

PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

CONSTRUCTION OF 1130-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT

**Government of the Republic of the
Philippines**

**Fifth Edition
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Section I. Invitation to Bid



Republic of the Philippines
BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO
BIDS AND AWARDS COMMITTEE
OFFICE OF THE CHIEF MINISTER

Bangsamoro Government Center, Governor Gutierrez Avenue, Rosary Heights VII, Cotabato City 9600

Invitation to Bid

CONSTRUCTION OF 1130-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT

IB No. KAPYANAN-

1. The **Office of the Chief Minister, Bangsamoro Autonomous Region in Muslim Mindanao (OCM-BARMM)**, through the **General Appropriations Act of 2019**, intends to apply the sum of **SIX HUNDRED ONE MILLION EIGHT HUNDRED SIXTEEN THOUSAND EIGHT HUNDRED NINETY-THREE AND 30/100 PESOS ONLY (PHP 601,816,893.30)**, being the Approved Budget for the Contract (ABC) to payments under the contract for **CONSTRUCTION OF 1130-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT**. The procurement consists of five (5) lots, to wit:

LOT NO.	PARTICULARS	ABC
1	CONSTRUCTION OF 220-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT IN TALAYAN, MAMASAPANO, DATU PIANG, AND RAJAH BUAYAN	PHP 115,655,007.86
2	CONSTRUCTION OF 200-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT IN DATU ODIN SINSUAT, PAGALUNGAN, AND DATU ABDULLAH SANGKI	PHP 104,810,078.56

3	CONSTRUCTION OF 210-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT IN DATU ODIN SINSUAT, PARANG, AND SULTAN KUDARAT	PHP 114,302,259.94
4	CONSTRUCTION OF 250-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT IN SULTAN MASTURA, SULTAN KUDARAT, AND DATU ANGGAL MIDTIMBANG	PHP 135,815,477.50
5	CONSTRUCTION OF 250-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT IN PARANG, DATU SAUDI AMPATUAN, SHARIFF AGUAK, DATU ODIN SINSUAT, AND DATU ABDULLAH SANGKI	PHP 131,234,069.44

Bids received in excess of the ABC for each lot shall be automatically rejected at bid opening.

2. The **OCM-BARMM** now invites bids for the **CONSTRUCTION OF 1130-UNITS OF CORE SHELTER WITH SOLAR POWERED LIGHT AND WATER COMPONENT** for each lot. Completion of the works is required within three hundred calendar days (300 cd). Bidders should have completed, within five (5) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly in Section II. Instructions to Bidders.
3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary "pass/fail" criterion as specified in the 2016 Revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184, otherwise known as the "Government Procurement Reform Act".
4. Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

5. Interested bidders may obtain further information from the address indicated below and inspect the Bidding Documents at the address given below from 9:00 a.m. to 5:00 p.m., office hours.
6. A complete set of Bidding Documents may be acquired by interested Bidders from **October 22, 2020 to November 9, 2020, 8:00 a.m. to 5:00 p.m.**, from the address below and upon payment of a non-refundable fee for the Bidding Documents indicated as follows:

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity, provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

7. The **OCM-BARMM** will hold a Pre-Bid Conference on **October 29, 2020 at 10:00 a.m.** at **Bajau Hall, 2F Office of the Chief Minister-BARMM, Bangsamoro Government Center, Gov. Gutierrez Avenue, Cotabato City**, which shall be open to prospective bidders.
8. Bids must be duly received by the BAC Secretariat at the address below on or before **November 10, 2020 at 8:30 a.m.** All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB Clause Error! Reference source not found..**

Bid opening shall be on **November 10, 2020 at 9:00 A.M.** Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.
9. Interested bidders must have been issued license category "B" by the Philippine Contractors Accreditation Board (PCAB) with at least **Medium A Size Range for General Building** to participate in this procurement activity. Further they must meet the following minimum requirements:

A. Minimum work experience requirements for key personnel:

Key Personnel	General Experience	Relevant Experience
1 Project Engineer	With experience on general construction	With experience on actual vertical structures for at least two (2) years specifically in community development project such as Core Shelter, Housing, water system facilities. With knowledge in Autocad and plan review.
2 Civil Engineer	With experience on general construction	With experience on actual vertical structure construction implementation and finishing of works and

		WATSAN for at least two (2) years. With knowledge in Autocad and plan review.
1 Electrical Engineer	With experience on general electrical works	With experience on solar power system.
1 Architect	With experience on architectural design and plan preparation and actual execution	With experience in design preparations, planning, and implementation for vertical structure construction for at least two (2) years.
1 Safety Officer	With experience on general construction	With experience as a safety Engineer or Safety Officer in construction site for at least one (1) year.
Construction Foreman (one per Municipality)	With experience on general construction	With experience on actual vertical structure construction and finishing of works for at least two (2) years. With knowledge on plan execution.

A. Minimum major equipment requirements:

Equipment	Capacity	Number of Units
Dump Truck	8 cu.m	1 per Municipality
Concrete Mixer	1 bagger	1 per Municipality
Plate Compactor	Power Gen. BD170F(4.2HP)	1 per Municipality
Bar Cutter	42 mm Circular	1 per Municipality
Ground Water Drilling Machine	130m drill depth, 220mm max. diameter	1
Welding Machine	300 amperes	1

10.

e
OCM-BARMM reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

Bids and Awards Committee

Bangsamoro Attorney General's Office, Bangsamoro
Government Center, Gov. Gutierrez Ave., Cotabato City
Tel. Nos. (064) 552-1053

(Sgd)

ATTY. SHA ELIJAH B. DUMAMA-ALBA
Chairperson, Bids and Awards Committee

Section II. Instructions to Bidders

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A. General

1. Scope of Bid

- 1.1. The Procuring Entity named in the **BDS**, invites bids for the construction of Works, as described in Section VI. Specifications.
- 1.2. The name, identification, and number of lots specific to this bidding are provided in the **BDS**. The contracting strategy and basis of evaluation of lots is described in **ITB** Clause 27.
- 1.3. The successful Bidder will be expected to complete the Works by the intended completion date specified in **SCC** Clause 1.17.

2. Source of Funds

The Procuring Entity has a budget or received funds from the Funding Source named in the **BDS**, and in the amount indicated in the **BDS**. It intends to apply part of the funds received for the Project, as defined in the **BDS**, to cover eligible payments under the Contract for the Works.

3. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

- 3.1. Unless otherwise specified in the **BDS**, the Procuring Entity, as well as bidders and contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. In pursuance of this policy, the Funding Source:
 - (a) defines, for purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves, others, or induce others to do so, by misusing the position in which they are placed, and includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; entering, on behalf of the Procuring Entity, into any contract or transaction manifestly and grossly disadvantageous to the same, whether or not the public officer profited or will profit thereby, and similar acts as provided in Republic Act 3019;
 - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring Entity, and includes collusive practices among Bidders (prior to or after Bid submission) designed to establish bid prices at

artificial, non-competitive levels and to deprive the Procuring Entity of the benefits of free and open competition;

(iii) “collusive practices” means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish bid prices at artificial, non-competitive levels; and

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

(v) “obstructive practice” is

(aa) deliberately destroying, falsifying, altering or concealing of evidence material to an administrative proceedings or investigation or making false statements to investigators in order to materially impede an administrative proceedings or investigation of the Procuring Entity or any foreign government/foreign or international financing institution 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 administrative proceedings or investigation or from pursuing such proceedings or investigation; or

(bb) acts intended to materially impede the exercise of the inspection and audit rights of the Procuring Entity or any foreign government/foreign or international financing institution herein.

