointed by the parties is: Name: Executive Director (Engg.), Rural Power Company Limited Address: House#19, Road#1/B, Sector#09, Uttara Model Town, Dhaka-1230 Tel No: 02-48961201 e-mail address: edengg@rpcl.gov.bd
GCC 92.2(b)	In case of disagreement between the parties, the Appointing Authority for the Adjudicator is the President of the Institution of Engineers, Bangladesh (IEB).
GCC 92.3 (b)	The arbitration shall be conducted in Dhaka, Bangladesh

Appendix to the Tender

[In Tables below, the Procuring Entity shall indicate the source and base values with dates of Indexes, unless otherwise instructed to be quoted by the Tenderers, for the different Cost Components and mention its Weightings or Coefficients]

Table 1.1: Price Adjustment Data
[ITT Sub Clause 27.10: To be provided by the Procuring Entity]

Index Descriptions	Base Value	Sources of Index

Note:

1. The sources of Indexes and its values with dates shall be Bangladesh Bureau of Statistics (BBS) unless otherwise mentioned by the Procuring Entity.
2. The Base Value of the Indexes shall be those prevailing twenty-eight (28) days prior to the deadline for submission of the Tenders.

Table 1.2: Price Adjustment Data
 [GCC Clause 69: To be provided by the Procuring Entity]

Item Group	Bill No. if applicable	Index Descriptions	Coefficients or Weightings for non-adjustable Cost Component	Coefficients or Weightings for adjustable Cost Components										Total	
				a	b	c	d	e	f	g	h	i	j		
															1
															1
															1
															1
															1
															1

Note:

The Weightings or Coefficients of the Cost Components shall be mentioned by the Procuring Entity based on the proportion of components involved in the work items caused to be impacted by rise and fall in its prices.

Section 5. Tender and Contract Forms

Form	Title
Tender Forms	
PW3 – 1	Tender Submission Letter
PW3 – 2	Tenderer Information
PW3 – 3	JV Partner Information (<i>if applicable</i>)
PW3 – 4	Subcontractor Information (<i>if applicable</i>)
PW3 – 5	Personnel Information
PW3-5A	Tenderer's Past Performance Information
PW3-5B	Tenderer's Capacity Information
PW3 – 6	Bank Guarantee for Tender Security (<i>when this option is chosen</i>)
PW3 - 7	Bank's Letter of Commitment for Line of Credit (<i>when this option is chosen</i>)
Contract Forms	
PW3 – 8	Notification of Award
PW3 – 9	Contract Agreement
PW3 – 10	Bank Guarantee for Performance Security (<i>when this option is chosen</i>)
PW3 –11	Bank Guarantee for Advance Payment (<i>if applicable</i>)
PW3 –12	Bank Guarantee for Retention Money Security (<i>when this option is chosen</i>)

Forms **PW3-1** to **PW3 -7** comprises part of the Tender Format and should be completed as stated in ITT Clauses 24.

Forms **PW3-8** to **PW3 -12**comprises part of the Contract as stated in GCC Clause 6.

Tender Submission Letter (Form PW3-1)

[This letter should be completed and signed by the Authorised Signatory on the Letter-Head Pad of the Tenderer]

To: <i>Project Director</i> <i>Patuakhali 1320 (2x660)MW Coal Fired Thermal Power Plant</i> <i>RPCL_NORINCO Intl Power Limited (RNPL)</i> <i>Atlanta Trade Center (Level-7), House # 01, Road # 1/A,</i> <i>Sector # 04, Uttara, Dhaka-1230, Bangladesh</i>	Date:
Invitation for Tender No:	IFT No. _____
Tender Package No:	Package No. _____
Lot No: (<i>when applicable</i>)	Lot No. _____

We, the undersigned, tender to execute in conformity with the Tender Document, the following Works and physical services, viz:

In accordance with ITT Clause 27 and 28, the following price applies to our Tender:

The Tender price is: _____
 (ITT Sub Clause 27.4 and 28.1) *[in figures]*
 Taka _____
[in words]

The advance payment (when applicable) is: _____
[insert the amount based on percentage of the Tender Price] *[in words]*
 Taka _____
 (GCC Sub Clause 73.1) *[in words]*

and we shall accordingly submit an Advance Payment Guarantee in the format shown in Form **PW3-10**.

In accordance with ITT Sub Clauses 27.6, the following discounts shall apply to our Tender:

The unconditional discount proposed in this package/Lot is: _____
In Percentage(%)-----

The discount shall be equally applicable on all the items of BOQ after arithmetical correction.

In signing this letter, and in submitting our Tender, we also confirm that:

- (a) our Tender shall be valid for the period stated in the Tender Data Sheet (ITT Sub Clause 33.1) and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) a Tender Security is attached in the form of a *[state Pay Order, Bank Draft, Bank Guarantee]* in the amount stated in the Tender Data Sheet (ITT Sub Clause 36.1) and valid for a period of twenty-eight (28) days beyond the Tender Validity date;
- (c) if our Tender is accepted, we commit to furnishing a Performance Security within the time stated under ITT Sub Clause 66.2 in the amount stated in the Tender Data Sheet (ITT SubClauses65.1) and in the form specified in the Tender Data Sheet (ITT Sub Clause 66.1) valid for a period of twenty-eight (28) days beyond the date of issue of the Completion Certificate of the Works;
- (d) we have examined and have no reservations to the Tender Document, issued by you on *[insert date]*; including Addendum to Tender Document No(s) *[state numbers]* , issued in accordance with the Instructions to Tenderers (ITT Clause 11). *[insert the number and issuing date of each addendum; or delete this sentence if no Addendum has been issued]*;
- (e) we, including as applicable, any JV partner or Subcontractor for any part of the contract resulting from this Tender process, have nationalities from eligible countries, in accordance with ITT Sub Clause 5.1;
- (f) we are submitting this Tender as a sole Tenderer in accordance with ITT Sub Clause 40.3

or

we are submitting this Tender as the partners of a JV, comprising the following other partners in accordance with ITT Sub Clause 40.3;

	Name of Partner	Location & District of Partner
1		
2		
3		
4		

- (g) *we are not a Government owned entity as defined in ITT Sub Clause 5.3*
or
we are a Government owned entity, and we meet the requirements of ITT Sub Clause 5.10;
- (h) we, including as applicable any JV partner, declare that we are not associated, nor have been associated in the past, directly or indirectly, with a consultant or any other entity that has prepared the design, specifications and other documents in accordance with ITT Sub Clause 5.6;
- (i) we, including as applicable any JV partner or Subcontractor for any part of the contract resulting from this Tender process, have not been declared ineligible by

the Government of Bangladesh on charges of engaging in corrupt, fraudulent, collusive or coercive practices in accordance with ITT Sub Clause 5.7;

- (j) furthermore, we are aware of ITT Clause 4 concerning such practices and pledge not to indulge in such practices in competing for or in executing the Contract;
- (k) we intend to subcontract an activity or part of the Works, in accordance with ITT Sub Clause 19.1, to the following Subcontractor(s);

Activity or part of the Works	Name of Subcontractor with Location and District

- (l) we, including as applicable any JV partner, confirm that we do not have a record of poor performance, such as abandoning the works, not properly completing contracts, inordinate delays, or financial failure as stated in ITT Clause 5.8, and that we do not have, or have had, any litigation against us, other than that stated in the Tenderer Information (**Form PW3-2**);
- (m) we are not participating as Tenderer in more than one Tender in this Tendering process. We understand that your written Notification of Award shall constitute the acceptance of our Tender and shall become a binding Contract between us, until a formal Contract is prepared and executed;
- (n) we, including as applicable any JV partner, confirm that we do not have a record of insolvency, receivership, bankrupt or being wound up, our business activities were not been suspended, and it was not been the subject of legal proceedings in accordance with ITT Sub Clause 5.9;
- (o) we, including as applicable any JV partner, confirm that we have fulfilled our obligations to pay taxes and social security contributions applicable under the relevant national laws and regulations of Bangladesh in accordance with ITT Sub Clause 5.5;
- (p) we understand that you reserve the right to reject all the Tenders or annul the Tender proceedings, without incurring any liability to Tenderer, in accordance with ITT Clause 60.

Signature:	<i>[insert signature of authorised representative of the Tenderer]</i>
Name:	<i>[insert full name of signatory with National ID Number]</i>
In the capacity of:	<i>[insert capacity of signatory]</i>
Duly authorised to sign the Tender for and on behalf of the Tenderer	

[If there is more than one (1) signatory, or in the case of a JV, add other boxes and sign accordingly].

Attachment 1:

[ITT Sub Clause 40.3]

Written confirmation authorising the above signatory(ies) to commit the Tenderer

[and, if applicable]

Attachment 2:

[ITT Sub Clause 29.2(b)]

Copy of the JV Agreement / Letter of Intent to form JV with draft proposed Agreement

Tenderer Information (Form PW3-2)

[This Form should be completed only by the Tenderer, preferably on its Letter-Head Pad]

Invitation for Tender No:

IFT No]

Tender Package No:

[Package No]

Lot No (*when applicable*)

[Lot No)]

1. Eligibility Information of the Tenderer [ITT –Clauses 5& 29]			
1.1	Nationality of individual or country of registration		
1.2	Tenderer's legal title		
1.3	Tenderer's registered address		
1.4	Tenderer's legal status <i>[complete the relevant box]</i>		
	Proprietorship		
	Partnership		
	Limited Liability Concern		
	Government-owned Enterprise		
	Others <i>[please describe, if applicable]</i>		
1.5	Tenderer's year of registration		
1.6	Tenderer's authorised representative details		
	Name		
	National ID number		
	Address		
	Telephone / Fax numbers		
	e-mail address		
1.7	Litigation [ITT Cause 13]		
	A. No pending litigation <input type="checkbox"/> <i>[if no pending litigation put Tick Mark in Box]</i>		
	B. Pending litigation		
	Year	Matter in dispute	Value of Pending Claim
			Value of Pending

			in Taka	Claim as Percentage of Net Worth
1.8	Tenderer to attach photocopies of the original documents mentioned aside	[All documents required under ITT Clauses 5 and 29]		
The following two information are applicable for National Tenderers				
1.9	Tenderer's Value Added Tax Registration (VAT) Number			
1.10	Tenderer's Tax Identification Number(TIN)			
[The foreign Tenderers, in accordance with ITT Sub Clause 5.1, shall provide evidence by a written declaration to that effect to demonstrate that it meets the criterion]				
2. Qualification Information of the Tenderer [ITT Clause32]				
2.1	General Experience in Construction Works of Tenderer [State years of experience]			
2.2	Specific Experience in Construction Works of Tenderer Completed Contracts of similar nature, complexity and methods/construction technology			
	Contract No	[insert reference no] of [insert year]		
	Name of Contract	[insert name]		
	Role in Contract <i>[tick relevant box].</i>	Prime Contractor	Subcontractor	Management Contractor
	Award date	[insert date]		
	Completion date	[insert date]		
Total Contract Value	[insert amount]			
Procuring Entity's Name Address Tel / Fax <u>e-mail</u>				
Brief description with justifications of the similarity compared to the Procuring Entity's requirements	[state justification in support of its similarity compared to the proposed works]			
2.3	Average annual construction turnover [ITT Sub Clause15.1(a)] <i>[total certified payments received for contracts in progress or completed under public sector for a period as stated under ITT Sub Clause 15.1(a), using rate of exchange at the end of the period reported]</i>			
	Year	Currency	Amount Taka or Equivalent Taka	

2.4	Liquid assets available to meet the construction cash flow [ITT Sub Clause 15.1(b)]		
	No	Source of Financing	Amount Available
In order to confirm the above statements the Tenderer shall submit , as applicable, the documents mentioned in ITT Sub Clause 32.1(d)			
2.5	Contact Details [ITT Sub Clause 32.1 (h)]		
	Name, address, and other contact details of Tenderer Bankers and other Procuring Entity(s) that may provide references, if contacted by this Procuring Entity		
2.6	Qualifications and experience of key technical and administrative personnel proposed for Contract administration and management [ITT Sub Clause 32.1(f)]		
	Name	Position	Years of General Experience
[Tenderer to complete details of as many personnel as are applicable. Each personnel listed above should complete the Personnel Information (Form PW3-5)]			
2.7	Major Construction Equipment proposed to carry out the Contract [ITT Sub Clause 32.1(g)]		
	Item of Equipment	Condition (new, good, average, poor)	Owned, leased or to be purchased (state owner, lessor or seller)
[Tenderer to list details of each item of major construction equipment, as applicable]			

JV Partner Information (Form PW3-3)

[This Form should be completed by each JV partner].

Invitation for Tender No:

[IFT No]

Tender Package No:

Package No]

Lot No. (when applicable)

[Lot No)]

1.	Eligibility Information of the JV Partner [ITT –Clauses 5 & 29]		
1.1	Nationality of individual or country of registration		
1.2	JV Partner's legal title		
1.3	JV Partner's registered address		
1.4	JV Partner's legal status <i>[complete the relevant box]</i>		
	Proprietorship		
	Partnership		
	Limited Liability Concern		
	Government-owned Enterprise		
	Others [please describe, if applicable]		
1.5	JV Partner's year of registration		
1.6	JV Partner's authorised representative details		
	Name		
	National ID number		
	Address		
	Telephone / Fax numbers		
	e-mail address		
1.7	Litigation [ITT Cause 13]		
	A. No pending litigation <input type="checkbox"/> [if no pending litigation put Tick Mark in Box]		
	B. Pending litigation		
	Year	Matter in dispute	Value of Pending Claim in Taka
			Value of Pending Claim as Percentage of Net Worth

1.8	JV Partner to attach photocopies of the original documents mentioned aside	[All documents required under ITT Clauses 5 and 29]		
The following two information are applicable for national JV Partners only				
1.9	JV Partner's Value Added Tax Registration (VAT) Number			
1.10	JV Partner's Tax Identification Number(TIN)			
[The foreign JV Partners, in accordance with ITT Sub Clause 5.1, shall provide evidence by a written declaration to that effect to demonstrate that it meets the criterion]				
2.	Key Activity(ies) for which it is intended to be joint ventured, if it can be specified [ITT Sub Clause 18.2]			
	Elements of Activity	Brief description of Activity		
3.	Qualification Information of the JV Partners[ITT Clause 32]			
3.1	General Experience in Construction Works of JV Partners[State years of experience]			
3.2	Specific Experience in Construction Works of JV Partners Completed Contracts of similar nature, complexity and methods/construction technology			
	Contract No	[insert reference no] of [insert year]		
	Name of Contract	[insert name]		
	Role in Contract [tick relevant box].	Prime Contractor	Subcontractor	Management Contractor
	Award date	[insert date]		
	Completion date	[insert date]		
	Total Contract Value	[insert amount]		
	Procuring Entity's Name Address Tel / Fax e-mail			
	Brief description with justifications of the similarity compared to the Procuring Entity's requirements	[state justification in support of its similarity compared to the proposed works]		
3.3	Average annual construction turnover [ITT Sub Clause 15.1(a)] [[total certified payments received for contracts in progress or completed under public sector for a period as stated under ITT Sub Clause 15.1(a), using rate of exchange at the end of the period reported]]			
	Year	Currency	Amount Taka or Equivalent Taka	
3.4	Liquid assets available to meet the construction cash flow [ITT Sub Clause 15.1(b)]			
	No	Source of Financing	Amount Available	

In order to confirm the above statements the JV Partners shall submit , as applicable, the documents mentioned in ITT Sub Clause 32.1(d)			
3.5	Contact Details [ITT Sub Clause 32.1 (h)]		
	Name, address, and other contact details of JV Partner's Bankers and other Procuring Entity(s) that may provide references, if contacted by this Procuring Entity		
3.6	Qualifications and experience of key technical and administrative personnel proposed for Contract administration and management [ITT Sub Clause 32.1(f)]		
	Name	Position	Years of General Experience
			Years of Specific Experience
[JV Partners to complete details of as many personnel as are applicable. Each personnel listed above should complete the Personnel Information (Form PW3-5)]			
3.7	Major Construction Equipment proposed to carry out the Contract [ITT Sub Clause 32.1(g)]		
	Item of Equipment	Condition (new, good, average, poor)	Owned, leased or to be purchased (state owner, lessor or seller)
[Tenderer to list details of each item of major construction equipment, as applicable]			

Subcontractor Information (Form PW3-4)

[This Form should be completed by each Subcontractor, preferably on its Letter-Head Pad]

Invitation for Tender No:	[IFT No]
Tender Package No	[Package No]
Lot No. (when applicable)	[Lot No]

1. Eligibility Information of the Subcontractor [ITT –Clauses 5& 29]	
1.1	Nationality of Individual or country of Registration
1.2	Subcontractor's legal title
1.3	Subcontractor's registered address
1.4	Subcontractor's legal status <i>[complete the relevant box]</i>
	Proprietorship
	Partnership
	Limited Liability Concern
	Government-owned Enterprise
	Other (please describe)
1.5	Subcontractor's year of registration
1.6	Subcontractor's authorised representative details
	Name
	Address
	Telephone / Fax numbers
	e-mail address
1.7	Subcontractor to attach copies of the following original documents
	All documents to the extent relevant to ITT Clause 5 and 29 in support of its qualifications
The following two information are applicable for national Subcontractors	
1.8	Subcontractor's Value Added Tax Registration (VAT) Number
1.9	Subcontractor's Tax Identification Number(TIN)
[The foreign Subcontractors , in accordance with ITT sub Clause 5.1, shall provide evidence by a written declaration to that effect to demonstrate that it meets the criterion]	
2. Key Activity(ies) for which it is intended to be Subcontracted [ITT Sub Clause 19.1]	
2.1	Elements of Activity
	Brief description of Activity

2.2	List of Similar Contracts in which the proposed Subcontractor had been engaged	
	Name of Contract and Year of Execution	
	Value of Contract	
	Name of Procuring Entity	
	Contact Person and contact details	
	Type of Work performed	

For Information Only

Personnel Information (Form PW3-5)

[This Form should be completed for each person proposed by the Tenderer in Form PW3-2 & PW3-3, where applicable]

Invitation for Tender No:	[IFT No]
Tender Package No	[Package No]
Lot No. (when applicable)	[Lot No]

A. Proposed Position (tick the relevant box)			
<input type="checkbox"/> Construction Project Manager	<input type="checkbox"/> Prime Candidate	<input type="checkbox"/> Alternative Candidate	
<input type="checkbox"/> Key Personnel	<input type="checkbox"/> Prime Candidate	<input type="checkbox"/> Alternative Candidate	
B. Personal Data			
Name			
Date of Birth			
Years overall experience			
National ID Number			
Years of employment with the Tenderer			
Professional Qualifications:			
1.			
C. Present Employment <i>[to be completed only if not employed by the Tenderer]</i>			
Name of Procuring Entity (working under):			
Address of Procuring Entity (working under):			
Present Job Title:			
Years with present Procuring Entity:			
Tel No:	Fax No:	e-mail address:	
Contact <i>[manager/personnel officer]:</i>			
D. Professional Experience			
Summarise professional experience over the past twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.			
	From	To	Company / Project / Position / Relevant technical and management experience.
1			
2			

Tenderer's Past Performance Information (Form PW3-5A)

Invitation for Tender No:

IFT No]

Tender Package No:

[Package No]

Lot No (*when applicable*):

[Lot No)]

Date of IFT Publication:

Name of the Tenderer:

[Note: If the Tenderer is a JV, each partners of the JV (Lead & Others) have to fill the form separately]

Name of JV Partner (If the tender is JV):

Business Share of JV Partner:

Role in JV [Lead/other]:

(A) List of Successfully Completed Contract during the last 5 years from IFT Date under the organization of the Procuring Entity inviting tender:

SL No	Name of Works Contract	Value of works Contract	Date of actual completion
1			
2			
3			

(B) List of On-Going Works / Current Commitment Under any Organization:

SL No	Name of On-Going Works and Current Commitments	Value of the work	Date of Signing Contract	Date of completion of contract	Name of Organization
1					
2					
3					

Tenderer's Capacity Information (Form PW3-5B)

Invitation for Tender No:

IFT No]

Tender Package No:

[Package No]

Lot No (*when applicable*)

[Lot No)]

Date of IFT Publication:

Name of the Tenderer:

[Note: If the Tenderer is a JV, each partners of the JV (Lead & Others) have to fill the form separately]

Name of JV Partner (If the tender is JV):

Business Share of JV Partner:

Role in JV [Lead/other]:

List of certified payment for ongoing or Completed Contract under any government Organization for the year in which maximum value of work performed within 5 years from IFT Date.

SL No	Name of Works contract	Value of Contract	Date of Signing Contract	Date of completion of contract
1				
2				
3				
4				

Bank Guarantee for Tender Security (Form PW3-6)

[This is the format for the Tender Security to be issued by any scheduled Bank of Bangladesh in accordance with ITT Clause 35 & 36]

Invitation for Tender No:

Date:

Tender Package No:

Lot No (when applicable)

To:

[Name and address of the Procuring Entity]

TENDER GUARANTEE No: [insert number]

We have been informed that [name of Tenderer] (hereinafter called "the Tenderer") intends to submit to you its Tender dated [date of Tender] (hereinafter called "the Tender") for the execution of the Works of [description of works] under the above Invitation for Tenders (hereinafter called "the IFT").

Furthermore, we understand that, according to your conditions, the Tender must be supported by a Bank Guarantee for Tender Security.

At the request of the Tenderer, we [name of Bank] hereby irrevocably unconditionally undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk [insert amount in figures and words] upon receipt by us of your first written demand accompanied by a written statement that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer:

- a. has withdrawn its Tender after opening of Tenders but within the validity of the Tender Security; or
- b. refused to accept the Notification of Award (NOA) within the period as stated under ITT; or
- c. failed to furnish Performance Security within the period stipulated in the NOA; or
- d. refused to sign the Contract Agreement by the time specified in the NOA; or
- e. did not accept the correction of the Tender price following the correction of the arithmetic errors as stated under ITT.

This guarantee will expire

- (a) if the Tenderer is the successful Tenderer, upon our receipt of a copy of the Contract Agreement signed by the Tenderer or a copy of the Performance Security issued to you in accordance with the ITT; or
- (b) if the Tenderer is not the successful Tenderer, twenty-eight (28) days after the expiration of the Tenderer's Tender Validity period, being [date of expiration of the Tender Validity plus twenty-eight (28) days].

Consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Signature

Letter of Commitment for Bank's Undertaking for Line of Credit (Form PW3-7)

[This is the format for the Credit Line to be issued by any scheduled Bank of Bangladesh in accordance with ITT Clause 32.1(d)]

Invitation for Tender No:

Date:

Tender Package No:

Lot No (when applicable)

To:

[Name and address of the Procuring Entity]

CREDIT COMMITMENT No: [insert number]

We have been informed that *[name of Tenderer]* (hereinafter called "the Tenderer") intends to submit to you its Tender (hereinafter called "the Tender") for the execution of the Works of *[description of works]* under the above Invitation for Tenders (hereinafter called "the IFT").

Furthermore, we understand that, according to your conditions, the Tenderer's Financial Capacity i.e. Liquid Asset must be substantiated by a Letter of Commitment of Bank's Undertaking for Line of Credit.

At the request of, and arrangement with, the Tenderer, we *[name and address of the Bank]* do hereby agree and undertake that *[name and address of the Tenderer]* will be provided by us with a revolving line of credit, in case awarded the Contract, for execution of the Works viz. *[insert name of works]*, for an amount not less than BDT *[in figure]* (*in words*) for the sole purpose of the execution of the above Contract. This Revolving Line of Credit will be maintained by us until issuance of "Taking-Over Certificate" by the Procuring Entity.

In witness whereof, authorised representative of the Bank has hereunto signed and sealed this Letter of Commitment.

Signature

Signature

Notification of Award (Form PW3-8)

Contract No:
To:

Date:

[Name of Contractor]

This is to notify you that your Tender dated *[insert date]* for the execution of the Works for *[name of project/Contract]* for the Contract Price of Tk *[state amount in figures and in words]*, as corrected and modified in accordance with the Instructions to Tenderers, has been approved by *[name of Procuring Entity]*.

You are thus requested to take following actions:

- i. accept in writing the Notification of Award within seven (7) working days of its issuance in accordance with ITT Clause 64
- ii. furnish a Performance Security in the form as specified and in the amount of Tk *[state amount in figures and words]*, within fourteen (14) days of acceptance of this Notification of Award but not later than (specify date), in accordance with ITT Clause 65 & 66.
- iii. sign the Contract within twenty-eight (28) days of issuance of this Notification of Award but not later than (specify date), in accordance with ITT Clause 70.

You may proceed with the execution of the Works only upon completion of the above tasks. You may also please note that this Notification of Award shall constitute the formation of this Contract which shall become binding upon you.

We attach the draft Contract and all other documents for your perusal and signature.

