BIDDING DOCUMENTS

for

Conservation and Restoration to

National Heritage Site at

La Tour Hollandais at Vieux Grand Port

Procurement Ref no: NHF/OAB 04 of 2018-19

25 May 2019
Summary Description

This Standard Bidding Document for Procurement of Works is to be used when a prequalification process has not taken place before bidding and, therefore, post-qualification applies. A brief description of these documents is given below.

SBD for Procurement of Works

PART 1 – BIDDING PROCEDURES

Section I. Instructions to Bidders (ITB)

This Section provides relevant information to help Bidders prepare their bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of Contracts. **Section I contains provisions that are to be used without modification.**

Section II. Bidding Data Sheet

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

Section III. Bidding Forms

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

Section IV. Evaluation Criteria

This section contains supplementary evaluation criteria which the Employer may choose to apply to the procurement under consideration.

PART 2 – EMPLOYER’S REQUIREMENTS

Section V. Employer’s Requirements

This Section contains the Specification, the Drawings, and supplementary information that describe the Plant and Installation Services to be procured.

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VI. General Conditions of Contract

This Section contains the general clauses to be applied in all contracts. **The text of the clauses in this Section shall not be modified.**

Section VII. Particular Conditions of Contract
The contents of this Section supplement the General Conditions of Contract and shall be prepared by the Employer.

Section VIII. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.
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# Section 1 - Instructions to Bidders

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Section I - Instructions to Bidders

A. General

1. Scope of Bid

1.1 The Public Body as defined\(^1\) in Section II “Bidding Data Sheet” (BDS) also referred to herein as Employer invites bids for the construction of Works, as described in the BDS and Section VII, “Particular Conditions of Contract” (PCC).

The name and identification number of the Contract are provided in the BDS and the PCC.

1.2 The successful Bidder shall be expected to complete the Works by the Intended Completion Period specified in the BDS.

1.3 Throughout these bidding documents, the terms:

(a) “writing” means any typewritten or printed communication, including e-mail and facsimile transmission,

(b) “day” means calendar day, and

(c) Singular also means plural.

2. Source of Fund

2.1 The Works shall be financed by the Public Body’s own budgetary allocation, unless otherwise stated in the BDS.

3. Challenge and Appeal

3.1 Unsatisfied bidders shall follow procedures prescribed in Regulations 48, 49 and 50 of the Public Procurement Regulations 2008 to challenge procurement proceedings and award of procurement contracts or to file application for review at the Independent Review Panel.

3.2 Addresses to forward Challenges or Application for Review are specified in the BDS.

4. Fraud and Corruption

4.1 The Government of the Republic of Mauritius requires that bidders-suppliers/contractors, participating in procurement in Mauritius, observe the highest standard of ethics during the procurement process and execution of contracts.

4.2 Bidders, suppliers and public officials shall be aware of the provisions stated in sections 51 and 52 of the Public Procurement Act which can be consulted on the website of the Procurement Policy Office (PPO): ppo.govmu.org

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4.3 The Employer will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question;

For the purposes of this Sub-Clause:

(i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

(ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

(iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

(iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

(v) “obstructive practice” is 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

4.4 The Employer commits itself to take all measures necessary to prevent fraud and corruption and ensures that none of its staff, personally or through his/her close relatives or through a third party, will in connection with the bid for, or the execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to. If the Employer obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of Mauritius or if there be a substantive suspicion in this regard, he will inform the relevant authority (ies)and in addition can initiate disciplinary actions. Furthermore, such bid shall be rejected.
5. Eligible Bidders

5.1 (a) In accordance with CIDB Act 2008, Contractors currently operating in the construction industry have the statutory obligation to be registered with the Construction Industry Development Board (CIDB) accordingly.

(b) Subject to paragraph (e), Foreign contractors as defined in the CIDB Act will have to apply for and obtain a Provisional Registration prior to bidding for this project. If the contract is awarded to the foreign contractor the latter shall have to apply for and obtain a Temporary Registration before starting the project.

(c) Contractors whether local or foreign under an existing or intended joint venture will be eligible as a joint venture if, in addition to their respective individual registration, they obtain a Provisional Registration for the joint venture prior to bidding for this project. If an existing or intended joint venture is awarded the contract it shall have to apply for a Temporary Registration prior to starting the project.

(d) Sub-contractors undertaking works for value Rs 500 000 or above are subject to registration as applicable to Contractors.

(e) Paragraph (b) shall not apply to Foreign contractors who have been carrying construction works in the construction industry during the 20 years preceding 01 March 2017; and where at least two-thirds, or such other percentage as may be prescribed, of the total number of its or his employees are as citizens of Mauritius.

(f) A Foreign contractor referred to in paragraph (e) shall, for the purpose of registration, make an application with the CIDB and obtain a valid registration certificate prior to bidding for this project.

(g) Bidders are strongly advised to consult the website of the CIDB cidb.govmu.org for further details concerning registration of contractors.

5.2 (a) Subject to ITB 5.4, a bidder, and all parties constituting the Bidder, may have the nationality of any country except in the case of open national bidding, where the bidding documents may limit participation to citizens of Mauritius or entities incorporated in Mauritius, if so qualified in the BDS.

(b) Bidder may be natural person, private entity, or government-owned entity or any combination of them in the form of a joint venture.

(c) Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated in the BDS:
(i) the Bid shall include all the information listed in ITB Sub-Clause 6.2 below for each joint venture partner;

(ii) the Bid shall be signed so as to be legally binding on all partners;

(iii) the Bid shall include a copy of the agreement entered into by the joint venture partners defining the division of assignments to each partner and establishing that all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; alternatively, a Letter of Intent to execute a joint venture agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement;

(iv) one of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and

(v) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

5.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

(a) they have a controlling partner in common; or

(b) they receive or have received any direct or indirect subsidy from any of them; or

(c) they have the same legal representative for purposes of this bid; or

(d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

(e) a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the party is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid;
or

(f) a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or

(g) a Bidder, or any of its affiliates has been hired (or is proposed to be hired) by the Employer as Engineer for the contract.

5.4 (a) A bidder that is under a declaration of ineligibility by the Government of Mauritius in accordance with applicable laws at the date of the deadline for bid submission and thereafter shall be disqualified


Links for checking the ineligibility lists are available on the PPO’s website: ppo.govmu.org

5.5 Government-owned enterprises in the Republic of Mauritius shall be eligible only if they can establish that they are legally and financially autonomous and operate under commercial law, and that they are not a dependent agency of the Government.

6. Qualifications of Bidders

6.1 All bidders shall provide in Section III, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

6.2 Bidders shall include the information and documents listed hereunder with their bids, unless otherwise stated in the BDS. If, after opening of bids, it is found that any document is missing, the Employer may request the submission of that document subject to clause 30. The non-submission of the documents by the Bidder within the prescribed period may lead to the rejection of its bid.

(a) valid registration certificate with the CIDB;

(b) copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Bidder;

(c) major items of construction equipment proposed to carry out the Contract;

(d) qualifications and experience of key site personnel and technical personnel proposed for the contract;

(e) report on the financial standing of the Bidder for the last three years, such as certified copies of Financial
Statements/Audited Accounts as filed at the Registrar of Companies before the deadline set for submission of bids;

(f) evidence of adequacy of cash-flow capital for this Contract (access to line(s) of credit and availability of other financial resources);

(g) authority to seek references from the Bidder’s bankers;

(h) information regarding any litigation, current or during the last five years, in which the Bidder was/is involved, the parties concerned, the issues involved, the disputed amounts, and awards; and

(i) proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

6.3 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria:

(a) duly registered with the CIDB under the grade that would allow him to perform the value of works for which he is submitting his bid

(b) registered with the CIDB under the class(es) and field of specialisation specified in the BDS;

(c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed in the BDS;

(d) a Contract Manager/Supervisor with five years’ experience in works of an equivalent nature and volume, including no less than three years as Manager or as otherwise specified in the BDS; and

(e) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount specified in the BDS.²

Pending litigations against the Applicant or any partner of a Joint Venture may result in Disqualification.

B. Contents of Bidding Document

7. Sections of Bidding Document

7.1 The Bidding Document consists of all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 10.

² Usually the equivalent of the estimated payments flow over 4-6 months at the average (straight line distribution) construction rate. The actual period of reference shall depend on the speed with which the Government shall pay the Contractor’s monthly certificates.
7.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.

8. Clarification of Bidding Document

8.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer’s address indicated in the BDS.

The Employer will respond in writing to any request for clarification, provided that such request is received 15 days prior to the deadline for submission of bids.

Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 10.

9. Site visit/Pre-bid meeting

9.1 Bidders, at the Bidders’ own responsibility and risk, are encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing their Bids and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidders’ own expense.

9.2 The Bidder or its designated representative is invited to attend a pre-bid meeting, as provided for in the BDS. The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Document

At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda and extend the deadline for submission of bids, if needed.
C. Preparation of Bids

11. Cost of Bidding
   11.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs irrespective of the outcome of the bidding process.

12. Language of Bid
   12.1 The Bid, supporting documents as well as all correspondence relating to the bid exchanged by the Bidder and the Employer shall be in English Language.

13. Documents Comprising the Bid
   13.1 The Bid shall comprise the following:
   (a) Bid submission Form (in the format indicated in Section III);
   (b) Qualification information and documentary evidence establishing the Bidder’s qualifications to perform the contract;
   (c) Technical Proposal as per ITB 18.1;
   (d) completed Bill of Quantities / Activity Schedule;
   (e) Bid Security as per the format provided in section III or as a subscription to a Bid Securing Declaration in the Bid Submission Form;
and any other material required to be completed and submitted by bidders, as specified in ITB and the BDS.

14. Bid Submission Form and Schedules
   14.1 The Bid Submission Form, Schedules, and all documents listed under ITB 13.1 shall be prepared using the relevant forms, if so provided.

15. Alternative Proposal
   15.1 Alternative Technical Proposals and completion dates if allowed shall be indicated in Section V- Specifications. The evaluation methodologies for their consideration shall be given in Section IV.

16. Bid Prices and Discounts
   16.1 The Contract shall be for the whole Works, as described in ITB Sub-Clause 1.1, based on the priced Activity Schedule submitted by the Bidder.
   16.2 Bidders shall fill in rates and prices for all items of the Works described in the drawings and specifications and listed in the Activity Schedule. Items for which no rate or price is entered by Bidders, shall not be paid for by the Public Body when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
16.3 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 14 days prior to the deadline for submission of bids, shall be included in the total Bid price submitted by Bidders.

16.4 The price to be quoted in the Bid Submission Form shall be the total price of bid after any discount offered.

The discount if any and the conditions of its application shall be indicated separately.

### 17. Currencies of Bid and Payment

17.1 The bid price and rates shall be in Mauritian Rupees and fixed for the duration of the contract unless otherwise specified in the BDS.

17.2 Unless otherwise specified in BDS interim payment for Plant and Material on site is applicable as per GCC 39.7.

### 18. Documents Comprising the Technical Proposal

18.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in the Bidder Qualification Form (section III), in sufficient details to demonstrate the adequacy of the Bidders’ proposal to meet the work requirements and the completion time.

### 19. Period of Validity of Bids

19.1 Bids shall remain valid for a period of 90 days after the bid submission deadline prescribed by the Employer unless otherwise specified in the BDS.

19.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing.

### 20. Bid Security/Bid Securing Declaration

20.1 The Bidder shall furnish either a subscription to a Bid Securing Declaration or a Bid Security in its original form with its bid as part of its bid, if so required in the BDS.

20.2 Bid Security shall be in the form of a Bank Guarantee from a local commercial bank as per the format contained in section III and shall be valid for a period of 30 days beyond the validity period of the bid or beyond any period of extension.

20.3 Any bid not accompanied by an enforceable and substantially compliant Bid Security or a subscription to a Bid Securing Declaration in the Bid Submission Form, if required in accordance with ITB 20.1, shall be rejected by the Employer as non-responsive.

20.4 Bid Security shall be forfeited or the Bid Securing declaration exercised for non-compliance on the part of the Bidder for reasons mentioned in the Bid Security format contained in
Section III or the Bid Suring Declaration contained as Appendix to the Bid Submission Form.

21. Format and Signing of Bid

21.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 13.1 and clearly mark it “ORIGINAL”. In addition, the Bidder shall submit two copies of the bid and clearly mark each of them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

21.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder.

D. Submission and Opening of Bids

22. Sealing and Marking of Bids

22.1 Bidders may always submit their bids by mail or by hand. Procedures for submission, sealing and marking are as follows:

(a) Bidders submitting bids by mail or by hand shall enclose the original and each copy of the Bid, including alternative bids, if permitted in accordance with ITB 15, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL”, “ALTERNATIVE” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB sub-Clauses 22.2.

22.2 The inner and outer envelopes shall:

(a) bear the name and address of the Bidder;

(b) be addressed to the Employer as indicated in ITB 22.1;

(c) bear the specific identification of this bidding process indicated in accordance with ITB 1.1; and

(d) bear a warning not to open before the time and date for bid opening.

23. Deadline for Submission of Bids

23.1 Bids shall be delivered to the Employer at the address and no later than the time and date specified in the BDS.

The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 10.

24. Late Bids

24.1 Late bids shall not be considered. They will be returned unopened

25. Withdrawal,

25.1 No bid may be withdrawn, substituted, or modified in the
Substitution, and Modification of Bids

interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid submission Form or any extension thereof.

26. Bid Opening

26.1 The Employer shall open the bids at the time place and address specified in the BDS in the presence of Bidders’ designated representatives who choose to attend.

26.2 The bidders’ names, the Bid Prices, the total amount of each bid, any discounts, any alternative bid, bid modifications and withdrawals, the presence or absence of bid security, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening.

E. Evaluation and Comparison of Bids

27. Confidentiality

27.1 Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other person not officially concerned with such process.

27.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.

28. Clarification of Bids

28.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid. No change in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetical errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.

29. Determination of Responsiveness

29.1 The Employer’s determination of a bid’s responsiveness is to be based on the contents of the bid itself, as defined in ITB13.

29.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission.

29.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 18, Technical Proposal, in particular, to confirm that all requirements of Section IV (Employer’s Requirements) have been met without any material deviation, reservation or omission.

29.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction
of the material deviation, reservation, or omission.

30. Nonconformities, Errors, and Omissions

30.1 Provided that a bid is substantially responsive, the Employer may waive any non-material non-conformity in the bid, request that the Bidder submit the necessary information or documentation, to rectify nonmaterial nonconformities in the bid related to documentation requirements but not related to any aspect of the price of the bid; and shall rectify quantifiable nonmaterial nonconformities related to the Bid Price.

31. Correction of Arithmetical Errors

31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:

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

(b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; 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.

32. Margin of Preference

32.1 Unless otherwise specified in the BDS, Margin of preference shall not apply.

33. Evaluation of Bids

33.1 The Employer shall use the criteria and methodology defined in this clause and no other evaluation criteria or methodologies shall be permitted.

33.2 To evaluate a bid, the Employer shall consider the following:

(a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts or Schedule of Prices for lump sum contracts, but including Daywork items, where priced competitively; and

(b) price adjustment for correction of arithmetic errors, discounts, non-conformities, due to the supplementary
criteria as defined in Section IV, and Margin of Preference, if applicable.

33.3 If this Bidding Document allows Bidders to quote separate prices for different contracts, and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discount offered in the Bid Submission Form, is specified in Section IV (Evaluation and Qualification Criteria).

33.4 If the bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates or if any item in the Priced Activity Schedule is front loaded or contains an erroneous amount in the opinion of the Employer, the Employer may after clarification require the Bidder to produce detailed price analysis for any or all items that the amount of the performance security be increased at the expense of the Bidder.

34. **Comparison of Bids**

34.1 The Employer shall compare all substantially responsive bids in accordance with ITB 33 to determine the lowest evaluated bid.

35. **Qualification of the Bidder**

35.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated substantially responsive bid meets the qualifying criteria.

36. **Employer’s Right to Accept Any Bid, and to Reject Any or All Bids**

36.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

**F. Award of Contract**

37. **Award Criteria**

37.1 Subject to ITB 36.1, the Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

38. **Notification of Award**

38.1 Prior to the expiration of the period of bid validity, the Employer shall, for contract amount above the prescribed threshold, notify the selected bidder of the proposed award and accordingly notify unsuccessful bidders. Subject to Challenge and Appeal the Employer shall notify the selected Bidder, in writing, by a Letter of Acceptance for award of contract. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the
execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”) and the requirement for the Contractor to remedy any defects therein as prescribed by the Contract. Within seven days from the issue of Letter of Acceptance, the Employer shall publish on the Public Procurement Portal (publicprocurement.govmu.org) and the Employer’s website, the results of the Bidding Process identifying the bid and lot numbers and the following information:

(i) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded; and


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

39. Signing of Contract
39.1 Promptly upon issue of Letter of Acceptance, the Employer shall send to the successful Bidder the Contract Agreement.

39.2 Within twenty-one (21) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

40. Performance Security
40.1 Within twenty-one (21) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security in accordance with the conditions of contract, using for that purpose the Performance Security Form included in Section VIII (Contract Forms).

40.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement within the prescribed delay shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

41. Advance Payment and Security
41.1 The Public Body shall provide an Advance Payment on the Contract Price as stipulated in the GCC, subject to a maximum amount, as stated in the BDS. The Advance Payment shall be guaranteed by a security as per the format contained in Section VIII.

42. Plant and Materials on site
42.1 Unless otherwise specified in BDS interim payment for Plant and Material on site is applicable as per GCC 39.7.
43. Debriefing

43.1 The Employer shall promptly attend to all requests for debriefing for the contract, made in writing, and within 30 days from the date of the publication of the award or date the unsuccessful bidders are informed about the award, whichever is the case, by following regulation 9 of the Public Procurement Regulations 2008 as amended.

### Section II- Bidding Data Sheet

#### A. General

<table>
<thead>
<tr>
<th>ITB 1.1</th>
<th>The Public Body is:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>The National Heritage Fund</strong></td>
</tr>
<tr>
<td></td>
<td><strong>The name of the Contract: Conservation and Restoration Works to National Heritage Sites at La Tour Hollandais at Vieux Grand Port</strong></td>
</tr>
<tr>
<td></td>
<td><strong>The identification of the contract is: NHF/OAB 04 of 2018-19</strong></td>
</tr>
<tr>
<td></td>
<td>The project consists of conservation and restoration works to La Tour Hollandais at Vieux Grand Port</td>
</tr>
<tr>
<td></td>
<td>The works include careful removal of: vegetation, loose mortar and concrete from joints, concrete openings from frames and cleaning of internal and external faces of the tower. All joints are to be repointed as indicated in scope of works. Provide new concrete gutters after removing damaged part of the tower. It also includes new metal roofing and timber works, replacing ground floor slab, new timber openings, new timber stairs, new timber mezzanine floor and electrical works.</td>
</tr>
<tr>
<td></td>
<td>External works comprises of: demolition of existing wall and removal of existing chain link fencing and replace by new one including new welded mesh, felling and trimming of trees, cut and fill, paving concrete, stone pathway, concrete ramps, handrails, concrete stairs, kerbs and planting.</td>
</tr>
</tbody>
</table>

| ITB 1.2 | The Intended Completion period is **one hundred and eighty (180) days** from start date. |

<p>| ITB 3.2 | The address to file Challenges in respect of this procurement is: <strong>The Secretary, Departmental Bid Committee, Level 4, Fon Sing Building Edith Cavell St, Port – Louis</strong> |
| | The address to file Application for Review is: |</p>
<table>
<thead>
<tr>
<th>Section II- Bidding data sheet</th>
</tr>
</thead>
</table>

The Chairperson,  
Independent Review Panel,  
9th Floor, Wing B  
Emmanuel Anquetil Building  
Pope Hennessy Street  
Port Louis  
Tel : 2013921

**ITB 5.4**  
The list of debarred firms according to the Debarment process may be obtained from the website of the Procurement Policy Office:  
http://ppo.govmu.or

**ITB 6.2(e)**  
The assessment of the financial soundness of the company shall be on a pass/fail basis on its overall performance including its profitability.  
Bidders shall also submit duly filled updated Financial Situation Form at Section III for the last three years.

**ITB 6.3 (b)**  
The Contractor shall demonstrate that it is registered with the CIDB under building construction works.

**ITB 6.3 (c)**  
The essential equipment to be made available for the Contract by the successful Bidder shall be: Excavator, Mechanical Loader, Pneumatic breaker, compressor, Steer and skid loader, Concrete mixer, Elevator, Vibrator and Jet frames or equivalent.

**ITB 6.3 (d)**  
**Key Personnel:**

Bidders should submit documents to demonstrate that the following Key Personnel shall be deployed for the Contract:

(a) One Site Agent with a minimum of 10 years relevant experience and holding at least a diploma in Building and Civil Engineering or any similar qualification from a recognised institution,

(b) One General Foreman with minimum 10 years relevant experience,

(c) One Quantity Surveying Technician with minimum 5 years relevant experience holding at least a diploma in Quantity Surveying or any acceptable equivalent qualifications,

(d) One Health and Safety Officer.

The bidder shall submit: (i) recent signed C.Vs of the proposed personnel, detailing experience and qualifications, (ii) signed agreements and undertakings from the proposed personnel to be deployed on this contract.

**ITB 6.3 (e)**  
The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the Bidder shall be Rs 600,000.

The bidder should submit documentary evidence mentioning the name of this project and its reference. Non submission of the supporting documents may lead to the rejection of the bids.

Documentary evidence may comprise but is not limited to:
- Bank Certificate
- Certificate from Auditors
- Certificate from a Professional Registered Accountant

### B. Bidding Documents

**ITB 8.1** The Public Body’s address for clarification is:

The Secretary,  
Departmental Bid Committee,  
Level 4, Fon Sing Building  
Edith Cavell St, Port – Louis

(i) Request for clarifications should be received not later that 14 days prior to the deadline for submission of bids;
(ii) The Public body will reply to queries at latest 7 days prior to the submission of bids

**ITB 9.2** A site visit and Pre-bid meeting has been scheduled on **Saturday 08 June 2019 at 09 30 hours**.

### C. Preparation of Bids

**ITB 15.1** Alternative proposal is not allowed

**ITB 19.1** The Bid shall be valid for **one hundred and twenty (120) days** after the date of submission of bids, the date of submission of bids being counted as day one of the validity period.

**ITB 20.1** Bid shall subscribe to a **Bid Securing Declaration** stated in the Bid submission Form.

### D. Submission of Bids

**ITB 23.1** The deadline for submission of bids shall be **Tuesday 25 June 2019 up to 13 30 hours at latest.**

The Employer’s address for the purpose of Bid submission is

The Secretary,  
Departmental Bid Committee,  
Level 4, Fon Sing Building  
Edith Cavell St, Port – Louis

### E. Evaluation and Comparison of Bids

**ITB 26.1** The bid opening shall take place at:

Conference Room  
The National Heritage Fund  
Level 4, Fon Sing Building
<table>
<thead>
<tr>
<th><strong>Edith Cavell St, Port – Louis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date:</strong> Tuesday 25 June 2019</td>
</tr>
<tr>
<td><strong>Time:</strong> 13 45 hours</td>
</tr>
</tbody>
</table>

**F. Award of Contract**

<table>
<thead>
<tr>
<th><strong>ITB 40.1</strong></th>
<th>The Standard Form of Performance Security acceptable to the Public Body shall be “a Bank Guarantee”. The Bank guarantee shall be <strong>10%</strong> of the contract price inclusive of provisional and contingencies sum and VAT.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ITB 40.3</strong></td>
<td>For contracts up to 100M, the public body shall either retain money from progressive payments to constitute the preference security or request a security in the form of a bank guarantee at the selected bidder’s option.</td>
</tr>
<tr>
<td><strong>ITB 41</strong></td>
<td>The Advance Payment shall be limited to <strong>10%</strong> percent of the Contract Price less the provisional and contingencies sums.</td>
</tr>
</tbody>
</table>


# Section III - Bidding Forms

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<table>
<thead>
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<th>Page</th>
</tr>
</thead>
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<td>23</td>
</tr>
<tr>
<td>Bid Securing Declaration</td>
<td>26</td>
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<tr>
<td>Qualification Information</td>
<td>27</td>
</tr>
<tr>
<td>Financial Situation</td>
<td>30</td>
</tr>
</tbody>
</table>
Bid Submission Form

The Bidder must prepare the Bid Submission Form on stationery with its letterhead clearly showing the Bidder’s complete name and address.