(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the Contract; and

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded Contract funded by the Funding Source if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing or, or in executing, a Contract funded by the Funding Source.

3.2. Further, the Procuring Entity will seek to impose the maximum civil, administrative, and/or criminal penalties available under the applicable laws on individuals and organizations deemed to be involved in any of the practices mentioned in **ITB** Clause 3.1(a).

- 3.3. Furthermore, the Funding Source and the Procuring Entity reserve the right to inspect and audit records and accounts of a contractor in the bidding for and performance of a contract themselves or through independent auditors as reflected in the **GCC** Clause 34.

4. Conflict of Interest

- 4.1. All Bidders found to have conflicting interests shall be disqualified to participate in the procurement at hand, without prejudice to the imposition of appropriate administrative, civil, and criminal sanctions. A Bidder may be considered to have conflicting interests with another Bidder in any of the events described in paragraphs (a) through (c) and a general conflict of interest in any of the circumstances set out in paragraphs (d) through (g) below:
- (a) A Bidder has controlling shareholders in common with another Bidder;
 - (b) A Bidder receives or has received any direct or indirect subsidy from any other Bidder;
 - (c) A Bidder has the same legal representative as that of another Bidder for purposes of this Bid;
 - (d) A Bidder has a relationship, directly or through 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 Procuring Entity regarding this bidding process;
 - (e) A Bidder submits more than one bid in this bidding process. However, this does not limit the participation of subcontractors in more than one bid;
 - (f) A Bidder who participated as a consultant in the preparation of the design or technical specifications of the goods and related services that are the subject of the bid; or
 - (g) A Bidder who lends, or temporarily seconds, its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- 4.2. In accordance with Section 47 of the IRR of RA 9184, all Bidding Documents shall be accompanied by a sworn affidavit of the Bidder that it is not related to the Head of the Procuring Entity (HoPE), members of the Bids and Awards Committee (BAC), members of the Technical Working Group (TWG), members of the BAC Secretariat, the head of the Project Management Office (PMO) or the end-user unit, and the project

consultants, by consanguinity or affinity up to the third civil degree. On the part of the Bidder, this Clause shall apply to the following persons:

- (a) If the Bidder is an individual or a sole proprietorship, to the Bidder himself;
- (b) If the Bidder is a partnership, to all its officers and members;
- (c) If the Bidder is a corporation, to all its officers, directors, and controlling stockholders;
- (d) If the Bidder is a cooperative, to all its officers, directors, and controlling shareholders or members; and
- (e) If the Bidder is a joint venture (JV), the provisions of items (a), (b), (c) or (d) of this Clause shall correspondingly apply to each of the members of the said JV, as may be appropriate.

Relationship of the nature described above or failure to comply with this Clause will result in the automatic disqualification of a Bidder.

5. Eligible Bidders

5.1. Unless otherwise indicated in the **BDS**, the following persons shall be eligible to participate in this Bidding:

- (a) Duly licensed Filipino citizens/sole proprietorships;
- (b) Partnerships duly organized under the laws of the Philippines and of which at least seventy five percent (75%) of the interest belongs to citizens of the Philippines;
- (c) Corporations duly organized under the laws of the Philippines, and of which at least seventy five percent (75%) of the outstanding capital stock belongs to citizens of the Philippines;
- (d) Cooperatives duly organized under the laws of the Philippines.
- (e) Persons/entities forming themselves into a JV, i.e., a group of two (2) or more persons/entities that intend to be jointly and severally responsible or liable for a particular contract: Provided, however, that, in accordance with Letter of Instructions No. 630, Filipino ownership or interest of the joint venture concerned shall be at least seventy five percent (75%): Provided, further, that joint ventures in which Filipino ownership or interest is less than seventy five percent (75%) may be eligible where the structures to be built require the application of techniques and/or technologies which are not adequately possessed by a person/entity meeting the seventy five percent (75%) Filipino ownership requirement: Provided, finally, that in the latter case, Filipino ownership or interest shall not be less than twenty five percent (25%). For this

purpose, Filipino ownership or interest shall be based on the contributions of each of the members of the joint venture as specified in their JVA.

- 5.2. The Procuring Entity may also invite foreign bidders when provided for under any Treaty or International or Executive Agreement as specified in the **BDS**.
- 5.3. Government owned or controlled corporations (GOCCs) may be eligible to participate only if they can establish that they (a) are legally and financially autonomous, (b) operate under commercial law, and (c) are not attached agencies of the Procuring Entity.
- 5.4. (a) The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the Philippine Statistics Authority (PSA) consumer price index. However, contractors under Small A and Small B categories without similar experience on the contract to be bid may be allowed to bid if the cost of such contract is not more than the Allowable Range of Contract Cost (ARCC) of their registration based on the guidelines as prescribed by the PCAB.
- (b) For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the **BDS**.

For this purpose, contracts similar to the Project shall be those described in the **BDS**.

- 5.5. The Bidder must submit a computation of its Net Financial Contracting Capacity (NFCC), which must be at least equal to the ABC to be bid, calculated as follows:

$$\text{NFCC} = [(\text{Current assets minus current liabilities}) (15)] \text{ minus the value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract for this Project.}$$

The values of the domestic bidder's current assets and current liabilities shall be based on the latest Audited Financial Statements (AFS) submitted to the BIR.

For purposes of computing the foreign bidders' NFCC, the value of the current assets and current liabilities shall be based on their audited financial statements prepared in accordance with international financial reporting standards.

6. Bidder's Responsibilities

- 6.1. The Bidder or its duly authorized representative shall submit a sworn statement in the form prescribed in Section IX. Bidding Forms as required in **ITB** Clause 12.1(b)(iii).
- 6.2. The Bidder is responsible for the following:
- (a) Having taken steps to carefully examine all of the Bidding Documents;
 - (b) Having acknowledged all conditions, local or otherwise, affecting the implementation of the contract;
 - (c) Having made an estimate of the facilities available and needed for the contract to be bid, if any;
 - (d) Having complied with its responsibility to inquire or secure Supplemental/Bid Bulletin/s as provided under **ITB** Clause 10.4.
 - (e) Ensuring that it is not “blacklisted” or barred from bidding by the GoP or any of its agencies, offices, corporations, or LGUs, including foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the GPPB;
 - (f) Ensuring that each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
 - (g) Authorizing the HoPE or its duly authorized representative/s to verify all the documents submitted;
 - (h) Ensuring that the signatory is the duly authorized representative of the Bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary’s Certificate, whichever is applicable;
 - (i) Complying with the disclosure provision under Section 47 of RA 9184 and its IRR in relation to other provisions of RA 3019;
 - (j) Complying with existing labor laws and standards, in the case of procurement of services. Moreover, bidder undertakes to:
 - (i) Ensure the entitlement of workers to wages, hours of work, safety and health and other prevailing conditions of work as established by national laws, rules and regulations; or collective bargaining agreement; or arbitration award, if and when applicable.

In case there is a finding by the Procuring Entity or the DOLE of underpayment or non-payment of workers' wage and wage-related benefits, bidder agrees that the performance security or portion of the contract amount shall be withheld in favor of the complaining workers pursuant to appropriate provisions of Republic Act No. 9184 without prejudice to the institution of appropriate actions under the Labor Code, as amended, and other social legislations.