Signed

Duly authorised to sign for and on behalf of
[name of Procuring Entity]

Date:

Contract Agreement (Form PW3-9)

THIS AGREEMENT made the [day] day of [month][year] between [name and address of Procuring Entity] (hereinafter called "the Procuring Entity") of the one part and [name and address of Contractor] (hereinafter called "the Contractor") of the other part:

WHEREAS the Procuring Entity invited Tenders for certain works, viz, [brief description of works] and has accepted a Tender by the Contractor for the execution of those works in the sum of Taka [Contract Price in figures and in words] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract hereafter referred to.
2. The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) the signed Contract Agreement
 - (b) the Notification of Award
 - (c) the completed Tender and the Appendix to the Tender
 - (d) the Particular Conditions of Contract
 - (e) the General Conditions of Contract
 - (f) the Technical Specifications
 - (g) the General Specifications
 - (h) the Drawings
 - (i) the priced BOQ and the Schedules
 - (j) any other document listed in the **PCC** forming part of the Contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Procuring Entity to execute and complete the works and to remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Bangladesh on the day, month and year first written above.

For the Procuring Entity

For the Contractor

Signature

Name

National ID No.

Title

In the presence of Name

Address

Bank Guarantee for Performance Security (Form PW3-10)

[This is the format for the Performance Security to be issued by any scheduled Bank of Bangladesh in accordance with ITT Clause 65, 66, 67 & 68]

Contract No: [insert reference number]

Date: [insert date]

To:

[insert Name and address of Procuring
Entity]

PERFORMANCE GUARANTEE No: [insert number]

We have been informed that *[name of Contractor]* (hereinafter called "the Contractor") has undertaken, pursuant to Contract No *[insert reference number of Contract]* dated *[insert date of Contract]* (hereinafter called "the Contract"), the execution of works *[description of works]* under the Contract.

Furthermore, we understand that, according to your conditions, the Contract must be supported by a Bank Guarantee for Performance Security.

At the request of the Contractor, we *[name of Bank]* hereby irrevocably unconditionally undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk *[insert amount in figures and in words]* upon receipt by us of your first written demand accompanied by a written statement that the Contractor is in breach of its obligation(s) under the Contract conditions, without you needing to prove or show grounds or reasons for your demand of the sum specified therein.

This guarantee is valid until *[date of validity of guarantee]*, consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Signature

Bank Guarantee for Advance Payment (Form PW3-11)

[This is the format for the Advance Payment Guarantee to be issued by any scheduled Bank of Bangladesh in accordance with GCC Clause 73]

Contract No: [insert reference number]

Date: [insert date]

To:

[insert Name and address of the Procuring
Entity]

ADVANCE PAYMENT GUARANTEE No: [insert number]

We have been informed that *[name of Contractor]* (hereinafter called "the Contractor") has undertaken, pursuant to Contract No *[insert reference number of Contract]* dated *[insert date of Contract]* (hereinafter called "the Contract"), the execution of works *[description of works]* under the Contract.

Furthermore, we understand that, according to your Conditions of Contract under GCC Clause 75, the Advance Payment on Contract must be supported by a Bank Guarantee.

At the request of the Contractor, we *[insert name of Bank]* hereby irrevocably unconditionally undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk *[insert amount in figures and in words]* upon receipt by us of your first written demand accompanied by a written statement that the Contractor is in breach of its obligation(s) under the Contract conditions, without you needing to prove or show grounds or reasons for your demand of the sum specified therein.

We further agree that no change, addition or other modification of the terms of the Contract to be performed, or of any of the Contract documents which may be made between the Procuring Entity and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee is valid until *[insert date of validity of guarantee]*, consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Signature

Bank Guarantee for Retention Money Security (Form PW3-12)

[This is the format for the Retention Money Guarantee to be issued by any scheduled Bank of Bangladesh in accordance with GCC Clause 70]

Demand Guarantee

[Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: [insert Name and Address of the Procuring Entity]

Date: [insert date]

RETENTION MONEY GUARANTEE No.: [insert number]

We have been informed that [insert name of Contractor] (hereinafter called "the Contractor") has entered into Contract Number [insert reference number of the Contract] dated [insert date] with you, for the execution of [insert name of Contract and brief description of Works] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of Tk. [insert the amount of the second half of the Retention Money] which becomes due after the Defects Liability Period has passed and certified in the form of Defects Correction Certificate, is to be made against a Retention Money Guarantee.

At the request of the Contractor, we [insert name of Bank] hereby irrevocably unconditionally undertake to pay you any sum or sums not exceeding in total an amount of Tk. [insert amount in figures] (Taka [insert amount in words]) 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 failed to properly correct the defects duly notified in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Contractor on its account number [insert A/C no] at [name and address of Bank].

This guarantee is valid until [insert the date of validity of Guarantee that being twenty-eight (28) days beyond the Defects Liability Period]. Consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Signature

Section 6. Bill of Quantities

For Information Only

BoQ for Construction of Embankment, Road and Earth Protection works at Patuakhali 1320(2x660) MW Coal Fired Thermal Power Plant

Item No.	Description	Unit	Quantity	Unit Rate (BDT)		Total Amount (BDT)
				In Figure	In Words	
Embankment Works						
1	Providing layout and carry over PWD Bench-Mark (BM) at site from nearby BM pillar, Property lines, existing ground level (EGL), formation ground level (FGL), highest flood levels (HFL), plinth levels (PL), mean sea level (MSL), setting and marking all pillars, marker, pegs etc. showing and maintaining reduced levels (RL's) including locating, establishing, protecting all public utilities within the premise of work and finally all to be presented in black and white.	sqm	9,118.550			
2	Site preparation by manually removing all miscellaneous objectional materials from entire site land removing debris including uprooting stumps, jungle clearing, levelling dressing etc. complete as per direction of Engineer in charge.	sqm	9,118.550			
3	Erection of bamboo profile with full bamboo posts and pegs not less than 60mm in diameter and coir strings etc. complete as per direction of Engineer in charge.	each	100.000			
4	Earthwork in excavation in foundation trenches up to 1.5 m depth and maximum 10 m lead: in soft clayey soil / loose sand / silt	cum	37,198.520			
5	Earth work by manual labour in constructing/ resectioning of embankment/canal bank/ road etc. compacted to 85%/90% maximum dry density at optimum moisture content, with reference to laboratory density test AAHSTO modified hammer, with clayey soil(minm 30% clay, 0-40% silt, 0-30% sand) within the initial lead of 30m and all lifts including throwing the spoils to profiles in layers not exceeding 230mm in thickness with clod breaking to a maximum size of 100mm, benching the side slopes, removing roots and stumps of trees of girth upto 200mm from the ground, stripping/ ploughing the base of embankment and borrow pit area, dug bailing, bail out of water, rough dressing including 150mm cambering at the centre of crest etc. complete, including maintenance of the same for 6 months after completion, (compaction will be done by the contractor with approved equipment, including all ancillary charges for compaction and testing) as per direction of Engineer in charge. 0 m to 6 m height and above with 85 % compaction	Cum	16,892.970			
6	Manufacturing and supplying C.C. blocks in leanest mix. 1:3:6, with cement, sand (FM>=1.5) and Stone Chips (40mm down graded), to attain a minimum 28 days cylinder strength of 9.0 N/mm ² including grading, washing stone chips, mixing, laying in forms, consolidation, curing for at least 21 days, including preparation of platform, shuttering and stacking in measurable stacks etc complete including supply of all materials' (steel shutter to be used) as per direction of Engineer in charge. Block size 45cmx45cmx30cm	each	51,195.130			
7	Labour charge for protective work in laying sand cement blocks of different sizes including preparation of base, ramming of base etc. complete as per direction of the Engineer in charge: Within 200m.	cum	1,216.520			
8	Supplying and laying dry I st class or pick jhama chips as filter in two layers (top and bottom) as per specific size, range and gradation, including breaking chips, grading, preparation of surface, compacting each layer etc. complete with supply of all materials and as per direction of Engineer in charge: Well graded between 40mm to 20mm size.	cum	811.010			

Item No.	Description	Unit	Quantity	Unit Rate (BDT)		Total Amount (BDT)
				In Figure	In Words	
9	Supplying and laying sand as filter layers as per specific size ranges and gradation including preparation of surface, compacting in layer etc. complete with supply of all materials and as per direction of Engineer in charge. FM: 1.0 to 1.5: Mass =>350 gm/m ² , thickness(Under 2 kpa pressure) =>2.50mm, EoS<=0.09mm, strip tensile strength =>20kn/m, grab strength=> 1200N, CBR puncture resistance =>3200 N.	cum	1,216.520			
10	Supplying and placing non-woven needle punched type geotextile fabric as filter materials of elongation at maximum force machine direction (MD) >=60% and <= 1 00 %,elongation at maximum force (CMD) => 40% and <=horizontal and vertical permeability (under 2 kn/m ² pressure)=>2x 1 0E-3 m/sec. for effective erosion protection in hydraulic structures/river training works including local handling, placing in position, providing machine seamed joints (with 100% polypropeline or nylon thread) or 35cm lap in dry condition or minimum 1 00cm lap under water including protecting the geotextile material from UV ray and from any other damages including supply of all materials, labours, equipments etc. complete as per direction of Engineer in charge.(Geotextile delivered at site should be certified by ISO and clearly labelled with brand name and grade printed at regular intervals accross the body of the fabric). Mass =>350 gm/m ² , thickness(Under 2 pa pressure) =>2.50mm, EoS<=0.09mm, strip tensile strength =>20kn/m, grab strength=> 1200N, CBR puncture resistance =>3200 N.	sqm	8,258.110			
11	Fine dressing and close turfing of the slopes and the crest of embankment with 75mm thick, good quality durba or charkanta sods of size 200mm x 200mm, with all leads and lifts, including ramming, watering until the turf grows properly, maintaining etc. complete (measurement will be given on well grown grass only). as per direction of Engineer in charge.	sqm	940.680			
Road Works						
12	Providing layout and carry over PWD Bench-Mark (BM) at site from nearby BM pillar, Property lines, existing ground level (EGL), formation ground level (FGL), highest flood levels (HFL), plinth levels (PL), mean sea level (MSL), setting and marking all pillars, marker, pegs etc. showing and maintaining reduced levels (RL's) including locating, establishing, protecting all public utilities within the premise of work and finally all to be presented in black and white.	Sqm	2780.500			
13	Preparation of bed by cutting filling including watering to bring moisture content 2% of OMC and compacting by mechanical means etc. to obtain desire CBR at min compaction 98% of maximum dry density (MDD).All complete as per E-I-C	Sqm	1992.000			
14	Earth work in box cutting up to required depth & preparation of sub grade by excavating road crest another 300mm depth, removing soils to asafe distance or spreading the excavated earth on road flanks slopes. In preparing 300mm sub grade below the box, excavating top 150mm layer and excavated earth set side to reuse, then scarifying the bottom 150 layer ,breaking clods to 40mm maximum in size, leveling, dressing, watering to OMc 2% and compacting the 1st layer by appropriate mechanical means to attain design CBR at specified degree of compaction , subsequently prepare 2nd layer by spreading aside materials on top of prepared 1st layer, removing all deleterious materials breaking clods, leveling, dressing watering to OMC 2%and compacting the layer following the same procedure.etc. all complete as per direction of the E-I-C.(When in situ sub grade materials is suitable but very loose)	cum	2041.800			

Item No.	Description	Unit	Quantity	Unit Rate (BDT)		Total Amount (BDT)
				In Figure	In Words	
15	Subgrade compaction min 95% of MDD modified proctor in two layer soaked CBR min 2% PI value 8%-20%. Sand filling on the prepared foundation bed with sand of specified FM in layers not more than 150mm thick including necessary carriage, leveling, watering and ramming to achieve min dry density 95% STD compaction with optimum moisture content by ramming each layer up to finished level as per direction of E-I-C.	Sqm	1992.000			
16	Sand (FM 0.80) filling on the road bed in the improved sub-grade with sand (min FM0.8) free from dust, earth, other vegetable growth and foreign materials including supplying all materials, spreading, watering, compacting by appropriate mechanical means to obtain a minimum Design Soaked CBR but not less than 9% at minimum compaction 98% of MDD (Modified), etc. all complete as per direction of the E-I-C.	Cum	597.600			
17	SBBC(FM-0.5): Providing compacted aggregate sand sub-base course with 38mm down Crusher run 1st class bricks/picked chips of LAA value not exceeding 40 & sand of minimum FM 0.50 mixed in proportion 1:1 by volume placed in layer(s), mixing properly, watering, compacting with 8-10 tonne road roller to attain minimum soaked CBR 30% or Design CBR at minimum compaction 98% of MDD (modified) including supplying of all materials, labourers, tools and equipment etc. all complete as per direction of the E-I-C.	Cum	627.690			
18	EE(125mm): Brick on end edging (125mm across) with 1st class/picked bricks including cutting trenches true to level & grade, removing earth, re-filling & ramming the sides properly, including supplying and filling the gaps with local sand all complete as per direction of the E-I-C.	m	830.000			
19	S&SBC: Supplying and spreading 50mm downgraded crusher run 1st class and picked brick chips of LAA value not exceeding 40% including supplying of required amount of 12mm downgraded chips made of same quality bricks to fill the voids including cost of materials, spreading uniformly in layers of specified loose thickness on road surfacemaintaining grade, camber and super elevation etc. all complete as per direction of the E-I-C. 40mm down graded	Cum	236.550			
20	HBB for road shoulder	Cum	115.000			
21	CWBM(SSM): Labour charge for compacted WBM base coarse with crusher run aggregate made of well burnt picked and 1st class bricks or stone having compacted thickness as per specifications including local handing, hand packing, watering dry rolling followed by wet rolling in layers of specified loose thickness with 8-10 tonne road roller to attain each layers minimum soaked CBR 80% or design CBR at specified degree of compaction including supplying choking materials as filler materials @0.012 cum/sqm or as required etc. all completed as per direction of E-I-C. After adequate dry rolling, spreading of choking materials on the surface, sprinkling of water and rolling is to be continued until all the voids are filled. Thickness of each layer should not more than 100mm loose and payment will be made on compacted thickness.	Cum	236.550			

Item No.	Description	Unit	Quantity	Unit Rate (BDT)		Total Amount (BDT)
				In Figure	In Words	
22	PCHd@1.2 Providing prime coat @1.2 liter/sqm with cut back bitumin to be prepared by cutting back 60/70 penetration grade straight run bitumin(conforming to the requirements of ASTM/AASHTO in the ratio of 100 parts by volume of bitumin to 40-60 parts by volume of kerosene depending on the porosity of the surfaceand will be decided by field trials, the correct quantity that is completely absorbed with in 24 hours including carefully cleaning of the surface of the granular bbase materials to be primed and spraying cut back bitumin at a temperature from 100 degree celcius to 120c by appropriate hand device etc completed as per direction of the E-I-C.	Sqm	1535.500			
23	Providing tack coat @0.50kg/sqm with 60/70 penetration grade straight run bitumen complying with the requirements of ASTM/AASHTO applied by mechanical distributor at a temperature between 175°C and 185°C including heating bitumen, surface cleaning, etc. all complete as per direction of the E-I-C.	Sqm	1535.500			
24	40mm BC(BG-60/70): Providing 40 mm thickness compacted pre-mixed bituminous carpeting to be prepared using 25mm downgrade crushed stone chips (LAA value <= 30%) to comply the gradation as specified , mixed with heaed bitumin of 60/70 penetration grade straight run bitumin satisfy ing the requirements of ASTM/AASHTO .The bitumin and stone chips shall be seperately related to a temperature 140-155 degree celsious and 150-170 degree celsicious respectively before mixing .The mixing shall be done at temperaturebetween 140-160 at a separate place away from the fire.The bitumin and stone chips mixture shall be laid unifoemly,maintaining specified camber, grade and super elevation only on the prepared and accepted base or surface in a single appropriate layer to give the specified compacted thickness.The mixer should be rolled with appropriate steel drum roller (3-5)ton &pneumatic multiple fire roller (8-10) ton to full compaction.The rolling temparature shall be maintained not below 90c.The bitumin in the mix shall be between @4.5%to 5.5% by weight of total mix or as determinedby job mix desin.(In order to the specified grade in a blending of nominal maximum sixe of 25mm, 19mm 12mm, 6mm crushed stone chips and stone dust is suggested and proportion will have to determine by the laboratory analysis.	Sqm	1535.500			
25	Seal Coat 7mm thick: Providing 7 mm thickness (minimum) compacted pre-mixed bituminous seal coat to be prepared using 6.33mm down crushed stone chips & stone dust blended together to comply the gradation as specified in the relevant item of road design standards, mixed with 60/70 penetration grade straight run bitumin satisfying the requirements of ASTM/AASHTO, minimum @5.5% weight of total mix or as determined by job mix design.	Sqm	1535.500			
Total						

Section 7. General Specifications

For Information Only

1.1 SCOPE OF WORKS UNDER THIS CONTRACT

The Contract comprises the construction, completion and maintenance (defect liability period) of all works in accordance with the drawings, specifications, terms and conditions of the Contract, the Schedule of Items and Bill of Quantities (BOQ) including all labour, materials, construction plant, temporary works and everything whether of a temporary or

permanent nature required for such construction, completion and maintenance.

The scope of work under this contract shall be the construction of 100 nos. Houses, as per the Design Drawing including all civil works for sub & super-structure with all finishing works, water lifting pump, electrical works, with necessary facilities.

1.2 QUALITY CONTROL OF MATERIALS AND WORK

1.2.1 General

It shall be the responsibility of the Contractor to ensure that the materials incorporated and works carried out satisfy the quality requirements spelt out in the specifications. For this purpose, the Contractor shall carry out all the tests required by the specifications on materials at the laboratories approved by the Engineer. The Contractor should submit the same to the Engineer for his approval. Additional tests may also be conducted where, in the opinion of the Engineer, the need for such test exists. In the absence of clear indications about the frequency of tests for any item, procedures and tests as directed by the Engineer shall be followed. The cost for making any test shall be borne by the Contractor. It shall be clearly understood that no work shall be considered for payment unless it fully satisfies the quality requirements of the specifications in respect of both the materials and work.

1.2.2 Equivalency of Standards and Codes

Wherever reference is made in the contract to specific standards and codes to be met by the materials, plant and other supplies to be furnished, and work performed or tested, the provisions of the latest current edition or revision to the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the contract. Where such standards and codes are national, other authoritative standards that ensure substantial equivalences to the standards and codes specified will be accepted subject to the Engineers prior review and written approval. Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Engineer at least 28 days prior to the date when the Contractor desires the Engineer's approval. In the event the Engineer determines that such proposed deviations do not ensure substantially equal performance, the Contractor shall comply with the standards specified in the documents.

1.2.3 Inspection and Approval of Material Sources

1.2.3.1 Natural Aggregate and Brick Materials

At least 14 days prior to procurement and haulage of the materials to site, the Contractor shall inform the Engineer in writing of the sources he proposes to use and provide results of tests on representative samples thereof. The Engineer shall have inspected the materials sources, and if so required, the Contractor shall provide samples of the materials at his own cost for enabling the Engineer to have the tests carried out from the approved laboratories.

The materials will be permitted to be hauled to site of works only after approval of the material source by the Engineer. Despite the Engineer's approval, it shall be the responsibility of the Contractor to procure and haul to site materials of approved quality. The materials hauled to site shall be permitted to be incorporated in the works only after their passing the Quality Control Tests.

1.2.3.2 Manufactured Materials

For manufactured materials like cement and steel, the Contractor shall furnish the Engineer the manufacturer's test certificates with each lot of materials delivered to site and these shall be the basis for acceptance. However, in case of any doubt about the quality or where deterioration in quality because of poor storage condition is detected, the Engineer would order the relevant quality tests to be carried out from approved laboratories at the cost of the Contractor. The Engineer's decision in this regard shall be final and binding on the Contractor.

1.2.4 Quality Control of Materials at Site Prior to Incorporation in the Works

For regular and systematic Control over the Quality of the Materials and Work, the Contractor shall send a request to the Engineer's representative for any inspection, checking and approval. The proforma for making the checking request shall be as approved by the Engineer. The request should be sent to the Engineer's representative at least 24 hours prior to proposed time for checking.

In case any material is not approved, the Contractor shall promptly remove the same from Site of Works. In case of work, the Contractor should carry out the corrective measures as instructed by the Engineer.

The Contractor shall be allowed to proceed with further stages of work only after the earlier stage has been checked and approved.

1.2.4.1 Natural Aggregate and Brick Materials

The Contractor shall be responsible for properly stacking/storing the construction materials brought to the site in such a manner that these do not get contaminated with mud and organic/deleterious matter. He shall carry out all the necessary quality control tests, to demonstrate that the materials he proposes to incorporate in the works conform to the quality requirements of the specification. All the results of the tests shall be documented on suitable proforma, and the same shall require approval by the Engineer.

1.2.4.2 Checking and Approval of Materials and Work

For regular and systematic Control over the Quality of the Materials and Work, the Contractor shall send a request to the Engineer's representative for any inspection, checking and approval. The proforma for making the checking request shall be as approved by the Engineer. The request should be sent to the Engineer's representative at least 24 hours prior to proposed time for checking.

In case any material is not approved, the Contractor shall promptly remove the same from Site of Works. In case of work, the Contractor should carry out the corrective measures as instructed by the Engineer.

The Contractor shall be allowed to proceed with further stages of work only after the earlier stage has been checked and approved.

1.2.5 Rejected Materials

The Contractor at his own costs shall immediately remove all materials refused or rejected by the Engineer from site.

1.2.6 Removal of Defective and Non-Conforming Work

If any material incorporated or work performed by the Contractor is found to be defective and non-conforming to the specifications, the same shall be removed and replaced by the Contractor as per directions of the Engineer in accordance with the Conditions of Contract.

1.3 Site Safety Requirement

1.3.1 General

The Contractor shall be responsible for providing adequate and necessary safety measures for all persons engaged in the execution of the works against any injury, hazard, accidents etc. and shall take such safety precautions as are generally accepted as good civil engineering practice.

The Contractor is reminded that all necessary safeguards to protect the public, especially officials, need to be implemented. In particular keeping the public out of the site must be a priority, and the Contractors plans to achieve this, at all stages of the works, must be agreed with the Engineer, but will remain the responsibility of the Contractor.

1.3.2 Safety of Workmen

The Contractor shall take all necessary measures and action for the safety of the workmen. Workmen employed on vulnerable operations shall be provided with the following:

- Crash Helmets
- Gum Boots and Gloves and appropriate respiratory protective equipment
- Goggles
- Generally for all workers
- Workmen employed on cement concrete works
- For welders and workmen in dusty areas

1.3.3 Site Precautions

Construction site shall be delineated with adequate safety fences. During the construction period, nylon net shall be put around the building periphery 3 to 4 m below the working level.

1.3.4 Site Amenities

The Contractor shall provide toilet facilities at construction site. If sewer connection is not available, temporary wells shall be used. These wells shall be provided with proper covers.

1.3.5 Excavation Work

To ensure the safety of the workmen, neighbours and adjoining structures during the construction the Contractor shall design temporary works to the satisfaction of the Engineer.

1.3.6 Excavated Material and Surcharges

Excavated materials shall be kept away from the edges of the trench to provide a clear berm of safe width. Where this is not possible, the design of protection for the trenches shall include for the additional load due to the surcharges of excavated materials.

1.3.7 Pile and Deep Foundation

The Contractor shall provide a competent skilled foreman to supervise all piling and deep foundation operation. He shall also be responsible for the precaution measures to be taken.

1.3.8 Fencing, Warning Sign and Watchman

The Contractor shall provide and maintain, at his own cost, adequate barricades/ fencing all around the site. No trespassing shall be allowed. Sufficient number of notice boards, danger signs, flashing lights etc. shall be provided in the area. All such barricades, warning signs and lights shall comply with the relevant by-laws and regulations and shall be to the satisfaction of the Employer and the local authority concerned.

The Contractor shall also provide, at his own cost, necessary watchmen and guards for the proper protection of works, temporary works, materials, plants, equipments until clearance of site.

1.5.9 Adjoining Properties

Where bored piling works are to be carried out in the vicinity of existing structures which are likely to be damaged, tell-tales shall be fixed on such structures to monitor their behaviour while piling is in progress. Timely precautions shall be taken against any adverse effect.

1.3.10 Diversion or Upholding of Existing Services

The Contractor shall divert, at his own cost and to the Approval of the Employer/ Engineer, any power, water, gas or other services encountered during the progress of the works. Where diversion of services are not required in connection with permanent works, the Contractor shall uphold, maintain and keep the same in working order in existing locations.

1.3.11 Protection of Materials, Plants etc.

The Contractor shall arrange security guards for the protection of materials and plant against theft, pilferage etc. The Contractor shall provide temporary fencing and/or watching and lighting deemed necessary for the purpose. Such security shall be in force for the entire period of construction.