Note: All italicized text is for use in preparing these form and shall be deleted from the final document.

Date: _______________
Bidder’s Reference No.: _______________
Procurement Reference No:________________

To: ..................................................
..................................................
..................................................

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) Clause 10;

(b) We offer to execute in conformity with the Bidding Documents the following Works:

Conservation and Restoration Works to National Heritage Sites at La Tour Hollandais at Vieux Grand Port

The total price of our Bid after discounts, if any, offered in item (d) below is:

__________________________________________________________________
__________________________________________________________________;

(c) The discounts offered and the methodology for their application are:

__________________________________________________________________
__________________________________________________________________;

(d) Our bid shall be valid for a period of **120** days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

(e) We hereby confirm that we have read and understood the content of the Bid Securing Declaration attached hereto and subscribe fully to the terms and conditions contained therein, if required. We understand that non-compliance to the conditions mentioned may lead to disqualification.

(f) If our bid is accepted, we commit to obtain a Performance Security and a Preference Security (if applicable) in accordance with the Bidding Document;

(g) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 5.3;
(h) We are not participating, as a Bidder in more than one bid in this bidding process other than alternative offers submitted in accordance with ITB 15;

(i) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible under the laws of Mauritius;

(j) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 5.4;

(k) We hereby “apply/do not apply” for Margin of Preference as provided in the bidding document;

(l) We have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption as per the principles described hereunder, during the bidding process and contract execution:

   a. We shall not, directly or through any other person or firm, offer, promise or give to any of the Public Body’s employees involved in the bidding process or the execution of the contract or to any third person any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

   b. We shall not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.

   c. We shall not use falsified documents, erroneous data or deliberately not disclose requested facts to obtain a benefit in a procurement proceeding.

   We understand that transgression of the above is a serious offence and appropriate actions will be taken against such bidders.

(m) We understand that this bid, together with your written acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

(n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and

(o) If awarded the contract, the person named below shall act as Contractor’s Representative:

   [Name]

---

3 Use one of the two options as appropriate.

4 Strike out as appropriate
Name: 

In the capacity of: 

Signed: 

Duly authorized to sign the Bid for and on behalf of: 

Date: 

Seal of Company
Appendix to Bid Submission Form

Bid Securing Declaration

By subscribing to the undertaking in respect of paragraph (f) of the Bid Submission form:

I/We* accept that I/we* may be disqualified from bidding for any contract with any Public Body for the period of time that may be determined by the Procurement Policy Office under section 35 of the Public Procurement Act, if I am/we are* in breach of any obligation under the bid conditions, because I/we*:

(a) have modified or withdrawn my/our* Bid after the deadline for submission of bids during the period of bid validity specified by the Bidder in the Letter of Bid; or

(b) have refused to accept a correction of an error appearing on the face of the Bid; or

(c) having been notified of the acceptance of our Bid by the (insert name of public body) during the period of bid validity, (i) have failed or refused to execute the Contract, if required, or (ii) have failed or refused to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We* understand this Bid Securing Declaration shall cease to be valid (a) in case I/we am/are the successful bidder, upon our receipt of copies of the contract signed by you and the Performance Security issued to you by me/us; or (b) if I am/we are* not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our* Bid.

In case of a Joint Venture, all the partners of the Joint Venture shall be jointly and severally liable.
Qualification Information

[The information to be filled in by bidders in the following pages shall be used for purposes of post-qualification or for verification of prequalification as provided for in ITB Clause 6. This information shall not be incorporated in the Contract. Attach additional pages as necessary. Pertinent sections of attached documents should be translated into English. If used for prequalification verification, the Bidder should fill in updated information only.]

1. Individual Bidders or Individual Members of Joint Ventures

1.1 Constitution or legal status of Bidder: [attach copy]

Place of registration: [insert]

Principal place of business: [insert]

Registration certificate from the CIDB: [attach copy]

Evidence of signatory authorized to sign the bid (if applicable): [attach]

1.2 Where the specialization category for which the Bidder is required to be registered does not cover adequately the specialization required for the works Bidder shall provide [insert number] of works of a nature and amount similar to the Works performed as prime Contractor over the last [insert number] years. [Also list details of work under way or committed, including expected completion date(s).]

<table>
<thead>
<tr>
<th>Project/Contract name and country</th>
<th>Name of client and contact person</th>
<th>Type of work performed and year of completion</th>
<th>Value of contract (national currency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.3 Major items of Contractor’s Equipment proposed for carrying out the Works. [List all information requested below. Refer also to ITB Sub-Clause 6.3 (c).]

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Description, make, and age (years)</th>
<th>Condition (new, good, poor) and number available</th>
<th>Owned, leased (from whom?), or to be purchased (from whom?)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4 Qualifications and experience of key personnel proposed for administration and execution of the Contract. [Attach biographical data. Refer also to ITB Sub-Clause 6.3 (d).]

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Years of experience (general)</th>
<th>Years of experience in proposed position</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.5 Proposed subcontracts and firms involved. Refer to General Conditions of Contract Clause 7.

<table>
<thead>
<tr>
<th>Sections of the Works</th>
<th>Value of subcontract</th>
<th>Subcontractor (name and address)</th>
<th>Experience in similar work</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Bidders have to ascertain that sub-contractors executing works of amount Rs 500 000 are duly registered with the CIDB in accordance with CIDB (Registration of Consultant) Regulation 2014.]

1.6 Financial reports for the last [insert number; usually 3] years: Financial Statements, Audited Accounts, etc. [List below and attach copies.]⁵

1.7 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of support documents.

1.8 Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Public Body.

1.9 Information on current litigation(s) in which the Bidder is involved.

<table>
<thead>
<tr>
<th>Other party(ies)</th>
<th>Cause of dispute</th>
<th>Amount involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1.10 Statement of compliance with the requirements of ITB Sub-Clause 5.3 (e).

1.11 Proposed program (service work and schedule). Description, drawings and charts, as necessary, to comply with the requirement of the bidding documents.

---

⁵
2. **Joint Ventures**

2.1 The information listed in 1.1 - 1.9 above shall be provided for each partner of the joint venture.

2.2 The information in 1.11 above shall be provided for the joint venture.

2.3 Attach the power of attorney or other acceptable document of the signatory (ies) of the Bid authorizing signature of the Bid on behalf of the joint venture.

2.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that

- all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
- the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

3. **Additional Requirements**

3.1 Bidders should provide any additional information requested in the Bidding Document.
# Financial Situation

**Key Financial Information extracted from Audited Accounts/Financial statements**

Bidder’s Legal Name:----------------------------- Date:-----------------------

JV Partner Legal Name:----------------------Bidder’s Reference No:--------

To be completed by the Bidder and, if JV, by each partner

<table>
<thead>
<tr>
<th>Financial data in the currency reported in the Audited Accounts/Financial Statements</th>
<th>Historical Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year 1</td>
</tr>
<tr>
<td>Statement of Financial Position (Information from Balance Sheet)</td>
<td></td>
</tr>
<tr>
<td>A. Current Assets (CA)</td>
<td></td>
</tr>
<tr>
<td>B. Current Liabilities (CL)</td>
<td></td>
</tr>
<tr>
<td>Working capital ratio or current ratio (A/B)</td>
<td></td>
</tr>
<tr>
<td>Quick ratio or Acid Test ratio (Current Asset net of inventories / B)</td>
<td></td>
</tr>
<tr>
<td>C. Total Assets (TA)</td>
<td></td>
</tr>
<tr>
<td>D. Total Liabilities (TL)</td>
<td></td>
</tr>
<tr>
<td>Net Worth (C-D)</td>
<td></td>
</tr>
<tr>
<td>Cash in hand and at Bank</td>
<td></td>
</tr>
<tr>
<td>Bank Overdrafts</td>
<td></td>
</tr>
<tr>
<td>Other Liquid Assets</td>
<td></td>
</tr>
</tbody>
</table>

| Information from Income statement                                                    |        |        |         |         |        |
| Key Profitability Indicators in the currency reported in the Audited Accounts/Financial Statements | Year 1 | Year 2 | Year 3 | Year... | Year N |
| Total Revenue (TR)                                                                   |        |        |        |         |        |
| Profit (Loss) Before Tax (PBT)                                                       |        |        |        |         |        |
| Taxation                                                                            |        |        |        |         |        |
| Net Profit (Loss) After Tax                                                          |        |        |        |         |        |
| (Net profit After tax x 100) (Total Revenue)                                         |        |        |        |         |        |

Certified by Bidder and/or associated JV partner, that above information is a true extract from Audited Accounts/Financial Statements

Name:

Signature:

Capacity:

Date:
Please attach copies of financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following conditions:

- Must reflect the financial situation of the Bidder or partner to a JV;
- Historic financial statements must be audited by an accountant duly registered by the Mauritius Institute of Professional Accountants (MIPA);
- Historic financial statements must be complete, including all notes to the financial statements; and
- Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
Section IV - Evaluation Criteria

This section contains supplementary criteria that the Employer shall use to evaluate bids.

1. Evaluation

In addition to the criteria listed in ITB 33 the following criteria shall apply:

(a) Adequacy of Technical Proposal

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

(b) Multiple Contracts

Pursuant sub-clause 1.1 of the Instructions to Bidders, if Works are grouped in multiple contracts, evaluation will be as follows: Not Applicable

(c) Completion Time

An alternative Completion Time, if permitted under ITB 15.1, will be evaluated as follows: Not Applicable

(d) Technical Alternatives

Technical alternatives, if permitted under ITB 15.1, will be evaluated as follows: Not Applicable
PART 2 – Employer’s Requirements
Section V - Employer’s Requirements

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**Scope of Works**

The project consists of the following:

**Tour Hollandais, Vieux Grand Port**

i. **Stepping to be closely followed by the Contractor while implementing works for repointing works prior to the implementation of the roof slab:**

- Erecting scaffolding with necessary bracings, platforms inside and outside the wall; and also providing dust shield around the wall;
- Removal carefully of the vegetation on the internal and external surface of the wall;
- Cleaning of all internal and external joints by water blasting method or other approved means that will not have a negative impact on the environment;
- Removal carefully of all loose mortar/concrete from the joints with hand chisels and mash hammers;
- Removal carefully of all concrete from opening frames where required and as instructed by the Engineer on site with approved hand held equipment;
- Opening of all joints to at least 35mm inside the wall with hand chisels and mash hammers;
- Rinsing all the joints with a jet of water to remove dust and all loose particles;
- Fixing of new reinforcement and cast of the elements as per details;
- Wetting the joints, but with no standing water, prior to filling of the joints with mortar in three layers while allowing first layer to harden prior to the application of the next one;
- Curing of the joints and new concrete elements after one day of repointing by spraying water on them to ensure the surfaces remain wet during the first 7 days.

ii. **Stepping to be closely followed by the Contractor while implementing works for the roof slab:**

- Removal carefully of the damage part about 0.2m over the full width of the wall from top by cutting with a hand held cutting equipment;
- Preparation of the reinforced concrete gutter beam with galvanised anchored bolts, gargoyles and overflows as shown in the drawings;
- Bolting of treated timber Balau rafters on reinforced concrete gutter beam;
- Fixing of treated timber Balau purlins on treated timber rafters with galvanised screws as indicated in drawings;
Fixing of zinc alum corrugated sheeting on treated timber purlins with galvanised screws, rubber tape, galvanised stitching screws etc as per Manufacturer’s Manual;

Plastic supports to roof sheeting must be provided at every crest of the sheets at edge

Hacking of existing ground floor until exposure of aggregates with an approved hand held equipment;

Cleaning of the exposed surface of ground floor slab with a jet of water to remove dust and all loose particles;

Placing of Mesh A 142 and casting of 100mm concrete as new floor as per details; and

Laying of 20mm thick screed reinforced with a galvanised chicken wire.

Notes:

a) Grade of concrete to be 35/20 i.e 35 N/mm² on cube strength.

b) Mortar type measured by volume (modern mortar pigment will be necessary to match original colour as instructed on site):

<table>
<thead>
<tr>
<th>Cement</th>
<th>Hydrated Lime</th>
<th>Sand/Rocksand</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>5 to 6</td>
</tr>
</tbody>
</table>

Site works
The Government of Mauritius Standard Specifications issued by the Ministry of Public Infrastructure & Land Transport shall form part of the contract documents.

All materials used in this project should be to the approval of the Architect and Engineer.

With reference to the “Standard Specifications”, kindly note that:-

An Approved Testing Authority is further defined as:-

(i) Materials Testing Laboratory
(ii) Mauritius Standard Bureau
(iii) The Laboratory of the University of Mauritius
Additional Specifications

GRASS PLANTING

(a) Clean the whole site; remove bushes, shrubs, plants vegetarian and boulders. Uproot all existing trees trunks and roots, cart away all unwanted materials.

(b) Level the ground by cutting and filling, bringing the levels as shown on the whole area with heavy roller and make good all depressing by additional imported good soil wherever necessary.

(c) Supply and spread a layer of 300 mm vegetable soil compacted thickness.

(d) Plant grass ‘Chiendent &Bourique’ using fertilizer and maintain watering till there is sign of healthy spread over.

ANTI-TERMITE TREATMENT

The anti-termite treatment must create a complete chemical barrier in the sub-structure of the buildings. A 10-year guarantee certificate must be provided to the approval and satisfaction of the Employer.

PAINTS

External coating paints shall be waterproof and be guaranteed against discoloration, bacterial growth, cracking, chipping and peeling off from the masonry surfaces for a period of not less than Five (5) years.

All paints, stains and varnishes applied shall be eco-friendly with zero VOCs (Volatile Organic Compounds) or low VOCs (less than 5%).

TIMBER SPECIFICATIONS

JOINERY WORK GENERALLY

All joiner’s work generally shall be cut and framed together on the commencement of the works, but shall not to be wedged up or glued until the building is ready for fixing same.

All work shall to be properly, tennoned, shouldered, wedged, pinned, bradded, etc. as directed and to the satisfaction of the Interior Designer and all properly glued up with best quality approved glue. Oval or round brads or nails shall be used for fixing on face work, heads properly mails punched in and the holes filled with putty or as otherwise described.
FINISH TO WOODWORK

All exposed faces of woodwork shall be wrot, which shall mean bringing up the surface after planning with sand paper to a smooth satin like finish.

DOOR FRAMES AND LININGS

Door frames and linings shall be constructed to the sizes and details shown on the drawings. Joints between style and head shall be mitred.

Fixing irons shall consist of 300 mm long g.m.s hoop not less than 3 mm thick bent up at 75 mm at one end and twice screwed to the frame and the other end built into the walls, and cast into lintols to the depth of 225 mm deep, the straps shall be cut off to the full depth of the lintol.

10 mm diameter galvanized metal dowels shall be fixed to each end of the frames and let into the floor concrete to a depth of at least 50 mm.

Door linings shall be screwed to wooded fixing dovetail shaped and let into the walls and lintol with the same number of fixing irons to frames.

DOORS

Doors shall be provided and fixed to the sizes and details shown on the drawings. Doors shall be free from all blemishes and shall be rubbed down to a satin like finish. Framed, ledged and braced doors shall be made to the sizes shown on the drawings and the nailing in construction shall be driven from the face side, the heads of nails shall be punched d the holes filled with putty.

Butts and hinges shall be to the sizes and type specified and be fixed with the full number of screws and on no account shall nails be used.

PLYWOOD

Plywood shall be to the specified thickness and shall comply with BS 1455, plywood shall be Grade 1 where varnished and Grade 2 where painted. Concealed side of plywood can be Grade 3.

BLACKBOARD

Blackboard shall be to thickness shown on drawings and shall conform to BS 3444 and 3583.

GLUES

All glues to be used for joinery works shall be the best of their respective kind and shall conform to BS 745,1444,1203 and 1204.

SCREWS

Screws to be used for the joinery works shall be brass and shall conform in every respect to BS 1210.
NAILS

Nails shall be galvanized mild steel wire nails – all on accordance with BS 1202.

MOISTURE CONTENT OF TIMBER

The Contractor is to ensure that the moisture content of the various items of joinery delivered to the site should be at least 12%.

SHRINKAGE

The arrangement, jointing and fixing of all joinery works shall be such that shrinkage in any part and in any direction shall not impair the strength and appearance of the finished work and shall not cause damage to contiguous materials or structure.

TOLERANCE

Reasonable tolerance shall be provided at all connections between joinery works and the building carcasses, whether of masonry or frame construction, so that any irregularities, settlements or other movements shall be adequately compensated.

FABRICATION

The joiner shall perform all necessary mortising, tenonning, grooving, matching, tonguing, housing, rebating and all other works necessary for correct jointing. He shall also provide all metal plates, screws, nails and other fixings that may be ordered by the Interior Designer or that may be necessary for the proper execution of the joinery works specified. The joiner shall also carry out all works necessary for the proper construction of all framings, linings, etc. and for their support and fixing in the building.

JOINTS

The joinery shall be constructed exactly as shown on the Interior Designer’s details. Where joints are not specifically indicated they shall be the recognized forms of joints for each position.

The joints shall be made so as to comply with BS 1186, Part 2: 1971.

Loose joints are to be used where provision must be made for shrinkage or other movement acting other than in the direction of the stresses of fixing or loading. Glued joints are to be used where provision need not be made for shrinkage or other movements in the connections, and where sealed joints are required.

All glued joints shall be cross-tongued or otherwise reinforced.

All nails, sprigs, etc., are to be punched and puttied.
Where glued joints are to be carried out surfaces in contact are to have a good swan of planed finish. All cutting edges of tools are to be sharp to avoid “burnishing”. The surface of plywood to be glued should be lightly dressed with sand or glass paper. The sand or glass paper must not be allowed to clog and cause “burnishing”.

Members in constriction to be joined by gluing are to be of similar conversion. All surfaces to be glued are kept clean, free from dirt, sawdust, oil and any other contamination.

Adequate pressure should be applied to glued joints to ensure intimate contact is maintained whilst the glue is setting.

Mixing application and setting conditions should be in accordance with the glue maker’s instruction.

“Adhesives” for joints in non-loadbearing internal work and for joints in work where the moisture content is always less that 16 per cent can be casein or organic glues.

For work under damp conditions (moisture content normally 20 per cent or more or conditions liable to fungal attack): resin type adhesive are to be used.

SCRIBING

All skirtings, architraves, plates and other joinery works shall be accurately scribed to fit the contour of any irregular surface against which they may be required to form a close butt connection.

PROCEDURE

MEASUREMENTS FOR JOINERY

The Contractor is to take all measurements for joinery works at the building, and not from the Interior Designer’s drawings, except where the work is specified to be “built in”.

FIXED-IN-JOINERY

Where joinery works are specified to be “fixed-in” or inserted in the positions, they are to occupy after the surrounding or enclosing carcass has been constructed. It shall be the responsibility of the contractor to ensure that the necessary fixings are incorporated in the carcass. Alternatively, the Contractor shall construct such ground works as are required to provide a suitable base and fixing for the joinery works. The spaces enclosed in the ground works and behind joinery works, shall be filled in solid with plaster. The Contractor is to secure “fixed-in” joinery works so that they are plumb and true to the shapes and dimensions shown on the working drawings and details. Vertical junctions shall be solidly bedded with mortar, wedged or otherwise secured, as may be specified or as is most appropriate in the circumstances, but a clearance is to be maintained in all overhead junctions so that settlements in the building carcass may take place without stressing or otherwise loading the joinery works.

Joinery works shall not be fixed in position until after all floor, wall and ceiling surfaces have been formed or constructed, unless otherwise specified.
JOINERY ASSEMBLED IN-SITU

Where joinery works are specified to be “assembled in situ” and all stresses of support and fixing are to be engaged in the building, it shall be the responsibility of the Contractor to ensure that the necessary fixings are incorporated in the carcass; alternatively, the Contractor shall construct such ground works as are required to provide a suitable base and fixing for the joinery works.

The spaces enclosed in the ground works and behind the joinery works shall be filled in solid with plaster or weak concrete.

In situ joinery works shall not be executed until after all floor, wall and ceiling surfaces have been formed or constructed, unless otherwise specified.

DRAWINGS

Work is not the commence until the Interior Designer has approved the manufactured full-size setting out drawings to be provided by the Contractor. Suggestions which the manufacturer may wish to make modifying the construction and joints shown on the Engineer’s drawings will be considered.

INSPECTION

Facilities are to be given for the Interior Designer to inspect all work in progress in shops and on the site.

TIME FOR DELIVERY

None of the joinery is to be delivered until it is required for fixing in the building. Joinery which does not require to be built in as the work proceeds is not to be brought to the site and fixed until the building in enclosed.

TRANSPORT AND PROTECTION

The joinery is to be kept under a waterproof cover during transit and it is to be similarly covered and kept clear of the ground on the site. It is to be handled and stacked carefully to avoid damage.

MAKE GOOD DEFECTIVE WORK

Should any shrinkage or warping occur or any other defects appear in the joiner’s work before the end of the defects liability period such defective work is to be taken down and renewed to the Interior Designer’s satisfaction and any work disturbed in consequence must be made good at the Contractor’s
expense. Should any shrinkage or warping occur or any defects appear, which cannot be rectified the Contractor shall remove such defective work and replace by new one at his own expense.

**ELECTRICAL SPECIFICATIONS**

1.0 **Scope of Work**

The scope of work under the present contract shall include but shall not be limited to the following:

- a) Supply, installation, testing and commissioning of Distribution Boards & Accessories, etc.
- b) Supply, installation, testing and commissioning of L.T cables in copper piping and accessories
- c) Supply, installation, testing and commissioning of Lighting Fittings.
- d) Supply, installation, testing and commissioning of Switches and Sockets.
- e) Supply, installation, testing and commissioning of Earthing System.
- f) Civil works

2.0 **Instruction to Tenderers**

2.1 **Makes**

Equipment/materials for this project shall be as per specifications/schedules or as indicated on the drawings. Tenderers shall specify clearly the makes of various equipment/materials they propose to use. These shall be accompanied by documentation (preferably in original) to enable the client’s Electrical Engineer to approve or otherwise.

The decision of the Engineer shall always be final and no materials/equipment shall be supplied/installed in the project without his approval or that of his representative.

2.2 **Manner of Execution**

The works shall be executed in the manner set out in the specifications or where not set out, to the satisfaction of the Engineer and all reasonable variations on site shall be carried out in accordance with such directives as the Engineer may give.

Electrical installations shall be carried out to good standards of workmanship and all equipment, materials and fittings shall be new and according to specifications. Where no details have been provided, products shall be manufactured to the British Standards applicable to the particular product.
2.3 Site Exigencies
The selected contractor shall respect security arrangements in force and shall seek necessary permission and security pass for yard access, if any for execution of the work. The contractor shall carry out works outside normal office hours where deemed necessary and authorised by the Engineer without any increase in contract cost. Claims for overtime works shall not be entertained. The site shall be kept tidy and no materials/refuse shall be kept which may cause obstructions.