- (ii) Comply with occupational safety and health standards and to correct deficiencies, if any.

In case of imminent danger, injury or death of the worker, bidder undertakes to suspend contract implementation pending clearance to proceed from the DOLE Regional Office and to comply with Work Stoppage Order; and

- (iii) Inform the workers of their conditions of work, labor clauses under the contract specifying wages, hours of work and other benefits under prevailing national laws, rules and regulations; or collective bargaining agreement; or arbitration award, if and when applicable, through posting in two (2) conspicuous places in the establishment's premises; and
- (k) Ensuring that it did not give or pay, directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the;

Failure to observe any of the above responsibilities shall be at the risk of the Bidder concerned.

- 6.3. The Bidder, by the act of submitting its bid, shall be deemed to have inspected the site, determined the general characteristics of the contract works and the conditions for this Project and examine all instructions, forms, terms, and project requirements in the Bidding Documents.
- 6.4. It shall be the sole responsibility of the prospective bidder to determine and to satisfy itself by such means as it considers necessary or desirable as to all matters pertaining to this Project, including: (a) the location and the nature of the contract, project, or work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work.

- 6.5. The Procuring Entity shall not assume any responsibility regarding erroneous interpretations or conclusions by the prospective or eligible bidder out of the data furnished by the procuring entity. However, the Procuring Entity shall ensure that all information in the Bidding Documents, including supplemental/bid bulletins issued are correct and consistent.
- 6.6. Before submitting their bids, the Bidders are deemed to have become familiar with all existing laws, decrees, ordinances, acts and regulations of the Philippines which may affect the contract in any way.
- 6.7. The Bidder shall bear all costs associated with the preparation and submission of his bid, and the Procuring Entity will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 6.8. The Bidder should note that the Procuring Entity will accept bids only from those that have paid the applicable fee for the Bidding Documents at the office indicated in the Invitation to Bid.

7. Origin of Goods and Services

There is no restriction on the origin of Goods, or Contracting of Works or Services other than those prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

8. Subcontracts

- 8.1. Unless otherwise specified in the **BDS**, the Bidder may subcontract portions of the Works to an extent as may be approved by the Procuring Entity and stated in the **BDS**. However, subcontracting of any portion shall not relieve the Bidder from any liability or obligation that may arise from the contract for this Project.
- 8.2. Subcontractors must submit the documentary requirements under **ITB** Clause 12 and comply with the eligibility criteria specified in the **BDS**. In the event that any subcontractor is found by the Procuring Entity to be ineligible, the subcontracting of such portion of the Works shall be disallowed.
- 8.3. The Bidder may identify the subcontractor to whom a portion of the Works will be subcontracted at any stage of the bidding process or during contract implementation. If the Bidder opts to disclose the name of the subcontractor during bid submission, the Bidder shall include the required documents as part of the technical component of its bid.

B. Contents of Bidding Documents

9. Pre-Bid Conference

- 9.1. (a) If so specified in the **BDS**, a pre-bid conference shall be held at the venue and on the date indicated therein, to clarify and address the Bidders' questions on the technical and financial components of this Project.
- (b) The pre-bid conference shall be held at least twelve (12) calendar days before the deadline for the submission of and receipt of bids, but not earlier than seven (7) calendar days from the posting of the Invitation to Bid/Bidding Documents in the PhilGEPS website. If the Procuring Entity determines that, by reason of the method, nature, or complexity of the contract to be bid, or when international participation will be more advantageous to the GoP, a longer period for the preparation of bids is necessary, the pre-bid conference shall be held at least thirty (30) calendar days before the deadline for the submission and receipt of bids, as specified in the **BDS**.
- 9.2. Bidders are encouraged to attend the pre-bid conference to ensure that they fully understand the Procuring Entity's requirements. Non-attendance of the Bidder will in no way prejudice its bid; however, the Bidder is expected to know the changes and/or amendments to the Bidding Documents as recorded in the minutes of the pre-bid conference and the Supplemental/Bid Bulletin. The minutes of the pre-bid conference shall be recorded and prepared not later than five (5) calendar days after the pre-bid conference. The minutes shall be made available to prospective bidders not later than five (5) days upon written request.
- 9.3. Decisions of the BAC amending any provision of the bidding documents shall be issued in writing through a Supplemental/Bid Bulletin at least seven (7) calendar days before the deadline for the submission and receipt of bids.

10. Clarification and Amendment of Bidding Documents

- 10.1. Prospective bidders may request for clarification(s) on and/or interpretation of any part of the Bidding Documents. Such a request must be in writing and submitted to the Procuring Entity at the address indicated in the **BDS** at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.
- 10.2. The BAC shall respond to the said request by issuing a Supplemental/Bid Bulletin, to be made available to all those who have properly secured the Bidding Documents, at least seven (7) calendar days before the deadline for the submission and receipt of Bids.
- 10.3. Supplemental/Bid Bulletins may also be issued upon the Procuring Entity's initiative for purposes of clarifying or modifying any provision of the Bidding Documents not later than seven (7) calendar days before the deadline for the submission and receipt of Bids. Any modification to the Bidding Documents shall be identified as an amendment.

- 10.4. Any Supplemental/Bid Bulletin issued by the BAC shall also be posted in the PhilGEPS and the website of the Procuring Entity concerned, if available, and at any conspicuous place in the premises of the Procuring Entity concerned. It shall be the responsibility of all Bidders who have properly secured the Bidding Documents to inquire and secure Supplemental/Bid Bulletins that may be issued by the BAC. However, Bidders who have submitted bids before the issuance of the Supplemental/Bid Bulletin must be informed and allowed to modify or withdraw their bids in accordance with **ITB** Clause 23.

C. Preparation of Bids

11. Language of Bids

The eligibility requirements or statements, the bids, and all other documents to be submitted to the BAC must be in English. If the eligibility requirements or statements, the bids, and all other documents submitted to the BAC are in foreign language other than English, it must be accompanied by a translation of the documents in English. The documents shall be translated by the relevant foreign government agency, the foreign government agency authorized to translate documents, or a registered translator in the foreign bidder's country; and shall be authenticated by the appropriate Philippine foreign service establishment/post or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. The English translation shall govern, for purposes of interpretation of the bid.

12. Documents Comprising the Bid: Eligibility and Technical Components

- 12.1. Unless otherwise indicated in the **BDS**, the first envelope shall contain the following eligibility and technical documents:

(a) Eligibility Documents –

Class “A” Documents

- (i) PhilGEPS Certificate of Registration and Membership in accordance with Section 8.5.2 of the IRR, except for foreign bidders participating in the procurement by a Philippine Foreign Service Office or Post, which shall submit their eligibility documents under Section 23.1 of the IRR, provided, that the winning bidder shall register with the PhilGEPS in accordance with Section 37.1.4 of the IRR;
- (ii) Statement of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; and

Statement of the Bidder's SLCC similar to the contract to be bid, in accordance with ITB Clause 5.4.

The two statements required shall indicate for each contract the following:

- (ii.1) name of the contract;
- (ii.2) date of the contract;
- (ii.3) contract duration;
- (ii.4) owner's name and address;
- (ii.5) nature of work;
- (ii.6) contractor's role (whether sole contractor, subcontractor, or partner in a JV) and percentage of participation;
- (ii.7) total contract value at award;
- (ii.8) date of completion or estimated completion time;
- (ii.9) total contract value at completion, if applicable;
- (ii.10) percentages of planned and actual accomplishments, if applicable; and
- (ii.11) value of outstanding works, if applicable.