1.3.12 Control of Noise, Vibration and Dust Nuisance

To minimize annoyance and provide a healthy environment at the working site as well as to its surroundings, the Contractor shall take appropriate and adequate measures to control noise, vibration and dust nuisance. All noise generating sources shall be identified and provisions to be made for attenuating airborne and structure borne (vibrations) effects. The access roads may need to be periodically watered for control of dust nuisance.

1.3.13 Precaution to Control Pollution

The Contractor shall take necessary precaution to control pollution of the environment. All effluent should be properly treated prior to disposal. Among others care should be taken to control unburnt fuel in the exhaust of engines, proper sanitation and sewage disposal etc.

1.3.14 Safety against Fire at Site

The Contractor shall arrange at site at least 10 (ten) 3kg capacity multipurpose ABCE dry chemical powder stored pressure type fire extinguisher with manometer system. The extinguisher shall be of the type suitable for repeated use complete with wall brackets, discharge valve, hose pipe and easy refilling system.

In addition to that, 5 (five) buckets for sand and 5 (five) buckets for water shall also be provided at site. Proper arrangements shall be made to hang the extinguishers as well as buckets.

1.3.15 Measurement and Payment

Payment for all of the items, materials required and actions taken relating to Site Safety will be deemed to be included by the Contractor in his rates for the Works.

1.4 USABLE WATER ON SITE

The Contractor himself shall make arrangement for procuring, transporting, storing, distributing and applying the water needed for all construction work purposes. No direct payment will be made for providing water, the cost of which shall included in the rates tendered for the various items of work for which water is needed.

Only clean potable water, free from salinity and undesirable concentrations of deleterious materials, shall be used. All water sources used shall be approved by the Engineer. The Contractor shall by no means withdraw ground water to such an extent that tube wells in the neighbourhood fall dry and drinking water facilities are disturbed unless the Contractor guarantees supply to the effected persons.

1.5 SETTING OUT

The Contractor shall layout the building based on the approved site plan and carry over PWD Bench-Mark (BM) at site, property lines, average ground level (AGL), formation ground level (FGL), plinth levels (PL), setting and marking all pillars, marker, pegs etc. in red paint, showing and maintaining reduced levels (RL) including locating, establishing, protecting all public utilities within the premise of work.

No separate payments shall be made for the setting out and for preparation of detailed site layout plan.

1.6 QUALITY MANAGEMENT SYSTEM

A strategic approach to the implementation mechanism of the project is of vital importance for its successful completion according to design, on time and within budget. The Contractor is responsible for achieving the quality standards specified in the contract and to identify a correct and effective strategy and work plan to analyse the type and extent of works.

The Contractor shall prepare and operate a Quality Management System Plan (QMS) complying with BNBC. The Contractor shall submit his QMS to the Engineer for approval within three weeks of the award of contract. The QMS shall be reviewed, updated and resubmitted for approval as necessary throughout the contract period.

Major components of QMS shall cover Mobilisation Plan, Manning Schedule, Engineering and Administrative Management of the Contract, Implementation Schedule, Procurement Schedule, Cash Flow and Financial

Resources Management, Quality Control of Work, detailed Work Plan, Site Safety requirements, Environmental Protection etc. The QMS shall specifically address the procedures for maintaining the project quality requirements with respect to the use of subcontractors, vendors and suppliers. The QMS shall reflect the criticality of the items or materials concerned. The Engineer shall approve the criteria for assessment of criticality. The Contractor's QMS shall also include post-construction activities during the Defects Liability Period.

The Contractor must obtain the approval of the Engineer in writing before commencing each stage of the Works. Approval will be based on satisfactory quality control tests on the preceding stage and other requirements of the specification. On completion of a part of the works they shall be inspected and approved by the Engineer in accordance with the QMS. Only Works approved after inspection will be deemed to be measurable for payment.

The Contractor shall cooperate with the Engineer and provide all necessary access to the works, testing laboratories and records to enable the Engineer to assess the Contractor's Quality System and to audit the implementation of the QMS and the approved procedures.

Production of the document, distribution, training and any other costs associated with the Contractors Quality Management System will be deemed to be included by the Contractor in his rates for the Works.

1.7 Shop Drawings

The Contractor will prepare Shop Drawings for the items of works which have not been explicitly detailed in the construction drawings. The items will include (but not be limited to) steel structure, curtain wall, glass partition wall, doors and windows, stair railing, auditorium finishing including acoustic treatment, deep tube well and security grill etc. The Contractor will submit the shop drawings to the Engineer for approval. The fabrication work will only commence after approval by the Engineer.

Payment for the shop drawing shall be deemed to be included by the contractor in his **rates for the items of the works.**

1.7 OFFICE CUM SITE RESIDENCE

1.7.1 Description

The Contractor shall provide and maintain site office during the construction period for the use of Construction Management Unit of Employer and the Consultant. Rest space shall be used for veranda.

- The Contractor shall provide necessary chairs and tables for site office as per approval of the Engineer.
- Necessary cleaning, washing, dusting of rooms and toilets shall be done by the Contractor by engaging his own personnel.
- The Contractor shall provide electricity, water, gas, and lighting and ceiling fans, air-condition to the satisfaction of the Engineer. The required number of electric bulb, ceiling fans, A.C. calling bells and electric power points etc. shall be provided.
- The Contractor shall furnish the necessary surveying instruments and equipment at site for the use of the Contractor and Engineer's representative.

- The office, complete with furnishings, fittings, access roads and hardstandings shall be ready for occupation by the Engineer within 28 (twenty eight) days of the date when the Contractor first occupies the site, or as required by the Engineer.
- The Contractor will provide necessary day and night security guards, office peons and cleaners etc.

After completion of the assignment of consultant for the project all materials, equipment and plant, furniture, fittings used for the office will be the property of the Client and the Office cum Residence building will be used by the Client.

1.7.2 Measurement and Payment

Supplying materials for constructing the site office for the Consultant and Engineer's representative including all furniture and fittings, access roads, water supply, electricity and sewerage facilities, surveying equipment, consumables, office peon etc. shall be paid monthly basis.

. Payment shall be made to the Contractor on monthly basis as per item of BOQ.

1.12 SIGN BOARDS

1.12.1 Description

The Contractor shall provide one project profile sign board for each site of the size not exceeding 1 m x 2 m, and maintain them in good condition. All information on the signboards will be written in English and Bengali. The signboards will be positioned on a steel frame as directed by the Engineer. The Contractor shall submit proposals for the materials of the signboards, the text layout (in English and Bengali) on an approved yellow background and installation of the signboards on Site to the Engineer for approval. Each sign board shall show:

- the name of the Project
- the name of the Employer
- all other details as required by the Engineer

The Contractor shall maintain the sign boards and remove them on completion of the Works or when instructed by the Engineer. Prior installation of sign board, approval for design, size, etc. shall be approved by the Engineer.

1.12.2 Basis of Payment

No extra payment for the provision, maintenance and removal of sign boards shall be made and the related cost shall deem to be included in other pay items.

1.13 AS-BUILT DRAWINGS

The Contractor shall furnish one complete set of As-built drawings on electronic format (on a CD) and three complete sets (A-2 size) of prints of As-built drawings, showing the permanent works as actually constructed, within one month of completion of the Works. Included in the sets of As-built Drawings will be revisions of Tender Drawings and Drawings supplied to the Contractor during the Contract as well as revisions of drawings supplied by the Contractor during the Contract. The As-built drawings

submitted by the Contractor will be subject to the approval of the Engineer. The Engineer will supply information required on title blocks.

The Contractor will only be paid on full approval for the drawings from the Engineer.

Payment for As-built drawings shall be made to the Contractor at the Contract unit price.

1.4 CLEARANCE OF SITE ON COMPLETION

On completion of the works the contractor shall clear away and remove from the site all construction plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean and in workmanlike conditions to the satisfaction of the Engineer/Consultant at his own cost.

1.5 If the contractor fail to deliver insurance policies and certificates before the start date RNPL will do the insurances from Sadharan Bima Corporation and adjust the cost from the bill.

1.6 All other materials speciation & working procedure which are not mentioned in General Specification & Particular Specification will be as per Bangladesh National Building Code (BNBC) 2020.

General:

Construction of Embankment and road at different places of surrounding 500 Acre leased land, Protective works at river side, Slope protection and associate filling works as per drawing attached.:-

Detail scopes of works are described in Bill of Quantities.

To engage the surveyor to fix the alignment, layout & level. Before excavation prelevel & after completion Post level measurement to be carried out. Any additional payment will not be paid for this survey.

Adequate nos. and capacity of machinery/ equipment shall be mobilized by the Contractor to complete the work within stipulated time.

Any minor work not mentioned in BOQ is done for completion of the above mentioned works shall not be measured and cost of the same shall be deemed to be included in Bidder's quoted rates and no extra cost shall be paid for the same.

Representative(s) of RNPL will supervise the work.

Necessary inspection, pre-work/ post work measurement, compaction test etc. will be conducted by the Contractor in presence of representative of RNPL.

Volume/ Quantity of work/ supply for any item(s) may be increased/ decreased or omitted.

Mobilization and de-mobilization, initial bunds, on-shore & off-shore pipelines, etc. shall deem to be included in the Scope of Works.

Bidder shall submit complete/detailed methodology of work to be executed, along with the Bid for Owner's review & approval.

Any part(s) of the Embankment damage shall be repaired within 12 months defect liability period.

The contractor shall take necessary steps to monitor and maintain close supervision on the process of lifting sand so that it may not cause river erosion or any other damage/difficulties due to lifting/ extraction of sand.

Measurement will be taken jointly with representatives of RNPL and Contractor before payment of any bill. Contractor will do the necessary test. Cost of compaction test / any other test required, engaging survey team for measurement, Inspection etc. will be borne by the Contractor.

Payment towards contractor will be made on the measured quantity & satisfactory quality test report.

After completion of construction of Embankment and filling, joint measurement will be taken by representative of RNPL & the contractor

SCOPE OF WORKS:

Construction of Embankment:-

Site Clearance and stripping of top soil from original ground level upto a Depth of 250mm including slush and organic material where available.

Earth work by manual labour in constructing of earthen dyke of 0 to 5.5 M height and compacted to 85% dry density at optimum moisture content with reference to laboratory density test AAHSTO modified hammer with clayey soil (minimum 30% clay, 0-40% silt, 0-30% sand) within the initial lead of 30m & all lifts including throwing the spoils to profiles in layers not exceeding 230mm in thickness with clod breaking to a maximum size of 100mm, benching the side slopes, removing roots & stumps of trees of girth up to 200mm from the ground, stripping/plugging the base of embankment and borrow pit area, dug bailing, bail out of water, rough dressing including maintenance of the same for 6 months after completion (compaction will be done by the contractor with approved equipment, including all ancillary charges for compaction and testing) as per & direction of Engineer in Charge

External slope of Embankment is to be 1V:3H and Internal slope is to be 1V:2H & as per attached Drawing.

Top Level variation up to +/- 50mm

Adequate nos. & Capacity of machinery shall be mobilized by the Contractor to complete the work (Excavator, Dumper, Dozer, Roller (8-10T) etc.)

Mobilization and demobilization, initial bunds, on-shore & off-line pipelines, etc. shall deem to be included in scope of work.

Tenderer shall submit detail methodology of work to be executed, along with Bid for owner's review & approval.

Volume/ Quantity of work for any item may be increased/ decreased or omitted.

Ground levels after compaction shall be jointly recorded by representative of RNPL & Contractor. Any extra filling required due to settlement of ground between start of filling & handing over the site to the owner shall not be measured and cost of the same shall be included in bidder quoted rates and nothing extra shall be paid for the same

Draining out the accumulated water (if any) will be the responsibility of Contractor.

Final measurement will be taken with representative of RNPL & Contractor. Cost of compaction testing, engaging external survey team for final measurement etc. will be borne by Contractor.

Associate Filling works:-

Site Clearance and stripping of top soil from original ground level upto a Depth of 250mm including slush and organic material where available.

Before starting the work Pre-work measurement will be taken.

Filled up material is required to be compacted to minimum 85% relative density in sand or 90% of standard Proctor maximum density in other type of soil. Satisfactory compaction is the responsibility of bidder. Bailing out any kind of water accumulation is the responsibility of bidder.

Top Level variation upto +/-50mm

Adequate nos. & Capacity of machinery shall be mobilized by the Contractor to Complete the work (Excavator, Dumper, Dozer, Vibro Roller(8-10T) etc.)

Mobilization and de-mobilization, initial bunds, on-shore & off-line pipelines, etc. shall be included in scope of work.

Contractor shall submit complete/detailed methodology of work to be executed for owner's review & approval. Contractor will submit the monthly progress report & supporting field data. Contractor will also furnish the equipment list time to time.

Contractor will organize a monthly review meeting along with the owners at Dhaka/ Site.

Ground levels after compaction shall be jointly recorded by representative of RNPL & Contractor. Any extra filling required due to settlement of ground between start of filling & handing over the site to the owner shall not be measured and cost of the same shall be included in bidder quoted rates and nothing extra shall be paid for the same.

Final measurement will be taken with representative of RNPL & Contractor. Cost of 'compaction testing, engaging external survey team (if any) for final measurement etc. will be borne by Bidder.

Slope Protection:-

Slope protection Work (permanent) will be carried out on compacted earth as per the drawing & with Square block (450mmx450mmx300mm), Geo tex, Compacted sand & Graded Khoa mentioned in the drawing.

Toe will be protected with concrete as per the drawing.

The successful contractor shall have to give one year free comprehensive guarantee for maintenance and repair for all above mentioned works. The contractor shall have to keep agency for maintenance & repairs for the prescribed period.

All kind of test will be borne by the Contractor & material test certificate to be furnished by the contractor.

Supplying and placing non-woven needle punched type geotextile fabric as per drawing & direction.

Supplying and laying dry 1st class or pick jhama chips as filter.

Detail scopes of works are described in Bill of Quantities.

For Information Only

Section 8. Particular Specifications

For Information Only

PART 1 : EARTHWORKS

Setting Out: Prior to starting of earth works the Contractor shall set-out the necessary alignment and grade boards for proper control of the Works. All earth works shall have to be made to the required grades and sizes as per the drawings, specifications and directions of the Engineer. The Contractor shall maintain the setting-out undisturbed during the course of earth work and subsequent construction, and arrangements shall be provided for reference bench marks/ reduced levels so that the levels can be checked and measured as and when necessary.

Clearing and grubbing

Description: This work shall consist of cutting, removal and disposal of all trees, vegetation, stumps roots and other debris within the limits of the right of way or from the area designated by the Engineer and completed in all respect as per direction of the Engineer.

Construction Method: All trees and other vegetation as designated by the Engineer to be saved shall be carefully protected from damage during construction operation. All other timber logs, trees, stumps, roots, bush and other objectionable obstructions shall be removed, piled and burned or otherwise disposed of to the approval of the Engineer so as to leave the road way and adjacent areas with a neat and finished appearance free from any unsightly debris. All areas within the construction lines shall be grubbed of all objectionable matter on or projecting throughout the ground surface. All fill areas shall be grubbed to a depth of at least 300mm below the natural ground and back filled and compacted with suitable materials approved by the Engineer. This site clearing must be kept at least 150 metres in advance of other earth works. In case the crest of the embankment is to be widened, trees, stumps etc. should be completely uprooted to provide good bonding between the existing embankment and the new soil to be placed for such widening.

Measurement: Measurement of completed and accepted clearing and grubbing shall be per square metre measured horizontally.

Payment: Payment at the contract price for clearing and grubbing and uprooting shall be full compensation for furnishing all labour, materials, equipment, tools and incidentals necessary to complete the works. Payment will be made in per sqm of clearing and grubbing.

Removal of Existing Structures

Description: This work shall consist of the satisfactory dismantling, removal and disposal or salvage, wholly or partly, of all the existing structures, substructures, bridges, buildings, culverts etc., within the Site as indicated on the Drawings or as instructed by the Engineer. All properties within the Site may have been removed by the owners before the Contractor takes occupation of the site. All remaining fences buildings, structures or encumbrances of any character, except those still to be removed or ordered to be salvaged upon or within the limits of the Site, shall be removed by the Contractor and placed carefully on the abutting property, or otherwise disposed of as indicated on the Drawings or as directed by the Engineer. Materials so removed, including any existing steel bridges, drain or culvert pipes, which the Engineer may order to be salvaged, shall be carefully removed and shall become the property of the Department. Where a structure is to be replaced the existing structure shall be demolished to the level of the underside of the foundation of the new structure or as directed by the Engineer. All materials obtained from demolished existing structures shall be removed except as otherwise specified or directed by the Engineer. For all other areas that will be used for any other purpose with the exception of roadways, existing structures shall be demolished to a level lower than the lowest elevation of the finished ground level as indicated on the Drawings or as provided in the Specifications or as directed by the Engineer.

Materials: Removed materials shall be the property of the Department unless otherwise stated in the Contract. Any materials not required by the Department shall be classed as waste and shall be disposed of by the Contractor at his own expense.

Construction methods: If the superstructure or any portion of the structure is deemed fit for use elsewhere, the usable portions shall be marked and removed without damage and stockpiled neatly at an accessible point above high water level. Recovered structural steel work and Bailey bridge components shall, on the instructions of the Engineer, be removed from site to the Executive Engineer's office compound as directed by the Engineer. All other usable materials shall be neatly stockpiled within the site at points approved by the Engineer. All material, which is not considered of value by the Engineer, shall be removed by the contractor from site but within the limits of the site at his own expense. Use of explosives will not be permitted except by the instruction of the Engineer.

Payment: Removal of existing buildings, bridges, culverts, etc. shall be paid on a lump sum basis. The payment shall be full compensation for all removal and disposal of all materials including labour, equipment, tools and incidentals necessary to complete the work. Pay item shall be made in lump sum basis.

Embankment

Description: This work shall consist of the construction of embankment and fill by furnishing, placing, compacting and shaping suitable material of acceptable quality obtained from approved sources in accordance with these specifications and to the lines, levels, grades, dimensions and cross sections shown on the Drawings or as required by the Engineer. The location of borrow pit shall be approved by the Engineer and must be at a minimum distance of 3.0m or 1.5 times the height of the embankment, whichever is greater from the toe of embankment. The depth of excavation in borrow pits shall not exceed 800 mm under normal conditions.

Materials: All fill materials shall be free from roots, sods or other deleterious materials. Materials for embankments shall be stockpiled outside the working areas. Materials shall be tested and approved by the Engineer. The selected fill so stockpiled shall satisfy the following criteria:

- (a) Liquid limit of fraction passing 425 micron sieve shall not exceed - 50%
- (b) Plasticity index of fraction passing 425 micron sieve shall not exceed - 20%
- (c) Embankment fill shall be spread in 150 mm layers and clods broken to maximum size of 50 mm and compacted by rammer using manual compaction method to achieve at least 85% of the standard proctor maximum dry density.
- (d) The moisture content at the time of compaction shall be the optimum moisture content $\pm 5\%$.
- (e) Sampling to be carried out as per Standard Testing Procedure (STP).
- (f) In case if the embankment material is sand, side slopes and shoulders shall be covered by cohesive soil of PI value in between 8-20%. The thickness of covering layer shall be 250 - 300 mm or as directed by the Engineer.

Borrow Pits

- (a) The Contractor shall be responsible for arranging land and the purchase and supply of borrow material from pits for the permanent Works. Prior to the excavation of any material from the borrow pit the area shall be cleared and stripped.
- (b) Excavation of the Borrow pit area of a depth of approx. 3.5m with side slope 1V:1.5H.

1.4.4 Construction Methods

1.4.4.1 Preparation of Foundation for Embankment: Prior to placing any embankment upon any area, all clearing and grubbing operations shall have been completed in accordance with design and excavation under carriage ways shall be carried out in accordance with design. The original ground surface should be prepared by scarifying, watering, aerating and compacting. The dry density after compaction shall not be less than 85% of MDD. Embankments in swamps or water shall be constructed as indicated on the drawings and as described in these Specifications. The Contractor shall, when ordered by the Engineer, excavate or displace swampy ground and backfill with suitable material. Such backfill shall be river or beach sand unless otherwise directed by the Engineer.

1.4.4.2 Placing of Embankment

(a) General - Except as otherwise required by the Drawings, all embankments shall be constructed in layers. During construction of embankment, a smooth grade having an adequate crown shall be maintained at all times to provide drainage. The placing of fill shall be carried out in successive layers for the full width of fill as shown on the Drawings. The layers shall not exceed 150mm in thickness on completion of compaction. When embankment fill is placed adjacent to structures it shall be performed in accordance with the direction of the Engineer.

(b) Placing Embankment over Swampy Ground - Where new embankment will overlay existing canals, ditches, ponds or other waterways, these shall be filled in exclusively with sand as specified in the design. Prior to filling, cofferdams shall be made to allow pumping and the bed shall be left to dry until approved by the Engineer for filling. The works of damping, pumping and drying will not be an item for payment, but will be considered to be included in the rates for earthworks fill.

1.4.4.3 Procedure of Manual Embankment Compaction: Earth excavated from the borrow pit shall be placed in the embankment in horizontal layers parallel to the finished grade not exceeding a loose thickness of 150 mm. The earth of each basket is to be placed near to the earth placed before it and spread systematically. Throwing of earth in heap will not be allowed. The clods of earth shall be broken down to 50

mm size or less by striking the clods with the back of a spade or by other suitable method before the next basket of earth is thrown close to it. The earth shall be compacted manually using rammers made of wood, iron or concrete weighing 6 to 7 kg, fitted with shafts of about 1.5 m long. Ramming shall reduce the voids and until no further shrinkage of earth is possible by ramming. Before commencing ramming, the moisture content of the soil shall be increased or decreased as necessary by sprinkling the soil with water or by allowing natural drying of the soil as necessary so that the ramming can achieve the compaction as specified. Both wetting and drying may be aided by furrowing the fill and then re-spreading when the moisture content is suitable. The preceding operations shall continue layer after layer until the top of the embankment is reached.

1.4.5 Measurement: Embankment shall be measured in cubic metres based on cross sections compacted and accepted in place. The volume to be measured will be the net volume of required and accepted embankment, actually constructed and completed in accordance with the Specification, to the lines, levels, grades and cross sections required or as directed by the Engineer. The cross section to be used will be the area bound by the sub-grade (below improved sub-grade or sub-base) the side slopes or edge limits and the original ground line. No allowance will be made for material cut in benching operations. The final volume of embankment fill shall not include the voids for bridges and box-culverts. The voids for pipes, manholes, catch basins and the like will not be deducted.

1.4.6 Payment: This work measured as provided above shall be paid for at the Contract unit prices per cubic metre. Payment shall be full compensation for performing the work, furnishing the materials and providing all labour, equipment, tools and incidentals necessary to complete the work, including all payments for obtaining, carrying and stockpiling of the embankment fill. Pay items shall be:

	<u>Unit</u>
Embankment fill from any approved source outside the site	- Cubic metre
Embankment fill from roadway excavation	- Cubic metre
Sand backfill to Swamp	- Cubic metre

PART 2: PROTECTIVE WORKS

2.1 Protective Works

2.1.1 Precast Concrete Cubic Blocks for Revetment: Precast concrete blocks shall be made to the dimensions shown on the Drawings and to the specified tolerances. The blocks shall comply with the percentages of the different block as shown on the Drawings. The Contractor shall prepare a size-wise schedule of all blocks required for the Engineer's approval before execution of the work. Precast concrete blocks (cc blocks) shall be made from concrete class accordance with design and cast in moulds formed from steel sheet. The moulds shall be sufficiently tight fitting to prevent grout losses and sufficiently rigid to withstand the effects of placing and vibratory the concrete without distorting and capable of releasing the hardened concrete blocks without causing damages to the blocks. Each block shall be marked with a consecutive number and the date of casting; marking shall either be engraved on the block whilst the concrete is still "green" or painted on the block with a water proof paint immediately after stripping formwork. The Contractor shall maintain a register of the number, date of casting, date and location of placing of each block and shall make the register available at all times for inspection by the Engineer. They shall not be placed in the Works until at least fourteen days after casting have elapsed. Blocks, which are damaged during transport, stockpiling or handling shall be rejected and removed from the site. Blocks for use in launching aprons shall be stockpiled in different sizes and in the percentages shown on the Drawings to the satisfaction of the Engineer. Prior to the commencement of placing the blocks, the Contractor's proposal to ensure that the different block sizes are well distributed shall have been approved by the Engineer. If required, the effectiveness of the Contractor's proposal shall demonstrated to the Engineer.

2.1.2 Filter Materials: Filter materials shall be as specified on the Drawings and either be (a) khoa filter (crushed brick), (b) inverted filter comprising of a fine filter and coarse filter and (c) geotextile filter.

2.1.3 Khoa Filter: Khoa filter material shall be made from first class bricks or picked jhama bricks. The khoa filter shall comply with the grading shown on the Drawings.