3.0 Conditions of Contract

3.1 Site Visit
Tenderers are advised to visit the sites before submission of tender so as to be fully acquainted with the nature of the site and extent of work involved. Tenderers shall contact Client for site visit arrangement.

3.2 Priced Activity Schedule
Bidders shall fill in the Priced Activity Schedule and submit same together with the tender documents. This schedule has been prepared with a view to provide a common basis for tendering. Before submission of tender, it is deemed that the tenderer has acquainted him with all conditions prevailing on site. All the drawings, specifications and priced activity schedule are complementary and should be read accordingly. The tenderers are advised to carry out measurement and check the quantities of materials.
In case of discrepancies, omissions or errors, the tenderer shall inform the client prior to submission of the tender. No extra claim shall be entertained afterwards on this issue.

3.3 CEB Supply
The contractor shall liaise with representatives of the CEB for a new supply.

3.4 Guarantee Period
The electrical installation shall be guaranteed against manufacturing defects, bad workmanship and other defects not related to normal wear and tear for a period of one year from date of successful commissioning in presence of representatives of the client.
In the event of a defect, the Contractor shall at his own expense, within 48 hours, make good such defects as instructed to the satisfaction of the Engineer.
3.5 **Contingency Sum**
Contingency sum included in the contract price shall be expended or used as the Engineer may in writing direct and not otherwise. In so far as the contingency sum included in the contract price is not expended or used, it shall be deducted from the contract price.

3.6 **Programme of Work**
The tenderer shall clearly indicate in the offer the time period for the execution and completion of the installations for the whole project.

3.7 **Permanent Site Staff**
The electrical contractor shall have within its company the following qualified staff:

a) One experienced Electrical Technician holding the Part II Electrical Engineering Technician’s Certificate 280 or 803 of the City and Guilds of London.

The contractor shall provide:

(i) all details including C.V., experience and qualifications of the above staff and

(ii) signed agreements from the persons to be deployed on site in this respect.

3.8 **Retention Money**
A fraction of the contract value (5%) shall be retained after successful commissioning and shall be released at the end of the one-year guarantee period, subject to maintenance being carried out satisfactorily during that period.

4.0 **Technical Specifications**

4.1 **Electrical Installations**
This section provides a brief description of the electrical works related to this contract. The selected Electrical Contractor shall carry out the works to the full satisfaction of the client’s Electrical Engineer or his representatives.

4.2 **Regulations**
The installations shall conform in all respects to the Institution of Electrical Engineers (U.K.), 17th

4.3 Electrical Supply
The new installation shall be furnished with a new single phase power supply.
A new 6 m wooden pole shall be erected, complete with base, as located on the site layout, to support the new CEB service line. The contractor will allow in the Priced Activity Schedule for all costs associated for the new supply.
A cubicle shall be erected to house the CEB meter and main breaker 50 A MCB DP, as located on the electrical site layout.

4.4 Electrical Panels
The distribution boards shall be to IP 55, IK09 and shall be of galvanised steel with hinged lockable door.
The panel shall be big enough to accommodate incoming and outgoing feeders and the following:
1. MCBs and RCDs as per schematic layouts.
2. Copper Earth Bar Terminal with suitable number of outlets & sizes.
3. All accessories to make a complete panel.
The distribution boards shall be wall mounted. All circuits and instrument in the board shall be properly labelled with perspex and danger notices fixed on panels. Plasticised schematic layout shall be fixed in respective Distribution Boards.
The distribution boards shall be located as shown in drawings and shall be properly earthed. 30% of spare capacity shall be allowed. There shall be ample space in the panel to allow for easy access when required for manual work. All cable ends shall be properly terminated with starfix type ferrules.

4.5 Miniature Circuit Breaker (MCB) and Residual Current Breaker with Overload Protection (RCBO)
4.51 Miniature Circuit Breakers (MCB)
MCBs shall be of reputed make and break type with trip free mechanism to BS 3871. They shall be equipped with a non-adjustable thermal overload and magnetic short circuit release and shall include
clear indication of the ON and OFF/tripped condition. They should be of type C or D as per the annexed electrical schematics.

The contractor shall ensure that the breaking capacities of the MCBs proposed match the requirements of the installation (Minimum 10kA on headers and 6kA on final circuits).

4.52 Residual Current Device (RCD)
RCDs shall be of the current type to BS. They should be as rated in the schematic with 30 mA sensitivities and with a minimum breaking capacity of 6 kA.

4.6 Type of Installations
The installation is designated to be of Surface Type. All installations shall be in copper pipes. Copper saddles shall be placed at adequate intervals and bends to be used if required. All the conduit works shall be neatly carried out.

4.7 Cabling & Wiring Works
Single core PVC insulated 600V grade copper conductor manufactured in accordance with BS 6004, shall be used for wiring inside trunking for internal wiring.
Main and submain cables shall be generally of 1 kV grade conductor of high conductivity copper wires insulated with PVC.
Cables shall comply with relevant BS and Mauritian Standards. Trunking of adequate dimension shall be used where necessary in order to satisfy cable space factor.
Colour code of cable shall be as follows:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>Brown</td>
</tr>
<tr>
<td>Neutral</td>
<td>Blue</td>
</tr>
<tr>
<td>Earthing</td>
<td>Yellow/Green</td>
</tr>
</tbody>
</table>

4.8 Lighting Installations
All luminaires shall comply with BS 4533 and supplied and installed complete with their lamps and control gear/ driver as specified. All luminaires shall be carefully stored before erection and prior to hand over any damaged paint ware shall be made good of and the whole luminaire cleaned.
Before start of works, samples of all luminaires shall be submitted to the client’s engineer for approval.
Luminaires shall be in accordance with the schedule given below:

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Up/down wall light LED type. At least 2 x 4.5 W. To IP 44. Body of aluminium/stainless steel. Surface mounted.</td>
</tr>
</tbody>
</table>

4.9 Switches & Sockets

Switches (10 A rated) and sockets shall be to relevant British or European standards (BS 3676). The number of gang and ways shall be as indicated in the drawings. The lighting switches and sockets shall be fixed at 1500mm and 450mm respectively above the finished floor level or as instructed. They shall be of brass finish.

4.10 Earthing System

The sub-distribution board shall be provided with a local earthing system. It shall comprise of at least 3 copper-clad steel earth rods/plates with diameter 16mm buried to a depth of 2400mm at 5m intervals as shown in the diagrams. The interconnecting copper cable between the earth terminal of the distribution board and the earth rods shall be sized in accordance to IEE Regulations. The earth loop impedance at any point of the installation shall not exceed five ohms. Concrete inspection pits c/w hot-dipped galvanised lids shall be provided, subject to Energy Services Division approval in order to facilitate inspection and testing.

4.11 Labels and Danger Notices

All main circuits and sub circuits shall be clearly and neatly labelled for quick circuits identification. A schematic layout for each distribution shall be displayed in each distribution Board. Suitable warning notices in red lettering on white background shall be provided on each distribution boards. Label shall bear identifications on drawings and voltage also.
Suitable “Danger” plates shall be securely affixed on the distribution boards and mounted in prominent position. Each danger notice shall be fabricated in enamel sheet steel. Symbols shall be in red on white background and shall be to British Standard.

4.12 Tests on Completion
On completion of the installations, the electrical contractor shall carry out tests in the presence of the client’s Engineer or his representatives and submit to the client three signed copies of the tests certificates. The test certificates and as fitted drawings shall be approved and signed by a Registered Professional Electrical Engineer (CRPE) before submission to the Client.

The following tests shall be carried out:

(i) Insulation tests
(ii) Continuity tests
(iii) Earth loop impedance test
(iv) Earth Resistance tests
(v) RCD tripping times
(vi) Operation of protective devices
(vii) Polarity tests

Testing and measuring equipment shall be of very good quality and shall be provided by the contractor in all cases.

The installation shall be considered complete only after the following have been carried out:

1. Completion is reported in writing to the Engineer.
2. Defects pointed out by the engineer have been made good.
3. Three copies of Accurate as fitted drawings have been delivered to the Engineer.
4. Completion and test certificates have been submitted and found satisfactory by the Engineer or his representative.

4.13 Drawings
The tenderer shall submit upon completion of the works, three copies of “As made” diagrams of the:

(i) electrical installations and protective gears
(ii) schematic layout of circuits
(iii) location of Distribution Boards & cable routes
(iv) Earthing System

to the client’s Engineer or his representatives.

**EARTHING**

![Diagram of Earthing System]

**NOTE:** The No. of earth rods/plates shown is indicative only. These shall be increased until the desired Earth Resistance is obtained.

**Earth Pit**

![Diagram of Earth Pit]
Specifications for trenches for laying of underground cables

Notes: Warning tape shall be of plastic type yellow colour 0.5 mm thick 200 mm wide clearly labelled “DANGER ELECTRICITY” over each of 0.5 m

PVC conduit shall be of yellow coloured pressure type.

Reinstatement work shall be carried out after the installation of underground conduit and cable.

It shall contain more than one PVC conduit in the trenches if needed.
Section V: Employer's requirements

ADDITIONAL SPECIFICATIONS

Notes:
1. All dimensions are in millimetres
2. Walls of manholes to be plastered
3. Heavy Duty Cast Iron Cover to be 400x400mm
4. Manhole to be made of reinforced concrete

Energy Services Division

Electrical Manhole
**ADDITIONAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Circuit No.</th>
<th>Switchgear</th>
<th>Description</th>
<th>Outgoing Cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>RCBO 2P 10A, 30mA</td>
<td>Lighting</td>
<td>1.5mm² – 3-Core</td>
</tr>
<tr>
<td>L2</td>
<td>RCBO 2P 10A, 30mA</td>
<td>Lighting</td>
<td>1.5mm² – 3-Core</td>
</tr>
<tr>
<td>P1</td>
<td>RCBO 2P 20A, 30mA</td>
<td>Power</td>
<td>2.5mm² – 3-Core</td>
</tr>
<tr>
<td>P2</td>
<td>RCBO 2P 20A, 30mA</td>
<td>Power</td>
<td>2.5mm² – 3-Core</td>
</tr>
<tr>
<td>EL</td>
<td>RCBO 2P 20A, 30mA</td>
<td>Façade lighting</td>
<td>2.5mm² – 3-Core (arm)</td>
</tr>
</tbody>
</table>

**SDB Tower**

**Note:** *Circuit EL to be with fuse, contactor and timer*
Drawings

LIST OF DRAWINGS

Drawings as listed on the location plan.
Preliminaries and General Costs

1. Ordering of Materials

The selected Contractor shall place orders at the very beginning of the contract for materials, fittings and items of equipment required for this work.

Non-availability of these items will not be considered as an excuse for delay on the works.

2. Discrepancies

Should the Contractor at any time discover discrepancies between drawings, scope of works or any other documents or in dimensions, instructions, he shall immediately refer same to the Architect who shall decide the course to be followed. Failure on the part of the Contractor to comply with this Clause may invalidate any subsequent claim made by him.

3. Contractor to visit site

Contractor shall visit the site before tendering and ascertain the nature of the ground and subsoil to be excavated, the contours thereof and acquaint himself with local conditions, site conditions, site restriction, working space available, means of access, limitation and restrictions to access, risk of damage to adjacent properties, roads, etc.

The contractor will have to carry out any other survey that in his opinion is necessary for him to submit a proper proposal. This survey shall also include the services underground or above that may run on site and he shall allow in his offer for their deviation if required.

4. Area to be occupied by Contractor

The area of the site which may be occupied by the Contractor for his use as storage or for erection of workshops etc, shall be defined on this site by the Architect.

5. Access to Site and Temporary Roads

Means of access to the site shall be agreed with the Architect prior to the commencement of the work and Contractor must allow here for building any temporary access roads, gantries for the transport and lifting of all materials, plants and workmen required for the complete execution of the works, including the provision of temporary culverts, crossing bridges or other means of gaining access to the site. Upon the completion of the works the Contractor shall leave such temporary, access roads, culverts etc. Undisturbed unless ordered otherwise by the Architect. No claims will be entertained for such temporary services left on site or for their removal and restoration on the site to the original condition.

6. Maintenance of Roads

The Contractor shall allow for maintaining and keeping public and private roads free from mud debris, etc, arising from the works throughout the duration of the contract.

7. Plant, Tools, Scaffolding etc.

The Contractor shall provide all necessary plants, tools scaffolding and vehicles for the efficient and expedient execution of
the works and at or before completion clear same from building and site and make all good.

8. Setting Out

The Contractor shall set out the works in accordance with the dimensions and levels shown on the approved drawings and shall be responsible for the correctness of all dimensions and levels so set out by him. He will be required to rectify all errors arising from inaccurate setting out at his own cost and expense. In event of error or discrepancy in the dimensions or levels marked out on the drawings being discovered, such errors or discrepancies shall be reported by the Contractor to the Architect for his immediate consideration.

No work connected with such errors shall be continued by the Contractor until he has received written instructions from the Architect to adjust such discrepancies.

9. Discharge of Workmen

The Contractor shall only employ qualified foremen, artisans and labourers on the works. If, in the opinion of the Architect any person employed by the Contractor misconducts himself or is likely to cause or has caused strikes, quarrels or delays, or is incompetent the Contractor, when so directed by the Architect in writing shall at once remove such person from the works site.

10. Government Ordinance and Regulations

The Contractor must also make himself acquainted with current ordinance and any Government regulations regarding the movement housing security and control of labour camps, passes for transport etc... and allowance must be made in his Tender for compliance therewith in so far as they are practicable. It is important that the Contractor before tendering shall obtain from the relevant Authority the fullest information regarding all such regulation and/or restrictions which may affect the organisation of work, supply and control of labour, etc... and allow accordingly in his Tender. No claim for want of knowledge in this connection will be entertained.

11. Water, Light and Power, telephone

The Contractor shall provide at his own risk and cost the water, light and power required for use in the work and make them available free of charge to sub-contractor and others.

The Contractor will be required to arrange for the installation of a temporary connection to the main water supply and to provide himself with all necessary temporary water piping and storage tanks as required or directed, remove same and make good disturbed surfaces at completion to the satisfaction of the Architect and pay all charges for meter hire and water consumed until the completion of works.

The Contractor shall provide and maintain a temporary telephone service on site for the full period of the contract at his own costs.

12. Watching and Lighting

The Contractor, from commencement of the contract, shall provide all watching lighting and protection of the works, materials and public through fares as may be necessary for the safety of the works, and for the protection of the public and his own employees.
13. Sheds for Storage of Materials

The Contractor shall provide and maintain to the satisfaction of the Architect and clear away on completion of the works water tight sheds for the storage and protection of all materials required for the proper execution of the work. He shall also provide storage sheds as may be required by sub contractors nominated sub-contractors and nominated suppliers and remove same when ordered.

14. Foreman’s Office

The Contractor shall provide a temporary office for the use of the foreman on the site in a position to be agreed by the Architect.

15. Sanitation for work People

Adequate sanitary accommodation for his work people etc... shall be arranged and maintained by the Contractor to a standard satisfactory to the Ministry of Health or Health and Sanitation Department of the Local Authority/District Council and/or Labour Inspector.

The Contractor shall provide satisfactory housing for the watchman and water-borne latrine, accommodation for the labour employed on site. Whether by himself or by nominated sub-contractors and/or suppliers and arrange for and pay all charges in connection therewith and allow for removing same and leaving ground clean and free from pollution to the entire satisfaction of the Architect.

16. Sign Board

The sign boards for the display of the General and sub-contractor’s names shall be approved size and design with neat and uniform lettering.

17. Testing of Material

The Architect shall make such tests of the samples of any materials as he may at his discretion deemed desirable, and the cost of such tests shall be added to the Contract Sum unless the result of such tests causes the Architect to reject any samples or materials as not being in his opinion in accordance with the specification in which case the Contractor shall pay for such tests and the cost thereof shall be recovered there from the Contractor by deduction from the Contract Sum.

18. Protection and Delivery

The Contractor shall allow for covering up and protection of work liable to damage, including temporary roofs, gutters, drains etc. If necessary, case up, cover, or in other suitable way protect all finished work liable to injury to the satisfaction of the Architect until completion of the contract. On completion the whole of the works shall be delivered up clean, complete and perfect in every respect to the satisfaction of the Architect.

19. Employer’s facilities

The Contractor is to allow for the costs of facilities on site but not limited to the following:

(i). Office for Supervisory Staffs

The Contractor shall provide effect and maintain where directed on the site an approved weather and sunproof temporary office for use of the Supervisory staffs floor size of 6m x 3m and shall provide the following:

(a) A long suitable table size 80” X 30”
(2440 mm X 915 mm)
(b) 8 Chairs
(c) 1 pin board

(ii) **Survey and Testing Equipment**  As may be necessary on site.

**20. Removal of Plant and Rubbish**  The Contractor shall, upon completion of the works, at his own expense remove and clear away all plant, rubbish and unused materials and shall leave the whole of the site in a clean and tidy state to the satisfaction of the Architect. He shall also remove all rubbish and dirt from the site as it accumulates at the discretion of the Architect.

**21. Hoardings**  The Contractor is to provide for all necessary hoardings, as appropriate, along the boundaries allocated to him in order to secure the site.

**22. Restrictions**  Allow for the cost of restrictions including but not limited to the following:

(a) **Limitation of Workmen:**  The Contractor shall keep all persons including those employed by Subcontractors under control and within the boundaries of the area allocated to him.

(b) **Limitation of construction activity**  The Contractor shall be required to limit the construction activity, Temporary buildings, storage of equipment and materials etc within the boundaries of the area allocated to him.
GUIDANCE NOTES ON PRICING OF ACTIVITY SCHEDULE

This is a lump sum tender and shall be based strictly on the information provided in the drawings, specifications, scope of works and other conditions laid in the bid document and not according to this Activity Schedule.

1. The prices in the Activity Schedule may be used if judged appropriate for the preparation of interim valuations.

2. Prices in the Activity Schedule **shall not** be used for adjusting the lump sum tender price for extra works or omissions.

3. Computation of extra works or omissions shall only be made using reasonable current market rates.

4. Any inconsistencies detected in the prices shall be resolved by the Project Manager.

5. The bidder is responsible for ensuring that works are included in his bid price, whether or not an item is mentioned in the Activity schedule.

6. In the case of the bidder leaving unpriced any items, he will be deemed to have considered that the prices of the remaining items are sufficient to enable him to perform the services and obligations described in the items not priced without extra charge.
### CONSERVATION AND RESTORATION WORKS AT POINTE DU DIABLE

#### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>PRELIMINARIES &amp; GENERAL COSTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.1</td>
<td>The Contractor is to allow for costs related to Preliminaries and General Conditions of Contract requirements including the following but not limited to setting out of works, site management, Contractor's office, overheads, tools, plants, scaffolding, store, stacking and storage of materials, Employer’s facilities, insurances, bonds, watchmen, light, electricity, signboard, protection, security of workmen, etc... and works on site, temporary hoardings and gantries, pumping and dewatering, police requirements etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The bidder is advised to visit and inspect the site for which he is bidding prior to submission of his offer as no claims will be allowed on the grounds of ignorance of the Conditions under which the works will be executed. In particular, the bidder must decide for himself the existing ground levels, detection, deviation and protection of existing services, the nature of the ground and subsoil to be excavated at his own risks and costs and shall be responsible to construct the foundation to the full satisfaction of the Engineer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.1.1</td>
<td>Allow for provision for traffic security/diversion as required by authorities</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>A.1.3</td>
<td>Allow for hoarding, as appropriate, along the boundaries of the site allocated to the contractor, in order to secure the site</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>A.1.4</td>
<td>Allow for protection and/or deviation of services underground or above that may run on site</td>
<td>Sum</td>
<td></td>
</tr>
</tbody>
</table>

**Sub-Total a**

**Carried to collection**
### CONSERVATION AND RESTORATION WORKS VIEUX GRAND PORT

#### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>DEMOLITION WORKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.1</td>
<td>The contractor is advised to visit the site prior to submission of his bid.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demolition works comprise of the demolition of items as specified, all as per Architect’s Instructions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contractor shall take all necessary precautions to keep these areas in tidy conditions, free from dust and minimum noise during the demolition works. All salvage/-re-usuable materials shall become the property of the Employer unless otherwise specified and transported to the nearest store of the Ministry of Public Infrastructure as directed by the Project Manager. All usable materials arising from demolition shall be removed and disposed from site. The contractor shall have to keep a diary to record all salvaged materials to be handed over to the Employer which shall be checked and signed by the Employer’s agent. These items shall be counterchecked by the Ministry of Public Infrastructure’s representative at their respective stores. Contractor to allow for the protection of existing structures and shall be required to make good as per the Architect’s Requirements if any structure is damaged during the demolition or dismantling works.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.1.1</td>
<td>Remove with care concrete screed from floor slab and clean exposed surface of ground floor slab with a jet of water.</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>B.1.2</td>
<td>Demolish with care existing boundary wall and remove chain-link fencing</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>B.1.3</td>
<td>Remove with care damaged part of the tower about 0.2m over the full width of the wall from top by cutting with a hand held cutting equipment</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sub-Total</strong> b Carry to collection</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## CONSERVATION AND RESTORATION WORKS AT VIEUX GRAND PORT

### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C</strong></td>
<td>REPOINTING OF JOINTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.1</td>
<td>Remove with care all vegetation from internal and external surfaces of wall</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>C.2</td>
<td>Clean all internal and external joints</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>C.3</td>
<td>Remove with care all loose mortar/concrete from the joints</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>C.4</td>
<td>Remove with care all concrete from opening frames where required and as instructed by the Engineer on site</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>C.5</td>
<td>Open all joints to at least 35mm to Engineer’s approval</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>C.6</td>
<td>Filling of joints to Engineer’s approval</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>NEW WORKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D.1</strong></td>
<td>FLOORING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.1.1</td>
<td>Cast new floor as per drawings and specifications</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.1.2</td>
<td>Lay screed as per drawings and specifications</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td><strong>D.2</strong></td>
<td>ROOF STRUCTURE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.2.1</td>
<td>New timber works</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.2.2</td>
<td>Profile sheeting fixed to timber works</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td><strong>D.3</strong></td>
<td>ROOF DRAINAGE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.3.1</td>
<td>Concrete Gutter</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.3.2</td>
<td>All work to include rainwater heads and roof outlets</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rainwater outlet “Aco Fullbora” complete with grating</td>
<td></td>
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</tr>
</tbody>
</table>

Sub-Total c
Carried to collection
## CONSERVATION AND RESTORATION WORKS AT VIEUX GRAND PORT

### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.4</td>
<td>OPENINGS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.4.1</td>
<td>Timber door</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.4.2</td>
<td>Timber window</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.5</td>
<td>TIMBER SHUTTERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.5.1</td>
<td>Timber door shutters</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.5.2</td>
<td>Timber window shutters</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.5</td>
<td>STAIRS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.5.1</td>
<td>Timber stairs</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.5.2</td>
<td>Timber handrail</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.6</td>
<td>MEZZANINE FLOOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.6.1</td>
<td>Timber mezzanine floor</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>D.6.2</td>
<td>Timber Handrail</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>FINISHES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E.1</td>
<td>Floor Finishes</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>E.2</td>
<td>Timber Finishes</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>SITE WORKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F.1</td>
<td>Felling of trees</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.2</td>
<td>Trimming of trees</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.3</td>
<td>Paving Concrete</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.4</td>
<td>Paving Stones</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sub-Total d</strong></td>
<td></td>
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<td><strong>Carried to collection</strong></td>
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</table>
## CONSERVATION AND RESTORATION WORKS AT VIEUX GRAND PORT

### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>F.5</td>
<td>Concrete Stairs</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.6</td>
<td>Grass Planting</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.7</td>
<td>Kerbs</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.8</td>
<td>Allow for making good to rear fencing</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.9</td>
<td>Handrails</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.10</td>
<td>Concrete wall</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.11</td>
<td>Mesh Fencing</td>
<td>Sum</td>
<td></td>
</tr>
<tr>
<td>F.12</td>
<td>Concrete Ramp</td>
<td>Sum</td>
<td></td>
</tr>
</tbody>
</table>

**Any other works/items not listed above but which are deemed to be carried out as per specifications and drawings for successful completion of the works (list below)**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>G</td>
<td>Sub-Total e</td>
</tr>
<tr>
<td></td>
<td>Carried to collection</td>
</tr>
</tbody>
</table>
### Collection Page (Building Works)

<table>
<thead>
<tr>
<th>Sub Totals Brought Forward from</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Total a</td>
<td></td>
</tr>
<tr>
<td>Sub-Total b</td>
<td></td>
</tr>
<tr>
<td>Sub-Total c</td>
<td></td>
</tr>
<tr>
<td>Sub-Total d</td>
<td></td>
</tr>
<tr>
<td>Sub-Total e</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CARRIED TO MAIN SUMMARY**
### ELECTRICAL WORKS

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supply, installation, testing and commissioning of the following distribution boards with hinged lockable door and all components (MCBs, RCDs, earth bars, and other accessories) according to the respective electrical schematics and specifications.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>SDB-Tower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>50 A DP MCB in new cubicle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Supply, installation, testing and commissioning of all cabling &amp; wiring works according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Supply, installation, testing and commissioning of all conduit works (copper conduit, PVC underground sleeve, etc.) according to specifications and drawings</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Supply, installation, testing and commissioning of the following luminaires according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>4.1</td>
<td>Type A (up/down light LED)</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Type B (Façade LED light)</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Type C (LED panel)</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Supply, installation, testing and commissioning of all sockets according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Supply, installation, testing and commissioning of all switches according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
</tbody>
</table>

Sub-total
### Section V: Employer’s requirements

#### ACTIVITY SCHEDULE

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Supply, installation, testing and commissioning of Earthing system according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Provision of “As made” drawings and test certificates.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Testing and commissioning of the whole system.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Associated civil works (trenching, wooden pole and base, etc.) according to specifications and drawings.</td>
<td>Lot</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Any other item not mentioned but necessary to complete the project (give details).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sub-total g**

Carried to collection
### COLLECTION (ELECTRICAL WORKS)

<table>
<thead>
<tr>
<th>Sub-Totals brought forward from</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-total f</td>
<td></td>
</tr>
<tr>
<td>Sub-total g</td>
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</tbody>
</table>

Any other item not mentioned but deemed necessary to make the installations complete and functional, including any discrepancy between B.O.Q, specifications, drawings (please submit details)

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<table>
<thead>
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</tbody>
</table>

**TOTAL CARRIED TO MAIN COLLECTION**
### MAIN COLLECTION

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals Brought Forward from (BUILDING WORKS)</td>
<td></td>
</tr>
<tr>
<td>Totals Brought Forward from (ELECTRICAL WORKS)</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL CARRIED TO SUMMARY OF BID PRICE</strong></td>
<td></td>
</tr>
</tbody>
</table>
CONSERVATION AND RESTORATION WORKS AT VIEUX GRAND PORT

SUMMARY OF BID PRICE

<table>
<thead>
<tr>
<th></th>
<th>MUR</th>
<th>Cs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amount of Contractor’s price to carry out and complete the works as specified in the Instructions to bidders, Bidding data sheet, Preliminaries and General Costs, Drawings, Conditions of Contract and particular conditions of contract, Scope of Works, Specifications and Addenda.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. CONTINGENCY SUM</td>
<td>500,000</td>
<td>00</td>
</tr>
<tr>
<td>Allow the contingency sum of Rupees <strong>Five hundred thousand</strong> to be used at the discretion of the employer &amp; deducted in whole or part, if not required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sub Total (A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Lump Discount (if any) (B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. SUB – TOTAL after discount (C) = (A) – (B)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. VAT at 15% (D) = 15 % of (C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL BID PRICE (C) + (D)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carried Forward to Bid Submission Form</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name of Contractor: .................................................................

Signature of Contractor: ...........................................................

VAT registration No: .................................................................

Business registration No: ...........................................................

Date: ............................................................................................
PART 3 – Conditions of Contract and Contract Forms
Section VI. General Conditions of Contract

The General Conditions of Contract (GCC) applicable for this procurement is available on the web site of the Procurement Policy Office http://ppo.govmu.org under Ref: W/GCC10/05-18 and as per Appendix II (General conditions of contract)

The GCC can be used for both admeasurement contracts and lump sum contracts.
Section VII. Particular Conditions of Contract

Except where otherwise indicated, all PCC should be filled in by the Employer prior to issuance of the Bidding Documents. Schedules and reports to be provided by the Employer should be annexed.

These clauses should be read in conjunction with the General Conditions of Contract

### A. General

| GCC 1.1 (r) | The Employer is National Heritage Fund
4\textsuperscript{th} Floor, Fon Sing Building, Edith Cavell Street
Port Louis |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GCC 1.1 (v)</td>
<td>The Intended Completion Date for the whole of the Works shall be one hundred and eighty (180) days from the start date.</td>
</tr>
<tr>
<td>GCC 1.1 (y)</td>
<td>The Project Manager(s) is as shall be designated by Public Body.</td>
</tr>
<tr>
<td>GCC 1.1 (aa)</td>
<td>The Site is located at Vieux Grand Port</td>
</tr>
<tr>
<td>GCC 1.1 (dd)</td>
<td>The Start Date shall be within seven (7) days after handing over of site.</td>
</tr>
</tbody>
</table>
| GCC 1.1 (hh) | The project consists of conservation and restoration works to La Tour Hollandais at Vieux Grand Port

The works include careful removal of: vegetation, loose mortar and concrete from joints, concrete openings from frames and cleaning of internal and external faces of the tower. All joints are to be repointed as indicated in scope of works. Provide new concrete gutters after removing damaged part of the tower. It also includes new metal roofing and timber works, replacing ground floor slab, new timber openings, new timber stairs, new timber mezzanine floor and electrical works.

External works comprises of: demolition of existing wall and removal of existing chain link fencing and replace by new one including new welded mesh, felling and trimming of trees, cut and fill, paving concrete, stone pathway, concrete ramps, handrails, concrete stairs, kerbs and planting. |

| GCC 2.2 | Sectional Completions are: Not Applicable |
| GCC 2.3(i) | The following documents also form part of the Contract: Performance Security, Insurance Policies, Scope of Works, drawings, specifications, Conditions of contract, Particular conditions of contract, Priced activity schedules and addenda.

The performance security and insurance policies shall be submitted within 21 days as from the date of receipt of Letter of Acceptance, for verification and approval by the Quantity Surveyor before the handing over of site. |
| GCC 3.1 | The language of the contract is English  
The law that applies to the Contract is the law of Mauritius. |
| GCC 5.1 | The Project manager may delegate any of his duties and responsibilities. |
| GCC 8.1 | Schedule of other contractors: Not Applicable |
| GCC 13.1 | Except for the cover mentioned in (d)(i) hereunder, the other insurance covers shall be in the joint names of the Contractor and the Employer and the minimum insurance amounts shall be:

(a) for the Works, Plant and Materials: (for the full amount of the works including removal of debris, professional fee etc...).

(b) for loss or damage to Equipment: for the replacement value of the equipment that the contractor intends to use on site until the taking over by the Employer.

(c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract: Rs 10 Million

(d) for personal injury or death:
   (i) of the Contractor’s employees: [The Contractor shall take an adequate insurance cover for its employees for any claim arising in the execution of the works and shall indemnify the Employer against any claims or proceedings which may be made on the said Employer. **Evidences to be produced by Contractor**]

   (ii) of other people: [This cover shall be for an amount of **Rs 10 Million**, for any one occurrence or a series of occurrences arising out of any one event, for Third Party extended to the Employer and its representatives].

(e) for loss or damage to materials on-site and for which payment have been included in the Interim Payment Certificate, where applicable.

The Contractor shall choose to take the insurance covers indicated above as separate covers or a combination of the Contractor’s All Risks coupled with the Employer’s liability and First Loss Burglary, after approval of the Employer. All insurance covers shall be of nil or the minimum possible deductibles at sole expense of the contractor.

| GCC 13.3 | Delete content of Sub Clause 13.3 entirely and replace by “If the Contractor does not provide any of the policies and certificates required, this may constitute a breach of the contractors obligations under the bid conditions and may entail forfeiture of bid security or performance security or any action by the Employer under the Bid Securing Declaration” |
### GCC 13.7

Add the following new sub clause

> “13.7 – In the Event works are carried out beyond the Intended Completion Date or the Intended Completion date is extended, the contractor shall extend the Insurance policies to cover for the extended period and defects liability period. Failure on the part of the contractor to comply with the above condition may entail:

(a) Non-certification of payment  
(b) Termination of contract  
(c) Forfeiture of the Performance security.

### GCC 14.1

Site Data are: **There are no Site Investigation Reports for this project.** Bidders are however advised to visit the site prior to submission of bid. They should acquaint themselves with the nature of the site, extent of the work, means of access, general nature of the soil and all other matters which may influence their bid.

No claim due to ignorance of these factors as mentioned in the preceding paragraph shall be entertained from the contractor.

### GCC 20.1

The Site Possession Date(s) shall be: **within Seven (7) days from submission and approval of Performance Security and Insurance covers.** The area of the site which may be occupied by the Contractor for his use as site office or for erection of workshop etc. shall be approved by the Project Manager or his representative.

### GCC 23.1 & GCC 23.2

Appointing Authority for the Adjudicator: **No Adjudicator shall be appointed for this Contract.**

### GCC 24.

In case a dispute of any kind arises between the Employer and the Contractor in connection with, or arising out of, the contract or the execution of works or after completion of works and whether before or after repudiation or other termination of Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Employer’s Representative, the matter in dispute shall, in the first place, be referred in writing to the employer’s representative, with a copy to the other party.

The Employer and the Contractor shall make every effort to resolve the dispute amicably by direct informal negotiation. If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Public Body or the Contractor may give notice to the other party of its intention to refer the matter to:

> “the competent courts of Mauritius”

### GCC 24.3

Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: **Not applicable.**

### GCC 24.4

**Not Applicable**
### B. Time Control

**GCC 25.1**

The Contractor shall submit for approval a detailed Program for the Works within seven (7) days from the date of handing over of site.

**GCC 25.3**

Delete the words “In the case of a lump sum contract, the contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager” in line 7 of clause 25.3

The period between Program updates is **30 days**.

The amount to be withheld for late submission of an updated Program is **Rs25,000 in the next payment certificate**.

### C. Quality Control

**GCC 33.1**

The Defects Liability Period is: **365 calendar days**.

### D. Cost Control

**GCC 35.2**

Delete “is” and replace by “may be “after line 3 in clause 35.2

**GCC 35.3**

Add new sub clause “35.3-Where a work is implied in the drawings or specifications or description of works and not itemized in the Activity Schedule, any such work shall be deemed to have been priced elsewhere in the contract price”

**GCC 35.4**

Add new sub clause“35.4 -Any prices in the activity schedule shall be fully inclusive for the finished works described under the respective work item and drawings and/ or specifications and scope of works”

**GCC 36.2**

Delete sub Clause 36.2 entirely

**GCC 37.2**

Add “Omissions and additions shall be measured and valued at fair rates and prices, having regards to current market prices. The contractor shall supply all information required by the Project Manager to enable him to value a variation” after line 6 of clause 37.2

**GCC 39.4**

Replace the words “...value of completed activities in the Activity Schedule.” in line 2& 3 of clause 39.4(b) by “percentage value of activities in the Activity Schedule subject to clause 35.2”.

| **GCC 39.7** | **Interim Payment for materials on site only is applicable.** The payment will be 80% of the Project Manager’s determination of the cost of plants and materials delivered on site. |
| **GCC 41.1 (l)** | The term “exceptionally adverse weather conditions” is hereby defined as any one of the following events:

1. 100 mm rainfall or above recorded in one day at the nearest rain station;
2. An official declaration of “Torrential Rain” by the Meteorological Department of Mauritius; and
3. Cyclone warning Class III or IV. |
| **GCC 43.1** | The currency of the Employer’s country is: **Mauritian Rupees.** |
| **GCC 44.1** | The Contract is not subject to price adjustment in accordance with GCC Clause 44, and information regarding coefficients does not apply. |
| **GCC 45.1** | The proportion of payments retained is: **10 % of the value of work certified up to completion of works and 5 % up to issue of making good defects certificate.** |
| **GCC 46.1** | The liquidated damages for the Works is: **Rs 3,600 per Day**

The maximum amount of liquidated damages for the Works is: **Rs 216,000.** |
| **GCC 47.1** | **Not applicable** |
| **GCC 48.1** | The Advance Payments shall be: **10 % maximum of the contract price less contingency sum and shall be paid to the contractor no later than twenty-eight (28) days from the date of issue of certificate.**

Repayment of advance payment shall start after certification of 20% of the accepted contract amount. Recovery of the advance payment shall be an amount of not less than 15% of the amount of the monthly interim payment certificate. Advance Payment shall be recovered in full prior to the time when 80% of the accepted contract amount has been certified for payment. |
| **GCC 49.1** | The Performance Security amount is **10 % of the contract price in the form of a Bank Guarantee as per the format in Section VIII.** and shall be valid up to a date twenty-eight after the end of the Defects Liability Period (DLP). Where the Performance Security expire before the date twenty-eight days after the end of the DLP, the contractor shall extend the Performance Security to cover the period up to the latest date of the DLP plus twenty-eight days. Failure to extend the validity of the Performance Security twenty-eight days prior to its expiry may entail forfeiture of the full amount of the Performance Security

**Note:** The Contractor shall execute all work required to remedy defects or damage, as may be notified to him by or on behalf of the employer, on or before the expiry date of the DLP or any extended date if a defect or damage cannot be remedied by the expiry date, all at the risk and cost of the contractor.
## E. Finishing the Contract

| GCC 56.1 | The date by which operating and maintenance manuals are required is: the date of completion.  
|          | The date by which “as built” drawings is required is: the date of completion. |
| GCC 56.2 | The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in GCC 58.1 is **Rs 50,000.** |
| GCC 57.2 (g) | The maximum number of days is: **60 days.** |
| GCC 59.1 | The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is **20%.** |
Section VIII - Contract Forms

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

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Letter of Acceptance

[ on letterhead paper of the Employer]

. . . . . . [date] . . . .

To: . . . . . . . [name and address of the Contractor] . . . . . .

Subject: . . . . . . . [Notification of Award Contract No] . . . . . .

This is to notify you that your Bid dated . . . [insert date] . . . for execution of the . . . . . . [insert name of the contract and identification number, as given in the Appendix to Bid] . . . . . . . for the Accepted Contract Amount of the equivalent of . . . . . . [insert amount in numbers and words and name of currency], as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by (insert name of Public Body).

You are requested to furnish the Performance Security and Insurance policies within 21 days in accordance with the General Conditions of Contract, using for that purpose of the Performance Security Form included in Section VI (Contract Forms) of the Bidding Document.

Authorized Signature: .................................................................

Name and Title of Signatory: ...............................................................

Name of Agency: ..................................................................................

Attachment: Contract Agreement
Contract Agreement

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

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

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

   (a) the Letter of Acceptance
   (b) the Bid
   (c) the Addenda Nos . . . . [insert addenda numbers if any] . . . .
   (d) the Appendix to the General Conditions of Contract
   (e) the General Conditions of Contract;
   (f) the Specification
   (g) the Drawings; and
   (h) the completed Schedules,

3. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Mauritius on the day, month and year indicated above.
Signed by: ____________________________  
for and on behalf of the Employer  

in the presence of: ____________________________  
Witness, Name, Signature, Address, Date  

Signed by: ____________________________  
for and on behalf the Contractor  

in the presence of: ____________________________  
Witness, Name, Signature, Address, Date
Performance Security

Bank’s Name and Address of Issuing Branch or Office

Beneficiary: Name and Address of Public Body

Date

PERFORMANCE GUARANTEE No.

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

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

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

This guarantee shall expire not later than twenty-eight days from the date of issuance of the defects liability certificate, calculated based on a copy of such certificate which shall be provided to us, or on the day of whichever occurs first. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Seal of bank and

Signature(s)
Advance Payment Security

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

Beneficiary: ........................................ [Name and Address of Employer] ........................................

Date: ....................................................................................................................................................

Advance Payment Guarantee No.: ...........................................................................................................

We have been informed that . . . . [name of the Contractor] . . . . (hereinafter called “the Contractor”) has entered into Contract No. . . . . [reference number of the Contract] . . . . dated . . . . . . with you, for the execution of . . . . . [name of contract and brief description of Works] . . . . (hereinafter called “the Contract”).

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum . . . . . [name of the currency and amount in figures] ¹ . . . . . . [amount in words] . . . . is to be made against an advance payment guarantee.

At the request of the Contractor, we . . . . [name of the Bank] . . . . hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of . . . . . [name of the currency and amount in figures]² . . . . . . [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 used the advance payment for purposes other than the costs of mobilization in respect of the Works.

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

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the . . . day of . . . . . . . . . ³, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

......... [Seal of Bank and Signature(s)] .........
Appendix I—Standard Specifications
GOVERNMENT OF MAURITIUS

STANDARD SPECIFICATIONS
# Appendix I - Standard Specifications

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## SPECIFICATIONS FOR REINFORCED CONCRETE WORK

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**CONCRETE BLOCKLAYER**

**Concrete blocks**
Concrete blocks for walling shall comply with B.S 2028 Type A (for load bearing walls) and of compressive strength not less than:

- Cavern of 12 blocks …….500 lbs/sq.in
- Lowest individual block ….375 lbs/sq.in

Blocks for non load bearing walls are to be class B blocks.

Blocks shall be hollow two-hole type and shall be cured for not less than 28 days before they are used in the works. The Contractor shall supply a certificate from the supplier for each consignment of block received to the effect that the blocks meet the requirements and strength of the latest relevant B.S. Any block for which a certificate cannot be produced will be condemned and must be removed from site. All blocks supplied shall be of the same height and blocks of similar dimensions will not be accepted. Half length blocks and specials shall also be provided as specified or required to break bond.

**Mortar**
Mortar to be used for all Type A blockwall shall be composed of 1 part of cement to 3 parts of sand. Mortar for Type B blockwork shall be composed of one part of Portland cement, one part lime, and five parts of sand. All mortar shall be measured in specially prepared gauge boxes and thoroughly mixed dry or clean and water tight mixing platforms, with water added from a fine rose until all parts are completely incorporated and brought to a proper consistency.

All mortar must be used within thirty minutes of mixing. No partially or Wholly set mortar will be allowed to be used or re-mixed.

**Setting and jointing**
All blocks shall be lightly wetted immediately before being bedded and jointed to minimise absorption of water from the mortar.

Blocks are to be well buttered with mortar as previously specified. The blocks shall be laid fir-faces on the outside face, in stretcher bond with 10mm, thick, full, flused up and grouted solid joints. The joints shall not vary by more than 3mm and four consecutive joints shall not exceed 38mm and four consecutive joints shall not exceed 38mm. Joints shall be raked out where surfaces of walling are to be plastered.

**Laying of blocks**
All walls throughout the work shall be carried up evenly in courses, no part being allowed to be carried up more than 900 mm. higher at one time than any other part and in such cases the joining shall be made in long steps so as to prevent cracks arising and all walls shall be levelled around at each floor.

All put log holes shall be carefully, properly and completely filled up on completion of walling work.
All walling shall be properly protected while mortar is setting.

Walls shall be kept thoroughly wet for at least three days or for such longer period of time as the Architect may direct. Walls exposed to the sun shall be protected with a sacking which shall be kept wet.

**Fair Face Blocks**

Where walling is to be finished fairfaced, the blocks are to be selected free from defects. Joints shall be raked out as works proceed and pointed with a neat flush joint.

The work shall be carried out regularly with all horizontal joints truly horizontal and no part shall be more than 900mm above adjacent work during construction.

**Sample Panel**

The Contractor shall include in his tender for erecting a sample panel on site of 200mm blockwork, not less than 1 square metre in area and built off a suitable concrete foundation. The sample, when approved, to form the standard for all concrete blockwork in the contract. The sample area and concrete foundation to be removed when ordered and the surface of the ground made good. Horizontal and vertical joints shall be 10mm finished thickness, and raked out 12mm deep where face of wall is to be rendered and in other cases to be left finished flush or as otherwise instructed. The joint grooves between blocks shall be completely filled with cement, lime mortar. No portion of the wall during construction to be more than 900mm above adjoining work. All work to be executed truly level, perpendicular and properly bonded together without continuous upright joints.

**Cement, sand and lime**

Cement and aggregates for this trade except where separately specified for precise concrete blocks shall be as specified for “concretor” and lime shall be dry hydrated lime to B.S 890 Class B.

**Air bricks**

Form and leave neat holes in walls and supply and build in approved loucred pattern concrete air bricks where shown. The opening shall be rendered on all sides, the bottom sloped towards external face.

**Bedding and pointing**

Bedding and pointing of timber door and window frames shall be in cement mortar. Where frames are in metal they shall be bedded and pointed in mastic. Lugs or ties shall be built into walls as described.

**Fixing blocks and leaving holes**

Provide and build into walls all necessary flying blocks and leave out or cut away as necessary holes for pipes, conduits and the like and make good after fixing by other trades and specialists.

**Build in lugs and the like**

Form or leave mortices in walls for, and build in lugs and all necessary fixing for metal windows and doors, door frames and lining, sanitary fittings, rainwater pipes, clips and bearer of various types.
When building up the walls the openings shall be made about 200mm wider than the external dimensions of the doors frames, and when the latter are placed, complete with lugs, the walling completed in concrete mix type C.

**Damp-proof course**

Where indicated on drawings provide 2-ply felt damp-proof course. Felt to be of a manufacture approved by the Architect and to be laid on a 25mm thick bed of cement mortar (1:3 mix) on walls.

The damp-proof courses to stand the full thickness of walls, partitions and beams in one width and to be overlapped 6” at all jointings and corners.

**Measurements**

The Contractor must allow in his prices for block walling for plumbing angles, all straight waste, split courses necessary for bond, bonding at angles, intersections and juctions of walling at angles, intersections and juctions of walling of different thicknesses, cutting and fitting to columns, cutting and pinning to beam, cutting and fitting around end of oils and lintols, cutting and pinning ends of structural timber.

The rates of blockwork must also include for fixing all door, window and like openings, forming reveals to same and for cutting and waste to walling in short lengths to millions and jamb of openings.

The rates of blockwork must also include for hoisting and building off beams and slab at any level, all necessary scaffolding and for work built overhead.

**Mason**

Cement and sand for this trade shall be as specified for contractor.

Mortar for bedding and jointing of stonework shall comprise 1 part of cement to 3 parts of sand by volume.

All stones for use in walling shall be blue basalt stone carefully selected according to the type of walling required. Walls to be built to the thickness shown on the drawings and the stones wall be well bonded and all voids filled in solid with mortar, bond stones to be used on every 120mm vertically and 2700mm horizontally.

Mortar joints shall be raked to depth of 12mm from face of stonework ready for painting. Walls exposed to sun shall be protected with sacking which shall be kept thoroughly wet for at least three days or for such longer period of time as the Architect may direct.

All stones for used in claddings shall be Blue Basalts demolition stones carefully selected and to Architect's approval. Claddings to be of the thickness shown on drawings and be well bonded with all voids sealed in solid cement mortar. All wall surface to received proper cementitious waterproofing prior to application of stone cladding and to be to Architect's approval.
Appendix I - Standard Specifications

Pointing

All joints shall be raked out as described in Clause 3 and pointed with cement and sand (1:3) with approved pigment added. The pointing will either be recessed, weather struck or flush.