The statement of the Bidder's SLCC shall be supported by the Notice of Award and/or Notice to Proceed, Project Owner's Certificate of Final Acceptance issued by the Owner other than the Contractor or the Constructors Performance Evaluation System (CPES) Final Rating, which must be at least satisfactory. In case of contracts with the private sector, an equivalent document shall be submitted;

- (iii) Unless otherwise provided in the **BDS**, a valid special PCAB License in case of joint ventures, and registration for the type and cost of the contract for this Project; and
- (iv) NFCC computation in accordance with ITB Clause 5.5.

Class "B" Documents

- (v) If applicable, Joint Venture Agreement (JVA) in accordance with RA 4566.

- (b) Technical Documents –

- (i) Bid security in accordance with **ITB** Clause 18. If the Bidder opts to submit the bid security in the form of:
 - (i.1) a bank draft/guarantee or an irrevocable letter of credit issued by a foreign bank, it shall be accompanied by a confirmation from a Universal or Commercial Bank; or
 - (i.2) a surety bond accompanied by a certification coming from the Insurance Commission that the surety or insurance company is authorized to issue such instruments.
- (ii) Project Requirements, which shall include the following:
 - (ii.1) Organizational chart for the contract to be bid;
 - (ii.2) List of contractor's personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data. These personnel must meet the required minimum years of experience set in the **BDS**; and
 - (ii.3) List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, which must meet the minimum requirements for the contract set in the **BDS**; and
- (iii) Sworn statement in accordance with Section 25.3 of the IRR of RA 9184 and using the form prescribed in Section IX. Bidding Forms.

13. Documents Comprising the Bid: Financial Component

- 13.1. Unless otherwise stated in the **BDS**, the financial component of the bid shall contain the following:
 - (a) Financial Bid Form, which includes bid prices and the bill of quantities, in accordance with **ITB** Clauses **Error! Reference source not found.** and **Error! Reference source not found.**; and
 - (b) Any other document related to the financial component of the bid as stated in the **BDS**.
- 13.2. (a) Unless otherwise stated in the **BDS**, all Bids that exceed the ABC shall not be accepted.

- (b) Unless otherwise indicated in the **BDS**, for foreign-funded procurement, a ceiling may be applied to bid prices provided the following conditions are met:
 - (i) Bidding Documents are obtainable free of charge on a freely accessible website. If payment of Bidding Documents is required by the procuring entity, payment could be made upon the submission of bids.
 - (ii) The procuring entity has procedures in place to ensure that the ABC is based on recent estimates made by the engineer or the responsible unit of the procuring entity and that the estimates are based on adequate detailed engineering (in the case of infrastructure projects) and reflect the quality, supervision and risk and inflationary factors, as well as prevailing market prices, associated with the types of works or goods to be procured.
 - (iii) The procuring entity has trained cost estimators on estimating prices and analyzing bid variances. In the case of infrastructure projects, the procuring entity must also have trained quantity surveyors.
 - (iv) The procuring entity has established a system to monitor and report bid prices relative to ABC and engineer's/procuring entity's estimate.
 - (v) The procuring entity has established a monitoring and evaluation system for contract implementation to provide a feedback on actual total costs of goods and works.

14. Alternative Bids

- 14.1. Alternative Bids shall be rejected. For this purpose, alternative bid is an offer made by a Bidder in addition or as a substitute to its original bid which may be included as part of its original bid or submitted separately therewith for purposes of bidding. A bid with options is considered an alternative bid regardless of whether said bid proposal is contained in a single envelope or submitted in two (2) or more separate bid envelopes.
- 14.2. Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative bids shall not be accepted.
- 14.3. Each Bidder shall submit only one Bid, either individually or as a partner in a JV. A Bidder who submits or participates in more than one bid (other than as a subcontractor if a subcontractor is permitted to participate in more than one bid) will cause all the proposals with the Bidder's participation to be disqualified. This shall be without prejudice to any

applicable criminal, civil and administrative penalties that may be imposed upon the persons and entities concerned.

15. Bid Prices

- 15.1. The contract shall be for the whole Works, as described in **ITB** Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.
- 15.2. The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Bids not addressing or providing all of the required items in the Bidding Documents including, where applicable, Bill of Quantities, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a zero (0) or a dash (-) for the said item would mean that it is being offered for free to the Government, except those required by law or regulations to be provided for.
- 15.3. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, prior to the deadline for submission of bids, shall be included in the rates, prices, and total bid price submitted by the Bidder.
- 15.4. All bid prices for the given scope of work in the contract as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as specified in GCC Clause 48. Upon the recommendation of the Procuring Entity, price escalation may be allowed in extraordinary circumstances as may be determined by the National Economic and Development Authority in accordance with the Civil Code of the Philippines, and upon approval by the GPPB. Furthermore, in cases where the cost of the awarded contract is affected by any applicable new laws, ordinances, regulations, or other acts of the GoP, promulgated after the date of bid opening, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss-no gain basis.

16. Bid Currencies

- 16.1. All bid prices shall be quoted in Philippine Pesos unless otherwise provided in the **BDS**. However, for purposes of bid evaluation, bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate prevailing on the day of the Bid Opening.
- 16.2. If so allowed in accordance with **ITB** Clause 16.1, the Procuring Entity for purposes of bid evaluation and comparing the bid prices will convert the amounts in various currencies in which the bid price is expressed to Philippine Pesos at the exchange rate as published in the *Bangko Sentral ng Pilipinas* (BSP) reference rate bulletin on the day of the bid opening.

- 16.3. Unless otherwise specified in the **BDS**, payment of the contract price shall be made in Philippine Pesos.

17. Bid Validity

- 17.1. Bids shall remain valid for the period specified in the **BDS** which shall not exceed one hundred twenty (120) calendar days from the date of the opening of bids.
- 17.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Procuring Entity may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. The bid security described in **ITB** Clause 18 should also be extended corresponding to the extension of the bid validity period at the least. A Bidder may refuse the request without forfeiting its bid security, but his bid shall no longer be considered for further evaluation and award. A Bidder granting the request shall not be required or permitted to modify its bid.

18. Bid Security

- 18.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in an amount stated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the following schedule:

Form of Bid Security	Amount of Bid Security (Not less than the Percentage of the ABC)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank. <i>For biddings conducted by LGUs, the cashier's/manager's check may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i>	Two percent (2%)
(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank. <i>For biddings conducted by LGUs,</i>	

<i>the Bank Draft/ Guarantee, or irrevocable letter of credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i>	
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security; and/or	Five percent (5%)

The Bid Securing Declaration mentioned above is an undertaking which states, among others, that the Bidder shall enter into contract with the procuring entity and furnish the performance security required under ITB Clause 32.2, within ten (10) calendar days from receipt of the Notice of Award, and commits to pay the corresponding amount as fine, and be suspended for a period of time from being qualified to participate in any government procurement activity in the event it violates any of the conditions stated therein as provided in the guidelines issued by the GPPB.