2.1.4 Inverted Filter Materials: The fine filter shall comprise of sand and comply with the grading shown on the Drawings. Coarse filter material shall be made from either first class or picked jhama bricks or gravel (shingle) or broken stone of hard durable rock. The stone delivered to the works shall be rejected if not perfectly clean and if it contains soft, clayey, shaley or weathered stone. The stone may be broken in a stone crusher of approved type or manually. Any dust or fine material below 5 mm in size made in the stone crusher is to be removed by screening and the stone shall be thoroughly washed by an approved method. Filter materials shall pass a 35 mm sieve and be retained on a No.4 sieve or be well graded in accordance with the gradings shown on the Drawings.

2.1.5 Foundation Preparation: The foundation for the filter materials shall be thoroughly compacted and graded to the elevations shown on the Drawings prior to the placement. The filter material shall be placed in a uniform layer of the thickness shown on the drawing or as directed by the Engineer.

2.1.6 Turfing on Embankment Slopes: The crest and slope of the embankment shall be shaped to slopes and levels, fully compacted then fine dressed with approved top soil in a layer of not less than 75 mm thick before being covered by Durba grass turf or a similar approved turf from a source approved by the Engineer. The turf should be cut in 75 mm thick 200x200mm squares and be placed close together in a staggered pattern with 100% coverage. The turf shall be set firmly into the top soil dressing and watered immediately after placing, then daily until the grass is well established and new growth is clearly visible. After placing it shall be fertilized by a suitable commercial fertilizer. All newly covered areas shall be watered until the grass grows fully. Areas that do not grow or wash out shall be repaired and re-fixed with fresh turf at the Contractor's expense.

2.2 Geotextile

2.2.1 General: Geotextiles shall be clearly and uniformly marked on the upper face. The geotextiles to be incorporated within the works shall comply with the appropriate codes and standards including the following:

ASTM D4491	Standard test methods for water permeability of geotextile by permittivity.
DIN 53936(pt1)	Determination of the water permeability coefficient (k) normal to the geotextile plane with constant head.
ISO 9073-1	Determination of mass per unit area for non woven textiles.
ISO 9073-2	Determination of thickness of non-woven textiles.
ISO 9073-3	Determination of tensile strength and elongation of non-woven textiles.

2.2.2 Transport, Storage and Handling of Geotextile: All geotextiles shall be transported, handled and stored in full accordance with the manufacturer's instructions. They shall be wrapped in back polyethylene sheeting to prevent UV exposure until immediately before use in the Works. If the wrapping is damaged during handling it shall be repaired immediately by the Contractor using additional black polyethylene sheering. Unused portions shall be re-wrapped promptly. Geotextile fabrics arriving on site in containers shall be unpacked and stored under covers, well sheltered from rain and direct sunlight, until required for use in the Works. Sufficient ventilation under the shelter shall be provided so as to minimize the effects of high temperature thermo-oxidation. Torn or punctured geotextile fabric shall not be permitted in the Permanent

Works. Geotextiles are to be covered with suitable materials within one week of being laid. When laying the covering material it shall not be dropped in the dry from a height greater than 2m. Stock piles of materials are not to be set on top of laid geotextiles unless the geotextile has been designed for such loads. No construction equipment is to work on the geotextiles without at least 300 mm of suitable material overlying the geotextile.

2.2.3 Geotextile fabric Layer: Geotextile fabric used for the filter layer below the slope protection shall be a non-woven geotextile of the staple or continuous fibre type or similar material approved by the Engineer. The Contractor shall undertake the necessary grading and permeability tests of the embankment soils to determine the required filter cloth characteristics.

2.2.5 Thread for Stitching geotextile bags: Thread specified by the geotextile manufacturer and of the same chemical composition as the geotextile shall be used for stitching the bags. The use of jute, cotton or nylon threads available in local markets shall not be permitted.

2.2.6 Measurement: The quality of geotextile protection to be measured shall be the number of square Meters along the slope of completed and accepted as shown on the drawing or instructed by the Engineer. Separate measurement should be made for excavating or filling and slope trimming, and for placing the geotextile bags. The number of bags placed per square meter shall be as specified on the drawing or as per direction of the Engineer. Dimension of the geotextile and the amount of geotextile cloth and thread to be used for manufacturing one bag should be specified as the drawing.

For Information Only

3.1 PAVEMENT (MINOR WORKS & PRELIMINARIES)

3.1.1 General

Division 3 of the Specifications covers all requirements for road pavements that will be incorporated in the Works.

3.1.2 Preparation and Stockpiling of Materials

Materials to be used in pavement works shall be processed and stockpiled only in designated areas as approved by the Engineer. The Contractor shall make all arrangements and bear all costs associated with the provision of these storage areas. Preparation and storage of materials along the alignment will not be allowed.

The designated areas shall be cleared of all vegetation and topsoil prior to commencing work and the arrival of any materials. The area will be graded with proper slopes, drained, and well compacted to provide a plane and hard surface for the stockpiling of materials. The area to be used for stockpiling of concrete/bituminous works aggregates shall be a surfaced platform with a well compacted 150 mm thick layer of stone/gravel/brick aggregate or with brick flat soling over a compacted sand bed. The area of surfaced platform will be sufficient enough to allow stockpiling and handling operations of aggregates without intermixing of different types of aggregates or spilling of aggregates outside the surfaced platform at any stage. All necessary measures shall be taken to prevent contamination of aggregates with silt and clay and other deleterious materials during the stockpiling and handling operations. If any aggregate has been stockpiled outside the surfaced platform, the bottom 300 mm of material shall not be used in the concrete/bituminous works; however it can be used in other un-important works with the permission of the Engineer. Similar kinds of precautions shall be taken during stockpiling and handling of stone boulders to be crushed at the plant site to prevent contamination of their products. In any case, any contaminated aggregate shall not be used in the works.

Bricks of different frog marks, different materials and size fractions shall be kept in separate stockpiles divided as necessary to prevent contamination.

Unless otherwise approved by the Engineer, each stockpile shall be built at least 2 metres high. The Contractor shall supply any planking or other material required in connection with movement of vehicles over and about the stockpiles.

3.1.4 Repair of Potholes and Damaged Areas of the Existing Bituminous Surfaced Roads

The Engineer may instruct the Contractor to repair potholes or damaged areas on existing bituminous surfaced roads including depressions and broken edges.

The Contractor shall remove the bitumen surface as directed. All damaged and unstable parts of the existing base and sub-base shall be excavated until sound material is reached on all sides and at the base of the excavation. Unsuitable excavated materials shall either be disposed of or stockpiled in locations as directed by the Engineer. The shape of the excavation shall then be made rectangular with vertical sides.

The excavated material, depending on its nature, shall be:

- 1) stocked adjacent to the Works for reuse, if so directed, or
- 2) disposed of to spoil, if so instructed in writing by the Engineer.

The bottom of the excavation shall then be shaped, trimmed, watered if necessary, and compacted to the density required for the appropriate pavement layer. The excavation shall then be filled with base material of the type directed by the Engineer in layers after compaction of not thicker than 100 mm. Each layer shall be properly levelled and watered and carefully rammed or compacted with an approved hand vibratory roller, in order to achieve the density required in Section 3.3 for Aggregate Base. A bituminous leveling course or bituminous surfacing will then be placed after applying tack coat to the bottom layer and outer vertical sides, as directed by the Engineer in accordance with the procedure as described in Sections 3.7.3.2, 3.7.3.3 and 3.5.3.4.

3.1.5 Levelling Course

Where shown on the Drawings, or as ordered by the Engineer a levelling course will be constructed on the existing pavement with the materials required in the Drawings or as otherwise ordered by the Engineer. The execution, measurement and payment of the levelling course works shall be in accordance with the relevant provisions of these Specifications, for the material that will be ordered by the Engineer to be used.

3.1.6 Payment

The scarification and preparation of Existing Pavement and/or shoulders will be paid for at the Contract unit price for each square metre actually scarified in accordance with the instructions of the Engineer. The price shall be full compensation for all labour, equipment, tools, plant, etc. for scarifying, mixing, homogenising, spreading, watering and compacting, or temporary stockpiling for reuse, and all other incidentals necessary to complete the work specified.

The repair of Potholes and damaged areas of Existing Bituminous Surfaced roads shall be paid for at the Contract unit rate, on the basis of the volume of excavation filled as ordered by the Engineer. The rate shall include for all excavation, for disposal or stockpiling of resulting material, where ordered, for the compaction of the bottom of the excavation to the specified density, for the supply and placing of sub-base or base material to the specified density along with the supply and placing of the bituminous material, and for all charges related to the proper execution of the work prescribed. The cost of tack coat shall be considered to be included within the rates of this item.

Pay items shall be:

3/1/1	Scarify, Mix and Recompact Existing Pavement and/or Shoulder	Square Metre
3/1/2	Repair of Potholes on the Existing Pavement	Cubic Metre

3.2 SU-BASE

3.2.1 Description

This work shall consist of furnishing, placing and compacting sub-base material on a prepared and accepted subgrade or improved subgrade in accordance with these Specifications, and to the lines, levels, grades, dimensions and cross sections shown on the Drawings or as required by the Engineer.

3.2.2 Materials

The Contractor shall submit results of material tests on the proposed subbase material to the Engineer for his approval at least seven days in advance of its use. Fresh approval shall be required when the material is changed.

Material shall be natural or artificial aggregate material, free from vegetable matter, soft particles, clay and excess silt. Natural and artificial materials may be mixed together provided they fully conform to all requirements of the Specification and the proportions are approved by the Engineer in writing. If gravel is used as coarse aggregate, it shall contain at least 50% particles (by weight) having broken faces. Natural sand with Fineness Modulus less than 1.0 shall not be allowed to be used in the sub-base material.

The material for sub-base shall conform to the requirements given below:

- a) Grading: The grading (washed method) shall conform to grading envelopes A, or B in Table 3.2-1, as specified in the contract; in case the type of grading is not specified in the contract, it shall be as instructed by the Engineer.

The grading shall not be allowed to vary from coarser side on one sieve to finer side on another sieve within the grading envelope; and the fraction passing the 0.075 sieve shall be not greater than two-thirds of the fraction passing 0.425 mm sieve.

- b) Plasticity. The portion of material passing the 0.425 mm sieve shall be non-plastic when tested in accordance with test procedure STP 3.2.
- c) CBR. The material shall have a 4 day soaked CBR value not less than 25% when compacted to 98% of maximum dry density as determined by STP 4.5 (Vibrating Hammer).
- d) Aggregate Crushing Value/Ten Percent Fines Value. Any material retained on the 10 mm sieve when sampled and tested in accordance with STP 7.7.1 and 7.7.2 shall have an Aggregate Crushing Value of not greater than 38% and the ten percent fines value shall not be less than 75 kN.

Table 3.2-1

Grading Requirements for Sub-base Material		
Sieve Size (mm)	Percentage by Weight Passing Sieves	
	Grading A	Grading B
50	100	--
38	90 – 100	--
20	50 – 85	100
10	30 – 65	80 – 100
5	25 – 50	50 - 80
2.4	15 – 38	35 – 65
0.600	8 – 22	15 – 40
0.300	6 – 16	10 – 30
0.075	2 – 8	5 - 10

3.2.3 Construction Methods

3.2.3.1 Preparation of Subgrade or Improved Subgrade

The subgrade or improved subgrade shall be shaped and compacted in conformity with the provisions of Specifications Sections 2.7 and 2.8 and completed ahead of the placing of the sub-base material. Notwithstanding any earlier approval, any damage to or deterioration of the subgrade or improved subgrade, including any increase in moisture content above that permitted to achieve the specified compaction, shall be corrected at the Contractors expense before sub-base is laid.

Preparation and surface treatment of the subgrade or improved subgrade shall be carried out only after completion of any specified subgrade drainage and unless otherwise agreed by the Engineer immediately prior to laying the sub-base. The sequence of operations shall be as follows:

- a) The subgrade or improved subgrade shall be regulated and trimmed so that its finished profile shall not vary by more than 20 mm above or below the specified formation level at any point.
- b) The trimmed formation shall be rolled by 1 pass of a smooth-wheeled roller having a load per 100 mm width of roll not less than 214 kg or a vibratory roller having a static load per 100 mm width of vibratory roll of not less than 71 kg or a vibratory plate compactor having a static pressure under the base plate of not less than 1,400 kg/m².

3.2.3.2 Spreading Sub-base

Sub-base shall be spread in layers of nearly equal thickness either by hand or by using a grader or paving machine, with an uncompacted thickness up to 150 mm, subject to the approval of the Engineer. Where sand and aggregates are combined together to meet the specified grading, care shall be taken to prevent segregation of the material into fine and coarse parts. All areas of segregated coarse or fine material shall be corrected, or removed and replaced with material, which conforms to the Specification.

Where the material for shoulders is the same as that used for the sub-base course, the material shall be evenly spread in layers, as herein specified, for the full width of the sub-base course and the shoulders simultaneously.

Where the shoulders are not of the same material as the sub-base course, then the sub base shall be spread to give the required compacted depth and the edge detail shown on the Drawings.

When the sub base is spread contiguous to concrete kerbs or gutters, extreme care shall be exercised not to damage them. Any damage of kerbs or gutters resulting from carelessness or negligent construction methods by the Contractor shall warrant their removal and replacement at the Contractor's sole expense.

3.2.3.3 Sprinkling, Rolling and Compacting

Immediately after each layer has been spread and shaped to the cross section required each layer shall be compacted with suitable and adequate compaction equipment approved by the Engineer. Rolling operations shall begin from the outer edge of roadbed toward the centre, gradually in a longitudinal direction; except on super-elevated curves, where rolling shall begin at the low side and progress towards the high side.

If water is required, to bring the sub base to the correct moisture content, it shall be sprinkled on the surface. The contractor shall supply and sprinkle the necessary water at his own expense.

Sub-base material containing excess moisture shall be dried prior to or during compaction. Drying of wet material shall be performed by methods approved by the Engineer, at the expense of the Contractor.

Each layer shall be compacted to at least 98% of the maximum dry density as determined in accordance with STP T4.5 (Vibrating Hammer). Moisture content at the time of compaction shall be the optimum moisture content $\pm 3\%$.

The Contractor shall carry out a field compaction trial at the start of constructing the sub-base to determine the optimum moisture content and the required number of passes of his particular compaction equipment to comply with the Specification. This trial will also determine the relationship between the loose and compacted thickness in controlling the loose thickness at the time of spreading the mix. The method will require to be approved by the Engineer and shall then be used for all subsequent compaction of sub-base material. Such agreement will not, however, relieve the Contractor of his responsibility and in the event that test results later show that the specified compaction is not being achieved all sub base work shall cease and not be resumed until a fresh trial has been undertaken and a revised compaction method approved by the Engineer.

3 No. in situ density tests in accordance with STP 6.2 (150 or 200 mm diameter) shall be taken for each 1,000 square metres of compacted sub-base, or as directed by the Engineer. If the test results show that the achieved dry density is less than that required, the Contractor shall carry out further compaction to obtain the minimum required dry density.

In order to ensure uniform bearing capacity at the finished sub-base level, CBR measurements may be ordered by the Engineer. The CBR shall be such that the laboratory value obtained from testing in accordance with STP 5.1 on samples compacted to the specified dry density and soaked for 4 days shall exceed 25%. In areas where these requirements are not met, correction shall be made by such measures, as the Engineer deems necessary.

The finished sub-base shall be checked for level and crossfall and at any point shall not vary more than 15 mm above or below the planned grade or adjusted grade. The thickness of the finished sub-base shall be on average

- not less than the required thickness when five thickness measurements are averaged in any 150m length of completed sub-base.
- not thinner than 10 mm less than the required thickness at any point

Sub-base which does not conform to the above requirements shall be corrected by scarifying the full depth of the affected areas, adding or removing materials and re-rolling, watering if necessary, until the entire surface conforms to the correct levels and cross-falls.

The prepared sub-base layer shall be protected against damage until covered by the base course.

3.2.4 Measurement

Sub-base as described in this Section shall be measured by the cubic metres of compacted material in place and accepted. Measurement shall be based on the thickness/cross-section of the sub-base shown on the Drawings and area/length measured on the surface of the road.

3.2.5 Payment

This work measured as provided above shall be paid for at the Contract unit rate per cubic metre for aggregate sub-base, as detailed below. The payment shall be full compensation for furnishing all materials, hauling, placing, compacting, sprinkling, finishing and shaping, and for all labour, equipment, tools and other incidentals necessary to complete the work specified.

Sub-base shall be paid for at the Contract unit rate irrespective of the sources of materials used for constructing the sub-base. All costs for excavating existing pavement, or removing existing structures, or savings to the Contractor from re-using materials excavated from existing pavements or structures shall be deemed already covered under pay items 2/2/3, 2/2/4, 2/2/5, 2/9/1 and 2/9/2.

Pay item shall be:

3/2/1	Sub-base	Cubic Metre
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3.3 AGGREGATE BASE

3.3.1 Description

This work shall consist of a base Type I or Type II, composed of crushed aggregate material placed and compacted on a prepared and accepted sub-base or other base course in accordance with these Specifications and the lines, levels, grades, dimensions and cross sections shown on the Drawings or as required by the Engineer.

3.3.2 Materials

Crushed aggregate shall consist of hard durable particles or fragments of rocks or gravel crushed to the required size, and a filler of coarse sand (F.M. more than 1.5) or other finely divided mineral matter. Use of brick aggregate is not allowed in Base Type I; however it may be used for Base Type II if it meets the Specifications requirements. When the stone is produced from crushed rock, it shall be from a source approved in writing by the Engineer, and crushed and screened to achieve the required grading. When produced from gravel, not less than 90% by weight of the coarse aggregate shall be particles having at least one fractured face and not less than 75% by weight of the coarse aggregate shall be particles having at least two fractured faces and, if necessary to meet this requirement or to eliminate an excess of filler, the gravel shall be screened before crushing.

The Contractor shall submit results of material tests on the proposed aggregate base material to the Engineer for his approval at least seven days in advance of its use. Fresh approval shall be required when the material is changed or as order of the Engineer.

The material for base shall conform to the requirements given below :

- a) Grading. The grading shall conform to one of the grading envelopes A or B, of Table 3.3-1. The material shall be well graded within the envelope with no excess or deficiency of any size. The grading (washed method) shall conform to grading envelope A of Table 3.3-1 for base type-I and either envelope A or B for base type-II.

The material shall be well graded within the envelope with no excess or deficiency of any size; the grading shall not vary from coarser side on one sieve to finer side on another sieve within the grading envelope. The fraction passing the 0.075 sieve shall be not greater than one-third of the fraction passing 0.425 mm sieve.

- b) Plasticity. The portion of material passing the 0.425 mm sieve shall be non-plastic, when tested in accordance with test procedure STP 3.2.
- c) CBR. When tested in accordance with STP 5.1, the material shall have a minimum soaked CBR value at a compaction of 98% of the maximum dry density as determined by STP 4.5 (Vibrating Hammer) as follows:

Base Type I	-	80%
Base Type II	-	50%

- d) Aggregate Crushing Value/ Los Angeles Abrasion Value (LAA). The coarse part of material sampled and tested in accordance with STP 7.7.1 and AASHTO T96 shall have Aggregate Crushing Values (ACV) and Los Angeles Abrasion Value (LAA).

Type of Base	ACV (%)	Los Angeles Abrasion Value (%)
Base Type-I	Less than 30%	Less than 35%
Base Type-II	Less than 35%	Less than 40%

Table 3.3-1

Grading Requirements for Sub-base Material		
Sieve Size (mm)	Percentage by Weight Passing Sieves	
	Grading A	Grading B
50	100	--
38	90 – 100	--
20	50 – 85	100
10	30 – 65	80 – 100
5	25 – 50	50 - 80
2.4	15 – 38	35 – 65
0.600	8 – 22	15 – 40
0.300	6 – 16	10 – 30
0.075	2 – 8	5 - 10

3.3.3 Construction Methods

3.3.3.1 Preparation of Sub-base

The sub-base or lower base shall be shaped and compacted in conformity with the provisions of Section 3.2, to the correct moisture content and be completed for at least 100 metres ahead of the placing of the base material, unless otherwise approved by the Engineer.

3.3.3.2 Spreading Base

The aggregate and sand shall be mixed thoroughly to obtain a homogenous mix complying with the grading requirements of this section. Water shall be added during mixing to keep the mixed material moist so as to prevent segregation during transportation.

Base shall be at or near the optimum moisture content at the time of placing and spread in layers of nearly equal thickness, subject to the approval of the Engineer. Spreading may be carried out by hand or using a motor grader or using a paving machine, but machine laying is preferred. After laying all areas of segregated coarse or fine material shall be corrected, or removed and replaced with material, which conforms to the Specification.

Where the material for shoulders is the same as that used for the base course, the material shall be evenly spread in layers, as herein specified, for the full width of the base course and the shoulders simultaneously.

Where the shoulders are not of the same material as the base course, then the base shall be spread to give the required compacted depth and the edge detail shown in the Drawings.

When the base course is spread contiguous to concrete kerbs or gutters, extreme care shall be exercised not to damage the kerbs or gutters. Any damage of kerbs or gutters resulting from carelessness or negligent construction methods by the Contractor shall warrant the removal and replacement of said kerbs or gutters at the Contractor's sole expense.

3.3.3.3 Sprinkling, Rolling and Compacting

Immediately after each layer has been spread and shaped satisfactorily, each layer shall be thoroughly compacted with suitable and adequate compaction equipment approved by the Engineer.

If the aggregate base material does not contain sufficient moisture to be compacted in accordance with the requirements of this Section water shall be sprinkled. The Contractor shall supply the necessary water at his own expense.

Aggregate base material containing excessive moisture shall be dried prior to or during compaction. Drying of wet material shall be performed by methods approved by the Engineer, at the expense of the Contractor.

Rolling operations shall begin along the edges and overlap the shoulder at least 750 mm, or as close to the outer edge of the shoulder as practicable where a full width roadbed base course is specified on the Drawings, and progress toward the centre, gradually in a longitudinal direction. On super-elevated curves, rolling shall begin at the low side and progress toward the high side. The rolling operation shall continue until all roller marks are eliminated, and the course is thoroughly compacted.

Each layer shall be compacted to at least 98% of the maximum dry density as determined by STP 4.5 (Vibrating Hammer). Density of the compacted aggregate base course shall be determined in accordance with STP 6.2 (150 mm or 200 mm diameter depending on the layer thickness); with at least three tests being made for each 1,000 square metres.

The final shaping and rolling of the shoulders to the full width shall be made after the base course is completed.

3.3.3.4 Surface Tolerance

The finished surface of the aggregate base shall be checked for level and crossfall and at any point shall not vary more than ± 10 mm from the specified level. The surface shall also be checked for irregularities by a 3m long straight edge laid perpendicular and parallel to the road centreline at intervals not exceeding 20m. The deviation from the straight edge shall not exceed 10mm. Any areas found to be out of tolerance shall be corrected by loosening, adding or removing material, reshaping and re-compacting.

The thickness of the finished base shall be on average

- not less than the required thickness when five thickness measurements are averaged in any 150m length of completed sub-base.
- not thinner than 10 mm less than the required thickness at any point.

The Contractor shall carry out at his own expense, the reconstruction of areas of aggregate base which are too thin or too variable in thickness to meet this requirement.

3.3.4 Measurement

This item shall be measured as the number of cubic metres of material complete in place and accepted. Measurements shall be based on the thickness/cross section of the base shown on the Drawings and the length/area measured on the surface of the road.

3.3.5 Payment

This work measured as provided above shall be paid for at the Contract unit rates per cubic metre for aggregate base irrespective of the sources of material used. Payments shall be full compensation for furnishing all materials, hauling, placing, compacting, sprinkling, finishing and shaping and for all labour, equipment, tools and other incidentals necessary to complete the work.

All costs of excavating existing pavement, or removing existing structures, or savings to the Contractor from re-using materials excavated from existing pavements, or structures shall be deemed already covered under pay items 2/2/3, 2/2/4, 2/2/5, 2/9/1 and 2/9/2.

Pay items shall be:

3/3/1	Aggregate Base Type I	Cubic Metre
3/3/2	Aggregate Base Type II	Cubic Metre

For Information Only

3.4 BITUMINOUS MATERIALS

3.4.1 Description

This Section specifies the bituminous materials to be used in the work.

3.4.2 Material

The materials shall be as indicated in the Contract Documents. If materials are not completely described, materials suitable for the purpose and in accordance with generally recognised good practice should be used. Material shall meet the requirements for one of the following types.

3.4.2.1 Bitumen

Bitumen shall conform to the requirements (for the appropriate grade) given in Table 3.4-1 below. Bitumen shall be intended when material is referred to as “asphalt cement”, “straight run bitumen”, “penetration grade bitumen” or by its penetration value (as for example 60/70).