Cleaning of stonework

The contractor shall protect the stonework from mortar droppings and wire brush and wash down all walls on completion.

Carpenter and Joinery

1. Timber generally

All timbers used in the works unless otherwise specified shall be one of the following:

(a) For constructional work keruing, gurjun, mahogany or approved local treated pine.

(b) For joinery work, mahogany, tekoma, teak

The timber shall be sound, selected, well seasoned vacuum impregnated with Tanalith Salts type C at the rate of 64 kgs per cu.m. of timber, free from all defects and shall be worked to the full sizes indicated on the drawings.

In all cases samples of the timber for use in the building shall be submitted to the Architect for approval prior to use.

2. Treatment of timber

The ends and backs of all doors, frames of all timbers built in, rosting or indirect contact with walling or concrete where not exposed to view, shall be coated with two coats of creosote, solignum or other approved preservative.

3. Replacement of defective timber

Should any of the timber warp, shrink, wind or fly to any appreciable extent within 6 months of completion of the works, the same shall be removed and new fixed in its place at the contractor’s sole expense together with all other work that may be affected.

4. Preparation of timber

The preparation of the timber shall commence simultaneously with the beginning of the work generally and shall proceed continuously until the whole of the woodwork is prepared and stacked on the site, and properly protected from the weather.

5. Constructional timber

All constructional timber shall be properly jointed and framed together with dowels, bolts or spiked as indicated on the drawings.

6. Workmanship

All carpentry shall be executed with workmanship of the best quality. All carpenter’s work shall be left with sawn surface except where specified to be wrot.
All carpenter’s work shall be accurately set out and in strict accordance with the drawings and shall be framed together and securely fixed in the best possible manner with properly maderjoints. Provide all brads, nails, screws etc as necessary and as directed and approved.

All timber shall be as long as possible and practicable, in order to eliminate joints.

Actual dimensions of scantlings for carpentry shall not vary from the specified dimensions by more than 3 mm in deficiency or excess.

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<th>8. Joinery work generally</th>
<th>All joiner’s work generally to be cast and framed together as soon as is practicable after the commencement of the building, but shall not be wedged or glued until the building is ready for fixing same.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All work to be properly tenoned, shouldered, wedged, pinned, bradded etc. as directed by and to the satisfaction of the Architect and all properly glued up with best quality approved glue.</td>
</tr>
<tr>
<td></td>
<td>Oval or round brads or nails shall be used for fixing on face work, heads properly punched in and the holes filled with putty or as otherwise described.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9. Finish to</th>
<th>All exposed faces of woodwork shall be wrot, which shall mean bringing up the surface after planning with sand paper to a smooth satin-like finish.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>10. Workmanship</th>
<th>All joinery work shall be executed with workmanship of the best quality in strict accordance with the detailed drawings.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All joiner’s work shall be accurately set out on boards to full size for information and guidance of artisans before commencing the respective work. All joints, ironwork and other work connected therewith fully declinated which said setting out will be required to be submitted to the Architect and approved before such respective works are commenced.</td>
</tr>
<tr>
<td></td>
<td>All mouldings shall be accurately and truly run and all work planned and finished to the approval of the Architect. All arises to be slightly rounded.</td>
</tr>
<tr>
<td></td>
<td>Should any of the joinery work shrink, warp, wind or develop other defects within six months after the completion of the works, the same will be removed and now fixed in its place, together with all other work which may be affected thereby, at the contractor’s cost and expense.</td>
</tr>
</tbody>
</table>
Appendix I - Standard Specifications

All plugs described as fixing for joinery etc. unless otherwise stated shall be formed by raw plastic Philplug screwfix or other approved patent material. No woodplugs shall be used.

Any fixed joinery which in the opinion of the Architect is liable to become bruised or damaged in any way shall be properly cased and protected by the contractor until the completion of the works.

11. Door frames

Door frames and linings shall be constructed to the sizes and details shown on the drawings. Door frames shall be fitted with three fixing irons to each side of the frame and one at the head. Frames for double doors shall have two fixing at the head. The fixing irons shall consist of 300mm long heep iron not less than 3 mm thick bent up 75mm at one end and twice screwed to the frame and the other end built into walls or cast into the lintols to a depth of 225mm (where lintols are less than 225mm deep the straps shall be cut off to the full depth of the lintol). 6mm diameter metal dowels shall be fixed to each end of the frame and let into the floor concrete to a depth of at least 50mm.

Door linings shall be screwed to wooden fixing slips let into the walls and lintols.

12. Doors

Doors shall be provided and fixed to the sizes and details shown on the drawings. Doors shall be free from all blemishes and shall be rubbed down to a satin-like finish. Frames, ledged and braced or ledged and braced doors shall be made to the sizes shown on the drawings and the nailing in construction shall be driven from the face and clenched at the back. The heads of nails shall be punched and the holes filled with petty.

The flush doors are to be equal in all respects to the samples of each type to be submitted to the Architect for approval. The coves of all doors shall be pressure bonded and stacked for inspection before the faces are fixed. The plywood facings shall be of the same species on both sides of each door unless otherwise stated.

Facings shall be free from lifting at edges, blisterings or sinking or raising of the surface due to defects in the base of materials.

13. Hardboard

Hardboard shown on drawings for linings, ceilings and joinery shall be of approved manufacture.

14. Veneered plywood

All veneered plywood or blockboard is to be counter-veneered on the reverse side. Plastic faced material shall also be counter-veneered if and where necessary.
15. **Formica**

Formica shall be as supplied by Messrs Formica Ltd. De la Rue House, 84 Regent Street, London W.1., England or similar approved, of approved colour and pattern and fixed with an approved adhesive in accordance with the manufacturer’s instructions.

16. **Ironmongery**

Butts and hinger shall be of sizes and types specified and fixed with the full number of screws and on no account shall nails be used.

All locks and ironmongery shall be fixed before the woodwork or metal work is painted. Handles shall be removed carefully stored and re-fixed after the completion of painting. Locks shall be oiled and left in perfect working order. All locks to include two keys and all keys shall be labelled with door references marked on plastic labels before handing to the Architect on completion.

17. **Plugging and screwing**

Where items are described as plugged or plugged and screwed this shall mean plugging, plugging and screwing to concrete blockwalling, concrete walling, stone walling to the approval of the Architect.

18. **Prices of timber work**

The Contractor is to include in his prices of all members for fitted ends, nitres, housings, returned ends, etc. and for short-lengths not exceeding 300mm.

The prices for all joinery items are to include for slightly rounding all arises and extra cost of labours crossgrain.

Where hardwood is described as screwed, prices are to include for pollating with a matching hardwood.

Allowance is to be made in the prices for angles, ramps, nitres, ends, etc. on timber worked on solid and shall include for all necessary non-ferrous metal screws.

The prices for all timber described as select quality are to allow for keeping clean for light coloured finishes, polishings, etc.

**Ironmonger, stitch and metalworker**

1. **Ironmongery**

All ironmongery and furniture to be approved by the Architect as to quality and type and locks to be fixed to the correct hand.

2. **Oiling of locks, etc.**

All locks, ironmongery and hinges including the moving parts of metal doors and windows to be well oiled, and all necessary adjustment made before handing over the works.

3. **Metal windows and doors**

All metal windows and doors shall be hot dipped galvanized after manufacture and shall be from a manufacturer approved by the Architect.
They shall be of sizes and types shown on the drawings and shall be ordered by the Contractor and windows shall have bronze fittings with projecting hinges unless otherwise specified complete with building in lugs and glazing pins. Metal doors and windows bent or damaged during construction of the building shall be replaced at the contractor’s expense.

4. **Cyclone bolts**

All openings sashes of metal windows shall be fitted with two cyclone bolts consisting of an extruded brass case with stamped brass sheet 115mm long complete with socket or wedge.

5. **Louvre windows**

Louvre frames to be anodized aluminium with clips of the size specified suitable for taking 6mm thick glass blades screwed to concrete jambs with 38mm screws.

Mullions to be formed by coupling 56mm x 6mm thick anodized Aluminium mullion strips bolted through to the box Mullions, and fix to lintol and cill by means of retaining brackets screwed to rawplugs in concrete with No. 4 38mm screws.

Weather strips to be in anodized aluminium and to be screwed to rawplugs in concrete at head and cill with 38mm screws.

**Workmanship**

Workmanship and materials shall be of the best quality.

Prices of all doors, windows and louvers shall also include for all necessary cutting and pinning, plugging and screwing to concrete or block openings and for making good of finishes.

**Pavior**

1. **Cement, sand and aggregate**

Cement, sand and aggregates for this trade shall be as specified for “concretor”.

Coral sand shall have three washings.

2. **Preparation of surface to receive screedings and pavings**

The surface of the concrete shall be hacked to form a good key, well washed and brushed perfectly clean with a wire brush to remove all impurities, dust etc damped and grouted with a mixture of cement and water in the form of slurry, using 2.75 kgs of cement per sq.m. of surface area, before screeds are laid.

3. **Plain screeded pavings**

Floors to have plain screeded finish shall be laid in areas not exceeding 10 sq.m at one time using teak 6mm x 19mm stop fillets. Screeds to be minimum of 19mm and to be composed of one part of cement to 3 parts of sand. The surface to be finished to a polished surface with a steel trowel. The screeds or pavings shall be kept wet with sand, sacking or similar for at least seven days after completion.
<table>
<thead>
<tr>
<th>Section</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>4. <strong>Coloured screeded pavings</strong></td>
<td>Coloured screedings shall be laid in a similar manner as for plain screeding with addition of approved liquid colouring mixed in with the mortar strictly in accordance with the manufacturer’s directions and to approved shade, and kept wet for seven days after completion.</td>
</tr>
<tr>
<td>5. <strong>Expansion joints</strong></td>
<td>At the entrance of each room directly under the door, fix a teak strip 6mm x 19mm deep for full width of opening to form an expansion joint between adjoining screeds.</td>
</tr>
<tr>
<td>6. <strong>Granolithic paving</strong></td>
<td>Shall be laid in areas not greater than 10 sq.m. at one time using teak 6mm x 19 mm fillets. Granolithic paving shall be composed of two parts by volume of cement to five of blue basalt chippings to pass a 6mm square mesh free from dust and containing not more than 10% grit. Granolithic paving to be well watered and kept damp for seven days after laying.</td>
</tr>
<tr>
<td>7. <strong>Polishing of granolithic pavings</strong></td>
<td>When laid the Granolithic paving shall be rubbed down with a carborundum stone to give polished surface.</td>
</tr>
<tr>
<td>8. <strong>Non-slip surfaces to pavings</strong></td>
<td>Surfaces of internal pavings and steps where required to be made non-slippery shall be created with coarse carborundum average 11.4 kgs per m² lightly trowelled in while the paving is still green. Surfaces of external pavings or steps where required to be made non slippery shall have parallel lines 12mm deep and 9mm wide in the surfaces of the paving or concrete.</td>
</tr>
<tr>
<td>9. <strong>Quarry tiling</strong></td>
<td>Quarry tiles shall be to the quality, sizes and colour as selected by the Architect, laid to areas indicated on the drawings. The tiles shall be set square jointed bedded and pointed in cement mortar (1 part of cement to 3 parts of sand). Tiles shall be soaked in water 24 hours before laying and shall be thoroughly scrubbed to remove all traces of cement after laying and protected with sawdust or sacking and not used for at least 10 to 14 days. The surface shall be polished on completion of the contact.</td>
</tr>
<tr>
<td>10. <strong>Polishing paved surfaces</strong></td>
<td>Types of floors described in clauses 4 and 7 shall be cleaned on completion of the works and treated with two coats of floor polish each coat rubbed well in and polished.</td>
</tr>
<tr>
<td>11. <strong>Roof screed</strong></td>
<td>Roof slabs shall be finished with a cement/sand screed 1:3 mix laid to falls and crossfalls and minimum thickness 19mm. unless specified otherwise in bill of quantities to which shall be added an approved waterproofing liquid used in strict accordance with the manufacturers’ written instructions. Screeds shall be carried down rainwater outlets and finished neatly against the downpipe. The screed shall be kept wet for at least seven days after completion.</td>
</tr>
</tbody>
</table>
## 12. Prices of pavings and screeds tiles etc.

Prices for pavings or screeds are to include for preparation of the concrete base, all necessary hacking, grouting with cement grout, any extra thickness consequent upon the concrete surfaces not being finished to true and level, laying in bays and all necessary formwork and dividing strips and cutting the finished screed or paving for at least seven days.

Prices for tiling shall also include for all straight and raking cutting, fair edges and fair joint, prices for tile skirtings shall further include for angles, ends, nitrés and for short lengths not exceeding 300mm.

### Plasterer and wall tiler

**Generally**

The renderings are to be carried out so that the finished surfaces appear Without visible joints or patches. The rendering of wall surfaces, reveals of openings and cills are to be carried out in one operation and each day’s work stopped at a suitable point where it can be picked up again on the following day without noticeable joints. The quality and mixing of the materials are to be constant throughout so that there is no variation in colour or texture. The finished coat to be brushed down and left clean to be received decoration. In any continuous face of a wall the rendering shall be carried out continuously and day to day breaks made to coincide with architectural breaks in order to avoid unsightly junctions.

**Preparation of surfaces for rendering**

All faces of concrete work shall be well hacked to form a good key and in the case of block or stone walls the joints shall be raked out. All surfaces for rendering shall be well wetted with a hose before rendering is applied.

**Cement**

Cement shall be as specified in “concretor”.

**Sand**

Sand shall be as specified in Fine Aggregates in “Concretor” but in Addition shall be in accordance with B.S. 1199 and shall if CORAL SAND have three washings in lieu of 2 for internal work.

**Lime**

Lime shall be either in the form of quick lime and obtained from an approved source and properly stacked on site or in the form of dry hydrated lime and conform to the requirements of B.S 890 Class B “Quick lime or Hydrated Lime for Corse Stuff and Building Mortar”.

**Rendering**

The mix for rendering both internally and externally shall be 1 part of Cement to 1 part of lime to 5 parts of sand plus an approved mortar plasticizer used strictly in accordance with the manufacturers’ written instructions.

**Application of Rendering**

All external surfaces shall be rendered in two coats unless otherwise instructed.
The first coat of rendering shall be applied with wooden float to an even thickness of not less than 10mm and not more than 15mm. As soon as the first coat starts to set it shall be closely combed to a depth of 3mm to 6mm and kept damp for at least two days after which time the final coat shall be two days after which time the final coat shall be applied to an even thickness of not less than 6mm and not more than 25mm.

All rendered surfaces shall be kept damp for at least two days after the final coat has been applied.

**Finishes to renderings**

Rendered surfaces shall be finished as directed by the Architect in the following manner:

(a) Wood floor finish: Finish surfaces with a wood float to an even and slightly/rough textured finish.

(b) Sponge finish: Finish rendered surfaces with a steel trowel and while the rendering is still green dab the surfaces with a damp sponge until they present a fairly sanded textured finish.

© Trowel finish: Finish rendered surfaces with a steel trowel to a smooth and even surface, free from trowel marks.

**Tyrolean Finish**

Tyrolean rendering shall consist of a 12mm backing coat of one part of cement with 10% of lime by volume added to four parts of sand, trowelled up to a true surface left as open as possible (no combing or scratching required) followed by a tyrolean finishing coat of white cement (snowcrete or other equal, and sand of a suitable mix applied with a spraying machine and built up in three coats to a total thickness of 8mm approximately to the approval of the Architect.

**Sample panel**

The Contractor shall prepare samples of plastering tyrolean finish, bush-hammered finish as directed until the quality texture and finish required is obtained and approved by the Architect, after which all plastering, tyrolean and bush-hammered finish expected in the work shall conform to the respective approved samples.

**Arrises**

Vertical and horizontal arrises shall be formed to beams, columns, openings and the like and shall be pencil rounded. Particular care shall be taken to ensure that the rendering is strong and sound at the corners.

**Cracks, blisters, etc**

The Contractor shall make good all cracks, blisters and other defects and leave the whole of the plaster, tyrolean, bush-hammered finish perfect at completion. When making good defects the plaster shall be cut out to a rectangular shape with edges undercut to form dove-fitted key and all finish flush with face of surrounding plaster all at the contractor’s own expense.
Appendix I - Standard Specifications

**Plinths**

Form plinths is external rendering as shown on drawings.

**Wall tiling**

Wall tiling unless otherwise stated shall be of glazed earthenware tiles of the dimensions and colours specified and shall conform to B.S 1281 and shall be of approved manufacture true to shape and free from blemishes. The backing coat for wall tiling shall be in cement: sand mortar (1:2 dx), not less than 9mm and not more than 15mm thick, the surface of which shall be closely combed while the mortar is still green and left for a period of 24 hours.

The tiles shall be soaked in water for 30 minutes and bedded with an Adhesive of the approved manufacture.

All tiles shall be laid perfectly level, the joints to run straight horizontally and vertically and to be pointed in neat cement to an approved colour.

Internal and external angles and rounded edges tiles are to be of the same manufacture, colour and thickness as the foregoing.

**Prices of plasters.**

Prices of plastering are to include for preparation of the surface, hacking of concrete, raking out joints of blockwork, grouting, forming temporary rules, fair edges and arrises, rounded external angles, vee joints, working to rebates making good to window or door frames, around pipes, holdertats, sanitary fittings, narrow widths and small quantities.

Prices for rendering on walls shall also include for any extra labour involved in working to breaking columns, beams, cills, etc, all of which have been included in the general term of walls.

Prices for wall tiling shall include for all operations required in proper execution of the work out and waste and fixing as described.

**Glazier**

**Quality of glass**

All the glass to be of the best quality obtained free from all defects and Imperfections and shall be to the approval of the Architect.

**Windows and doors**

Glaze all windows and doors in minimum 6 mm thick laminated glass unless specified otherwise.

**Translucent glass**

Windows requiring obscure vision shall be glazed with translucent glass of an approved texture or pattern, the thickness to be not less than that mentioned above unless specified otherwise.

**Putty**

Putty for glazing to wood shall be made of pure whiting and raw linseed oil and to be used fresh. Putty for glazing to metal shall be steel sash putty of approved manufacture.
All putty shall be delivered on site in the original manufacturer’s sealed cans or drums and used direct therefrom, with the addition only of pure linseed oil if necessary. No mineral or other oils shall be used in the putties except genuine linseed oil.

The rebates of metal window shall be painted one coat before puttying.

**Glazing**

All glass to be cut accurately in one piece, to fit easily into their rebates and to be well putted, back putted and secured with springs in the case of fixing to wood or with metal clips in the case of metal. Care must be taken to ensure that the putty does not show beyond the sight lines of panes and that the putty is neatly cut off internally and neatly splayed off externally all mitres and angles left clear and sharp.

**Glass blades for window**

Blades for louvre windows shall be laminated 6mm thick glass of louvre selected glazing quality Grade ‘A’ to B.S 952 and of approved manufacture.

**Fire resistant glass**

Fire resistant glass to be fire resisting glazing of 60 mins integrity meeting BS 476:part 22. Each glass sheet to be provided with a visible “acid etching” giving the trade name in the corner of the pane and mark with BS 476:part 22. Fire resistant certificate to be produce at approval stage.

The two long edges of the blades shall be flat smooth polished with no sharp arrises and the two others clean cut. The contractor shall, when requested to do so, produce certificates of proof of manufacture and quality of the glass blades he proposes to use.

**Glazing work at completion**

All glass broken, cracked or scratched during the progress of the works to be reinstated at the sole cost of the contractor and all glazing to be left clean and perfect at the completion of the contract.

**Painter & Decorator**

**Generally**

All work shall be carried out in strict accordance with schedule of colours to be obtained from the Architect.

Samples of colours if requested by the Architect shall be painted on the walls 1.00m x 1.00m square and approval obtained from the Architect before proceeding with the work.

**Materials, paint, Varnishes, etc**

All oil paints, emulsion paints, varnish and other materials shall be of an approved manufacture and shall be used strictly in accordance with the manufacturers’ printed instructions, the contractor will only be allowed to use materials which are brought to the site in sealed cans not exceeding one gallon capacity, bearing the name of the manufacturer and properly labelled as to quality. Exterior quality paints only shall be used, both internally and externally. All cans of paint must be kept well stirred before and during use. The only addition to the paint which will be allowed shall be approved pure turpentine and this shall be added only in accordance with the Architect’s instructions. All coats of paint applied over each other shall be from the same manufacture and the type recommended by the manufacturers.
Well before commencing the painting work the contractor shall submit to the Architect for approval a list of all the brands of paint and finishings including the necessary primers and undercoats he intends to use and immediately upon being so approved orders shall be placed and total requirements obtained for the works.

Once approved no other brand of materials shall be used without the express permission of the Architect in writing.

**Preparation of Surfaces**

All surfaces to be painted shall be thoroughly cleaned down and surfaces of wood to be sand-papered and to be twice knotted and stopped before applying the priming coat which shall be regarded as additional to the undercoat. All surfaces of ironwork to be thoroughly cleaned of all scale, and every particle of rust, dirt or grease removed by scrapers’ and wire brushes, or other approved method. Galvanized, sheradised or zinc sprayed metal to be painted shall be treated with mordant solution. Copper pipes specified to be painted shall be rubbed down with coarse emery, cleaned with a solution of one part acetone to two parts of benzel and left to dry.

**Wood Preservative**

Treat all timber built in or in contact with walling and concrete with 2 coats of approved type of wood preservative.

**Galvanised metal Surfaces**

Clean down, treat with degreasing solution, prime with yellow chromate or other approved primer, and paint two undercoats and one gloss finishing coat oil paint.

**Ironwork**

Clean down, removing every trace of rust and paint 1 coat of red lead primer, 2 coats of undercoat and one gloss finishing coat.

**Rendered surfaces**

Brush down to remove dirt and dust, prime with alkali resistant primer as specified by the suppliers of the emulsion paint to be used and paint three coats of approved plastic emulsion paint (external quality) both internally and externally strictly in accordance with manufacturers’ instructions. The walls are not to be pumiced down.

**Cleaning on completion**

All floors to be twice washed, all marks of paint to be sponged off, windows cleaned, the work generally to be touched up after all the other trades are finished and the whole of the building left clean and perfect on completion to the satisfaction of the Architect.

**Laboratory furniture and wall cupboard, workbench**

All laboratory furniture are to be finished with one coat polyurethane lacquer of approved manufacturer. The first coat is to be gloss lacquer thinned with 10% white spirit and applied to all surfaces including the back of fittings, inside of drawers, and doors, etc. All exposed surfaces are to be finished with a further cost of semi-gloss lacquer. Hardwood bench tops are to be finished with two coats or linseed oil.
Appendix I - Standard Specifications

**Plumber**

**General**

All materials and workmanship shall comply with the latest editions of The British Standards’s Specification, Codes of Practice, By Laws and Regulations of all Statutory Authorities concerned.

The Contractor shall include for producing all working drawings, details, builder’s work and holes drawings necessary to carry out the work and as required by the Architect. The drawings shall be based upon the Architects’ diagrammatic drawings and shall be submitted, in duplicate progressively at least two months prior to the programmed commencement of work coordination and approval of the Architect. All alterations to drawings, whether due to co-ordinations or otherwise, shall be carried out by the contractor. The contractor shall provide the Architect with four copies of each approved drawings in addition to those required for his own use.

At completions of the contract, the Contractor shall provide the Architect with one complete set of negatives indicating the “As installed” installation and three prints of the said drawings complete with all operational and maintenance instructions, value charts, and test certificates. These drawings shall be provided to the Architect at practical completion of the works, failing which the Architect reserves the right to withhold an appropriate portion of the first retention money.