- 18.2. The bid security should be valid for the period specified in the **BDS**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.
- 18.3. No bid securities shall be returned to Bidders after the opening of bids and before contract signing, except to those that failed or declared as post-disqualified, upon submission of a written waiver of their right to file a request for reconsideration and/or protest, or lapse of the reglementary period without having filed a request for reconsideration or protest. Without prejudice on its forfeiture, Bid Securities shall be returned only after the Bidder with the Lowest Calculated Responsive Bid (LCRB) has signed the contract and furnished the Performance Security, but in no case later than the expiration of the Bid Security validity period indicated in **ITB** Clause 18.2.
- 18.4. Upon signing and execution of the contract, pursuant to **ITB** Clause 31, and the posting of the performance security, pursuant to **ITB** Clause 32, the successful Bidder's Bid Security will be discharged, but in no case later than the Bid Security validity period as indicated in **ITB** Clause 18.2.
- 18.5. The bid security may be forfeited:
 - (a) if a Bidder:
 - (i) withdraws its bid during the period of bid validity specified in **ITB** Clause 17;

- (ii) does not accept the correction of errors pursuant to **ITB** Clause 27.3(b);
 - (iii) has a finding against the veracity of the required documents submitted in accordance with ITB Clause 28.2;
 - (iv) submission of eligibility requirements containing false information or falsified documents;
 - (v) submission of bids that contain false information or falsified documents, or the concealment of such information in the bids in order to influence the outcome of eligibility screening or any other stage of the public bidding;
 - (vi) allowing the use of one's name, or using the name of another for purposes of public bidding;
 - (vii) withdrawal of a bid, or refusal to accept an award, or enter into contract with the Government without justifiable cause, after the Bidder had been adjudged as having submitted the LCRB;
 - (viii) refusal or failure to post the required performance security within the prescribed time;
 - (ix) refusal to clarify or validate in writing its bid during post-qualification within a period of seven (7) calendar days from receipt of the request for clarification;
 - (x) any documented attempt by a Bidder to unduly influence the outcome of the bidding in his favor;
 - (xi) failure of the potential joint venture partners to enter into the joint venture after the bid is declared successful; or
 - (xii) all other acts that tend to defeat the purpose of the competitive bidding, such as habitually withdrawing from bidding, submitting late Bids or patently insufficient bid, for at least three (3) times within a year, except for valid reasons.
- (b) if the successful Bidder:
- (i) fails to sign the contract in accordance with **ITB** Clause 31;
 - (ii) fails to furnish performance security in accordance with **ITB** Clause 32.

19. Format and Signing of Bids

- 19.1 Bidders shall submit their bids through their duly authorized representative using the appropriate forms provided in Section IX. Bidding Forms on or before the deadline specified in the **ITB** Clause 21 in two (2) separate sealed bid envelopes, and which shall be submitted simultaneously. The first shall contain the technical component of the bid, including the eligibility requirements under **ITB** Clause 12.1, and the second shall contain the financial component of the bid. This shall also be observed for each lot in the case of lot procurement.
- 19.2 Forms as mentioned in **ITB** Clause 19.1 must be completed without any alterations to their format, and no substitute form shall be accepted. All blank spaces shall be filled in with the information requested.
- 19.3 The Bidder shall prepare and submit an original of the first and second envelopes as described in **ITB** Clauses 12 and 13. In addition, the Bidder shall submit copies of the first and second envelopes. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 19.4 Each and every page of the Bid Form, including the Bill of Quantities, under Section IX hereof, shall be signed by the duly authorized representative/s of the Bidder. Failure to do so shall be a ground for the rejection of the bid.
- 19.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the duly authorized representative/s of the Bidder.

20. Sealing and Marking of Bids

- 20.1. Bidders shall enclose their original eligibility and technical documents described in **ITB** Clause 12, in one sealed envelope marked "ORIGINAL - TECHNICAL COMPONENT," and the original of their financial component in another sealed envelope marked "ORIGINAL - FINANCIAL COMPONENT," sealing them all in an outer envelope marked "ORIGINAL BID."
- 20.2. Each copy of the first and second envelopes shall be similarly sealed duly marking the inner envelopes as "COPY NO. ___ - TECHNICAL COMPONENT" and "COPY NO. ___ - FINANCIAL COMPONENT" and the outer envelope as "COPY NO. ___," respectively. These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 20.3. The original and the number of copies of the bid as indicated in the **BDS** shall be typed or written in ink and shall be signed by the Bidder or its duly authorized representative/s.
- 20.4. All envelopes shall:
 - (a) contain the name of the contract to be bid in capital letters;
 - (b) bear the name and address of the Bidder in capital letters;

- (c) be addressed to the Procuring Entity's BAC in accordance with **ITB** Clause 20.1;
 - (d) bear the specific identification of this bidding process indicated in the **ITB** Clause 1.2; and
 - (e) bear a warning "DO NOT OPEN BEFORE..." the date and time for the opening of bids, in accordance with **ITB** Clause 21.
- 20.5. Bid envelopes that are not properly sealed and marked, as required in the bidding documents, shall not be rejected, but the Bidder or its duly authorized representative shall acknowledge such condition of the bid as submitted. The BAC or the Procuring Entity shall assume no responsibility for the misplacement of the contents of the improperly sealed or marked bid, or for its premature opening.

D. Submission and Opening of Bids

21. Deadline for Submission of Bids

Bids must be received by the Procuring Entity's BAC at the address and on or before the date and time indicated in the **BDS**.

22. Late Bids

Any bid submitted after the deadline for submission and receipt of bids prescribed by the Procuring Entity, pursuant to **ITB** Clause 21, shall be declared "Late" and shall not be accepted by the Procuring Entity. The BAC shall record in the minutes of Bid Submission and Opening, the Bidder's name, its representative and the time the late bid was submitted.

23. Modification and Withdrawal of Bids

- 23.1. The Bidder may modify its bid after it has been submitted; provided that the modification is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids. The Bidder shall not be allowed to retrieve its original bid, but shall be allowed to submit another bid equally sealed and properly identified in accordance with Clause 20, linked to its original bid marked as "TECHNICAL MODIFICATION" or "FINANCIAL MODIFICATION" and stamped "received" by the BAC. Bid modifications received after the applicable deadline shall not be considered and shall be returned to the Bidder unopened.
- 23.2. A Bidder may, through a Letter of Withdrawal, withdraw its bid after it has been submitted, for valid and justifiable reason; provided that the Letter of Withdrawal is received by the Procuring Entity prior to the deadline prescribed for submission and receipt of bids. The Letter of Withdrawal must be executed by the authorized representative of the Bidder identified in the Omnibus Sworn Statement, a copy of which should be attached to the letter.

- 23.3. Bids requested to be withdrawn in accordance with **ITB** Clause 23.1 shall be returned unopened to the Bidders. A Bidder, who has acquired the bidding documents may also express its intention not to participate in the bidding through a letter which should reach and be stamped by the BAC before the deadline for submission and receipt of bids. A Bidder that withdraws its bid shall not be permitted to submit another bid, directly or indirectly, for the same contract.
- 23.4. No bid may be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Financial Bid Form. Withdrawal of a bid during this interval shall result in the forfeiture of the Bidder's bid security, pursuant to **ITB** Clause 18.5, and the imposition of administrative, civil, and criminal sanctions as prescribed by RA 9184 and its IRR.