Table 3.4-1

Requirements for Penetration Grade Bitumen										
Requirement	STP (ASTM)	Unit	Penetration Grade							
			40/50		60/70		80/100		180/200	
			Min Max		Min Max		Min Max		Min Max	
Penetration at 25°C, 100 g., 5 Sec	10.1	0.1 mm	40	50	60	70	80	100	180	200
Softening Point R&B	10.2	°C	52	60	48	56	45	52	37	43
Flash Point (Cleveland Open Cup)	10.5	°C	250	-	250	-	250	-	200	-
Ductility at 25°C	(D113)	cm	100	-	100	-	100	-	100	-
Loss on heating to 163°C for 5 hr	-	% wt	-	0.2	-	0.2	-	0.5	-	0.5
Penetration of residue from loss on heating test at 25°C, 100 g, 5 Sec, as compared to penetration before heating	-	%	80	-	80	-	80	-	80	-
Specific Gravity					1.01	1.05	0.99	1.04		
Solubility in carbon	(D4)	% wt	99.0	-	99.0	-	99.0	-	99.0	-

3.4.2.2 Cut back Bitumen

Cut back bitumen shall be of either rapid curing or medium curing type and shall conform to the requirements (for the appropriate grade of cut back bitumen) given in Tables 3.4-2 and 3.4-3.

Cut back bitumen shall be intended when material is referred to as “cut back bitumen” or described by one of the grades given in the standard specifications (as for example RC-2 which is approximately RC-250).

Table 3.4-2

Requirements for Cutback Bitumen - Rapid Curing Type										
Requirement	Method STP (ASTM)	Unit	Cutback Grade							
			RC - 70		RC - 250		RC - 800		RC - 3000	
			Min	Max	Min	Max	Min	Max	Min	Max
Water	(D95)	%	-	0.2	-	0.2	-	0.2	-	0.2
Flash point (Tag Open Cup)	(D1310)	°C	-	-	26.7	-	26.7	-	26.7	-
Viscosity, kinematic at 60°C	10.6	ST	70	140	250	500	800	1600	3000	6000
Distillation test:	10.7									
Distillation to 90°C		% volume	10	-	-	-	-	-	-	-
225°C		of total	50	-	35	-	15	-	-	-
260°C		distillate	70	-	60	-	45	-	25	-
316°C		to 360°C	85	-	80	-	75	-	70	-
Residue from distillation to 360°C		% volume	55	-	65	-	75	-	80	-
Test on residue from distillation:										
Penetration, 100 g, 5 sec, at 25°C	10.1	0.1 mm	80	120	80	120	80	120	80	120
Ductility, 5 cm/min 25°C	(D113)	cm	100	-	100	-	100	-	100	-
Solubility in carbon tetrachloride	(D4)	% wt	99.5	-	99.5	-	99.5	-	99.5	-

Table 3.4-3

Requirements for Cutback Bitumen - Medium Curing Type												
Requirement	Method STP (ASTM)	Unit	Cutback Grade									
			MC - 30		MC - 70		MC - 250		MC - 800		MC - 3000	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Water	(D95)	%	-	0.2	-	0.2	-	0.2	-	0.2	-	0.2
Flash point (Tag Open Cup)	(D1310)	°C	37.8	-	37.8	-	65.5	-	65.5	-	65.5	-
Viscosity, kinematic at 60°C	10.6	ST	30	60	70	140	250	500	800	1600	3000	6000
Distillation test:	10.7											
Distillation to 225°C		% vol. of total dist.	-	25	-	20	-	10	-	-	-	-
260°C		to 360°C	40	70	20	60	15	55	-	35	-	15
316°C		% volume	75	93	65	90	60	87	45	80	15	75
Residue from distillation to			50	-	55	-	67	-	75	-	80	-
Test on residue from distillation:												
Penetration, 100 g, 5 sec, at 25°C	10.1	0.1 mm	120	250	120	250	120	250	120	250	120	250
Ductility, 5 cm/min 25°C	(D113)	cm	100	-	100	-	100	-	100	-	100	-
Solubility in carbon tetrachloride	(D4)	% wt	99.5	-	99.5	-	99.5	-	99.5	-	99.5	-

When cutback bitumen of the specified grade is not available from commercial suppliers the Contractor shall give full details of his proposed methods of producing cutback bitumen and the Engineer shall order all necessary tests to ensure the material so produced is satisfactory for the intended use.

3.4.2.3 Bitumen Emulsion

Anionic bitumen emulsion shall conform to the requirements for the appropriate grade, given in Table 3.4-4.

Cationic bitumen emulsion, shall conform to the requirements for the appropriate grade, given in Table 3.4-5.

Bitumen emulsion shall be intended when material is referred to as “emulsified asphalt”.

Bitumen emulsion shall conform in all respects to Bangladesh Standard Specification BDS 867, 1978.

Table 3.4-4

Specification for Anionic Emulsified Asphalts							
Property	Class of Anionic Road Emulsion						
	Labile			Semi-stable		Stable	Slurry Seal
	AI - 60	AI - 55	AI - 40	A2 - 57	A2 - 50	A3	A4
Residue on 710 µm BS sieve (% by mass maximum)	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Residue on 150 µm BS sieve (% by mass maximum)	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Stability to mixing with coarse aggregate (% coagulation)	20 - 80	20 - 80	20 - 80	<40	<40	<5	<5
Stability to mixing with cement (% coagulation)	-	-	-	>2	>2	>2	-
Binder content (minimum % by mass)	58	53	38	55	48	55	56
Viscosity (°Engler 20°C)	6 - 9	5 - 8	4 max	8 max	5 max	9 max	8 max
Coagulation of emulsion at low temperature	nil	nil	nil	nil	nil	nil	nil
Storage stability (short period test) (inversions to clear sediment, maximum)	60	60	60	60	60	60	60
Storage stability (long period test) (water content difference % maximum)	2	2	2	2	2	2	2
Particle charge	negative	negative	negative	negative	negative	negative	negative

Table 3.4-5

Specification for Cationic Bitumen Emulsion					
Property	Class of Cationic Road Emulsion				
	Rapid Acting			Medium Acting	Slow Acting
	KI - 70	KI - 60	KI - 40	K2	K3
Residue on 710 μm BS sieve (% by mass maximum)	-	0.05	0.05	0.05	0.05
Residue on 150 μm BS sieve (% by mass maximum)	-	0.15	0.15	0.15	0.15
Binder contents (minimum % by mass)	67	57	38	57	56
Viscosity ($^{\circ}$ Engler 20 $^{\circ}$ C)	-	6 - 9	4 max	10 max	10 max
Viscosity Redwood No. II (s at 85 $^{\circ}$ C)	25.35	-	-	-	-
Coagulation of emulsion at low temperature	-	nil	nil	nil	nil
Storage stability (short period test) (inversions to clear sediment)	-	60	60	60	60
Storage stability (long period test) (water content difference % maximum)	-	2	-	2	2
	positive	positive	positive	positive	positive

3.4.3 Methods of Storage, Handling and Application.

Bituminous materials shall be handled and stored with due regard for safety and in such a way that at the time of use in the work the materials conform to the Specifications. In particular, bitumen emulsion shall be handled with care and not subjected to mechanical shocks or extremes of temperature likely to cause separation of the bitumen. Bitumen emulsion showing signs of separation shall not be used.

The bitumen shall be applied at the temperature range called for in Table 3.4-6 for the particular material being used.

Table 3.4-6

Spraying Temperatures For Bitumen		
Type	Grade	Temperature ($^{\circ}$ C)
Cut-Backs R.C. or M.C.	30	38 - 57
	70	57 - 71
	250	77 - 94
	800	99 - 113
	3,000	118 - 132
Penetration Grade Bitumen	60 - 70	151 - 161
	80 - 100	151 - 161
	200 - 300	138 - 151
Emulsion: As necessary for uniform spraying and satisfactory penetration		

3.4.4 Measurement

Measurement of bituminous material shall be either in metric tons or in litres as indicated in the Contract Documents.

The measured quantity shall be the quantity theoretically required to comply with the Contract, or shall be the quantity used and accepted, whichever is the less.

3.4.5 Payment

This work shall be paid for as provided in the Section of the Specifications dealing with the work incorporating the bituminous material and shall be full compensation for complying with that Section of the Specifications as well as this Section.

For Information Only

3.5 GENERAL REQUIREMENTS FOR BITUMEN BOUND SURFACING (PLANT METHOD)

3.5.1 Description

3.5.1.1 General

This work shall cover the general requirements that are applicable to all types of bituminous bound surfacing irrespective of gradation of mineral aggregate, kind and amount of bituminous material, or use. Deviations from these general requirements are indicated in the specific requirements as set forth in the respective Sections of the Specifications.

Section 3.6 is for Prime Coats

Section 3.7 is for Tack Coats

Section 3.10 is for Dense Bituminous Surfacing (Plant Method).

The work shall consist of one or more courses of pre-mixed bituminous mixtures constructed on a prepared and accepted base course or other roadbed in accordance with Sections of these Specifications and in conformity with the required lines, levels, grades, dimensions and typical cross sections.

3.5.1.2 General Composition of Mixtures

The bituminous mix shall be composed basically of coarse mineral aggregate, fine mineral aggregate, filler, and bituminous material. The several mineral constituents shall be sized, uniformly graded, and combined in such proportions that the resulting blend meets the grading requirements for the specific type under the Contract. To such composite blended aggregate shall be added bitumen within the percentage limits set in the specifications for the specific type.

3.5.1.3 Formula for Job-Mix

Before starting work, the Contractor shall submit in writing to the Engineer a job-mix formula for each type of proposed asphaltic mixture. This shall state the sources and types of the various materials to be used, the mixing proportions of the various constituents, the method of mixing, the methods of heating bitumen and aggregates (including means of temperature control) and the means of transportation, laying and compaction. The formula so submitted shall stipulate a single definite temperature for the emptying of the mixture from the mixer, and, for mixtures to be laid hot, a single definite temperature at which the mixture is to be delivered on the road, all of which shall fall within the ranges of the general composition and temperature limits. The job-mix formula for the mixture shall indicate the percentage of aggregate passing each required sieve size and the percentage of bitumen to be added to the aggregate.

The contractor shall not commence bituminous surfacing work until the job mix formula has been approved in writing by the Engineer, including any adjustments to the job mix formula which the Engineer considers are necessary.

Following approval of the mix formulae the Contractor shall produce trial mixes and lay trial sections of surfacing for each formula. As many samples of the materials shall be taken and tested as the Engineer considers necessary for checking the required uniformity of the mixture and ensuring compliance with the Specification. Following

approval of the trial sections by the Engineer in writing the actual surfacing works may be carried out strictly in accordance with the approved mix formulae and trial sections.

Should a change in a material be encountered or should a change in a source of material be made, a new mix formula shall be submitted and approved before the mixture containing the new material is delivered for trials and approval on the surfacing works.

3.5.1.4 Applications of Job-Mix Formula and Allowable Tolerances

All mixture furnished shall conform to the job-mix formula, within the ranges of tolerance given below and subject to the maximum temperatures as given in clauses 3.10.3.2 and 3.10.3.4 :-

Passing sieves 10 mm and larger.....	± 8%
Passing sieves between 10 mm and 0.075 mm.....	± 5%
Passing 0.075 mm sieve.....	± 1%
Bitumen content (single test result).....	± 0.50%
Bitumen content (three consecutive test results)	± 0.40%
Temperature of mixture when emptied from mixer	± 15° C
Temperature of mixture at delivery on road	± 15° C

These tolerances are applicable to individual test results. The mean value for a series of test results should be as close as possible to the approved job mix formula. The grading shall not be allowed to vary from coarser side on one sieve to finer side on another sieve within the approved job mix grading envelope.

Each day as many samples of the materials and mixture shall be taken and tested as the Engineer considers necessary for checking the required uniformity of the mixture. When unsatisfactory results are obtained the Contractor should take immediate corrective action. If the Engineer is not satisfied with the actions taken he may halt production, which will not be allowed to resume until the Contractor demonstrates that the problem has been corrected.

Job materials will be rejected if they are found not to conform to the requirements of the Specification.

3.5.2 Materials

3.5.2.1 Coarse Mineral Aggregate

The portion of the aggregate retained on the 5 mm sieve shall be known as coarse aggregate and shall be crushed stone, or crushed gravel. Only one source of coarse aggregate shall be used except by written permission from the Engineer. Approval of sources of supply of aggregate shall be obtained from the Engineer prior to delivery of the material. Samples and test results shall be submitted for approval of the Engineer at least 14 days in advance of its use.

Crushed stone and crushed gravel shall consist of clean, tough, durable material free from coherent coatings, decomposed stone, soft particles, organic matter, shale, clay and any other substances, which in the opinion of the Engineer may be deleterious to the mixture. Coarse aggregate shall meet the following requirements.

S.No.	Name of Test	Testing Procedure	Wearing Course	Base Course
1	Aggregate Crushing Value (ACV) (%)	STP 7.7.1	Less than 25%	Less than 30%
2	Los Angeles Abrasion (LAA) (%)	AASHTO T96	Less than 30%	Less than 35%
3	Water absorption	STP 7.5.4	Not more than 2%	Not more than 2%
4	Soundness	AASHTO T104	Loss in weight (after 5 cycles) with Sodium Sulphate solution- not more than 10%	
5	Coating & Stripping Test	AASHTO T182	Min. 95% retained coating	

When crushed gravel is used, not less than 90% by weight of the particles retained on a 5 mm sieve shall have at least two fractured faces.

The flakiness index as determined in accordance with STP 7.3.1 shall not exceed 30%.

3.5.2.2 Fine Mineral Aggregate

The portion of the aggregate passing a 5 mm sieve shall be known as fine mineral aggregate, and shall consist of natural sand, stone screenings, or a combination of both. Stone screenings shall be produced from stone meeting the requirements for coarse mineral aggregate in Section 3.5.2.1. Fine aggregate shall be composed of clean, hard durable particles, rough surfaced and angular, free from vegetable matter, soft particles, clay balls or other objectionable material.

The PI for material passing the 0.425 mm sieve shall be less than 4. Sand Equivalent of material passing 4.75 mm sieve, when tested in accordance with AASHTO T176, shall be minimum 50.

When the fine aggregate is tested for soundness as per AASHTO T104, the loss in weight after 5 cycles with sodium sulphate shall not exceed 15%.

Approval of sources of supply of aggregate shall be obtained from the Engineer prior to delivery of the material. Samples and test results shall be submitted for approval of the Engineer at least 14 days in advance of its use.

3.5.2.3 Mineral Filler

Mineral filler where required shall consist of limestone dust, dolomite dust, or similar rock dust, Portland cement, hydrated lime, silica cement or other mineral matter from sources approved by the Engineer. It shall be non plastic and free from foreign or other objectionable material. It shall be dry and free from lumps and when tested by means of laboratory sieves shall meet the following grading requirements:

Sieve Designation	Percentage by Weight (STP 3.3)
0.600 mm	100
0.150 mm	95 - 100
0.075 mm	65 - 100

Mineral filler shall be considered to include any mineral dust naturally present in the bitumen.

Approval of sources of supply of mineral filler shall be obtained from the Engineer prior to delivery of the material. Samples and test results shall be submitted for approval of the Engineer at least 14 days in advance of its use.

3.5.2.4 Bituminous Materials

Details as to the source and type of bitumen must be submitted for approval at least 14 days before the proposed use of the material and should conform to the requirements of Section 3.4. The Engineer may instruct for samples of the bitumen to be taken from the consignment before leaving the place of manufacture and that these should be forwarded to a laboratory nominated by the Engineer for analysis and testing. The material from which these samples for testing are taken must be segregated at the place of manufacture until the satisfactory completion of the aforesaid tests permit release.

Each consignment of bituminous material delivered to the site must be accompanied by a certificate showing the place of manufacture and the results of standard tests carried out on the bulk supply from which the material was extracted. No bituminous material other than that represented by the sample submitted shall be used by the Contractor except with the written consent of the Engineer. The contractor shall, in accordance with Specification Clause 1.3.2 and when so directed by the Engineer, arrange for sampling and testing, at an approved testing laboratory, of all bituminous materials delivered to and stored at site. Blending of bituminous materials from different refineries shall not be permitted.

3.5.3 Construction

3.5.3.1 Weather Limitation

Bituminous mixtures shall be placed only when the surface is dry, when rain does not appear imminent and when the prepared roadbed is in a satisfactory condition. However, the Engineer may permit, in case of sudden rain, the placing of mixture then in transit from the plant, if laid at proper temperature and if the roadbed is free from pools of water. Such permission shall in no way relax the requirements for quality and smoothness of surface.

3.5.3.2 Progress of Work

No work shall be performed when there is insufficient hauling, spreading or finishing equipment, or labour, to ensure progress at a rate not less than 60% of the capacity of the mixing plant.

3.5.3.3 Plant and Equipment

A) Requirements for all Mixing Plants

All plant used by the Contractor for the preparation of bituminous mixtures shall conform to all of the requirements below, except that scale requirements shall apply only where weight proportioning is used; and in addition, any batch mixing plants shall conform only to the relevant special requirements herein and any continuous mixing plants shall conform only to the relevant special requirements herein.

The mixing plant, which can be a batching plant or a continuous mixing plant, shall have a capacity sufficient to supply the paver on the road continuously when spreading the bituminous mix at normal speed and required thickness.

- 1) Uniformity. The plants shall be so designed, co-ordinated and operated as to produce a mixture within the job - mix tolerances

- 2) Plant scales and weigh house. Scales for any weigh box or hopper may be either of the beam or spring less dial type and shall be of a standard make and design accurate to within one-half of 1 percent of the maximum load required.

Scales shall be approved by the Engineer and shall be checked as often as the Engineer may deem necessary to ensure their continued accuracy.

The Contractor shall provide and have at hand not less than ten 25 kilogram weights for frequent testing of all scales.

- 3) Equipment for preparation of bituminous material. Tanks for storage of bituminous material shall be capable of heating the material under effective and positive control at all times, to a temperature within the range specified. The circulating system for the bituminous material shall be of adequate size to ensure proper and continuous circulation during the entire operating period. Suitable means shall be provided for maintaining the specified temperature of the bituminous material in the pipe lines, meters, weigh buckets, spray bars, and other containers or flow lines. The storage tank capacity shall be sufficient for at least 1 day's run. Bituminous material may be partially heated in the tanks and brought to the specified temperature by means of booster heating equipment between the tanks and the mixer.
- 4) Feeder for drier. The plant shall be provided with an accurate mechanical means for uniformly feeding the mineral aggregate into the drier so that uniform production and uniform temperatures are obtainable.
- 5) Drier. A rotary drier of approved design for drying and heating the mineral aggregate shall be provided. The drier shall be capable of drying and heating the mineral aggregate to the specified temperature.
- 6) Screens. Plant screens, capable of screening all aggregate to the specified sizes and proportions and having normal capacities slightly in excess of the full capacity of the mixer, shall be provided. The screens shall be readily exposed for inspection by the Engineer.
- 7) Bins. The plant shall include storage bins of sufficient capacity to supply the mixer when it is operating at full capacity. Bins shall be divided into at least three compartments and shall be arranged to ensure separate and adequate storage of appropriate fractions of the aggregate. For a mineral filler admixture a separate feeder bin and/or weighing hopper arrangement may be required. Bins shall be so constructed that representative samples can readily be obtained, and the aggregate level observed.
- 8) Bituminous control unit. Satisfactory means either by weighing or metering shall be provided to obtain the proper amount of bituminous material in the mix within the tolerance specified for the job-mix.

For use with batching plants, it shall provide the designated quantity of bituminous material for each batch. For continuous mixing plants, the operating speed of the pump shall be synchronised with the flow of aggregate in the mixer by an automatic locking control, and the device shall be easily and accurately adjustable. Means shall be provided for checking the quantity or rate of flow of bituminous material into the mixer. An accuracy within 1% of the specified amount is required.

- 9) Thermometric equipment. An armoured thermometer reading from 50°C to 200°C shall be fixed in the bituminous feed line at a suitable location near the discharge valve at the mixer unit.

The plant shall be further equipped with a thermometric instrument so placed at the discharge chute of the drier as to register automatically or indicate the temperature of the heated aggregate.

- 10) Dust collector. The plant shall be equipped with a dust collector constructed to waste or return uniformly to the elevator all or any part of the material collected. The material to be returned from the dust collector shall be weighed over the filler scale.
- 11) Control of mixing time. The plant shall be equipped with accurate positive means to govern the time of mixing and to maintain it constant unless changed at the direction of the Engineer. The time of mixing shall be considered as the interval between the time the bituminous material is spread on the aggregate and the time the same aggregate leaves the mixing unit.

When bitumen is applied by a spray system, the mixing time shall begin with the start of the bitumen spray. When the bitumen is not applied by a spray system, a minimum dry mixing period of five seconds shall precede the addition of the bitumen to the mix.

- 12) Safety requirements. Adequate and safe stairways to the mixer platform and guarded ladders to other plant units shall be placed at all points required for accessibility to all plant operations. All gears, pulleys, chains, sprockets, and other dangerous moving parts shall be thoroughly guarded and protected. Ample and unobstructed space shall be provided on the mixing platform. A clear and unobstructed passage shall be maintained at all times in and around the truck loading space. This space shall be kept free from drippings from the mixing platform. Flexible pipe connections carrying hot bitumen shall be shielded.

B) Special Requirements for Batch Mix Plants

- 1) Weigh box or hopper. The equipment shall include a means for accurately weighing each bin size of aggregate in a weigh box or hopper, suspended on scales, ample in size to hold a full batch without hand raking or running over. The weigh box or hopper shall be supported on fulcrums and knife edges so constructed that they will not easily be thrown out of alignment or adjustment. All edges, ends, and sides of weighing hoppers shall be free from contact with any supporting rods, columns or other equipment that will in any way affect the proper functioning of the hopper. There shall also be sufficient clearance between hoppers and supporting devices to prevent accumulations of foreign materials. The discharge gate of the weigh box shall be so hung that the aggregates will not be segregated when dumped into the mixer and shall close tightly when the hopper is empty so that no material is allowed to leak into the batch in the mixer during the process of weighing the next batch.
- 2) Mixer. The batch mixer shall be capable of producing a continuous uniform mixture within the job - mix tolerances. It shall be of such design as to permit visual inspection of the mix.

The mixer shall be equipped with a sufficient number of paddles or blades with proper arrangement to produce a properly and uniformly mixed batch. The clearance of blades from all fixed and moving parts shall not exceed 20 mm unless the maximum diameter of the aggregate particle in the mix exceeds 25 mm.

C) Special Requirements for Continuous Plants

- 1) Gradation control unit. The plant shall include a means for proportioning accurately each bin size of aggregate either by weighing or by volumetric measurement.

When gradation control is by volume, the unit shall include a feeder mounted under the compartment bins. Each bin shall have an accurately controlled individual gate to form an orifice for volumetrically measuring the materials drawn from each respective bin compartment. Indicators shall be provided for each gate to show the respective gate opening in centimetres.

- 2) Weight calibration of aggregate feed. The plant shall include provision for a calibration of the gate openings by means of weight test samples so that each of the materials fed out of the bins through individual orifices may be by-passed satisfactorily to suitable test boxes, each bin material being confined separately.

The plant shall be equipped to handle conveniently such test samples weighing not less than 150 kilograms combined weight of samples from all bins, and not less than 50 kilograms for any one bin sample.

- 3) Synchronisation of aggregate and bitumen feed. Satisfactory means shall be provided to afford positive interlocking control between the flow of aggregate from the bins and the flow of bitumen from the meter or other proportioning source. This control shall be accomplished by interlocking mechanical means or by a positive method satisfactory to the Engineer.
- 4) Mixer. The plant shall include a continuous mixer of an approved type capable of producing a continuous uniform mixture within the job - mix tolerances.

Determination of the mixing time shall be by a weight method, using the following formula (the weights shall be determined for the job): -

$$\text{Mixing time in seconds} = \frac{\text{Pugmill dead capacity in kilograms}}{\text{Pugmill output in kilograms per second}}$$

- 5) Hopper. The mixer shall be equipped with a hopper at the discharge end, of such size and design that no segregation of mix occurs. Any elevator used for loading mixture into vehicles shall have an equally satisfactory hopper.

D) Equipment for Hauling and Placing

- 1) Trucks. Trucks for hauling bituminous mixtures shall have tight, clean and smooth metal beds that have been sprayed with soapy water, thinned fuel oil, paraffin oil, or lime solution to prevent the mixture from adhering to the beds. The amount of sprayed fluid shall however be kept to the practical minimum. Each load shall be covered with canvas or other suitable material of such size as to protect the mixture from the weather. Any truck causing excessive segregation of material by its spring suspension or other contributing factors, or that shows oil leaks in detrimental amounts, or that causes undue delays, shall upon direction of the Engineer be removed from the Works until such conditions are corrected. When necessary, in order that the mixture shall be delivered on the road at the specified temperature, truck beds shall be insulated to maintain workable temperature of the mixture and all covers shall be securely fastened.