All work shall be tested in sections as required and before being covered up, for the Architect and statutory authorities. Before any test is carried out, a minimum of seven days notice shall be given to the Architect.

Where access is indicated to soil, waste and rainwater pipe fittings, the Contractor shall ensure that all access doors and rodding eyes are so positioned as to be accessible. Before testing, all access doors shall be removed, inspected, the washer greased and then reassembled by the Contractor.

**Lead in flats flashings, aprons etc.**

The lead used shall be best milled sheet lead of approved manufacture. No solder to be used in laying of lead except where quite unavoidable and no continuous strip of lead to be more than 2.00m long. Overlaps to be not less than 75mm. Lead flashings, aprons, soakers and other lead work where required to be fixed shall be secured with copper nails. Leadwork shall comply with the following weights.

<table>
<thead>
<tr>
<th>Material</th>
<th>Per sq.ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead gutters &amp; flats</td>
<td>29.3 kgs</td>
</tr>
<tr>
<td>Flashings and aprons</td>
<td>24.4 kgs</td>
</tr>
<tr>
<td>Soakers</td>
<td>19.5 kgs</td>
</tr>
</tbody>
</table>
Appendix I - Standard Specifications

Soil ventilating pipes

Soil ventilating pipes shall be not less than 63mm interval diameter cast iron pipes conforming to B.S.S and fitted with the necessary junctions and bends. All joints shall be made with a gasket of tarred hemp and caulked with a mixture of neat cement just moist. The pipes shall be secured to the wall with approved holderbats which shall be securely fixed to the wall with rawlbolts.

Ventilating pipes shall be carried at least 900mm above eaves level and shall be fitted with approved coated wire balloon.

Rising Main

The Contractor shall include for all charges for tapping and connection to public water main, including all necessary excavations and reinstatement of public roads.

Galvanised pipes and fittings for water services

All internal and external water services, fittings, wastes, overflows and the like shall be in screwed and socketted galvanized wrought iron or steel tubes and tubulars, the former complying with BS 788 for water (medium) and the latter with BS 1387 for B class. Pipes above ground level shall be fixed to walls with approved type galvanized malleable iron built in clips, brackets, holderbats or pipe clips, the spacing of which shall not exceed 900mm.

The jointing of galvanized piping and fittings shall be made with proprietary brands of jointing paste or compound complying with BS 1260 and if these are not obtainable by a method to be approved by the Architect.

Unless otherwise specified or detailed on drawings the internal diameter of service pipes shall comply with the following:

<table>
<thead>
<tr>
<th>Diameter of supply or feed pipe</th>
<th>No. of tappings shall not exceed</th>
</tr>
</thead>
<tbody>
<tr>
<td>13mm</td>
<td>2-13mm</td>
</tr>
<tr>
<td>19mm</td>
<td>4-13mm</td>
</tr>
<tr>
<td>25mm</td>
<td>-13mm or 2 – 19mm</td>
</tr>
<tr>
<td>31mm</td>
<td>10-13 mm or 2 – 25mm</td>
</tr>
<tr>
<td>38mm</td>
<td>16-13mm or 6 – 19mm</td>
</tr>
<tr>
<td></td>
<td>3 – 25mm or 2 – 31mm</td>
</tr>
</tbody>
</table>

Water taps

All bib, pillar, globe and stop taps shall be of the screw down pattern and comply in every respect with BS 1010. The size specified or shown on the drawing shall mean the maximum bore of the seating.

Stopcocks and boxes

Brass stopcocks shall be provided at the immediate entry of the water services into the building and at the other points as indicated on the drawings and shall be of a pattern approved by the Architect.
Stopcock boxes where required externally shall be constructed of 150mm earthenware pipe out to the required length and fixed vertically over the stopcock on two concrete blocks and the earth well consolidated round the sides. Top of pipe to be fitted with 225mm x 25mm, thick precast concrete cover reinforced with 13mm chicken wirenetting and fitted with a lifting ring.

**Testing of water services**

The whole of the water services laid or fixed by the contractor shall be tested at the contractor’s expense in the presence of the Architect and shall comply with his requirements and any defects made good to his satisfaction. In the absence of instructions regarding the test it shall be an air pump and pressure gauge test the pressure applied at 35 to 53 grms per cm² for one hour at the end of which period the loss in pressure shall not be greater than $\frac{1}{50}$ of lb. per 225 mm².

**Waste pipes**

Waste from sinks and shower to be in 38mm bore pipe and from lavatory basins to be 31mm. All wastes to be carried through external walls to discharge over gulley gratings. All wastes pipes shall be at each change of direction of pipe be fitted with a tee, one end with screwed plug for cleaning purposes. The external gulley to be connected to the nearest manhole. Wastes from urinals to be taken in 50mm diameter cast iron pipe with trap at urinal end and connected by 50mm pipe externally to the nearest manhole. **All laid to fall.**

**Overflow pipes**

Overflow pipes are to be fitted to all w.c distant tanks and baths and in each case the overflow pipe shall be 6mm longer in diameter than the water supply to the unit. Overflow pipes to w.c cisterns shall be taken through an external wall to finish 150mm beyond the face of the wall.

**Supply of sanitary ware**

Baths, w.cs, basins, sinks and other sanitary units shall be of approved manufacture and shall comply with the relevant B.S.S. They shall be of the type and designs shown on the drawings or to the Architect’s instructions. The whole of the units shall be properly fixed and connected to the water service complete with wastes and overflows as described.

**Rainwater pipes**

Rainwater pipes shall be approved rigid P.V.C rainwater unless otherwise described. Pipes shall be properly fixed to walls with approved clips at distance to be directed by the Architect.

**Drain pipes for soil drainage**

All pipes for soil drainage which include the conveyance of discharges from wcs, basins, sinks, drains, baths and showers shall salt-glazed earthenware pipes, bends, junctions and tapers complying in all respects with B.S no. 63 for “British Standard
Appendix I - Standard Specifications

Pipes” and must be stencilled with the registered mark of the B.S.I. Other fittings shall comply with the dimensions laid down in B.S. 539. If the above type of pipe is unobtainable then best Commercial Quality may be used on conditions prior approval of the Architect is obtained.

Drain pipes for water drainage

Pipes conveying storm or surface water shall be second quality distinguished by a black band.

Laying of drain pipes

The pipes to be laid in straight runs to even and regular falls, and put together with great care, the spigot of one pipe shall have one lap of tarred gasket wrapped round it and then placed into the socket of the pipe previously laid. After the adjustment the gasket shall be caulked lightly home but not so as to occupy more than one quarter of the socket depth. The socket shall then be completely filled with cement mortar (1:1) and a fillet shall be formed round the joint, with a trowel forming an angle of 45 degrees with the barrel of the pipe. The joint inside to be struck with a scraper, so as to give a perfectly clear and unobstructed water way.

Fall in drains

All pipes except where otherwise shown shall be 125mm internal diameter laid to a fall of 1:50.

Concrete bed to drains

Concrete (1:3:6) shall be laid 150mm thick to form bed for drains where the soil is found to be soft. After the pipes have been tested, it shall be haunched up on both sides to a height of 3/4th of the internal diameter of the pipe.

Concrete cover to drains

All pipes passing under buildings or under roadways shall, in addition to a 150mm concrete bed under, be completely surrounded in concrete of the same thickness of (1:3:6 mix).

Gully traps

Provide trapped gullies, complete with gratings in positions shown on drawings, set on concrete and surrounded in concrete, and jointed to drain as described.

Manholes

Manholes are to be constructed in the positions shown on the drawings. The internal dimensions of the manholes shall vary according to their depth and shall be as follows:

<table>
<thead>
<tr>
<th>Depth of manhole from top of invert to finished ground level</th>
<th>Internal dimensions of manhole shall not be less then</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 600mm</td>
<td>600 x 450mm</td>
</tr>
<tr>
<td>Up to 900 mm</td>
<td>750 x 600mm</td>
</tr>
<tr>
<td>Up to 1200 mm</td>
<td>825 x 675mm</td>
</tr>
<tr>
<td>Up to 1500mm</td>
<td>900 x 750mm</td>
</tr>
</tbody>
</table>
Appendix I - Standard Specifications

Exceeding 150mm in depth the Contractor shall apply to the Architect for details.

Manholes shall be constructed in concrete (1:3:6) cast in situ hacked for key and finished above the benching with 6mm thick rendering of cement and sand mixed in the proportions of 1 to 2. The thickness of the concrete walls shall vary according to the depth and shall be as follows:

<table>
<thead>
<tr>
<th>Depth of manhole from top of invert to finished</th>
<th>thickness of concrete to manhole walls shall not be less than</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 600mm deep</td>
<td>100mm thick</td>
</tr>
<tr>
<td>Exceeding 600mm but not Exceeding 1500mm</td>
<td>150mm thick</td>
</tr>
</tbody>
</table>

Exceeding 1500mm in depth the Contractor shall apply to the Architect for details.

The floor of manholes shall be 150mm thick and the channels and benching shall be formed above the level of the floor in fine concrete (1:2:4) average 225mm thick with a polished fall and carried up 450mm above invert level and channels. The cement for benching to be sulphate resisting cement. Step irons shall comply with B.S 1247 and shall be placed at intervals of 450mm vertically with 300mm offset between alternate steps.

Manhole covers other than those in roadways shall be 600 x 450mm cast iron medium weight with frame set flush in 125mm concrete cover slab Mix C, the building shall be bedded in grease and shall be of an approved heavy iron pattern and the contractor shall apply to the Architect for details including the construction of the manhole.

Soakaways

Construct soakaways not less than 6m away from the building in position approved by the Architect. Water from rainwater pipes to be first taken into a trapped gulley below rainwater pipes to be first taken into a trapped gulley below rainwater pipes and thence by 100mm diameter pipe to soakaway. The soakaway to be 900mm x 900mm x 1500mm deep filled with stones and finished with a 300mm layer of 38mm macadam.

Cast concrete kerb around gulley and soakaway in mix B concrete 100mm thick and 225mm deep to project 125mm above ground level. Render kerbs with a 1:3 cement and sand and finish with slightly rounded edges.

Septic tank

Septic tanks shall be constructed in position shown on the site plan not less than 15m away from the building, in accordance with detail drawing.

Interception chamber

Intercepting chamber shall be constructed as described for manholes with an approved saltglazed eathernware intercepting trap with rodding arm fitted with standard jointed stopper set and surrounded in concrete mix C and jointed to drain.
Fresh air inlet

Build into the side of the intercepting chamber a 100mm diameter cast iron pipe with bend to terminate not less than 750mm above ground level jointed to an approved 100mm galvanized fresh air inlet valve with cast brass flap and hinged mica flap.

Drain testing

All drainage runs shall be tested before tracks are filled up and afterwards when the drainage system is complete in the presence of the Architect. The contractor shall supply all necessary equipment and labour for carrying out the tests. The air test shall be carried out by plugging all openings with standard air test apparatus to one end. The air pressure in pipes to be built up by means of a suitable pump until a head of 100mm is reached and the test continued until approved by the Architect. The maximum loss allowed shall be a fall of 25mm over a period of 5 minutes after pumping has ceased. If the fall exceeds 25mm a smoke test shall be immediately carried out to locate defects and all such defects shall be made good and further tests carried out at no extra cost to the Employer.

ROADS AND FOOTPATHS

Site clearance

All roots, tree stumps, rocks and similar obstructions in the line of The excavation of the road or footpath shall be removed from the site having due regard to Clause No. 1 of the Excavator section of this specification.

Macadam finished roads

Excavate to a depth of 225mm below the required finished level of the road, and to the full width directed. All excavated materials shall be spread and levelled on the site or removed from the site as directed by the Architect.

Tarmacadam roads, Drives playground, etc.

Operation 1

Remove top soil to a minimum depth of 225mm and compact formation level by a 8-10 ton roller. Where formation is composed of clayed soil (to be decided by the Architect) apply a layer of coral sand 38mm thick and compact again.

Operation 2

Hardcore filling consisting of angular shapes blue basalt spalls 150mm x 100mm x 75mm type B to be placed on the compacted surface after operation 1, blinned with 63mm aggregate and compacted with the 8-10 ton roller by successive passes until a well interlocked mass is obtained.

Operation 3

Spread 25mm aggregate on the compacted hardcore filling after operation 2 at the rate of 16-18 sq. metre of surface per cu.metre, blinned with 19mm aggregate at the rate of 40-50 sq.metre of surface per cu.metre and compacted with the 8-10 ton roller until no movement of the 19mm aggregate is possible.
Operation 4

Spray bitumen of 6/70 penetration at a temperature of 300ºF (using a bitumen sprayer) at the rate of 2 sq. metre per gallon, followed immediately by 9mm aggregate at the rate of 150 sq. metre of surface per cu. metre and rock sand at the rate of 300 sq. metre of surface per cu. metre compact with a 8-10 ton roller after the surface has been smoothed up by hand and brass brooms.

**NOTE:** The surface to be finished to the level decided by the Architect on site.

Kerbing in stone

Edges of all roads requiring stone edging; the level kerbing shall be made of selected rocks with level and square exposed edges of full thickness of the hardcore and finished flush with the road surface.

Kerbing in concrete

To edges of all playground and paved areas except where otherwise indicated provide 300mm wide and 225mm deep concrete curbs, cast in situ to full widths and depths of 1:2:4 concrete, with smooth trowel finish to exposed edges and finished flush with and to follow falls of paved areas. At inter-sections of curbs and at intervals of 30 metres in straight run provide 13mm wide butt jointed expansion rail to back of kerbs to within 50mm of top of curb and where filled filling to be banked at a slope not exceeding 1 in 3.

EXCAVATION

2.1 **Inspection of Site**

The Contractor is deemed to have visited the Site and to have ascertained the nature of the material to be excavated.

2.2 **Dealing with water**

The contractor’s attention is drawn to the depths below ground level of the foundations and the consequent possibility of having to deal with water. Unless otherwise specified the contractor will be required by pumping or other means to keep the exactions dry during construction.

**Shoring of existing structure**

The contractor’s attention is drawn to the requirements for shoring parts of the structure of the existing building during construction and the consequent need to carry out the excavation in stages. He is not allowed to excavate within the proximity of the existing structure without the drawings and/or instructions by the Engineer to do so.
2.3 **Excavation Dimensions:**

The excavation are to be executed to the widths and depths shown on the Drawings or to greater depths if instructed by the Engineer to obtain satisfactory foundations.

If the contractor excavates to any widths or depths greater than those shown on the Drawings, or as instructed by the Engineer he shall at his own expense fill in such widths or depths beyond that instructed or shown with concrete Grade “D” to the satisfaction of the Engineer.

2.4 **Rock**

“Rock” means any hard material, which in the opinion of the Engineer can be removed only by use of compressors or by wedging and the Engineer’s opinion shall be final. Decomposed rock, tuff or other material which can be removed by pick, traxcavator or other mechanical plant will not be classed as rock. All material classified as rock may, if approved by the Engineer, be used as hardcore filling and the measured quantities of imported filling will be adjusted accordingly. All rock so used must be broken to the required size as hereafter described before being used.

2.5 **Blasting:**

No blasting will be permitted.

2.6 **Bottom of excavations to receive foundations:**

The Contractor shall report to the engineer when secure bottoms to the excavations have been obtained. Any concrete or other work executed before the excavations have been inspected and approved, shall if so directed, be removed and new work substituted after the excavations have been approved, all at the Contractor’s expense. The surface of the bottoms to excavations shall be levelled or graded to falls as required, with 50mm layer of concrete Grade “D” blinding (maximum 20mm gauge aggregate) and finished to a smooth surface with a wood float.

2.7 **Hardcore filling:**

Hardcore for filling under float, etc, shall be good hard stone ballast to the approval of the Engineer, broken to pass not greater than a 150mm ring or to be 75% of the finished thickness of the layers being completed whichever is the lesser and graded so that it can be easily and thoroughly compacted by rolling.

The filling is to be laid in layers each of a consolidated thickness not exceeding 225mm and well watered and rolled with a vibrating roller (minimum 14 tons) or a ten ton roller. Where rollings impossible, compaction shall be by hard or mechanical tampers. The top surface of the hardcore shall be levelled or graded to falls as required and blinded with similar material broken to 25mm gauge and surfaced with a 25mm layer of stone dust, well watered and rolled to receive concrete as described.

2.8 **Materials found in excavations**

No material found in the excavation is to be used in the works without the written permission of the Engineer.
CONCRETE WORK

3.1 Architect/Engineer

For the purpose of the concrete structure the Structural Engineer shall be deemed invested with the duties and be the representative of the Architect.

3.2 Code of Practice

All workmanship, materials, tests and performance in connection with the reinforced concrete work shall be in conformity with the latest edition of the British Standard Code of Practice (C.P. 110 “The Structural use of Concrete”) where not inconsistent with these Preambles.

3.3 Supervision

A competent person approved by the Engineer shall be employed by the Contractor whose duty will be to supervise all excavation operations, making and erection of formwork, sending and fixing of reinforcement and all stages in the preparation and placing of the concrete. All cubes shall be made and side test carried out under his direct supervision, in consultation with the Engineer.

3.4 Contractor’s plant equipment and construction procedures:

Not less than 30 days prior to the installation of the contractor’s plant and equipment for processing, handling, transporting, storing and proportioning ingredients and for mixing, transporting and placing of concrete, the contractor shall submit drawings for approval by the Engineer, showing the proposed general plant arrangement, together with a general description of the equipment he proposes to use.

After completion of the installations, the operation of the plant and equipment shall be subject to the approval of the Engineer.

Where these Preambles, the Bills of Quantities or the Drawings require specific procedures to the followed, such requirements are not to be construed as prohibiting the use by the Contractor of alternative procedures if it can be demonstrated to the satisfaction of Engineer, that equal results will be obtained by the use of such alternatives.

Approval of plant and equipment or their operation, or of any construction procedure, shall not operate to waive or modify any provisions or requirements contained in these preambles governing the quality of the materials or of the finished work.

3.5 Levels and Foundations:

The foundations of the works shall be carried down to depths as may be directed by the Engineer and they must be cut as nearly to the size of the concrete as possible and the vacant spaces between the concrete and the solid ground, excepting where otherwise shown, must be carefully filled in as instructed by the Engineer.

All temporary timbering shall be removed but should any timber be left in or should any other work be done beyond that specified, it will be at the Contractor’s own cost.
3.6 **Tolerances:**

On all setting out dimensions of 7.5m and over a maximum non-cumulative tolerance of plus or 6mm will be allowed, and for those under 6m the allowable maximum non-cumulative tolerance will be plus or minus 3mm. On the cross sectional dimensions of structural members, unless otherwise required by the Drawings, a maximum tolerance of plus or minus 3mm will be permitted.

The top surface of concrete floor slabs and beams shall be within 6mm of the normal level and line shown on the Drawings. Walls and columns shall be truly plumb and non-cumulative tolerance of 3mm in each storey and not more than 12mm out of plumb in their full height will be permitted. The contractor shall be responsible for the cost of all corrective measures required by the Engineer to rectify work which is not constructed within the tolerances set out above.

3.7 **Materials generally:**

All materials which have been damaged, contaminated or have deteriorated or do not comply in any way with the requirements of these Preambles shall be rejected and shall be removed immediately from the site at the Contractor’s own expense.

No materials shall be stored or stacked on suspended floors without the Engineer’s prior approval.

3.8 **Samples and Testing:**

Every facility shall be provided to enable the Engineer to obtain samples and carry out tests on the materials and construction. If these tests show that any of the materials or construction do not comply with the requirements of these Preambles, the Contractor will be responsible for the costs of the tests and the replacement of defective materials and/or construction.

3.9 **Cement:**

Cement unless otherwise specified shall be Portland Cement of a Brand approved by the Engineer and shall comply with the requirements of B.S. 12, and a manufacturer’s certificate of Test in accordance with B.S. 12 shall be supplied for each consignment delivered to the site.

Cement may be delivered to the site either in bags or in bulk.

If delivered in bags each bag shall be properly sealed and marked with the manufacturer’s name and shall be stored in a weatherproof shed of adequate dimensions with a raised floor. Each consignment shall be kept separate and marked so that it may be used in the sequence in which it is received. Any bag found to contain cement which has set or partly set, shall be completely discarded and not used in the works. Bags shall not be stacked more than 1.5m in height.

If delivered in bulk the cement shall be stored in a waterproof site either provided by the cement supplier or by the contractor but in either case the site shall be to the approval of the Engineer.

3.10 **Aggregates:**

Aggregates shall conform with the requirements of B.S. 882 and the sources and types of all aggregates are to be approved in all respects by the Engineer before work commences.
The grading of aggregates shall be one within the limits set out in B.S. 882 and as later specified and the grading, once approved, shall be adhered to throughout the works and not varied without the approval of the Engineer. Fine aggregate shall be clean, crushed rock sand and coral sand, of hard quality and shall be free from lumps of stone, earth, loam, dust, salt, organic matter and any other deleterious substances. Coral sand shall be washed in running water to the satisfaction of the Engineer. It shall be graded within the limits of zone 1 or 2 of Table 2 of B.S 882.

Coarse aggregate for concrete Grade ‘A’, ‘B’ and ‘C’ shall be crushed blue basalt stones to the approval of the Engineer. It shall be hard, clean and roughly cubical in shape, non porous, free from dust, decomposed stone, clay, earthy matter, foreign substances or friable, thin, elongated or laminated pieces. It shall be graded within the limits of Table 1 of B.S. 882 for its respective nominal size. If in the opinion of the Engineer the aggregate meets with the above requirements but is dirty or adulterated in any manner it shall be screened and/or washed with clean water, if he so instructs at the Contractor’s expense.

Aggregates shall be delivered to the site in their prescribed sizes or gradings and shall be stock-piled separately on paved areas or boarded platforms in separate units to avoid intermixing, excessive segregation and contamination with other materials. On no account shall aggregates be stock-piled on the ground. Fine aggregates shall be allowed to drain until it has reached a uniform moisture content before it is used.

3.11 Water

The water used for mixing concrete shall be from an approved source, clean, fresh and free from harmful matter.

3.12 Admixtures:

No admixtures except the ones specified for waterproof concrete shall be allowed. The Contractor may use an approved “plasticizer” which will be added to the mixing water in the proportion recommended by the manufacturer and strictly in accordance with their written instructions, to achieve better workability. No additional cost will be paid for the use of the plasticiser.

**CONCRETE STRENGTHS**

1.1 Grades of Concrete:

Grades ‘A’, ‘B’ and ‘C’ concrete shall have the following minimum strengths as given by Works Cube Test:

<table>
<thead>
<tr>
<th></th>
<th>Grade A</th>
<th>Grade B</th>
<th>Grade C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min. crushing) at 7 days strength in N/mm²</td>
<td>21</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>) at 28 days</td>
<td>30</td>
<td>25</td>
<td>20</td>
</tr>
</tbody>
</table>
Grade ‘D’ and ‘E’ concrete shall be of the following nominal mixes and may be moistened either by volume or by weight. No cube tests will be required for Grades ‘D’ and ‘E’ concrete. These grades will be used for un reinforced concrete, with a minimum slump of 50mm.

**Grade DE**

Nominal mix by 1.10 1.10 (with plums not exceeding 20% by total volume of concrete)

Max. gauge of coarse aggregate 40mm* 40mm* (* or 20mm for blinding concrete where described).

1.2 **Maturing of Concrete Materials**

**Cement**

The quantity of cement shall be measured by weight. Where delivered in bags, each batch of concrete is to use one or more whole bags of cement.

**Aggregate**

- For Grades ‘A’, ‘B’ and ‘C’ concrete, aggregates may be measured by weight in weigh batching machine as described hereafter.