24. Opening and Preliminary Examination of Bids

- 24.1. The BAC shall open the Bids in public, immediately after the deadline for the submission and receipt of bids in public, as specified in the **BDS**. In case the Bids cannot be opened as scheduled due to justifiable reasons, the BAC shall take custody of the Bids submitted and reschedule the opening of Bids on the next working day or at the soonest possible time through the issuance of a Notice of Postponement to be posted in the PhilGEPS website and the website of the Procuring Entity concerned.
- 24.2. Unless otherwise specified in the BDS, the BAC shall open the first bid envelopes and determine each Bidder's compliance with the documents prescribed in ITB Clause 12, using a non-discretionary "pass/fail" criterion. If a Bidder submits the required document, it shall be rated "passed" for that particular requirement. In this regard, bids that fail to include any requirement or are incomplete or patently insufficient shall be considered as "failed". Otherwise, the BAC shall rate the said first bid envelope as "passed".
- 24.3. Unless otherwise specified in the **BDS**, immediately after determining compliance with the requirements in the first envelope, the BAC shall forthwith open the second bid envelope of each remaining eligible Bidder whose first bid envelope was rated "passed." The second envelope of each complying Bidder shall be opened within the same day. In case one or more of the requirements in the second envelope of a particular bid is missing, incomplete or patently insufficient, and/or if the submitted total bid price exceeds the ABC unless otherwise provided in **ITB** Clause 13.2, the BAC shall rate the bid concerned as "failed." Only bids that are determined to contain all the bid requirements for both components shall be rated "passed" and shall immediately be considered for evaluation and comparison.

- 24.4. Letters of Withdrawal shall be read out and recorded during bid opening, and the envelope containing the corresponding withdrawn bid shall be returned to the Bidder unopened.
- 24.5. All members of the BAC who are present during bid opening shall initial every page of the original copies of all bids received and opened.
- 24.6. In the case of an eligible foreign bidder as described in **ITB** Clause 5, the following Class “A” Documents may be substituted with the appropriate equivalent documents, if any, issued by the country of the foreign bidder concerned, which shall likewise be uploaded and maintained in the PhilGEPS in accordance with Section 8.5.2 of the IRR.:
- a) Registration certificate from the Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or CDA for cooperatives;
 - b) Mayor’s/Business permit issued by the local government where the principal place of business of the Bidder is located; and
 - c) Audited Financial Statements showing, among others, the prospective Bidder’s total and current assets and liabilities stamped “received” by the Bureau of Internal Revenue or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two years from the date of bid submission.
- 24.7. Each partner of a joint venture agreement shall likewise submit the document required in **ITB** Clause 12.1(a)(i). Submission of documents required under **ITB** Clauses 12.1(a)(ii) to 12.1(a)(iv) by any of the joint venture partners constitutes compliance.
- 24.8. The Procuring Entity shall prepare the minutes of the proceedings of the bid opening that shall include, as a minimum: (a) names of Bidders, their bid price (per lot, if applicable, and/or including discount, if any), bid security, findings of preliminary examination, and whether there is a withdrawal or modification; and (b) attendance sheet. The BAC members shall sign the abstract of bids as read.
- 24.8. The Bidders or their duly authorized representatives may attend the opening of bids. The BAC shall ensure the integrity, security, and confidentiality of all submitted bids. The Abstract of Bids as read and the minutes of the Bid Opening shall be made available to the public upon written request and payment of a specified fee to recover cost of materials.
- 24.9 To ensure transparency and accurate representation of the bid submission, the BAC Secretariat shall notify in writing all Bidders whose bids it has received through its PhilGEPS-registered physical address or official e-mail address. The notice shall be issued within seven (7) calendar days from the date of the bid opening.

E. Evaluation and Comparison of Bids

25. Process to be Confidential

- 25.1. Members of the BAC, including its staff and personnel, as well as its Secretariat and TWG, are prohibited from making or accepting any kind of communication with any Bidder regarding the evaluation of their bids until the issuance of the Notice of Award, unless otherwise allowed in the case of **ITB** Clause 26.
- 25.2. Any effort by a Bidder to influence the Procuring Entity in the Procuring Entity's decision in respect of bid evaluation, bid comparison or contract award will result in the rejection of the Bidder's bid.

26. Clarification of Bids

To assist in the evaluation, comparison and post-qualification of the bids, the Procuring Entity may ask in writing any Bidder for a clarification of its bid. All responses to requests for clarification shall be in writing. Any clarification submitted by a Bidder in respect to its bid and that is not in response to a request by the Procuring Entity shall not be considered

27. Detailed Evaluation and Comparison of Bids

- 27.1. The Procuring Entity will undertake the detailed evaluation and comparison of Bids which have passed the opening and preliminary examination of Bids, pursuant to **ITB** Clause 24, in order to determine the Lowest Calculated Bid.
- 27.2. The Lowest Calculated Bid shall be determined in two steps:
 - (a) The detailed evaluation of the financial component of the bids, to establish the correct calculated prices of the bids; and
 - (b) The ranking of the total bid prices as so calculated from the lowest to highest. The bid with the lowest price shall be identified as the Lowest Calculated Bid.
- 27.3. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all bids rated "passed," using non-discretionary "pass/fail" criterion. The BAC shall consider the following in the evaluation of bids:
 - (a) Completeness of the bid. Unless the **BDS** allows partial bids, bids not addressing or providing all of the required items in the Schedule of Requirements including, where applicable, bill of quantities, shall be considered non-responsive and, thus, automatically disqualified. In this regard, where a required item is provided, but no price is indicated, the same shall be considered as non-responsive, but specifying a zero (0) or a dash (-) for the said item would mean that it is being offered for free to the Procuring

Entity, except those required by law or regulations to be provided for; and

- (b) Arithmetical corrections. Consider computational errors and omissions to enable proper comparison of all eligible bids. It may also consider bid modifications. Any adjustment shall be calculated in monetary terms to determine the calculated prices.
- 27.4. Based on the detailed evaluation of bids, those that comply with the above-mentioned requirements shall be ranked in the ascending order of their total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, to identify the Lowest Calculated Bid. Total calculated bid prices, as evaluated and corrected for computational errors, discounts and other modifications, which exceed the ABC shall not be considered, unless otherwise indicated in the **BDS**.
- 27.5. The Procuring Entity's evaluation of bids shall be based on the bid price quoted in the Bid Form, which includes the Bill of Quantities.
- 27.6. Bids shall be evaluated on an equal footing to ensure fair competition. For this purpose, all Bidders shall be required to include in their bids the cost of all taxes, such as, but not limited to, value added tax (VAT), income tax, local taxes, and other fiscal levies and duties which shall be itemized in the bid form and reflected in the detailed estimates. Such bids, including said taxes, shall be the basis for bid evaluation and comparison.
- 27.7. If so indicated pursuant to **ITB** Clause 1.2. Bids are being invited for individual lots or for any combination thereof, provided that all Bids and combinations of Bids shall be received by the same deadline and opened and evaluated simultaneously so as to determine the bid or combination of bids offering the lowest calculated cost to the Procuring Entity. Bid prices quoted shall correspond to all of the requirements specified for each lot. Bid Security as required by **ITB** Clause 18 shall be submitted for each contract (lot) separately. The basis for evaluation of lots is specified in **BDS** Clause 27.3.

28. Post Qualification

- 28.1. The BAC shall determine to its satisfaction whether the Bidder that is evaluated as having submitted the Lowest Calculated Bid complies with and is responsive to all the requirements and conditions specified in **ITB** Clauses 5, 12, and 13.
- 28.2. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**.