Trucks or any other equipment leaking petroleum products will not be allowed admittance to paved areas or areas where paving is under construction.

- 2) Spreading and finishing equipment. The equipment for spreading and finishing shall be approved mechanical, self powered pavers, capable of spreading and finishing the mixture true to the lines, grades, levels dimensions and cross sections.

The pavers shall be equipped with hoppers and distributing screws of the reversing type to place the mixture evenly in front of adjustable screening devices and shall have reverse as well as forward travelling speeds.

The pavers shall maintain the grade and confine the edges of the pavement to true lines without the use of stationary side forms. The equipment shall include blending or joint levelling devices for smoothing and adjusting longitudinal joints between lanes. The assembly shall be adjustable to give the cross-section shape prescribed and shall be so designed and operated as to place the thickness or weight per square metre of material required.

Pavers shall be equipped with activated screeds and devices for heating the screeds to the temperature required for the laying of the mixture without pulling or marring.

The term "screed" includes any cutting, crowding, or other practical action that is effective in producing a finished surface of the evenness and texture specified, without tearing, shoving, or gouging.

If, during construction, it is found that the spreading and finishing equipment in operation leaves in the pavement surface tracks or indented areas of other objectionable irregularities that are not satisfactorily corrected by scheduled operations, the use of such equipment shall be discontinued and other satisfactory spreading and finishing equipment shall be provided by the Contractor forthwith.

Rollers shall be pneumatic typed rollers and smooth wheel rollers with or without vibration. The rolling procedure is described in Section 3.5.3.4.

- 3) Small tools. The Contractor shall provide suitable means for keeping all small tools clean and free from accumulation of bituminous material. He shall provide and have ready for use at all times enough tarpaulins or covers, as may be directed by the Engineer, for use in any emergency such as rain, chilling wind, or unavoidable delay, for the purpose of covering or protecting any material that may have been dumped and not spread.

3.5.3.4 Preparation and Placing

A) Preparation of Existing Surface

Where local irregularities in an existing surface would otherwise result in a course more than 75 mm thick after compaction, the surface shall be brought to uniform contour by patching with a bituminous mixture to be approved by the Engineer, and thoroughly tamping or rolling until it conforms with the surrounding surface. The mixture used shall be the same as that specified for the next course, unless the size of the largest aggregate in the mixture precludes this when the Engineer will decide the mixture to be used.

Where the existing roadbed is broken or shows instability, the unstable material shall be removed and disposed of as directed by the Engineer and be replaced with the same mixture as specified for the next course, compacted to the standard and elevation of the adjacent surface.

The surface upon which the mixture is to be placed shall be swept thoroughly and cleaned of all loose dirt and other objectionable material immediately before spreading the mixture.

B) Preparation of Bituminous Material

The bituminous material shall be heated to the specified temperature in kettles or tanks so designed as to avoid local overheating and to provide a continuous supply of the bituminous material to the mixer at a uniform temperature at all times.

C) Preparation of Mineral Aggregate

The mineral aggregates for the mixture shall be dried and heated before being placed in the mixer. Flames used for drying and heating shall be adjusted properly to avoid adversely affecting the aggregate and to avoid forming a heavy coating of soot on the aggregate. The aggregates shall be heated to the temperature specified in the applicable Section.

The aggregates, immediately after heating, shall be screened into three or more fractions and conveyed into separate bins ready for combining and mixing with bituminous material. The fraction of aggregate deposited in any bin shall not contain more than 10% of material outside the specified size limits for that bin.

D) Preparation of Mixture

The dried mineral aggregates prepared as prescribed above, shall be combined in the amount of each fraction of aggregate required to meet the job-mix formula for the particular mixture. The bituminous material shall be measured or gauged and introduced into the mix in the amount determined in the job mix formula. The proper amount of bituminous material shall be distributed over the mineral aggregate and the whole thoroughly mixed for a period of at least 30 seconds, or longer if necessary to produce a homogeneous mixture in which all particles of the mineral aggregate are coated uniformly. For a continuous mixing plant, the mixing time shall be determined from the formula in Section 3.5.3.3(C)(4) and may be regulated by fixing a minimum gauge in the mixer unit and/or by other mixing unit adjustment.

E) Transportation and Delivery of Mixture

The mixture shall be transported from the mixing plant to the point of use in vehicles conforming to the requirements of Section 3.5.3.3(D)(1). Loading and transporting shall be such that spreading, compaction and finishing shall all be carried out during daylight hours unless satisfactory illumination is provided by the Contractor.

F) Spreading and Finishing

Upon arrival at the point of use, the mixture shall be spread and struck off to the grade, elevation, and cross-section shape intended, either over the entire width or over such partial width as may be practicable. Bituminous mixture pavers conforming to the requirements of Section 3.5.3.3(D)(2) shall be used for this purpose. The mixture shall be laid upon an approved surface and only when weather conditions are considered suitable by the Engineer.

In narrow base widening, deep or irregular sections, turn outs or driveways where it is impractical to spread and finish the mixture by use of a paver, the Contractor shall use approved spreading equipment or acceptable hand methods as directed by the Engineer.

On areas where in the opinion of the Engineer, the use of spreading equipment is considered impractical, the mixture shall be dumped on steel boards then spread, raked and luted by hand to provide the correct weight or uniform thickness of material without segregation. Mixture shall not be applied faster than can be properly handled and spread.

G) Compaction of Mixture

- 1) General. Immediately after the mixture has been spread and struck off, the surface shall be checked and any inequalities adjusted. The mixture shall then be thoroughly

and uniformly compacted by rolling. Each course shall be rolled as soon after being placed as the material will support the roller without undue displacement or cracking.

- 2) Roller Requirements. With each paver, two steel wheeled tandem rollers and one pneumatic tyred roller will be required.

All rollers shall be self propelled, capable of being reversed without backlash and equipped with power steering, dual controls allowing operation from either the right or left side, water tanks, sprinkler systems and coco-mats to ensure even wetting of rolls or tyres. The Contractor shall supply to the Engineer for each type of roller a calibration chart showing the relation between depth of ballast and weight and giving the tare weight of the roller. Each roller shall be in good condition and worked by a competent and experienced operative.

Steel wheeled tandem rollers shall weigh not less than 8 metric tons and each tandem roller used for final compaction (finish rolling) shall have at least one roll capable of applying a minimum rolling pressure of 35 kilograms per centimetre of roll width.

Pneumatic tyred rollers shall be of an approved type having not less than seven wheels with smooth tread compactor tyres of equal size and construction capable of operating at inflation pressures up to 8.5 kg/cm². Wheels shall be equally spaced along both axle lines and arranged so that tyres on one axle line track midway between those on the other with an overlap. Each tyre shall be kept inflated to the specified operating pressure such that the pressure difference between any two tyres shall not exceed 0.35 kg/cm². Means shall be provided for checking and adjusting the tyre pressures on the job at all times. Each roller shall be so equipped that its total weight is adjustable by ballasting allowing the load per wheel to be varied from 1,500 to 2,500 kilograms. In operation, the tyre inflation pressure and the wheel load shall be adjusted, as required by the Engineer, to meet the requirements of each particular application. In general the compaction of any course with a pneumatic tyred roller shall be accomplished with contact pressures as high as the material will support.

- 3) Procedure. Rolling of the mix shall consist of six separate operations as follows:

- transverse joint
- longitudinal joint
- edges
- initial or breakdown rolling
- second or intermediate rolling
- finish rolling

The first rolling of all joints and edges, the initial or breakdown rolling and the final or finish rolling shall all be done with the steel wheeled tandem rollers.

The second or intermediate rolling shall be done with the pneumatic tyred roller except on small operations.

Rolling shall start longitudinally at the sides and proceed toward the centre of the pavement except that on super-elevated curves rolling shall begin at the low side and progress toward the high side. Successive trips of the roller shall overlap by at least one half of the width of the roller and alternative trips shall not terminate at the same point. For initial rolling, the drive roll should be nearest the paver.

The speed of the rollers shall not exceed 4 kilometres per hour for steel wheeled rollers and 6 kilometre per hour for pneumatic tyred rollers and shall at all times be slow enough to avoid displacement of the hot mixture. Any displacements occurring as a result of reversing the direction of the roller or from any other cause shall at

once be corrected with rakes and fresh mixture where required. Care shall be exercised in rolling not to displace the line and grade of the edges.

Rolling shall progress continuously as may be necessary to obtain uniform compaction while the mixture is in a workable condition and until all roller marks are eliminated. Heavy equipment or rollers shall not be permitted to stand on the newly laid surface until it has thoroughly cooled.

To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but excess water will not be permitted.

Any petroleum products dropped or spilled from the vehicles or equipment employed by the Contractor upon any portion of the pavement under construction is cause for the removal and replacement of the contaminated pavement by the Contractor.

Along kerbs, headers, manholes, and similar structures and at all places not accessible to the roller, thorough compaction shall be secured by means of hot hand tampers or with mechanical tampers giving equivalent compaction. Each hand tamper shall weigh not less than 10 kilograms and shall have a tamping face area of not more than 250 square centimetres.

The surface of the mixture after compaction shall be smooth and true to the established crown and grade within the tolerance specified. Any mixture that becomes loose and broken, mixed with dirt, or which is defective in any way, shall be removed and replaced with fresh hot mixture, which shall be compacted immediately to conform with the surrounding area. Any area of 1,000 square centimetres or more showing an excess or deficiency of bituminous material shall be removed and replaced. All high spots, high joints, depressions, and honeycombs shall be adjusted as directed by the Engineer.

H) Joints

Both longitudinal and transverse joints in successive courses shall be staggered so as not to be one above the other. Longitudinal joints shall be staggered a minimum of 20cm and so arranged that the longitudinal joint in the top course shall be at the location of the line dividing the traffic lanes. Lateral joints shall be staggered a minimum of 100cm centimetres and shall be straight.

Spreading shall be as nearly continuous as possible and rollers shall pass over the unprotected end of freshly laid mixture only when authorised by the Engineer. In all such cases provision shall be made for a properly bonded and sealed joint with the new surface for the full depth of the course as specified above.

Before placing mixtures against them, all contact surfaces of kerbs, gutters, headers, manholes etc. shall be given a thin uniform coating of hot bitumen and the joints between these structures and the surface mixture shall be effectively sealed by the subsequent spreading, finishing and compaction operations.

When the wearing course is placed adjacent to kerbs to form a bitumen gutter it shall be sealed with bitumen for a distance of 30 centimetres from the kerb. The seal shall be evenly applied to the surface by means of hot irons or squeegees so that the surface voids are completely filled and no excess bitumen remains on the surface. The desired drainage pattern shall be maintained.

3.5.3.5 Surface Test of the Pavement

The finished surface of the pavement for both base (binder) and wearing courses shall not vary from the specified levels and grades by more than $\pm 5\text{mm}$. The surface shall be also tested by a crown template and 3 metre straight edge, furnished by the Contractor, applied

respectively at right angles and parallel, to the centreline of the road. The Contractor shall designate some employees to use the template and straight edge under the direction of the Engineer in checking all surfaces. The crown template shall conform to the typical cross section shown on the Drawings.

The variation of the surface from the testing edge of the crown template and the straight edge between any two contacts with the surface shall not exceed 5 millimetres for both binder and wearing courses.

Tests for conformity with the specified crown and grade shall, when agreed by the Engineer, be made immediately after initial compaction and variations shall be corrected by removing or adding materials as may be necessary. Rolling shall then be continued as specified. After final rolling, the smoothness of the course shall be checked again and any irregularity of the surface exceeding the above limits and any areas defective in texture, compaction, or composition, shall be corrected as directed by the Engineer, including removal and replacement at the Contractor's expense if so directed by the Engineer.

The average thickness of the compacted bituminous layer, as computed from 5No successive determinations for every 400 to 800 m² of pavement area, shall not be less than the specified thickness nor shall any particular point be thinner than 5mm less than the specified thickness. Any section of paving having thickness measurements outside these limits shall be rectified at the contractor's expense as directed by the Engineer, including where necessary removal and replacement. In case of removal and relaying of the pavement layer a minimum length of 50m shall be removed for its full width.

The edges of the pavement shall follow a smooth alignment and, where not bound by kerbs or other edgings, shall not deviate from the specified alignment by more than ± 20 mm. Any material laid out of alignment is to be corrected as directed by the Engineer. Excess material shall be cut off square after final rolling, and disposed of by the Contractor.

3.5.3.6 Control and Testing

The Contractor shall supply qualified personnel to be in charge of the tests and controls required to ensure correct operation of the plant and the manufacture of a satisfactory product.

The Contractor shall keep a diary and maintain records of times, batch numbers, areas paved and other observations, and he shall follow such instructions as may be given by the Engineer in order to obtain the required quality of the bituminous bound material.

3.5.4 Measurement

All work prescribed above shall be measured and paid for as provided in the respective Sections for each type of pavement. The quantity measured and paid for shall always be the quantity ordered with any permitted excess, or the actual quantity used whichever is the less.

3.5.5 Payment

The work shall be paid for as provided in the respective Section for each type of bituminous layer.

3.6 BITUMINOUS PRIME COAT

3.6.1 Description

This work shall consist of the careful cleaning of the surface to be primed and furnishing and applying bituminous material in accordance with these Specifications to the area shown on the Drawings or as directed by the Engineer.

3.6.2 Materials

3.6.2.1 Bituminous Materials

Bituminous material shall be a MC 30 or MC 70 cut back bitumen and shall conform to the requirements of Section 3.4. The bituminous material shall be approved by the Engineer and may be prepared by cutting back 80/100 penetration bitumen with kerosene in the ratio of 100 parts by volume of bitumen to 40 – 60 parts by volume of kerosene depending on the porosity of the surface.

3.6.2.2 Blotting Material

Blotting material shall be approved clean dry sand or stone screenings free from any cohesive materials or organic matter. Not more than 10 per cent of the sand shall be finer than the 75 micron sieve.

3.6.3 Construction Methods

3.6.3.1 Weather Limitations

Prime coat shall be applied at a time when the surface to be treated is dry or slightly damp, when the ambient temperature is above 13°C and rising, or above 16°C if falling, and when the weather is dry.

3.6.3.2 Equipment

The Engineer may approve Construction equipment and methods (including labour intensive methods) other than those specified hereinafter provided that the contractor can demonstrate his ability to carry out the work to a satisfactory standard using his proposed equipment and methods to the complete satisfaction of the Engineer. Such approval shall be in writing and may be withdrawn at any time if the work is found to be unsatisfactory in any respect.

The equipment used by the Contractor shall include, unless otherwise approved by the Engineer, a power brush, a pressure bituminous distributor, and, when necessary, equipment for heating bituminous material.

The distributor shall have pneumatic tyres and shall be so designed, equipped, maintained and operated that bituminous material at constant temperature may be applied uniformly on variable widths of surface up to 4 metres at readily determined and controlled rates of from 0.2 to 2.0 litres per square metre with uniform pressure, and with an allowable variation from any specified rate not to exceed 0.1 litre per square metre. Distribution equipment shall include an instrument for measuring the speed of travel accurately at low speeds, and the temperature of the contents of the tank.

The spray bar on the distributor shall be controlled by a man riding at the rear of the distributor in such a position that operation of all sprays is in his full view.

The tanks of distributors shall be fitted with accurately calibrated dipsticks or contents gauges.

All measuring equipment on the distributor shall have been recently calibrated and an accurate and satisfactory record of such calibration shall be supplied to the Engineer. If, after beginning the work, the distribution of bituminous material is found to be in error, the distributor shall be withdrawn from the work and calibrated to the satisfaction of the Engineer before any further work is undertaken.

The Engineer may require such tests, as he considers necessary to check the performance of the distributor. As and when directed by the Engineer, the Contractor, at his own expense, shall make the distributor and its equipment available for field testing and shall supply any assistance required for this purpose. Any distributor, which does not operate satisfactorily or conform to the requirements of the Specifications in all respects, may be rejected by the Engineer for further use on the Works.

3.6.3.3 Cleaning Surface

Immediately before applying the bituminous material, all loose dirt and other objectionable material shall be removed from the surface with a power brush. When so ordered by the Engineer, a light application of water shall be made just before the application of bituminous material.

3.6.3.4 Application of Bituminous Material

Bituminous material shall be applied at the rate, or rates, either shown in the Contract Documents or as directed by the Engineer. The rate sprayed can be verified using STP 10.12. This will usually be from 1.0 to 2.5 litres per square metre, and at a temperature within the range called for in Table 3.4-6 for the particular material being used. Any prescribed application shall be divided into two applications when necessary to prevent bitumen flowing off the surface, and additional bituminous material shall be applied where surface conditions indicate it to be necessary, if the Engineer so directs. No further courses shall be applied until the prime coat has dried and the solvent evaporated.

When so directed, the prime coat shall be applied in lanes of approximately one-half or less of the width of the completed surface. A lane of prime coat shall be applied, allowed to penetrate for not less than 48 hours, then covered with blotting material if required, and opened to traffic before bituminous material is applied to the adjacent lane. In covering the first primed lane, a strip at least 200 mm wide shall be left uncovered where it joins the second traffic lane to permit an overlap of the bituminous material.

The surface of structures and trees adjacent to the areas being treated shall be protected in such manner as to prevent their being splashed or damaged. No bituminous material shall be discharged into a borrow pit or gutter.

3.6.3.5 Maintenance and Opening to Traffic

Traffic shall not be permitted on the primed surface until the material has penetrated and dried and, in the opinion of the Engineer, will not be picked up by traffic. Where the Engineer deems it impracticable to detour traffic, the Contractor shall spread the minimum quantity as determined by the Engineer, of blotting material necessary to avoid picking up, and traffic shall be allowed to use areas so treated. Any areas containing an excess or deficiency of priming material shall be corrected by the addition of sand or bitumen as directed by the Engineer. Such corrections of faulty work shall be carried out at the Contractor's expense.

3.6.4 Measurement

The quantity of bituminous material shall be measured for payment in square metres; however, in the case of plant placed materials a record of the number of Litres of bituminous material placed will also be kept.

The measured quantity shall be the theoretical required to comply with the Contract, or shall be the quantity used and accepted. This should be within $\pm 5\%$ of the theoretical quantity unless there is a change in the area of coverage.

3.6.5 Payment

This work measured as provided above, shall be paid for at the Contract unit price per unit of measurement. The prices and payment shall be full compensation for preparation of the surface and furnishing and placing the materials and application of blotting materials including all labour, equipment, tools and incidentals necessary to complete the work prescribed in this Section.

Pay item shall be:

3/6/1(a) Bituminous Prime Coat (plant placed)	Square Metre or
3/6/1(b) Bituminous Prime Coat (hand placed)	Square Metre

3.7 BITUMINOUS TAC COAT

3.7.1 Description

This work shall consist of furnishing and applying bituminous material to a previously prepared roadbed, in accordance with the Specifications and to the width and area required by the Engineer.

3.7.2 Materials

Bituminous material shall be either 60/70 or 80/100 penetration grade bitumen, cut back bitumen RC 30, RC 70 cut back bitumen RC 30, RC 70, or rapid setting emulsion conforming to the requirements of Section 3.4 of these Specifications. The bituminous material shall be approved by the Engineer.

3.7.3 Construction Methods

3.7.3.1 Equipment

The Engineer may approve Construction equipment and methods (including labour intensive methods) other than those specified hereinafter provided that the contractor can demonstrate his ability to carry out the work to a satisfactory standard using his proposed equipment and methods to the complete satisfaction of the Engineer. Such approval shall be in writing and may be withdrawn at any time if the work is found to be unsatisfactory in any respect. The equipment shall be as specified in Section 3.6, Bituminous Prime Coat.

3.7.3.2 Cleaning Surface

The full width of surface to be treated shall be cleaned with a power brush to remove loose dirt, sand, dust and other objectionable material. The surface to be treated shall be dry.

3.7.3.3 Application of Bituminous Material

Immediately after cleaning the surface, bituminous material shall be applied at the rate directed by the Engineer, but not to exceed 0.45 litres per square metre and at the temperature within the range included in Table 3.4-6 for the particular material being used. The tack coat shall be applied only when the surface is dry.

The tack coat material shall be uniformly distributed over the surface without streaking. Quantities shall not deviate more than 10% from the quantity prescribed by the Engineer. Quantities outside the specified tolerances shall be adjusted by the Contractor at his own expense, to the satisfaction of the Engineer.

The surfaces of structures and trees adjacent to the areas being treated shall be protected in such manner as to prevent their being splashed or damaged. No bituminous material shall be discharged into a borrow pit or gutter. The Engineer may direct that emulsions shall be diluted with clean water in order to control the rate of spread. This shall be done at the Contractor's expense.

After the tack coat is applied the Contractor shall protect it from damage until the surface course is placed. No surfacing layer will be permitted to be placed unless the tack coat is in a satisfactory condition to receive it and as such the tack coat shall be applied only so far in advance of surface course placement as is necessary for this to occur.

3.7.4 Measurement

The quantity of bituminous material shall be measured for payment in square metres; however, in the case of plant placed materials a record of the number of Litres of bituminous material placed will also be kept.

The measured quantity shall be the theoretical required to comply with the Contract, or shall be the quantity used and accepted. This should be within $\pm 5\%$ of the theoretical quantity unless there is a change in the area of coverage.

3.7.5 Payment

This work measured as provided above, shall be paid for at the Contract price per unit of measurement. The prices and payment shall be full compensation for furnishing and placing the materials, including all labour, equipment, tools and incidental necessary to complete the work.

Pay item shall be:

3/7/1(a) Bituminous Tack Coat (plant work) Square Metre

or

3/7/1(b) Bituminous Tack Coat (labour intensive work) Square Metre

3.10 DENSE BITUMINOUS SURFACING (PLANT METHOD)

3.10.1 Description

3.10.1.1 General

This work shall consist of a surfacing of dense graded bituminous material, constructed on a prepared aggregate base in accordance with these Specifications, to the lines, levels, grades, dimensions and cross sections shown on the Drawings, or as required by the Engineer.

All the provisions of Section 3.5, "General Requirements for Bituminous Surfacing" shall form a part of this Section of the Specifications unless otherwise stipulated herein.

The surfacing shall consist of one or two layers of the thickness shown on the Drawings. If the surfacing is of two layers the top layer shall be denoted as the wearing course and the lower layer as the base course.

3.10.1.2 General Composition of the Mixture

The mixture shall consist of mineral aggregate added with 2% hydrated lime powder or Portland Cement filler complying with section 3.5.2.3 of these Specifications, if needed, coated with bitumen with the materials complying with Section 3.5.2 of these Specifications and with Table 3.10-1. The mixture shall not contain more than 15% of natural sand by weight of total aggregate.

When the total thickness of bituminous surfacing exceeds 75 mm, the material may be laid in two courses if directed by the Engineer.

The base course shall be within the limits set by mix classification 1 or 2 in Table 3.10-1 and the wearing course by mix classification 2 or 3 in the same table. The mix classification shall be as specified in the contract; in case the mix classification is not specified in the contract, it shall be the one instructed by the Engineer.

When the total thickness of bituminous concrete is 50 mm or less the material shall be laid in a single course within the limits set by mix classification 2 in Table 3.10-1.

Table 3.10-1

Mix Classification	1	2	3
Course	Base	Base/ Wearing Course	Wearing Course
Thickness (mm)	60 - 75	40 - 60	40 - 50
Sieve Size (mm)	Total % by weight passing (including filler)		
25	100	--	--
20	90 - 100	100	100
14	-	85 - 100	85 - 100
10	55 - 82	65 - 90	70 - 90
5	35 - 57	45 - 65	52 - 72
2.4	20 - 40	25 - 45	40 - 58
1.2	15 - 33	15 - 35	30 - 48
0.600	10 - 26	12 - 30	20 - 38
0.300	6 - 20	9 - 20	14 - 28
0.150	5 - 13	5 - 15	8 - 20
0.075	3 - 7	3 - 7	6 - 10
	Bitumen Content by total weight of mixture. Percentage by weight found by analysis		
	4.0 - 6.0	4.5 - 6.5	5.0 - 7.0

The ratio of total material passing the 0.075 mm sieve to effective bitumen content shall be within the range 0.6 to 1.2.

In addition to meeting the requirements of the job-mix formula and the allowable tolerances in Section 3.5, laboratory samples shall be prepared according to standard Marshall methods as specified in PTP 10.9 using 50 blows per face. The sample shall be of approved material to the gradation and bitumen content stated and shall have the following characteristics.

1. Marshall Stability at 60°C not less than 550 kg.
2. Marshall Flow not less than 2 mm nor more than 4 mm.
3. Air voids in mix, base course, 3 – 5%.
4. Air voids in Mix, wearing course, 3 - 5%
5. Voids filled with Bitumen, base course, 65 - 80%
6. Voids filled with Bitumen, wearing course, 70 - 80%

The bituminous mix for base/wearing course, when subjected to Water Sensitivity Test as per AASHTO-T283, the loss in strength shall not exceed 20% of the original mix. This test shall be carried out at the time of mix design and subsequently as and when required by the Engineer.