- For Grades ‘D’ and ‘E’ concrete, aggregates shall be measured by weight or by volume. Where measured by volume, approved gauge boxes of such a size as will give the correct proportions shall be used.

1.3 **Weigh batching machine**

Weigh batching machine shall be of an approved type and shall be properly maintained and checked for accuracy at weekly intervals.

1.4 **Concrete Mixes ‘A’, ‘B’ and ‘C’**

As specified above.

The Contractor shall have two alternatives to achieve the specified concrete strengths.

1.5 **Alternative 1 Design Mix**

Contractor can use minimum amount of cement by weight per cubic metre of finished concrete as set out below, if he provides strict with CP 110 Clause 6.5. Requirements for design mixer.

Target mean strength. Evidence of suitability of proper mix proportions.

Trial mixes.


### 4.5.4 Additional Trial Mixes

The copies of this circular is available from the Engineer’s office on request by the contractor.

The minimum cement content by weight shall be

| Minimum cement content per cubic metre of finished concrete | 450 kg | 360 kg | 250 kg |

#### 4.6 Alternative 2

If the contractor fails to receive the requirements of alternative 1 and/or prefers nominal volumetric mix, he shall use the following:

<table>
<thead>
<tr>
<th></th>
<th>Mix A 1:13/16:2</th>
<th>Mix B 1:1 ¾:3</th>
<th>Mix C 1:2 ½:4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cement</td>
<td>1 bag of 50 kg</td>
<td>1 bag of 50 kg</td>
<td>1 bag of 50 kg</td>
</tr>
<tr>
<td>Crushed rock sand</td>
<td>1 cu. ft</td>
<td>1 ¼ cu.ft</td>
<td>1 7/8 cu.ft</td>
</tr>
<tr>
<td>Coral sand 10mm to 5mm</td>
<td>½ cu. ft</td>
<td>7/8 cu.ft</td>
<td>14 cu.ft</td>
</tr>
<tr>
<td>Graded aggregates 20mm to 10mm</td>
<td>5/8 cu.ft</td>
<td>7/8 cu.ft</td>
<td>1¼ cu. ft</td>
</tr>
<tr>
<td>Graded aggregates</td>
<td>1 7/8 cu.ft</td>
<td>3 cu. ft</td>
<td>3 ¾ cu ft</td>
</tr>
<tr>
<td>Maximum water</td>
<td>5</td>
<td>.56</td>
<td>.60</td>
</tr>
<tr>
<td>Maximum slump</td>
<td>50mm</td>
<td>50mm</td>
<td>50mm</td>
</tr>
</tbody>
</table>

Average works strength obtained from work care of nominal volumating mixes shall be 10% higher than the minimum concrete strengths specified.

#### 4.7 Ready Mix Concrete

Ready mixed concrete may be used subjects to the approval of the Engineer.

When it is used the contractor shall ensure that all the requirements of these specifications are complied with. The Engineer may at his discretion waive temporarily the requirements of preliminary trial mixes as required under the heading of trial mixes laid down for alternatives design mix.
Further to requirements the contractor shall ensure that supply and delivery of ready mixes concrete comply with the recommendations of M.S. 1926.

The concrete shall be transported to the site in approved containers and shall be continuously agitated until it is delivered on site. The Contractor shall ensure that no water is added after it is delivered.

For plant mixed concrete the contractor shall check that the delivery note for each batch shows the time when water it first added to the concrete materials, and the time interval between the delivery and the mixing of water is 20 minutes less than the final setting time of cement.

Samples of workscube shall be taken at the place where concrete is finally placed in the structural members.

4.8 **Waterproof Concrete**

Where “waterproof concrete” is specified, sealocate or other approved waterproofing material and plasticizing agent shall be added to the mixing water in the proportion recommended by the manufacturers and strictly in accordance with their written instructions. Waterproof concrete shall be grade B mix and shall meet all the strength requirements of the specified grade, except that the fine aggregate shall consist solely of rock sand.

4.9 **Changing proportion of Aggregates**

The Engineer may any time during the contract, require the proportions of fine to coarse aggregates to be altered in order to produce a mix of greater strength or improved workability and provided that the total proportions of aggregate to cement remains unchanged, no claim for additional cost will be considered.

4.10 **Testing Equipment**

The Contractor shall provide the following equipment for carrying out control tests on the site:

a) Straight edges 3m and 1.2m long for testing the accuracy of the finished concrete;  
b) A graduated glass cylinder for use in the silt test for organic impurities in the sand;  
c) Slump test apparatus;  
d) Six inch steel cube moulds with base plates and tamping rods to B.S. 1881.

4.10 **Work Cube Tests**

Work cubes are to be made at intervals as required by the Engineer and the Contractor shall provide a continuous record of the concrete work. The cubes shall be made in approved 150mm moulds in strict accordance with the Code of Practice.

Six cubes shall be made on each occasion, three from different batches, of the concrete at the place where it is deposited.
Each cubes shall be made on each occasion, three from different batches, of the concrete at the place where it is deposited.

Each cube shall be marked with a distinguishing number (numbers to run consecutively) and the code on which it is made. A record shall be kept on site giving the following partitioning.

6. Cube No.  
7. Date Mode  
8. Location in

(d) 7-day Test

Date  
Strength

(e) 28-day Test

Date  
Strength

Cubes shall be forwarded by the Contractor to an approved Testing Authority, in time to be tested two at 7 days and two at 28 days. The remaining two cubes shall be tested when necessary.

Copies of all work cube Test results shall be forwarded to the Engineer and one shall be retained on the site.

If the prescribed concrete strengths are not attained and maintained throughout the carrying out of the contract, the Contractor will be required to increase the proportion of cement and/or substitute better aggregates so as to give concrete which does comply with the requirements of the contract. The Contractor may be required to remove and replace at his own cost any concrete which fails to attain the required strength as ascertained by Work Cube Tests.

The Contractor must allow in his rates for all expenses in connection with the preparation, conveyance to the Testing Laboratory, and testing of cubes.

**CONSTRUCTION JOINTS**

1.1 **Position of Construction Joints:**

Construction joints shall be permitted only at the locations shown on the Drawings or as instructed on the site by the Engineer. In general they shall be perpendicular to the lines of Principal and shall be located at points of minimum shear, viz vertically at, or near, mid-spare or slabs and beams.

1.2 **Maximum distance between Construction Joints**

Suspended slabs are generally to be east using alternative bays not exceeding 12m in length. At least 40 hours shall elapsed between the adjacent bays/shall be in positions to be agreed with the Engineer.
Beams shall be cast with the slab. Mass concrete shall be cast in alternate bays in lengths not exceeding 7.5m and in depths not exceeding 1.5m. Adjacent sections shall not be cast within 48 hours of each other.

Under no circumstances shall concrete be allowed to fail off but shall be deposited against stopping-boards.

5.3 Preparation of Construction Joints

Before placing new concrete against concrete already set, the face of the old concrete shall be thoroughly backed, roughened and cleaned, and baitance and loose material removed therefrom. Immediately before placing the new concrete the surface shall be saturated with water. A layer of mortar not less than 25mm in thickness and consisting of 1 part of cement to 1½ parts of fine aggregate shall be applied to the face of the old concrete. All exposed construction joints shall be treated with epory resin in accordance with the manufacturer’s instructions.

EXPANSION/CONTRACTION JOINT

Joints fillers and sealants shall be of an approved type unless shown on the drawings. Reinforcement or other embedded items bonded to the concrete shall not extend continuously through any expansion/construction joint.

WATERBARS

1.1 Type

Waterbars shall be P.V.C waterbars of an approved type and shall be provided in the positions indicated on the drawings.

1.2 Joints

Joints shall be heat welded in accordance with the manufacturer’s instructions and where the waterbar is to be fixed vertically, metal clips as manufactured by the supplier of the waterbar or of other approved design shall be provided to suspend the waterbar from the reinforcement.

1.3 Additional Water Bar

Where waterproof concrete is used the Contractor shall adhere strictly to the position and type of construction joints as detailed on the Drawings. Any deviation from this procedure or the provision of additional construction joints will require the prior approval of the Engineer and any additional waterbars which may be required will be at the Contractor’s expense.

1.4 Formwork to Water Bars

Formwork shall be designed with sufficient timber formers and blocking pieces to support the waterbar and to ensure that it is not displaced during concreting. In the case of horizontal joints in vertical walling and similar members of the formwork shall be so constructed as to permit the starter or upstand of concrete surrounding the lower half of the waterbar to be poured in the same operation as the slab
or other member from which it springs. Formwork to walls or similar members where a water bar is positioned at the bags of the lift shall have sufficient openings not less than 300mm square at approximately 225mm above the level of the waterbar to permit checking that the waterbar is correctly positioned and not displaced during concreting.

No concreting will be permitted to portions where upstand startup from an integral part until the formwork to the starter has been fixed and approved.

**8. EMBEDDED CONCRETE**

All sleeves, inputs, anchors and embedded items required for adjoining work or for its support shall be approved by the Engineer and shall be placed prior to concreting and shall be used after an interval of time approved by the Engineer.

All contractors whose work is related to the concrete or must be supported by it shall be given ample time and opportunity to furnish embedded items before concrete is placed.

Expansion joint material, waterstops, and other embedded items shall be positioned accurately and rigidly. Voids in sleeves etc. shall be filled temporarily with readily removable material to prevent concrete entering into them.

**9. MIXING & PLACING OF CONCRETE**

**9.1 Concrete Mixer:**

The concrete shall be mixed only in approved power driven mixers of a type and capacity suitable for the work. Mixers shall be of a capacity sufficient to take one whole bag of cement per batch. Smaller size mixers shall not be used. The mixer shall be equipped with an accurate water measuring device which shall be checked weekly for accuracy. All materials shall be thoroughly mixed dry before the water is added and the mixing of each batch shall continue for a period of not less than two minutes after the water has been added and until there is a uniform distribution of the materials and the mass is uniform in colour.

The entire contents of the mixed drum shall be discharged before recharging. The volume of mixed materials shall not exceed the rated capacity of the mixer. Whenever the mixer is started, 10% extra cement shall be added to the first batch and no extra payment will be made on this account.

**9.2 Concrete Consistency:**

As a check on concrete consistency slump tests may be carried out and shall be in accordance with B.S 1881. The Contractor shall provide the necessary apparatus and allow for the costs of such tests. The slump of the concrete made with the specified water content, using dry materials, shall be determined and the water to be added under wet conditions shall be so reduced as to give approximately the same slump.
9.3 Conveying of concrete:

The concrete shall be mixed as near to the place where it is required as is practicable to avoid rehandling and flowing, and only as much as be required for a specified section of the work shall be mixed at one time, such section being concerned and finished is one operation without delay. All concrete must be efficiently skilled and used in the works within twenty (20) minutes of mixing. It shall be discharged from the mixer direct either into receptacles or barrows and shall be distributed by approved means which do not cause segregation or loss of ingredients or otherwise repair the quality of the concrete. Approved mechanical means of handling will be provided they are not longer than 6m and their slope do not exceed 1 vertical to 2 horizontal is not less than 1 vertical to 3 horizontal.

9.4 Depositing of concrete

Placing of concrete in supported elements e.g slab, bed shall not be started until the concrete previously placed in top parts of columns is no longer plastic and has been in place at least for two hours.

Concrete shall be placed from a height not exceeding 1.3m directly into its permanent position and shall not be worked along the shutters to that position. Unless otherwise approved, concrete shall be placed in a single operation to the full thickness of slabs with beams and similar members. The Engineer shall allow concrete to be placed for walls exceeding 150mm thickness from a height approved system of for mwork is used.

In addition contractor will ensure that the concrete shall be deposited continuously such that no concrete shall be deposited on concrete which had hardened sufficiently to cause the formation of seams or places of weakness within the section. Placing shall be carried out at such a rate that the concrete which is being integrated with fresh concrete is still plastic.

Concrete in columns may be placed in a height of 3m with careful placing and vibration to achieve satisfactory results. Where the height of the column exceeds 3m suitable openings must be left in the shutters on that this maximum lift is not exceeded.

Concrete shall be placed continuously until completion of the part of the work between construction joints as specified hereinafter or of a part of approved extent. At the completion of a specified or approved part a construction joint of the form and in the positions hereinafter specified shall be made. A record of all such joints must be made by the contractor and a copy supplied to the Engineer.

9.5 Placing concrete under water

When required concrete shall be deposited under water by an approved method in such a way that the fresh concrete enters the mass of previously placed concrete from within, causing water to be displaced with minimum disturbance at the surface of the concrete.

9.6 Precautions of mixing and placing:

Any accumulation of set concrete on the reinforcement shall be removed by wire brushing before further concrete is placed. The contractor shall provide runways for concreting to the satisfaction of the Engineer. Under no circumstances will the runways be allowed to rest on the reinforcement.
Care shall be taken that the concrete is not disturbed or subjected to vibrations and shocks during the setting period.

Mixing machines, platforms and barrows shall be cleaned before commencing mixing and be cleaned on every cessation of work.

Where concrete is laid on hardcore, concrete blocks or other absorbent materials, the base shall be suitably and sufficiently wetted before the concrete is deposited.

10. Compaction

Compaction:

At all times during which concrete is being placed, the contractor shall provide adequate trained and experienced labour to ensure that the concrete is compacted in the forms to the satisfaction of the Engineer.

10.1 Depth of Compaction:

Concrete shall be placed neither at a rate greater that will permit satisfactory compaction nor to a depth greater than 750m before it is completed.

10.2 Vibration of Concrete:

During and immediately after placing, the concrete shall be thoroughly compacted by means of continuous tamping, spading, slicing, rodding, forking and vibration. Vibration is required for all concrete of grades ‘A’, ‘B’ and ‘C’.

Care shall be taken to fill every part of the forms, to work the concrete under and ground the reinforcement without displacing it and to avoid disturbing recently placed concrete which has begun to set.

Any water accumulating on the surface of newly placed concrete shall be removed and no further concrete shall be placed thereon until such water be removed.

10.3 Internal Vibrators:

Internal vibrators shall have a frequency of not less than 7,000 cycles per minute and shall have a rotating eccentric weight of at least 2 kg. With an eccentricity of not more than 12mm. Such vibrators shall visibly affect the concrete within a radius of 22mm from the vibrator.

Vibrators shall not be used to move concrete from place to place in the formwork.

At least one internal vibrator shall be operated for every two cubic metres of concrete placed per hour and at least the spare vibrator shall be maintained on site in case of break-down during concreting operations.
10.4 External Vibrators

External formwork vibrators shall be of the high frequency less amplitude type applied with the principal direction of vibration in the horizontal plane. They shall be attached directly in the forms at not more than 1.2m centers.

In addition to internal and external vibration the upper surface of suspended floor slabs shall be levelled with a tamping vibrating speed prior to finishing. Vibrating elements shall be of the low frequency high amplitude type operation at speed of not less than 3,000 r.p.m.

11. Curing and Protection

11.1 Periods and means of curing and protection:

Care must be taken that no concrete is allowed to become prematurely dry and the fresh concrete must be carefully protected within two hours of placing from rain, sun and wind by means of massive sacking, polythene sheeting, or other approved means. The protective layer and the concrete itself must be kept continuously wet for at least seven days after the concrete has been placed. The Contractor must allow for the complete covering of all fresh concrete for a period of 7 days. Heasian or polythene sheeting shall be in the maximum widths obtainable and shall be secured against wind. The Contractor will not be permitted to use old cement bags, hessian or other material in small piece.

11.2 Protection of foundation concrete

Concrete in foundations and other underground work shall be protected from admixture with falling earth curing and after placing.

11.3 Executive loads before curing

Traffic or loading shall not be allowed on the concrete except with the written permission of the engineer.

12. Faulty Concrete

Any concrete which fails to comply with these preambles or which shows signs of setting before it is placed shall be taken out and removed from the site. Where concrete is found to be defective after it was set, the concrete shall be out and replaced in accordance with the Engineer’s instructions. On no account shall any faulty, honeycombed, or otherwise defective concrete be repaired or matched until the Engineer has made an inspection and issued instructions for the repair. The whole of the cost whatsoever, which may be occasioned by the need to remove faulty concrete shall be borne by the contractor.

13. Reinforcements

13.1 Type of Reinforcement:

The steel reinforcement shall comply with the latest requirement of the following British Standards:

Round mild, medium tensile and to B.S 765 (Imperial units) high tensile and steel bars.
Hot rolled bars for the reinforcement of concrete to B.S 1449 (metric units)

Cold twisted steel bars to B.S 1144 (imported units)

Cold worked steel for the reinforcement of concrete to B.S 4461 (metric units)

Fabric reinforcement to B.S 1221

It shall be in Imperial or Metric sizes as detailed on the drawings.

13.2 Testing of Reinforcement

If required by the Engineer the contractor shall submit a test certificate of the rollings, and/or shall arrange for testing by MOW or other approved authority. Reinforcement shall be free from loose mill scale or rust, grease, paint or other substance likely to reduce the bond between the steel and concrete.

13.3 Fabric Reinforcement

It shall be of size and/or weight specified and shall be tied with other reinforcements with minimum 225mm laps, using no. 19 S.W.C annealed binding wire.

13.4 Fixing and Reinforcement:

Reinforcement shall be accurately bent to the shapes and dimensions shown on the Drawings and/or schedule and in accordance with B.S. 1478. Reinforcement must be cut and bent sold and no welded joints will be permitted unless so detailed. Reinforcement shall be accurately placed in position as shown on the drawings and shall be secured against displacement by using No. 18 S.W.C annealed binding wire or suitable clips at inter-sections and laps, and shall be supported by concrete or metal supports, steel chairs, spacers or metal hangers to ensure the correct position and cover before concreting and shall be kept in the same position during concreting. However such supports, chairs etc. shall have minimum 12mm cover made of concrete blocks where the concrete surface is exposed to weather and/or without finishes.

No laps shall be permitted except the acres shown on the drawings without the prior approval of the engineer.

13.5 Spacing Blocks:

Spacing blocks of approved size and shape made of concrete similar to that used in the surrounding construction and fixed to the reinforcement or formwork by No. 18 S.W.C wires set into the spacer blocks or other approved means shall be provided where necessary to ensure that the requisite cover is obtained. The contractor is to include for providing sufficient such spacer blocks in his prices for steel reinforcement when such supplier has been nominated.
Where composite blocks or minor forms from construction are just spare block are to be provided. These will generally consist of concrete blocks as described above made to fit the width of the rib less 3 mm of reinforcement bars used per on the top surface with wire ties at each.

13.6 Concrete cover to reinforcement:

Unless otherwise instructed the concrete cover to rod reinforcement over main bars in any face shall be:

- Foundations against each face: 3 (75mm)
- Foundations against blinding: 2 (50mm)
- Columns: 1½ (38mm)
- Beams: 1 (25mm)
- Slabs: ½ (13mm)

13.7 Positions and correctness of reinforcement:

No concreting shall be commenced until the engineer has inspected the reinforcement in position and until he has approved the same. The contractor shall give two clear days notice of his intention to concrete.

Irrespective of whether any inspection and/or approval of the fixing of the reinforcement has been carried out as above, it shall be the contractor’s sole responsibility to ensure that the reinforcement complies with the details on the drawings or schedule and is fixed exactly in the positions shown therein and in the positions to give the prescribed cover.

The contractor will be held entirely responsible for any failing or defect in any portion of the reinforced concrete structure and including any consequent claims, third party claims, etc, where it is shown that the reinforcement has been incorrectly positioned or is incorrect in size or quantity with respect to the detailed Drawings or schedules. Unless permitted by the Engineer, reinforcement shall not be after being embedded in hardened concrete.

13.8 Protection of exposed reinforcement

Where reinforcement projects frame concrete setting of the structure and this reinforcement is executed to remain exposed to more than a month it is to be with a cement to prevent rust staining on the finished concrete. This is to be brushed off the reinforcement prior to the continuation to converting.

The Contractor shall be responsible for the co-ordination with the Electrical and other sub-contractors for incorporating electrical conduit, pipes, fixing locks, chases, holes and the like in concrete members as required and must ensure that adequate notice is given to sub-contractors informing them when concrete members incorporating the above are to be poured. The contractor shall submit full details including position of these items to the Engineer for approval before the work is put in hand. All fixing blocks, chases, holes, etc, to be left in the concrete shall be accurately set out and cast with the concrete.
15. Position of electrical conduit

Unless otherwise instructed by the Engineer an electrical conduit to be positioned within the reinforced concrete shall be fixed inside the steel cages of beams and columns and between the top and bottom steel layers in slabs and similar members. No conduits are to be placed into concrete members having a dimension less than 100mm.

The proposed position of all electrical conduits 25mm and over in diameter which are to be enclosed in the concrete shall be shown accurately on a plan to be submitted to the Engineer, whose approval shall be obtained before any such conduit is placed.

16. Formwork

16.1 Materials and Design

Formwork shall be constructed of timber or steel or precast concrete or other approved material with sufficient strength to withstand pressure resulting from placing and vibration of the concrete and with rigidity to achieve the specified tolerances.

The design and Engineering of the formwork as well as its construction shall be the responsibility of the contractor. The Formwork shall be designed for the loads, lateral pressure, pressure due to cyclonic winds and other loads likely to be encountered on site.

Shops drawings for formwork including the location and reshoring shall be submitted for approval by the Engineer before erection.

16.2 Construction

All formwork shall have joints close enough to prevent leakage of liquid from the concrete and formwork shall be jacked or dedged and clamped or bolted to permit adjustments before concreting and to permit easing and removal of formwork without jarring the concrete. Formwork shall be securely braced and strutted against lateral deflections and vertical movements. Where formwork is supported on previously constructed portions of the reinforced concrete structural frame, the Contractor shall by consultation with the Engineer ensure that the supporting concrete structure is capable of carrying the load and/or is sufficiently propped from lower floors or portions of the frame to permit the load to be temporarily carried during construction.

Formwork shall be cambered to compensate for anticipated deflections prior to hardening of the concrete.

16.3 Preparation for Concreting

The Contractor’s attention is drawn to the various surfaces textures and applied finishes required and the faces of the formwork next to the concrete must be of such material and construction and be sufficiently true to provide a concrete surface which will in each particular case permit the specified surface treatment or applied finish.
At construction points contact surface of the form squeating for flush surfaces shall overlap 300mm and shall hold right against the hardened concrete to prevent effects or loss of mortar.

Methods of fixing and positioning of the formwork which results in holes through the concrete and/or left in metal ties or similar in the concrete shall require Engineer’s approval.

All surfaces which will be in contact with concrete shall be piled or greased to prevent adhesion of mortar. Oil or grease shall be of a non-staining mineral type applied as a thin film before the reinforcement is placed. Surplus moisture shall be removed from the forms prior to placing of the concrete.

Temporary openings shall be provided at the base of columns, wall and seam forms and at any other points where necessary to facilitate cleaning, and inspection immediately before the pouring of concrete. Before the concrete is placed the shuttering shall be trued-up, and the interior of the form shall be completely cleared of all extraneous materials including accumulated water.

The reinforcement shall then be inspected for accuracy of fixing, immediately before placing the concrete the formwork shall be well wetted and inspection openings shall be closed.

**16.4 Defective Formwork:**

Defective formwork shall be removed or strengthened and improved by the contractor according to the instructions by the Engineer.

**16.5 Formwork to Construction Joints etc.**

Formwork forming the construction joints and expansion joint shall be rigid, tight to avoid loss of mortar and true in square.

Formwork shall be inspected and passed by the Engineer before placing reinforcement and concreting.