Failure to submit any of the post-qualification requirements on time, or a finding against the veracity thereof, shall disqualify the Bidder for award. Provided in the event that a finding against the veracity of any of the documents submitted is made, it shall cause the forfeiture of the bid security in accordance with Section 69 of the IRR of RA 9184.

- 28.3. The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted pursuant to **ITB** Clauses 12 and 13, as well as other information as the Procuring Entity deems necessary and appropriate, using a non-discretionary "pass/fail" criterion, which shall be completed within a period of twelve (12) calendar days.
- 28.4. If the BAC determines that the Bidder with the Lowest Calculated Bid passes all the criteria for post-qualification, it shall declare the said bid as the LCRB, and recommend to the HoPE the award of contract to the said Bidder at its submitted price or its calculated bid price, whichever is lower, subject to **ITB** Clause 30.3.
- 28.5. A negative determination shall result in rejection of the Bidder's bid, in which event the Procuring Entity shall proceed to the next Lowest Calculated Bid, with a fresh period to make a similar determination of that Bidder's capabilities to perform satisfactorily. If the second Bidder, however, fails the post qualification, the procedure for post qualification shall be repeated for the Bidder with the next Lowest Calculated Bid, and so on until the LCRB is determined for recommendation of contract award.
- 28.6. Within a period not exceeding fifteen (15) calendar days from the determination by the BAC of the LCRB and the recommendation to award the contract, the HoPE or his duly authorized representative shall approve or disapprove the said recommendation.
- 28.7. In the event of disapproval, which shall be based on valid, reasonable, and justifiable grounds as provided for under Section 41 of the IRR of RA 9184, the HoPE shall notify the BAC and the Bidder in writing of such decision and the grounds for it. When applicable, the BAC shall conduct a post-qualification of the Bidder with the next Lowest Calculated Bid. A request for reconsideration may be filed by the Bidder with the HoPE in accordance with Section 37.1.3 of the IRR of RA 9184.

29. Reservation Clause

- 29.1. Notwithstanding the eligibility or post-qualification of a Bidder, the Procuring Entity concerned reserves the right to review its qualifications at any stage of the procurement process if it has reasonable grounds to believe that a misrepresentation has been made by the said Bidder, or that there has been a change in the Bidder's capability to undertake the project from the time it submitted its eligibility requirements. Should such review uncover any misrepresentation made in the eligibility and

bidding requirements, statements or documents, or any changes in the situation of the Bidder which will affect its capability to undertake the project so that it fails the preset eligibility or bid evaluation criteria, the Procuring Entity shall consider the said Bidder as ineligible and shall disqualify it from submitting a bid or from obtaining an award or contract.

29.2. Based on the following grounds, the Procuring Entity reserves the right to reject any and all Bids, declare a Failure of Bidding at any time prior to the contract award, or not to award the contract, without thereby incurring any liability, and make no assurance that a contract shall be entered into as a result of the bidding:

- (a) If there is *prima facie* evidence of collusion between appropriate public officers or employees of the Procuring Entity, or between the BAC and any of the Bidders, or if the collusion is between or among the Bidders themselves, or between a Bidder and a third party, including any act which restricts, suppresses or nullifies or tends to restrict, suppress or nullify competition;
- (b) If the Procuring Entity's BAC is found to have failed in following the prescribed bidding procedures; or
- (c) For any justifiable and reasonable ground where the award of the contract will not redound to the benefit of the GOP as follows:
 - (i) If the physical and economic conditions have significantly changed so as to render the project no longer economically, financially or technically feasible as determined by the HoPE;
 - (ii) If the project is no longer necessary as determined by the HoPE; and
 - (iii) If the source of funds for the project has been withheld or reduced through no fault of the Procuring Entity.

29.3. In addition, the Procuring Entity may likewise declare a failure of bidding when:

- (a) No bids are received;
- (b) All prospective Bidders are declared ineligible;
- (c) All bids fail to comply with all the bid requirements, fail post-qualification; or
- (d) The Bidder with the LCRB refuses, without justifiable cause, to accept the award of contract, and no award is made in accordance with Section 40 of the IRR of RA 9184.

F. Award of Contract

30. Contract Award

- 30.1. Subject to **ITB** Clause 28, the HoPE or its duly authorized representative shall award the contract to the Bidder whose bid has been determined to be the LCRB.
- 30.2. Prior to the expiration of the period of bid validity, the Procuring Entity shall notify the successful Bidder in writing that its bid has been accepted, through a Notice of Award duly received by the Bidder or its representative personally or by registered mail or electronically, receipt of which must be confirmed in writing within two (2) days by the Bidder with the LCRB and submitted personally or sent by registered mail or electronically to the Procuring Entity.
- 30.3. Notwithstanding the issuance of the Notice of Award, award of contract shall be subject to the following conditions:
 - (a) Submission of the following documents within ten (10) calendar days from receipt of the Notice of Award:
 - (i) In the case of procurement by a Philippine Foreign Service Office or Post, the PhilGEPS Registration Number of the winning foreign Bidder; or
 - (ii) Valid PCAB license and registration for the type and cost of the contract to be bid for foreign bidders when the Treaty or International or Executive Agreement expressly allows submission of the PCAB license and registration for the type and cost of the contract to be bid as a pre-condition to the Award;
 - (b) Posting of the performance security in accordance with **ITB** Clause 32;
 - (c) Signing of the contract as provided in **ITB** Clause 31; and
 - (d) Approval by higher authority, if required, as provided in Section 37.3 of the IRR of RA 9184.

31. Signing of the Contract

- 31.1. At the same time as the Procuring Entity notifies the successful Bidder that its bid has been accepted, the Procuring Entity shall send the Contract Form to the Bidder, which Contract has been provided in the Bidding Documents, incorporating therein all agreements between the parties.

- 31.2. Within ten (10) calendar days from receipt of the Notice of Award, the successful Bidder shall post the required performance security, sign and date the contract and return it to the Procuring Entity.
- 31.3. The Procuring Entity shall enter into contract with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 31.4. The following documents shall form part of the contract:
- (a) Contract Agreement;
 - (b) Bidding Documents;
 - (c) Winning Bidder's bid, including the Technical and Financial Proposals, and all other documents/statements submitted (*e.g.*, Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
 - (d) Performance Security;
 - (e) Notice of Award of Contract; and
 - (f) Other contract documents that may be required by existing laws and/or specified in the **BDS**.

32. Performance Security

- 32.1. To guarantee the faithful performance by the winning Bidder of its obligations under the contract, it shall post a performance security within a maximum period of ten (10) calendar days from the receipt of the Notice of Award from the Procuring Entity and in no case later than the signing of the contract.
- 32.2. The Performance Security shall be denominated in Philippine Pesos and posted in favor of the Procuring Entity in an amount not less than the percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Not less than the Percentage of the Total Contract Price)
(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank. <i>For biddings conducted by the LGUs, the Cashier's/Manager's Check may be issued by other banks certified by the BSP as</i>	Ten percent (10%)

<i>authorized to issue such financial instrument.</i>	
<p>(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.</p> <p><i>For biddings conducted by the LGUs, Bank Draft/Guarantee, or Irrevocable Letter of Credit may be issued by other banks certified by the BSP as authorized to issue such financial instrument.</i></p>	
(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Thirty percent (30%)

32.3. Failure of the successful Bidder to comply with the above-mentioned requirement shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event the Procuring Entity shall have a fresh period to initiate and complete the post qualification of the second Lowest Calculated Bid. The procedure shall be repeated until LCRB is identified and selected for recommendation of contract award. However if no Bidder passed post-qualification, the BAC shall declare the bidding a failure and conduct a re-bidding with re-advertisement, if necessary.