7. Voids in Mineral Aggregates, 15 - 20%

For road pavements carrying heavy traffic, the requirement for Marshall sample preparation may be increased, at the discretion of the Engineer, from 50 blows per face to 75 blows per face; the requirement for Marshall stability shall be correspondingly increased to min. 820 kg.

3.10.2 Materials

3.10.2.1 General

The materials shall conform to Section 3.5.2 of these Specifications with the additional requirements noted below.

3.10.2.2 Bituminous Materials

These materials shall conform to the requirements of Section 3.4. The bituminous material shall be of 60/70 or 80/100 penetration grade.

3.10.2.3 Bitumen Additive

An adhesion and anti-stripping agent shall be added to the bituminous material where so specified or when the Engineer's so directs or approves. The additive shall be of a type approved by the Engineer and the required percentage of additive shall be thoroughly mixed with the bituminous material in accordance with the manufacturer's instructions, or as directed by the Engineer, for such time as is necessary to produce a homogeneous mixture.

3.10.2.4 Coarse Mineral Aggregates

The provisions of Section 3.5.2.1 shall apply.

3.10.2.5 Fine Mineral Aggregate

The provisions of Section 3.5.2.2 shall apply.

3.10.2.6 Mineral Filler

The provisions of Section 3.5.2.3 shall apply.

3.10.2.7 Mixture

Regular checks shall be made on the composition of the mixed material. The Contractor shall take samples at either the batching plant or at the job site, as directed by the Engineer, and shall arrange for Marshall specimens to be prepared (STP 10.9) and tested for stability and flow. Samples shall also be analysed to determine the mix composition, by extraction of the bitumen in accordance with STP 10.4 and aggregate grading.

A minimum of three Marshall specimens shall be prepared for each day or part of a day that the batching plant is operated and dense bituminous surfacing is laid and a minimum of two bitumen extractions and aggregate gradings shall also be carried out. If the contractor can demonstrate good quality control of the plant, through consistent and acceptable test results being obtained, then less frequent testing may be permitted, at the discretion of the Engineer.

3.10.3 Construction Methods

3.10.3.1 General

Construction methods shall conform to the requirements of Section 3.5.3 of these Specifications subject to the following modifications.

3.10.3.2 Preparation of Bituminous Material

Bitumen shall be heated to a temperature between 121°C and 163°C. The Contractor shall submit a single definite temperature for the Engineer's approval.

3.10.3.3 Preparation of Mineral Aggregate

The mineral aggregates shall be dried and heated to a temperature between 135°C and 177°C so that the surfaces of aggregates are clean and free of carbon and unburned fuel oil. The Contractor shall submit a single definite temperature for the Engineer's approval.

The mineral aggregates shall be dried so that no steaming, bubbling, foaming, brown colouring or slumping of the newly produced mixture can be seen when the mix is loaded on the trucks or placed on the road.

If any traces of insufficient drying are observed, the Contractor shall take such of the following steps as are necessary to provide properly dried aggregates:

- 1) Maintain the level of the material in the hot bins above the two-thirds level.
- 2) Reduce the rate of cold feed.
- 3) Lower the slope of the drier as much as practicable.

- 4) Adjust exhaust fan, burner and air intake so as to provide longer flame penetration into the drier.

If all the preceding steps have been carried out and the mineral aggregate is still not dried to the satisfaction of the Engineer, double drying will be required for all or part of the aggregate.

3.10.3.4 Preparation of Mixture

The mixture shall when emptied from the mixer be at a temperature within the absolute limits of 135°C and 165°C. A single definite temperature shall be submitted for the Engineer's approval in accordance with Section 3.5.1.3.

3.10.3.5 Spreading and Compaction

Unless the bituminous premix is laid directly onto a clean prime coat, a tack coat shall be applied in accordance with Section 3.7, to the underlying surface prior to spreading the base and wearing courses.

Non-inclusion of Tack Coat as a separate BOQ item or insufficient quantity of Tack Coat in the Bill of Quantities (BOQ) shall not relieve the contractor from the obligation of applying Tack Coat to the underlying surfaces.

For regulation courses the thickness of a compacted layer shall not be less than twice the maximum stone size.

To avoid traffic disruption, the spreading and compaction is often carried out over half the road width only. Rollers shall not be allowed to stand on newly laid material that may be deformed thereby. Sections of newly laid base course shall be kept clean prior to laying the surface course and no traffic except in connection with laying the surface course shall be permitted on the prepared base course.

The mixture shall be compacted as soon after being placed as the material will support the roller without undue displacement or cracking and sufficient compaction plant should be deployed so that the required degree of compaction is achieved before the mat has cooled to a temperature of 107°C. Smoothing rolling may continue longer, if necessary, as long as the temperature of the mat is above 90°C. The average field density of any bed of base course and wearing course shall not be less than 98% of the laboratory density. No individual density test result shall fall below 97% of the laboratory density of the Marshall density.

3.10.3.6 Joints

The work shall be organised so that transverse joints are kept to a minimum and, where practical, only occur at specified positions (i.e. bridges etc.). All transverse joints are to be cut back to well compacted full depth material to produce a straight vertical joint which is to be painted with bitumen before laying of new material.

To attain a strong and even connection in the longitudinal direction, joints shall be pre-heated in front of laying the adjacent bituminous mix. Alternatively, if approved by the Engineer, the joint can be cut back and painted with bitumen.

3.10.3.7 Protection of the Pavement

Sections of the newly finished work shall be protected from traffic of any kind until the mixture has cooled to approximately ambient air temperature. Traffic shall not normally be permitted on the newly laid surface less than 6 hours after completion of the pavement, except with the approval of the Engineer.

3.10.3.8 Pavement Samples

The Contractor shall, after final rolling and before opening the surface to traffic, cut samples from the finished work for testing. Samples for the full depth of the course shall be cores with diameters of 100 or 150 mm, as directed, and cut using an approved coring machine, from the locations directed by the Engineer.

At least two samples for density measurement shall be taken for each day or part of a day that the plant operates or if the output exceeds 100 tonnes per day, then at the rate of two per 100 tonnes or part thereof.

Samples for analysis and other tests shall be taken from the surfacing when the Engineer so directs. Where samples have been taken from the surface course, fresh material shall be placed, thoroughly compacted and finished to the satisfaction of the Engineer.

3.10.3.9 Surfacing Texture

The surface finish of the base course shall be close and tight, while the surface finish of the wearing course shall be equally well bound, though where the mix permits the surface shall be textured so as to enhance surface friction, but free from dragging cracks or other surface blemishes. Back casting shall not normally be permitted but when dragging occurs under the screed of the spreader, fine bituminous material may be cast over the surface to fill the dragging cracks, providing that this is done before the initial rolling and providing that rolling is carried out at specified temperature. Should dragging occur frequently the reason is to be determined and rectified.

3.10.4 Measurement

The quantities of dense bituminous pavement measured for payment shall be the number of cubic metres of accepted and completed surfacing, of the widths and thickness shown on the Drawings. However, the Contractor should allow in his rates for additional material used for forming sloping edges, waste, over spill, joints, cut-backs etc. Should the widths and/or thickness of completed and accepted surfacing be less than indicated on the Drawings, the quantities measured for payment will be based on the actual widths and/or thickness. No adjustment in payment will be made where the pavement widths and thickness as laid and approved are greater than those specified.

The surface profiles of courses will be used in the measurement of course thickness, unless an alternative method, such as core thickness, is approved by the Engineer.

3.10.5 Payment

The quantities of dense bituminous surfacing measured as provided above shall be paid for at the Contract unit rates. The rates and payments shall be full compensation for furnishing and placing all materials including all labour, equipment, tools, trials, preparation of job-mix formulae, testing, making good test holes and all incidentals necessary to complete the work. Tack coat shall not be paid for separately except where specifically provided in the Contract Documents.

When Tack Coat is included as a separate BOQ item in the Contract Document, but the quantity is not sufficient to cover all the bituminous works under the BOQ, the cost of quantity of Tack Coat required in addition to the BOQ provision shall be considered to be included within the rates of bituminous layer. The contractor is advised to make necessary adjustments accordingly in his rates of bituminous layers.

Pay items shall be:

3/10/1	DenseBituminousSurfacing-BaseCourse	CubicMetre
3/10/2	DenseBituminousSurfacing-WearingCourse	CubicMetre

3.13 BRICK PAVEMENT

3.13.1 Description

This work shall consist of furnishing and laying bricks on a prepared and accepted subgrade or improved subgrade to form brick pavement in accordance with these Specifications, and to the lines, levels, grades, dimensions and cross sections shown on the Drawings, or as directed by the Engineer.

3.13.2 Subgrade and Improved Subgrade

The subgrade or improved subgrade shall conform to the provisions of Sections 2.7 and 2.8.

3.13.3 Materials

The materials shall consist of first class bricks, which meet the requirements of Section 5.5.2, and sand, which meets the requirements of grading envelope E in Table 2.8-1 of Section 2.8.2.

3.13.4 Brick on End Edging

3.13.4.1 Description

This work consists of providing and placing brick on end edging along the road adjacent to the side of the pavement of single layer brick flat soling and herringbone bond brick.

3.13.4.2 Construction Methods.

Bricks shall be laid on end edging with their longest side vertical and shortest side perpendicular to the road including necessary excavation filling and ramming to the satisfaction of the Engineer. The completed work shall be true to line and level and grade as indicated on the Drawings. Interstices between brick edging and adjacent paving or soling shall be filled by brushing in sand until voids are filled; the edging shall then be sprinkled with water.

3.13.5 Single Layer Brick Flat Soling

3.13.5.1 Description.

This item consists of providing single layer brick flat soling on accepted subgrade or improved subgrade.

3.13.5.2 Construction Methods.

The bricks shall be laid flat on a 75 mm thick compacted sand cushion layer over the prepared subgrade or improved subgrade surface. Bricks shall be laid in a regular and uniform manner. Interstices of bricks shall be filled with sand, and water shall be applied by sprinkling. No bricks shall be laid on loose earth or earth filling which has not been compacted to the required density and no bricks shall be laid on any surface which has not been inspected and approved by the Engineer.

3.13.6 Brick on Edge Pavement in Herringbone Bond

3.13.6.1 Description

This work shall consist of a base composed of bricks, laid on edge in a herringbone pattern on a 12 mm sand cushion, placed on a prepared single layer brick flat soling in accordance with these Specifications and to the lines, grades, levels, dimensions and cross sections shown on the Drawings or as required by the Engineer.

3.13.6.2 Construction Methods

The bricks shall be laid on edge in a single layer in a herringbone pattern to the lines, grades, levels, dimensions and cross section shown on the Drawings or as required by the Engineer. The edge of the layer shall be made with cut bricks to produce a line, which is compatible with brick edging.

The joints shall be filled with sand brushed in and the completed layer shall be sprinkled liberally with water.

3.13.6.3 Surface Tolerance

In those areas in which pavement is to be placed, any deviation in excess of 10 mm from a straight edge 3 metres long applied to the surface parallel to the centreline of the road and 12 mm from a 3 metres straight edge laid transversely, shall be corrected by removal, reshaping and relaying.

3.13.7 Measurement

Brick on end edging shall be measured in linear metres of completed and accepted work. Brick flat soling and herringbone bond brick pavement shall be measured in square metres of completed and accepted work.

3.13.8 Payment

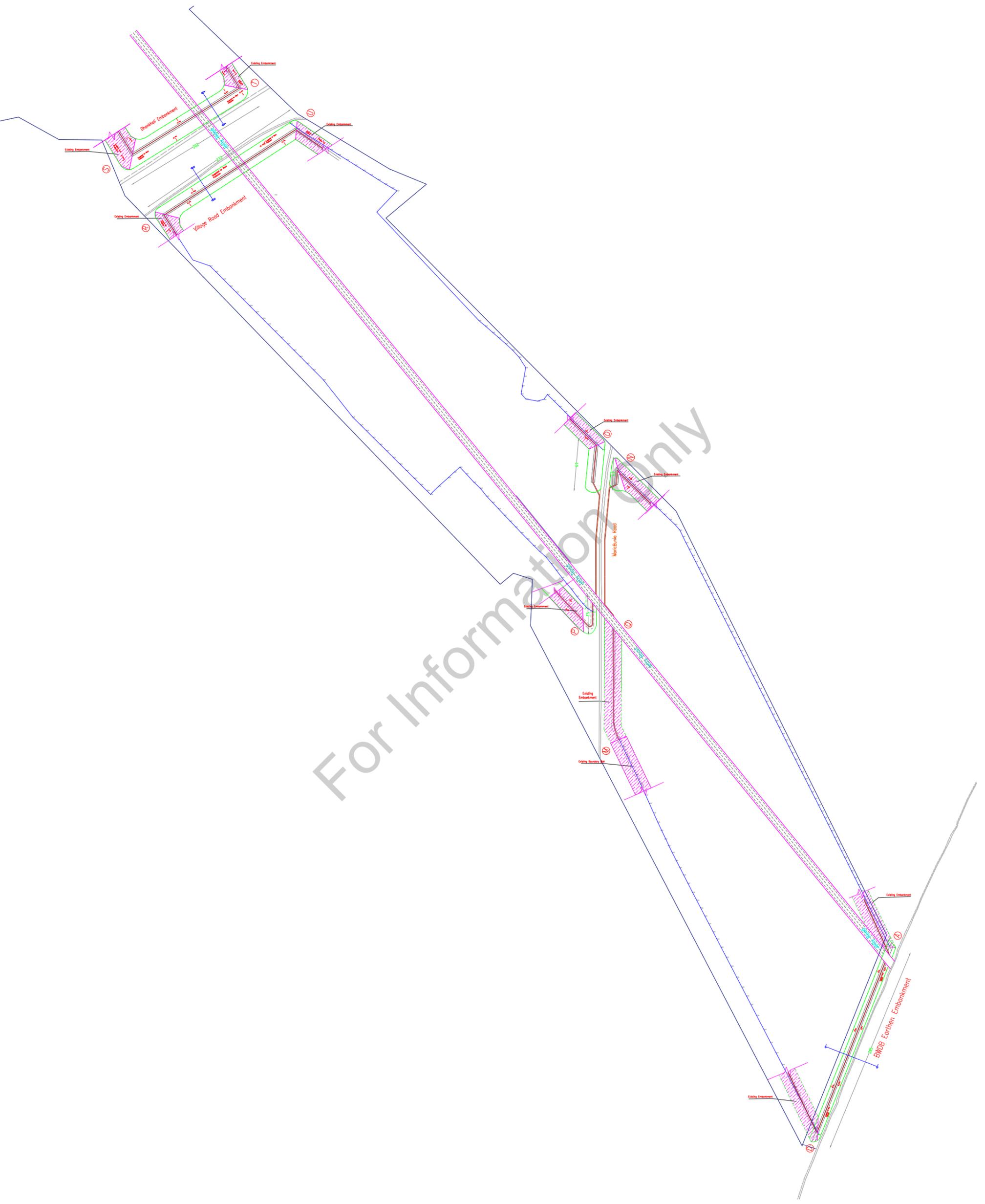
This work, measured as described above shall be paid for at the Contract unit rates detailed below. The rates shall include the supply of all required materials and all labour, equipment, tools and incidentals necessary to complete the works as specified.

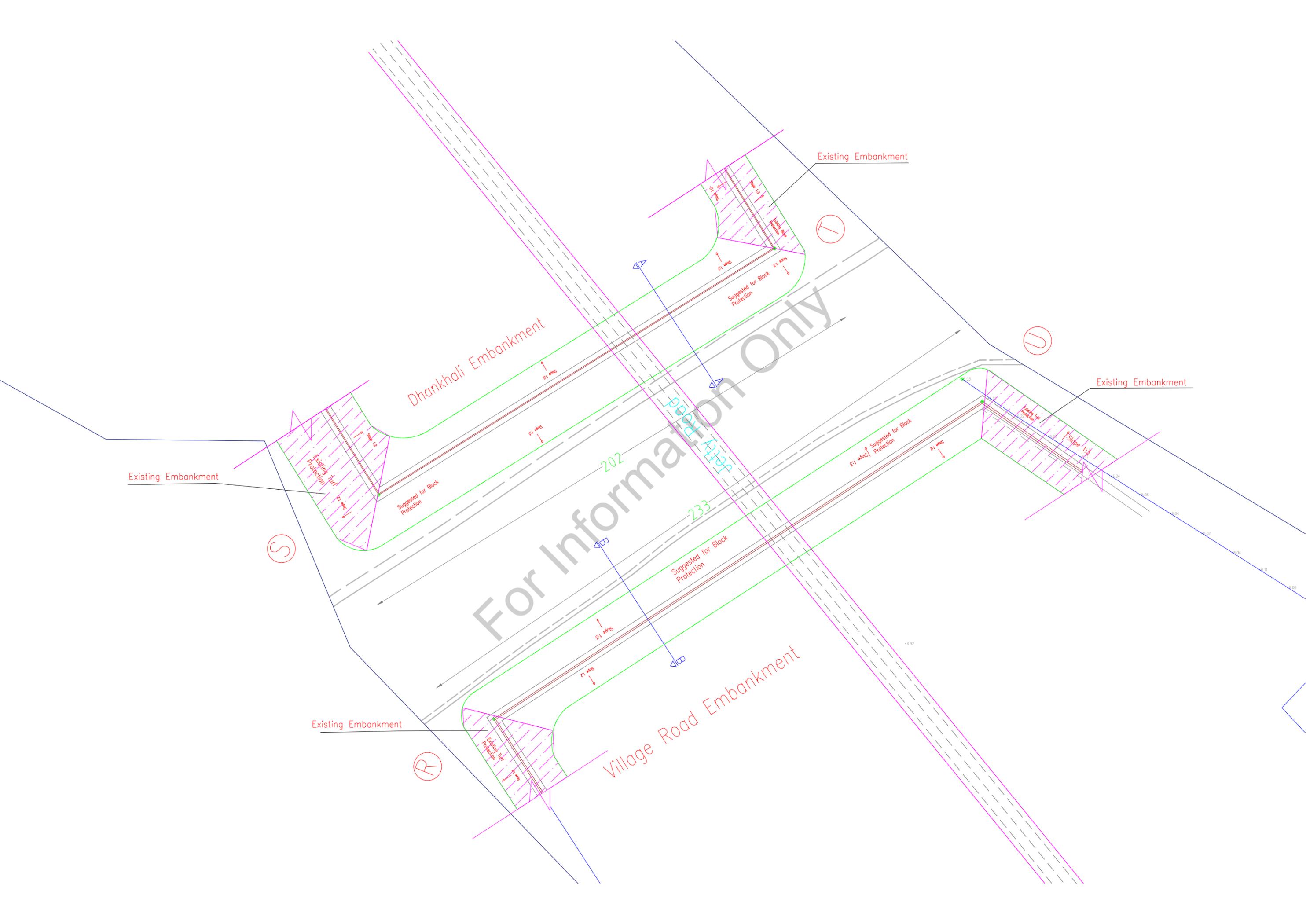
Pay items shall be:

3/13/1	Brick on End Edging	Linear Metre
3/13/2	Single Layer Brick Flat Soling including 75 mm thick Compacted Sand Cushion	Square Metre
3/13/3	Herring Bond Brick Pavement including 12 mm Sand Cushion	Square Metre

Section 9. Drawings

For Information Only





For Information Only

Dhankhali Embankment

Village Road Embankment

Existing Embankment

Existing Embankment

Existing Embankment

Existing Embankment

S

R

T

U

202

233

Suggested for Block Protection

Suggested for Block Protection

Suggested for Block Protection

Existing Turf Protection

Existing Turf Protection

Existing Turf Protection

Existing Turf Protection

Slope 1:3

+4.92

6.04

6.04

6.07

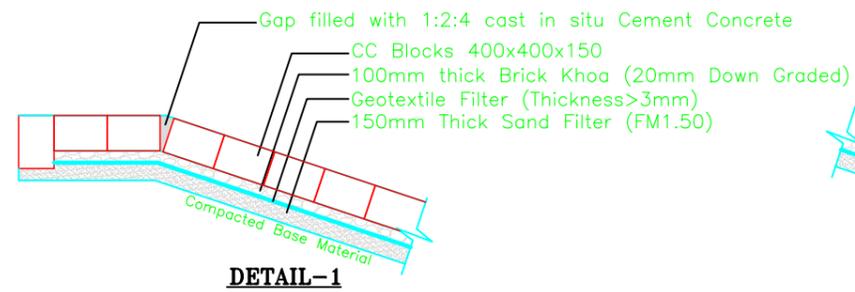
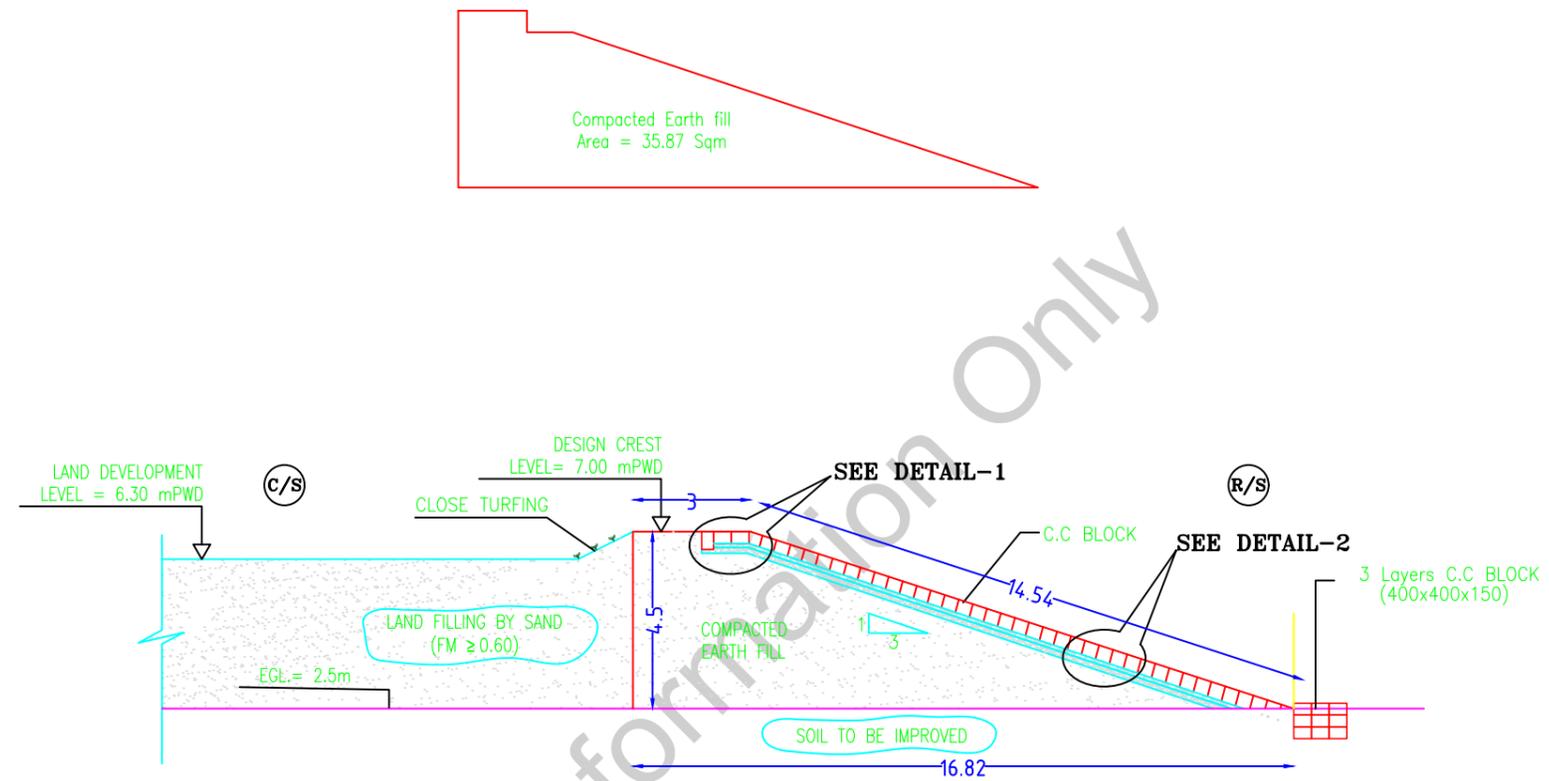
6.11