**16.6 Stripping Formwork:**

Formwork shall be removed without undue vibration or shock and without damage to the concrete. No formwork shall be removed without the prior consent of the Engineer and the minimum periods that shall elapse between the placing of the concrete and the striking of the formwork will be as follows:

<table>
<thead>
<tr>
<th>Type</th>
<th>Minimum Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beam side walls and columns</td>
<td>2 days</td>
</tr>
<tr>
<td>Slab soffits (with props designed to left under)</td>
<td>7 days</td>
</tr>
<tr>
<td>Beam soffits (with props designed to left under)</td>
<td>10 days</td>
</tr>
</tbody>
</table>

Subject to work cubes achieving the specified strengths and the loads due to construction on them being lighter than the designed loads. The props can be removed for:

<table>
<thead>
<tr>
<th>Type</th>
<th>Minimum Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slab</td>
<td>10 days</td>
</tr>
<tr>
<td>Beams</td>
<td>21 days</td>
</tr>
</tbody>
</table>
Appendix I - Standard Specifications

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If the Contractor wishes to take advantage of the shorter stripping times as permitted above for beam and slab soffits when props are left in place, he must so design his formwork that sufficient props as agreed with the Engineer can remain in their original position without being moved in any way until expiry of the minimum time for removal of props. Stripping and re-propping will not be permitted.

Contractor shall be responsible for consequent damage arising from early stripping of formwork.

16.7 Making good:

After removal of formwork all projections, etc, on the concrete surface shall be chipped off, and made good to the requirements of the Engineer. Any voids or honeycombing shall be treated as described in “faulty concrete”.

16.8 Fair-face etc.

Where fair-face is specified the contractor shall make a sample of area formed by sides not less than 1.2m for approval by the Engineer and the Architect. Same will apply to Board Marked. Tamped and finishes.

16.9 Related Uniformed Surfaces

Top of walls or buttresses, horizontal offsets and similar unformed surfaces occurring immediately adjacent to formed surfaced shall be struck smooth after the concrete is placed and shall be floated to a texture reasonably insistent with that of the formed surfaces.

17. PRECAST CONCRETE

17.1 General Requirements

Unless otherwise approved by the Engineer, all precast concrete construction shall be carried out on the site and shall conform to requirements given elsewhere in these preambles.

The maximum size of coarse aggregate in precast concrete shall not exceed 20mm except for thickness less than 75mm where it shall not exceed 12mm.

The compacting of precast concrete shall conform with requirements given elsewhere in these preambles except for thin slabs where use of immersion type vibration is not practicable. The concrete in those slabs may be consolidated on a vibrating table or by any other methods approved by the Engineer.

17.2 Steam Curing

Steam curing of precast concrete will be permitted. The procedure for steam curing shall be subject to the approval of the Engineer.

The precast work shall be made under cover and shall remain under the same cover and shall remain under the same for seven days. During this period and for a further seven days the concrete shall be shielded by sacking or other approved material kept constantly wet. It shall then be stacked in the
open for at least a further seven days to season before being set in position. Where steam curing is used these times may be reduced subject to the approval of the Engineer.

17.3 Method of Handling:

Precast concrete units shall be constructed in individual forms. The method of handling the precast concrete units after casting, during curing and during transport and erection shall be subject to the approval of the Engineer, providing that such approval shall not relieve the Contractor of responsibility for damage to precast concrete units resulting from careless handling.

17.4 Repairs:

Repair of damage to the precast concrete units, except for minor abrasions of the edges which will not impair the installation and/or appearance of the units will not be permitted and the damaged units shall be replaced by the Contractor at his own expense.

17.5 Moulds

Except where precast work is described as “fair-face” the moulds are to be made of metal or are to have metal or plywood linings or are to be other approved moulds which will produce a smooth dense fair face to the finished concrete suitable to receive a painted finish direct and free from all shutted marks, holes, pittances, etc. In his prices for such precast work the Contractor shall include for all rubbing down to produce the finish required to the satisfaction and approval of the Engineer and the Architect.

Where precast work is to have an exposed aggregate as finish the moulds shall be constructed to the requirements given for moulds for “fair face” work. The method of achieving the exposed aggregate finish shall be the aggregate transfer or other approved methods. A sample showing the required finish and shape shall be approved by the Architect/Engineer.

The precast units shall be installed to the lines, grades and dimensions shown on the Drawings or as directed by the Engineer.

18. COMPOSITE FLOOR SLABS

18.1 Size, type and concrete mix for floor block:

Concrete hollow blocks for use in the composite floor slabs are to be size and shape as shown on the Drawings with 25mm wall thickness and are to be of adequate strength to support the concrete during placing and consolidation by vibration. Blocks are to be manufactured in accordance with the procedure specified in B.S 2028 and to be of a mix not weaker than 1:10 cement: combined aggregates using maximum 10mm size aggregate. No coral sand shall be used in making of concrete blocks.

Concrete blocks are to be cured for at least 28 days before use of the site. During the first seven days of curing, blocks are to be kept permanently damp and protected from exposure to sun and wind.

Concrete blocks are to be well wetted before the pouring of concrete.
18.2 Composite Floor Construction

The hollow block floor construction is generally to be as shown on the Engineer’s Drawings.

Care shall be taken in placing blocks to ensure that they are set out in accordance with the details shown on the Drawings and that they run truly in line without encroaching on the width of the in-situ ribs.

The open ends of hollow blocks adjacent to the concrete to be placed in-situ are to be plugged or stopped previously with mortar or concrete to prevent the concrete from flowing into the void and the contractor is to include for this in his prices.

The Contractor should note that slip tiles are not to be used to the soffit of ribs and he is to take this into consideration in pricing the items of formwork to the soffit of hollow block floor construction.

Before concreting is carried out the blocks are to be thoroughly wetted.

Care should be taken during concreting that the width of ribs between the rows of blocks and of the solid in-situ concrete shown on the Drawings adjacent to supporting beams is not encroached upon by the blocks. It is essential that the concrete topping be poured at the same time as the ribs between hollow blocks.

18.3 Fixing of rib reinforcement

Reinforcement shall be positioned accurately with required cover in accordance with the Drawings and using the particular spacing blocks with wire ties as previously described. Spacer blocks shall be provided in ribs at not more than 1.2m centres. Care must be taken during concreting that the reinforcement is not displaced.

Where holes for services, etc. occur, the necessary holes or pockets shall be accommodated by the replacing of a hollow block by in-situ concrete or the widening of a rib all in accordance with the Engineer’s instructions. Prices for holes, etc. through hollow block construction are to include the re-arrangement or substitution of the hollow block with solid concrete in addition to the actual formation of the hole.

19. NOTES CONCERNING MEASUREMENT AND PRICING

The Contractor must allow for all costs incurred during the progress of the Contract for complying with the provisions concerning the preparation and use graded mixes.

Prices for concrete shall include for mixing and depositing as described or indicated and for hoisting and depositing at the various levels required throughout the building, and shall also include for forming or hacking a satisfactory key for all faces receiving asphalt and plaster work. Prices for slabs shall also include for levelling off the surface as described under “compaction”, and all temporary formwork to form construction joints at bay edges.

Prices for reinforced concrete shall, in addition, include for filling into, between or on formwork and thoroughly compacting between and around rods or fabric reinforcement and for forming all additional
construction joints between varying mixes. Where described as vibrated, prices must include for fully vibrating as described.

Formwork (use and waste only is measured net to the actual surface of the concrete to be supported and the prices for formwork shall include for extra material at joints, extra labour and waste for narrow widths, small quantities, overlaps, passings at angles, straight cutting and waste, splayed edges, notchings, etc and for fixing at the various levels including battons, struts and supports and for bolting, jacking, wedging, easing striking and removal. Prices for linear items such as boxings shall include for angles and ends. Strutting has been measured at varying levels to slab soffits only and prices for other items must include for strutting at any level.

Prices for steel rod reinforcement shall include for cutting to lengths and all labour in bending and cranking, forming hooked ends, handling, hoisting and fixing in position and for providing all necessary tying wire and supports. Prices for fabric reinforcement shall include for all straight cutting and waste, handling, hoisting and fixing in position, providing all necessary tying wire, and supports and all extra material in laps.
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Appendix II– General Conditions of Contract
Procurement Policy Office
(Established under section 4 of the Public Procurement Act 2006)

Ref: W/GCC10/05-18

GENERAL CONDITIONS OF CONTRACT
(WORKS)
21 May 2018

AMENDMENTS TO DOCUMENT DATED 21 MAY 2018
Section VI: General Conditions of Contract
Sub-clause 39.1 & 39.2 (Amended)
Sub-clause 40.1 (Amended)

AMENDMENTS TO DOCUMENT DATED 20 MARCH 2018
Section VI: General Conditions of Contract
Sub-clause 46.1 (Amended)

AMENDMENTS TO DOCUMENT DATED 06 MAY 2014
Section VI: General Conditions of Contract
Sub-clause 49.2 (c) (Amended)

AMENDMENTS TO DOCUMENT DATED 17 OCTOBER 2013
Section VI: General Conditions of Contract
Clause 58 (Amended)
(Public Body)

General Conditions of Contract

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General Conditions of Contract

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

(a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

(b) The Activity Schedule is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity.

(c) The Adjudicator is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.

(d) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

(e) Compensation Events are those defined in GCC Clause 41 hereunder.

(f) The Completion Date is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.

(g) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.

(h) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.

(i) The Contractor’s Bid is the completed bidding document submitted by the Contractor to the Employer.

(j) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.

(k) Days are calendar days; months are calendar months.

(l) Dayworks are varied work inputs subject to payment on a time basis for the Contractor’s employees and Equipment, in addition to payments for associated Materials and Plant.
(m) A Defect is any part of the Works not completed in accordance with the Contract.

(n) The Defects Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.

(o) The Defects Liability Period is the period named in the PCC pursuant to Sub-Clause 33.1 and calculated from the Completion Date.

(p) Adjudicator means the single person appointed under Clause 23.

(q) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

(r) The Employer is the party who employs the Contractor to carry out the Works, as specified in the PCC.

(s) Equipment is the Contractor’s machinery and vehicles brought temporarily to the Site to construct the Works.

(t) “In writing” or “written” means hand-written, type-written, printed or electronically made, and resulting in a permanent record;


(v) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the PCC. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

(w) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

(x) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

(y) The Project Manager is the person named in the PCC (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and
administering the Contract.

(z) PCC means Particular Conditions of Contract

(aa) The Site is the area defined as such in the PCC.

(bb) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.

(cc) Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

(dd) The Start Date is given in the PCC. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

(ee) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

(ff) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

(gg) A Variation is an instruction given by the Project Manager which varies the Works.

(hh) The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the PCC.

2. Interpretation

2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

2.2 If sectional completion is specified in the PCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:
Appendix II - General Conditions of Contract

1. (a) Agreement,
   (b) Letter of Acceptance,
   (c) Contractor’s Bid,
   (d) Particular Conditions of Contract,
   (e) General Conditions of Contract,
   (f) Specifications,
   (g) Drawings,
   (h) Bill of Quantities,\(^6\) and
   (i) any other document **listed in the PCC** as forming part of
   the Contract.

2. Language and Law
   3.1 The language of the Contract and the law governing the Contract are **stated in the PCC**.

3. Project Manager’s Decisions
   4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

4. Delegation
   5.1 Otherwise specified in the PCC, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

5. Communications
   6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

6. Subcontracting
   7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor’s obligations.

7. Other Contractors
   8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the PCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

\(^6\) *In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”*
9. Personnel and Equipment  

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor’s staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer’s and Contractor’s Risks

10.1 The Employer carries the risks which this Contract states are Employer’s risks, and the Contractor carries the risks which this Contract states are Contractor’s risks.

11. Employer’s Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer’s risks:

(a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to

(i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or

(ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.

(b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer’s design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer’s risk except loss or damage due to

(a) a Defect which existed on the Completion Date,

(b) an event occurring before the Completion Date, which was
not itself an Employer’s risk, or

(c) the activities of the Contractor on the Site after the Completion Date.

### 12. Contractor’s Risks

12.1 From the Starting Date until the Defects Liability 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 Employer’s risks are Contractor’s risks.

### 13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the PCC** for the following events which are due to the Contractor’s risks:

(a) loss of or damage to the Works, Plant, and Materials;

(b) loss of or damage to Equipment;

(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and

(d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager’s approval within 21 days after issue of letter of Acceptance. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

13.6 The policies which are in the joint names of the Contractor and the Employer shall contain a clause to include a waiver of subrogation of the Contractor's rights to the insurance carrier
against the Employer.

14. Site Data
14.1 The Contractor shall be deemed to have examined any Site Data referred to in the PCC, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works
15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date
16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager
17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

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

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

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

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety
18.1 The Contractor shall be responsible for the safety of all activities on the Site.

19. Discoveries
19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager’s instructions for dealing with them.

20. Possession of the Site
20.1 The Employer shall, after receiving the Performance security, the insurance covers and the Program for the Works all as per requirements, give possession of all parts of the Site to the Contractor within seven days for execution of works in accordance to the Program for the Works. If possession of a part is not given by the date stated in the PCC or as thereafter reviewed and agreed by the parties, the Employer shall be
deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall permit persons appointed by the Employer to inspect the Site and/or the accounts and records of the Contractor and its sub-contractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Employer if required by the Employer. The Contractor’s attention is drawn to Sub-Clause 57.1 which provides, inter alia, that acts intended to materially impede the exercise of the inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination.

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer’s issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the PCC, to appoint the Adjudicator within 14 days of receipt of such request.

23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the PCC at the request of either party, within 14 days of receipt of such request.

24. Procedure for Disputes

24.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager’s decision.

24.2 The Adjudicator shall give a decision in writing within 28 days
of receipt of a notification of a dispute.

24.3 The Adjudicator shall be paid by the hour at the rate specified in the PCC, together with reimbursable expenses of the types specified in the PCC, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator’s written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator’s decision shall be final and binding.

24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the PCC.

B. Time Control

25. Program

25.1 Within the time stated in the PCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

25.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

25.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the PCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the PCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

25.4 The Project Manager’s approval of the Program shall not alter the Contractor’s obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
26. Extension of the Intended Completion Date

26.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event (as defined in GCC 41) occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

26.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

27. Acceleration

27.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

27.2 If the Contractor’s priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

28. Delays Ordered by the Project Manager

28.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

29.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

29.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.
30. Early Warning  30.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

30.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

31. Identifying Defects  31.1 The Project Manager shall check the Contractor’s work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor’s responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

32. Tests  32.1 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.

33. Correction of Defects  33.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the PCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

33.2 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.

34. Uncorrected Defects  34.1 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, and the Contractor shall pay this amount.

D. Cost Control

35. Contract Price  35.1 In the case of an admeasurement contract, the Bill of Quantities
shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

35.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to prepare interim valuations of works done.

Any errors or inconsistencies including front loading detected in the Activity Schedule at any time during the execution of the project shall be resolved as directed as by the Project Manager.

### 36. Changes in the Contract Price

36.1 In the case of an admeasurement contract:

(a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.

(b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.

(c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

36.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor’s own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

### 37. Variations

37.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.

37.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

37.3 If the Contractor’s quotation is unreasonable, the Project
Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager’s own forecast of the effects of the Variation on the Contractor’s costs.

37.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

37.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

37.6 In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

38. Cash Flow Forecasts

38.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

39. Payment Certificates

39.1 The Contractor shall submit to the Project Manager monthly statements, with supporting documents of the estimated value of the work executed less the cumulative amount certified previously.

39.2 The Project Manager shall check the Contractor’s monthly statement and certify the amount to be paid to the Contractor within 28 days after receiving the statement and supporting documents.

39.3 The value of work executed shall be determined by the Project Manager.

39.4 The value of work executed shall comprise:

(a) In the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been
completed; or

(b) In the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.

39.5 The value of work executed shall include the valuation of Variations and Compensation Events.

39.6 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.

39.7 Unless otherwise specified in the SCC Interim Payment may be made for Plant and Material delivered on site ready for incorporation within reasonable period of time in the permanent works, subject to the Contractor transferring ownership to the Employer and providing, where applicable, the right of the transfer of ownership vested upon the Contractor by its supplier.

Notwithstanding the transfer of ownership the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor until taking over of the works or part thereof in which such Plant and Materials are incorporated and shall make good at its own cost any loss or damage that may occur to the works or part thereof from any cause whatsoever during such period prior to the taking over.

40. Payments

40.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate but not later than 56 days after the Project Manager has received a statement with supporting documents from the Contractor. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment irrespective of the date on which any interim payment is issued. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest at the legal rate for each of the currencies in which payments are made. The contractor shall be entitled to this payment without formal notice or certification, and without prejudice to any other right or remedy.

40.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the
Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

40.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

40.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

41. Compensation Events

41.1 The following shall be Compensation Events:

(a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.

(b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.

(c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

(d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

(e) The Project Manager unreasonably does not approve a subcontract to be let.

(f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

(g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
(i) The advance payment is delayed.

(j) The effects on the Contractor of any of the Employer’s Risks.

(k) The Project Manager unreasonably delays issuing a Certificate of Completion.

(l) In situations of Force Majeure which makes the contractor’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances. Such events shall be limited to:

   (a) reason of any exceptionally adverse weather conditions (as specified in the BDS) and

   (b) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works.

41.2 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.

41.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor’s forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor’s forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager’s own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

41.4 The Contractor shall not be entitled to compensation to the extent that the Employer’s interests are adversely affected by the Contractor’s not having given early warning or not having cooperated with the Project Manager.

42. Tax

42.1 The Project Manager shall adjust the Contract Price if taxes,
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43. Currencies

43.1 Where payments are made in currencies other than the currency of the Employer’s country specified in the PCC, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor’s Bid.

44. Price Adjustment

44.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the PCC. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

\[ P_c = A_c + B_c \left( \frac{I_{mc}}{I_{oc}} \right) \]

where:

- \( P_c \) is the adjustment factor for the portion of the Contract Price payable in a specific currency “c.”

- \( A_c \) and \( B_c \) are coefficients specified in the PCC, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency “c;” and

- \( I_{mc} \) is the index prevailing at the end of the month being invoiced and \( I_{oc} \) is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency “c.”

44.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

45. Retention

45.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the PCC until Completion of

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7 The sum of the two coefficients \( A_c \) and \( B_c \) should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient \( A_c \), for the nonadjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price. [To be transferred to the User Guide]
45.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

46. Liquidated Damages

46.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the PCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the PCC. This amount may be included as a deduction in the contract price and payment certificate. Payment of liquidated damages shall not affect the Contractor’s liabilities.

46.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 40.1.

47. Bonus

47.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the PCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

48. Advance Payment

48.1 The Employer shall make advance payment to the Contractor of the amounts stated in the PCC by the date stated in the PCC, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

48.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required
specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

48.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

49. Securities

49.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the PCC, by a bank and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee.

49.2 (a) Where the contractor has benefitted from the application of the Margin of Preference for employment of local manpower, it shall:

(i) in the execution of the contract, fulfill its obligation of maintaining local manpower force for 80 % or more of the man-days deployed in the execution of the Works with which it satisfied the criteria of eligibility for being awarded the contract in application of the Margin of Preference; and

(ii) concurrently with the above performance security, provide a preference security to guarantee it will fulfill its obligation in that respect.

(b) For contracts above Rs 100M, the preference security shall be in the form of an “on demand” bank guarantee for an amount in a convertible currency equivalent to the difference between its bid price and the bid price of the lowest bid if the Margin of Preference was not applicable. It shall be issued by a commercial bank located in the Republic of Mauritius.

(c) For contracts up to 100M, the public body shall either retain money from progressive payments to constitute the preference security or request a security in the form of a bank guarantee at the selected bidder’s option.
(d) The preference security shall be valid until the Contractor has completed the Works and a Completion Certificate has been issued by the Employer’s Representative as per GCC 53.

(e) The cost of providing the security shall be borne by the Contractor.

49.3 Where a Preference Security is applicable:

the Employer’s Representative shall monitor the employment of local manpower throughout the execution of the contract and shall from time to time request a report from the contractor on the percentage of total men-days deployed using local manpower.

the Contractor shall submit the local manpower employment reports as often as it is reasonably requested by the Employer’s Representative.

the Employer’s and Contractor’s representatives shall consult each other to ensure that the Contractor’s obligation towards local manpower employment is met during the Works execution.

At the time of works completion, the Contractor shall submit a certified audited report to the Employer to substantiate the actual percentage of local manpower employed throughout the execution of the works.

The preference security shall be forfeited by the employer in case of failure on the part of the contractor to employ at least 80% of the local manpower in the execution of the Works.

50. Dayworks

50.1 If applicable, the Dayworks rates in the Contractor’s Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

50.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

50.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

51. Cost of Repairs

51.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor’s cost if the loss or damage arises from the Contractor’s acts or omissions.
52. Labour Clause

52.1 (a) The rates of remuneration and other conditions of work of the employees of the Contractor shall not be less favourable than those established for work of the same character in the trade concerned—

(i) by collective agreement applying to a substantial proportion of the workers and employers in the trade concerned;

(ii) by arbitration awards; or

(iii) by Remuneration Regulations made under the Employment Relation Act 2008.

(b) Where remuneration and conditions of work are not regulated in a manner referred to at (a) above, the rates of the remuneration and other conditions of work shall be not less favourable than the general level observed in the trade in which the contractor is engaged by employers whose general circumstances are similar.

52.2 No Contractor shall be entitled to any payment in respect of work performed in the execution of the contract unless he has, together with his claim for payment, filed a certificate:

(a) stating the rates of remuneration and hours of work of the various categories of employees employed in the execution of the contracts;

(b) stating whether any remuneration payable in respect of work done is due;

(c) containing such other information as the Chief Executive Officer of the Public Body administering the contract may require to satisfy himself that the provisions under this clause have been complied with.

52.3 Where the Chief Executive Officer of the Public Body administering the contract is satisfied that remuneration is still due to an employee employed under this contract at the time the claim for payment is filed under subsection 4.3, he may, unless the remuneration is sooner paid by the Contractor, arrange for the payment of the remuneration out of the money payable under this contract.

52.4 Every Contractor shall display a copy of this clause of the contract at the place at which the work required by the contract is performed.
E. Finishing the Contract

53. Completion
53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over
54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager’s issuing a certificate of Completion.

55. Final Account
55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor’s account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

56. Operating and Maintenance Manuals
56.1 If “as built” Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the PCC.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the PCC pursuant to GCC Sub-Clause 55.1, or they do not receive the Project Manager’s approval, the Project Manager shall withhold the amount stated in the PCC from payments due to the Contractor.

57. Termination
57.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

(a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;

(b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;

(c) the Employer or the Contractor is made bankrupt or goes
into liquidation other than for a reconstruction or amalgamation;

(d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager’s certificate;

(e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

(f) the Contractor does not maintain a Security, which is required;

(g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the PCC; or

(h) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to GCC Clause 57.1.

57.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

57.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

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

58. Fraud / Corruption and Integrity Clause

58.1 If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 57 shall apply as if such expulsion had been made under Sub-Clause 57.5 [Termination by Employer].

58.2 Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.

58.3 For the purposes of this Sub-Clause:
(i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

(ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

(iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

(iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

(v) “obstructive practice” is

(a) 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; or

(b) acts intended to materially impede the exercise of an inspection and audit rights provided for under Sub-Clause 22.2.

58.4 The Contractor shall take steps to ensure that no person acting for it or on its behalf will engage in any type of fraud and corruption during the contract execution:

Transgression of the above is a serious offence and appropriate actions will be taken against such contractors.

59. Payment upon Termination

59.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the PCC. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
59.2 If the Contract is terminated for the Employer’s convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor’s personnel employed solely on the Works, and the Contractor’s costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

**60. Property**

60.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor’s default.

**61. Release from Performance**

61.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.