6.04

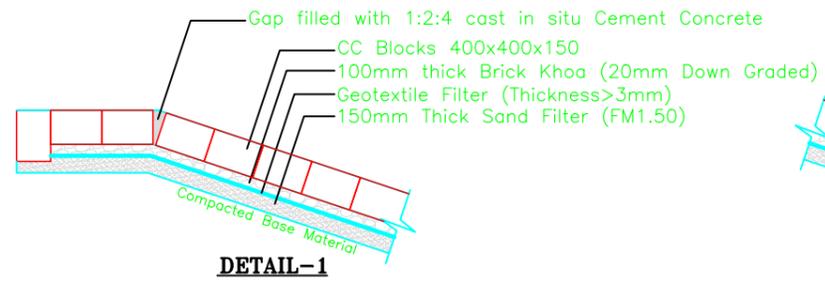
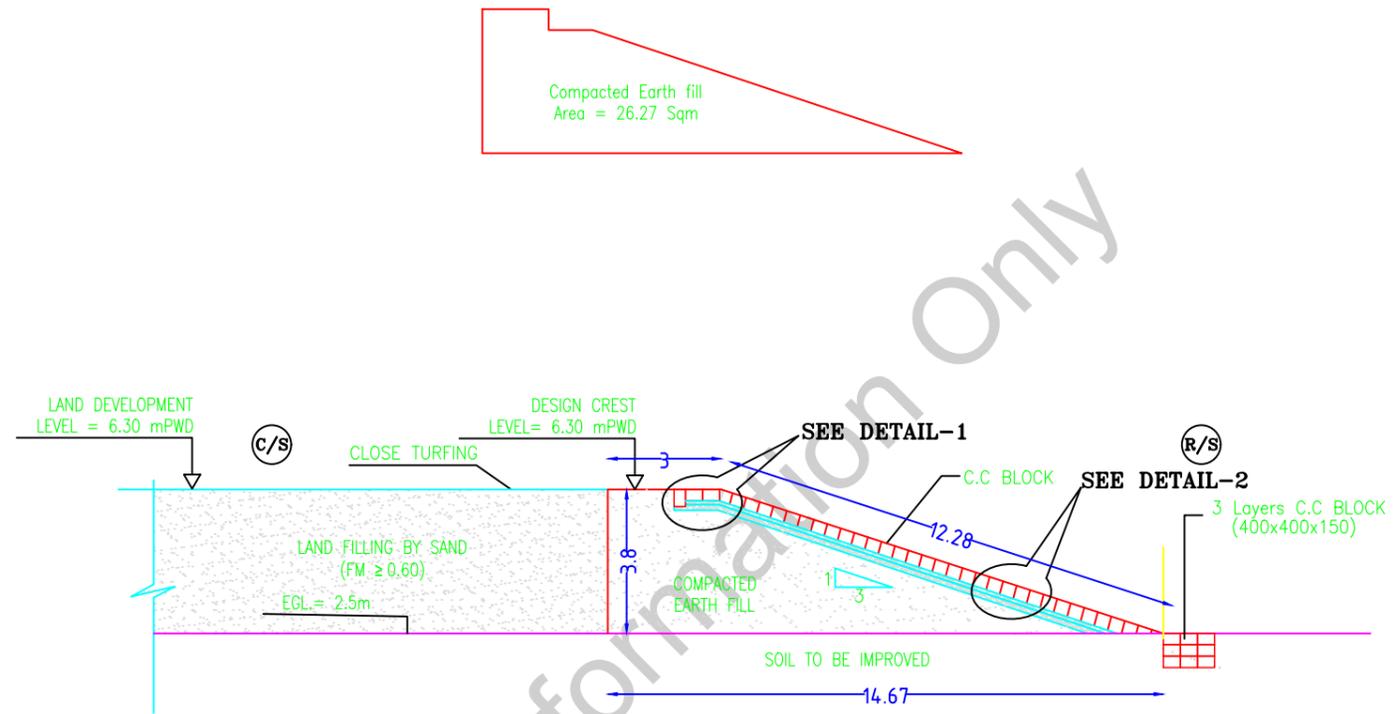
6.00

F1 400S

SECTION OF EMBANKMENT NEAR DHANKHALI ROAD LINE SECTION A-A



SECTION OF EMBANKMENT NEAR VILLAGE ROAD LINE SECTION B-B



TYPICAL SECTION OF EMBANKMENT AT START, MIDDLE & END OF RAMP



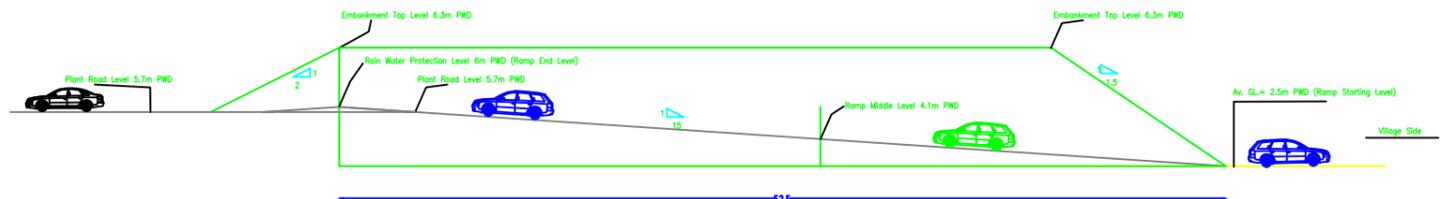
TYPICAL CROSS SECTION OF EMBANKMENT AT END OF RAMP

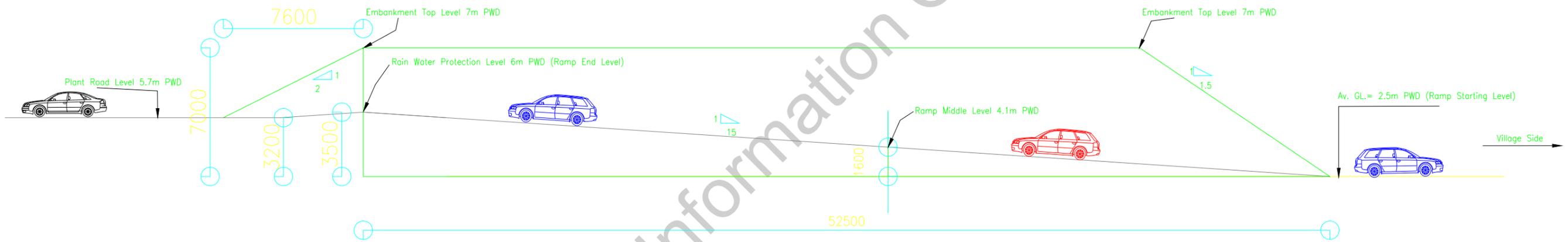


TYPICAL CROSS SECTION OF EMBANKMENT AT MIDDLE OF RAMP



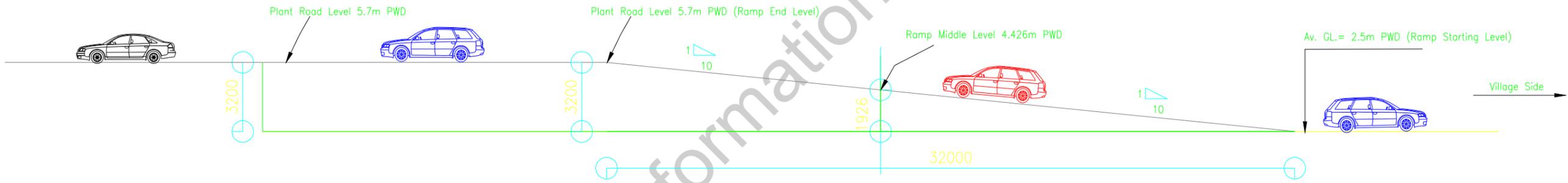
TYPICAL CROSS SECTION OF EMBANKMENT AT STARTING OF RAMP



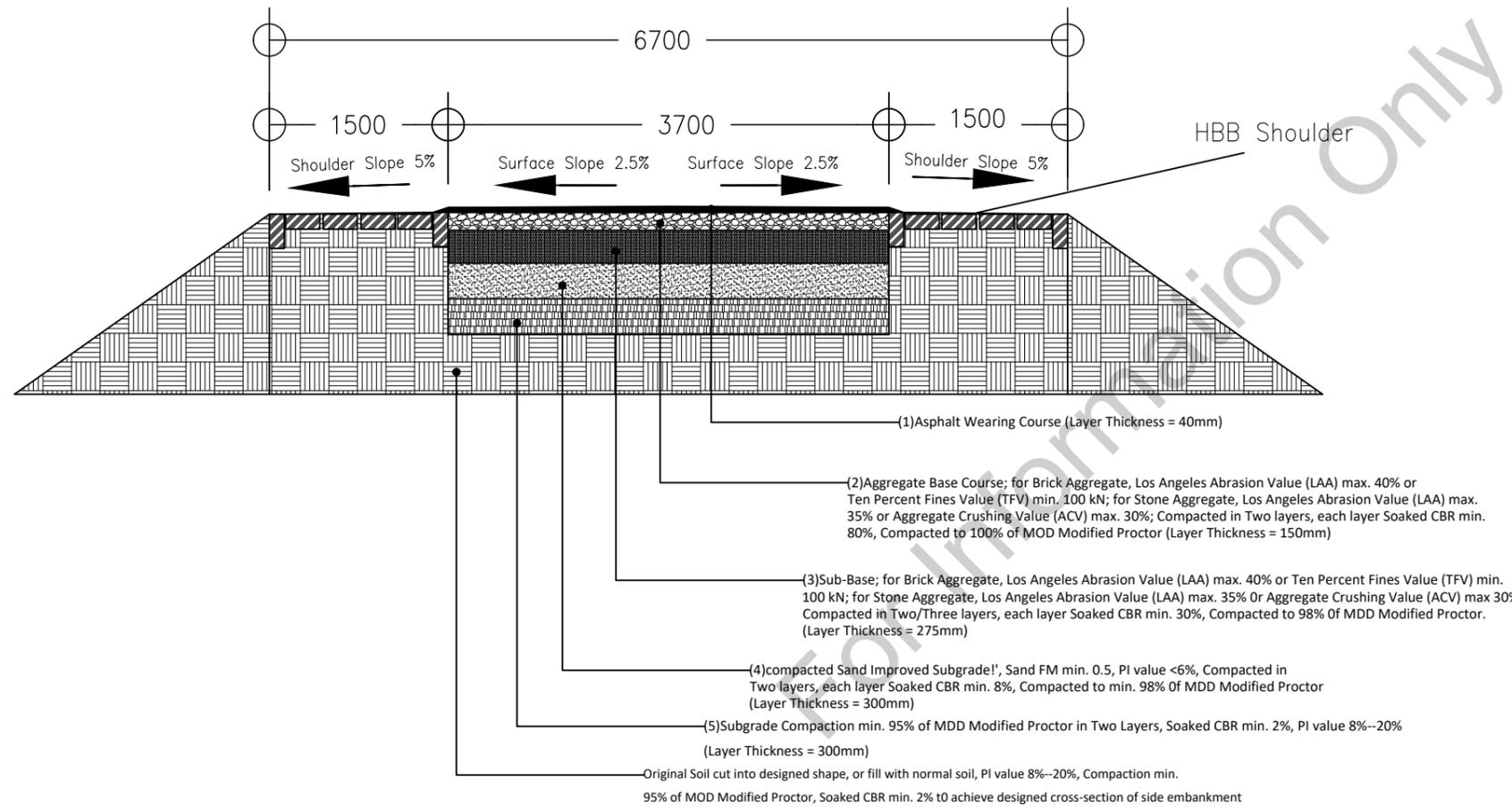


For Information Only

For Information Only



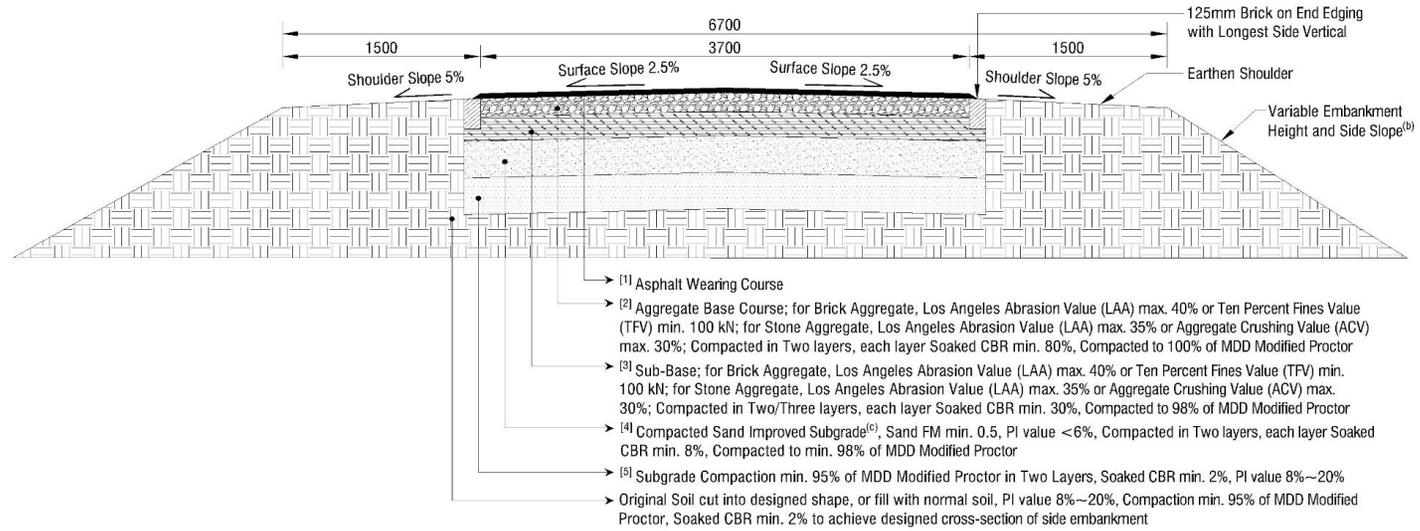
LGED Pavement Type-7 With HBB



Brick agg. Base Course Area=0.6 sqm
Brick agg. Subbase Area=1.02 sqm
Sand filled Subgrade Area=1.11 sqm
Sub-Grade Area=1.11 sqm
Cutting Area=3.8 sqm

PAVEMENT DESIGN TEMPLATE FOR CVD 51-100

Type-7



NOTES:

- (a) All dimensions are in millimeter unless otherwise specified;
- (b) Side Slope Protection method will vary for different conditions;
- (c) The local sand can be used as ISG subject to approval of LGED if the sand satisfies the following two conditions:
- Passing # 200 sieve (Not more than 15%) and
 - CBR Value: 8% or above.

Subgrade Soaked CBR (%)	Wearing Course (mm)	Base Course (mm)	Sub-base Course (mm)	Improved subgrade (mm)	Subgrade (mm)
	[1]	[2]	[3]	[4]	[5]
2	40	150	275	300	300
3	40	150	250	300	300
4	40	150	200	250	300
5	40	150	200	225	300
6	40	150	200	200	300
≥ 7	40	150	150	-	300

FORMAT

LOGO

[Insert Full Contact Details of the Procuring Entity]

Commencement of Works

Office Memo No:

Date:

To:

[Name of Contractor]
[Address]

Contract Reference:

Pursuant to GCC Sub Clause 39.1 of the above mentioned Contract Agreement, this is to notify you that the following precedent conditions have been duly fulfilled:

- (i) the Contract Agreement has been signed;
- (ii) the possession of the Site has been given; and
- (iii) the advance payment has been made *(delete if not appropriate)*.

You are therefore requested to:

1. Commence execution of the Works, in accordance with GCC Sub Clause 1.1(nn), within *(specify date)*;
2. Submit Insurance Policy Documents, in accordance with GCC Sub Clause 36.2, within *(specify date)*
3. Submit Programme of Works, in accordance with GCC Sub Clause 41.1, within *(specify date)*

Signed

Duly authorised to sign for and on behalf of
[name of Procuring Entity]

Date:

FORMAT
LOGO

[Insert Full Contact Details of the Procuring Entity]

CONTRACT AMENDMENT

Contract No.	
Amendment No.	
Approval Reference No.	

Contract No. [insert number/year] by and between the [insert Procuring Entity's name] and [insert Contractor's legal title] for the contract named [insert name of the Works and physical services] is amended as follows:

1. GCC Clause [insert clause no], is hereby revised as _____

2. GCC Clause [insert clause no], is hereby revised as _____

and so on .

The effective date of this Amendment is [insert effective date] or upon execution whichever is later.

**ALL OTHER TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT SHALL
REMAIN IN FULL FORCE AND EFFECT**

THIS AMENDMENT, consisting of [insert number] page(s) and [insert number] attachment(s), is executed by the persons signing below who warrant that they have the authority to execute this Amendment under the original Contract.

IN WITNESS WHEREOF, the Procuring Entity and the Contractor have signed this Amendment.

[Contractor's Authorized Signatory]

[Procuring Entity's Authorized Signatory]

Signature

Signature

Title

Date

Title

Date

FORMAT
LOGO

[Insert Full Contact Details of Issuing Authority]

Office Memo no: _____

Date: _____

COMPLETION CERTIFICATE

01	Procuring Entity Details		
	(a) Division	:	
	(b) Circle/Directorate	:	
	(c) Zone/Region	:	
	(d) Others (<i>specify</i>)	:	
02	Name of Works	:	
03	Contract No	:	
04	Contractor's Legal Title	:	
05	Contractor's Contact Details	:	
06	Contractor's Trade License/Enlistment/Registration Details	:	
07	Reference to NOA with Date	:	
08	Original Contract Price as in NOA	:	
09	Final Contract Price as Executed	:	
10	Original Contract Period		
	(a) Date of Commencement	:	
	(b) Date of Completion	:	
11	Actual Implementation Period		
	(a) Date of Actual Commencement	:	
	(b) Date of Actual Completion	:	
12	Days/Months Contract Period Extended	:	
13	Amount of Bonus for Early Completion	:	
14	Amount of LD for Delayed Completion	:	
15	Physical Progress in Percent (<i>in terms of value</i>)	:	
16	Financial Progress in Amount (<i>in terms of payment</i>)	:	
17	Special Note (<i>if any</i>)	:	

Certified that the Works under the Contract has been executed and completed in all respects in strict compliance with the provisions of the Contract including all plans, designs, drawings, specifications and all modifications thereof as per direction and satisfaction of the Project Manager/Engineer-in Charge/Other (*specify*). All defects in workmanship and materials reported during construction have been duly corrected.

Name and Signature of the Issuing Authority with Designation
please turn over

Details of Works Completed

Contractor: [insert legal title]		
No	Major Components of Works	Total Value (in Contract Currency)

Joint Venture

[delete, if not appropriate]

Leading Partner: [insert legal title]		
No	Components/Activities [reference drawn to JV Partner Information]	Value (in Contract Currency)

Co-partner: [insert legal title]		
No	Components/Activities [reference drawn to JV Partner Information]	Value (in Contract Currency)

Co-partner: [insert legal title]		
No	Components/Activities [reference drawn to JV Partner Information]	Value (in Contract Currency)

Note: Figures shown must correspond to Total Value

Sub-contractor

[delete, if not appropriate]

Named Sub-contractor: [insert legal title] [delete, if not appropriate]		
No	Components/Activities [reference drawn to Sub-contractor Information]	Value (in Contract Currency)

Nominated Sub-contractor: [insert legal title] [delete, if not appropriate]		
No	Components/Activities [reference drawn to PCC of Contract Document]	Value (in Contract Currency)

Name and Signature of the Issuing Authority with Designation

Tenderer's Past Performance processing (Form PW3-PPP)

Invitation for Tender No: *IFT No]*
Tender Package No: *[Package No]*
Lot No (*when applicable*): *[Lot No]*
Date of IFT Publication:
Name of the Tenderer:
Name of JV Partners and their business share (If the tender is JV):
Official Cost Estimate of the tender:

(A) List of Successfully Completed Contract during the last 5 years from IFT Date under the organization of the procuring entity inviting tender and business share value of the tenderer is less than or equal to 75% of the official cost estimate of the tender.

SL No	Name of Works	Value of work
1		
2		
3		

[In case of tenderer is a JV, the list is the aggregation of the completed contracts of all JV partners]

(B) List of On-Going works / Current Commitment of the tenderer under any Organization.

SL No	Name of On-Going Works Contract and Current Commitments	Business Share Value of work
1		
2		
3		

[In case of tenderer is a JV, the list is the aggregation of the on-going works/current commitments of all JV partners]

Tenderer's Past Performance Evaluation (Form PW3-PPE)

Invitation for Tender No:

Tender Package No:

Lot No (*if applicable*):

Date of IFT Publication:

Official Cost Estimate of the tender:

$\text{Score 1} = \frac{A}{B} \times 140$ <p>A= Number of Completed Contracts of the Tenderer B= Highest Number of Completed Contracts among the Tenderers</p>	$\text{Score 2} = \frac{C}{D} \times 100$ <p>C= Value of Completed Contracts of the Tenderer D= Highest Value of Completed Contracts among the Tenderers</p>	$\text{Score 3} = \frac{E}{F} \times 60$ <p>E= Value of On-Going Contracts of the Tenderer F= Highest Value of On-Going Contracts among the Tenderers</p>
--	--	---

B=

D=

F=

SL No	Name of the Tenderer	A	Score 1 =140* (A/B)	C	Score 2 =100* (C/D)	E	Score 3 =60* (E/F)	Total Score= Score 1+ Score 2+ Score 3
1								
2								
3								

Winner:

Notes:

1. In case of the Tenderer is a JV, the Contract Number and the value shall be multiplied by the business share of the JV partner and added.
2. If the total score of all the tenderer is zero then the tender shall be recommended for re-tender.
3. In case of highest equal total score, the winner shall be selected according to score 1, If score 1 is equal then the winner shall be selected according to score 2. Otherwise all tenders shall be rejected for retender.

FORMAT

Invitation for Tenders (IFT)

*The **Invitation for Tenders (IFT)** is a copy of the standard format as appears on the website and used for published advertisement that provides relevant and essential information to help Tenderers to decide whether or not to participate in the particular Tender. This is provided in the Tender Document for information only. This should not be included in the FINAL DOCUMENT.*

Invitation for Tenders

*[This is the website format and as used for published advertisement.
It is included in this document for information only]*

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH					
1	Ministry/Division	< select >			V
2	Agency	< select >			V
3	Procuring Entity Name	< type in name >			
4	Procuring Entity Code	Not used at present			
5	Procuring Entity District	< select >	V	< select >	V
6	Invitation for	< select >	V	< select >	V
7	Invitation Ref No	< type in name >			
8	Date	< select >	V	< select >	V
KEY INFORMATION					
9	Procurement Method	< select >	V	< select >	V
FUNDING INFORMATION					
10	Budget and Source of Funds	< select >	V	< select >	V
11	Development Partners (if applicable)	< type in name >			
PARTICULAR INFORMATION					
12	Project / Programme Code (if applicable)	< use MOF code >			
13	Project / Programme Name (if applicable)	< use MOF name >			
14	Tender Package No.	< type in name >			
15	Tender Package Name	< type in name >			
16	Tender Publication Date	< select >	V	< select >	V
17	Tender Last Selling Date <i>[up to the day prior to the day of Deadline for Submission]</i>	< select >	V	< select >	V
18	Tender Closing Date and Time	< select >	V	< select >	V
19	Tender Opening Date and Time	< select >	V	< select >	V
20	Name & Address of the office(s) - Selling Tender Document (Principal) - Selling Tender Document (Others)	Address			
		< type in name >			
		< type in name >			
NO CONDITIONS APPLY FOR SALE , PURCHASE OR DISTRIBUTION OF TENDER DOCUMENTS					
21	- Receiving Tender Document - Opening Tender Document Place / Date / Time of Pre-Tender Meeting (Optional)	< type in name >			
		< type in name >			
		< type in name >			
		Date		Time	
		< select >	V	< select >	V
INFORMATION FOR TENDERER					
22	Brief Eligibility and Qualification of Tenderer	< type in name >			
23	Brief Description of Works	< type in name >			
24	Brief Description of Physical Services	< type in name >			
25	Price of Tender Document (Tk)	< type in price >			
	Lot No	Identification of Lot	Location	Tender Security Amount (Tk)	Completion Time in Weeks/Months
26	1	< type in name >	< type in name >	<type in>	<type in>
27	2	< type in name >	< type in name >	<type in>	<type in>
28	3	< type in name >	< type in name >	<type in>	<type in>
29	4	< type in name >	< type in name >	<type in>	<type in>
30	Name of Official Inviting Tender	< type in name >			
31	Designation of Official Inviting Tender	< type in name >			
32	Address of Official Inviting Tender	< type in name >			
33	Contact details of Official Inviting Tender	< Tel. No. >	< Fax No. >	< e-mail >	
34	The Procuring Entity reserves the right to reject all the Tenders or annul the Tender proceedings				

<select> : these fields are "pop-up" fields and the procuring entity will only have to select the correct name, address or date in order to complete the form.<type in name> : these fields are to be completed by typing in the relevant data.

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.