33. Notice to Proceed

Within seven (7) calendar days from the date of approval of the Contract by the appropriate government approving authority, the Procuring Entity shall issue the Notice to Proceed (NTP) together with a copy or copies of the approved contract to the successful Bidder. All notices called for by the terms of the contract shall be effective only at the time of receipt thereof by the successful Bidder.

34. Protest Mechanism

Decision of the procuring entity at any stage of the procurement process may be questioned in accordance with Sections 55 of the IRR of RA 9184.

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause	
1.1	<p>The Procuring Entity is <i>Office of the Chief Minister, Bangsamoro Autonomous Region in Muslim Mindanao.</i></p> <p>The name of the Contract is <i>Construction of 1130-Units of Core Shelter with Solar Powered Light and Water Component</i></p> <p>The identification number of the Contract is _____.</p>
2	<p>The Funding Source is:</p> <p>The Government of the Philippines (GoP) through <i>General Appropriations Act of 2019</i> in the amount of <i>SIX HUNDRED ONE MILLION EIGHT HUNDRED SIXTEEN THOUSAND EIGHT HUNDRED NINETY-THREE AND 30/100 PESOS ONLY (PHP 601,816,893.30).</i></p> <p>The name of the Project is <i>Construction of 1130-Units of Core Shelter with Solar Powered Light and Water Component</i></p>
3.1	No further instructions.
5.1	No further instructions.
5.2	Bidding is restricted to eligible bidders as defined in ITB Clause 5.1.
5.4(a)	No further instructions.
5.4(b)	<p>For this purpose, similar contracts shall refer to contracts which have the same major categories of work.</p> <p>The bidders must have an experience of having completed at least one (1) contract similar to the contract to be bid and whose value, adjusted to the current price using the National Statistics Office consumer price indecies, must be at least fifty percent (50%) of the ABC. For this purpose similar shall refer to General Building.</p>
8.1	Subcontracting is not allowed
8.2	Not applicable.
9.1	The Procuring Entity will hold a pre-bid conference for this Project on _____ <i>10:00 a.m. at Bajau Hall, 2F Office of the Chief Minister, Bangsamoro Government Center, Gov. Gutierrez Avenue, Cotabato</i>

	City.
10.1	<p>The Procuring Entity's address is:</p> <p>Bids and Awards Committee Secretariat. <i>Office of the Chief Minister, Bangsamoro Government Center</i> <i>Gov. Gutierrez Ave., Cotabato City</i> <i>Tel. nos. (064) 552-1053</i></p>
10.4	No further instructions.
12.1	No further instructions.
12.1	<p>The first envelope shall contain the Eligibility and Technical Documents <u>arranged, numbered and tabbed</u> as follows:</p> <p>A) Eligibility Documents –</p> <p>Class “A” Documents</p> <ul style="list-style-type: none"> (i) PhilGEPS Certificate of Registration and Membership under Platinum Category in accordance with Section 8.5.2 of the IRR; (ii) Statement of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid. The statement shall indicate for each contract the following: <ul style="list-style-type: none"> 34.2. (ii.1) name of the contract; 34.3. (ii.2) date of the contract; 34.4. (ii.3) contract duration; 34.5. (ii.4) owner's name and address; 34.6. (ii.5) nature of work; 34.7. (ii.6) contractor's role (whether sole contractor, subcontractor, or partner in a JV) and percentage of participation; 34.8. (ii.7) total contract value at award; 34.9. (ii.8) date of completion or estimated completion time; 34.10. (ii.9) total contract value at completion, if applicable;

	<p>34.11. (ii.10) percentages of planned and actual accomplishments, if applicable; and</p> <p>34.12. (ii.11) value of outstanding works, if applicable.</p> <p>(i) Statement of the Bidder's Single Largest Completed Contract similar to the contract to be bid in accordance with ITB Clause 5.4. The statement shall indicate the following:</p> <p>34.13. (iii.1) name of the contract;</p> <p>34.14. (iii.2) date of the contract;</p> <p>34.15. (iii.3) contract duration;</p> <p>34.16. (iii.4) owner's name and address;</p> <p>34.17. (iii.5) nature of work;</p> <p>34.18. (iii.6) contractor's role (whether sole contractor, subcontractor, or partner in a JV) and percentage of participation;</p> <p>34.19. (iii.7) total contract value at award;</p> <p>34.20. (iii.8) date of completion or estimated completion time;</p> <p>34.21. (iii.9) total contract value at completion, if applicable;</p> <p>34.22. (iii.10) percentages of planned and actual accomplishments, if applicable; and</p> <p>34.23. (iii.11) value of outstanding works, if applicable.</p> <p>34.24. The statement of the Bidder's SLCC shall be supported by the Notice of Award and/or Notice to Proceed, Project Owner's Certificate of Final Acceptance issued by the Owner other than the Contractor or the Constructors Performance Evaluation System (CPES) Final Rating, which must be at least satisfactory. In case of contracts with the private sector, an equivalent document shall be submitted;</p> <p>(i) A valid special PCAB License in case of joint ventures, and registration for the type and cost of the contract for this Project; and</p> <p>(ii) NFCC computation in accordance with ITB Clause 5.5.</p> <p>34.25. <u>Class "B" Documents</u></p> <p>(i) If applicable, Joint Venture Agreement (JVA) in accordance with</p>
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	RA 4566.	
	(b) Technical Documents –	
	(i) The Bid Security shall include the following the amount of which shall be equal to a percentage of the ABC in accordance with the following schedule (<i>Per GPPB Circular 01-2014</i>):	
	Form of Bid Security	Amount of Bid Security (Equal to Percentage of the ABC)
	(a) Cash or cashier's/manager's check issued by a Universal or Commercial Bank.	Two percent (2%)
	(b) Bank draft/guarantee or irrevocable letter of credit issued by a Universal or Commercial Bank: Provided, however, that it shall be confirmed or authenticated by a Universal or Commercial Bank, if issued by a foreign bank.	
	(c) Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Five percent (5%)
	(d) a Bid-Securing Declaration in accordance with the Guidelines on the Use of Bid Securing Declaration issued through GPPB Resolution No. 03-2012 dated January 27, 2012, as clarified in GPPB Circular No. 01-2014.	
	(ii) Project Requirements, which shall include the following:	
	(ii.1) Organizational chart for the contract to be bid;	
	(ii.2) List of contractor's personnel (<i>e.g.</i> , Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data. These personnel must	

	<p>meet the required minimum years of experience set in the BDS; and</p> <p>(ii.3) List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, which must meet the minimum requirements for the contract set in the BDS; and</p> <p>Omnibus Sworn statement in accordance with Section 25.3 of the IRR of RA 9184 and using the form prescribed in Section IX. Bidding Forms.</p>																		
12.1(a)(iii)	No further instructions.																		
12.1(b)(ii.2)	<p>The minimum work experience requirements for key personnel are the following:</p> <table><tr><th>Key Personnel</th><th>General Experience</th><th>Relevant Experience</th></tr><tr><td>1 Project Engineer</td><td>With experience on general construction</td><td>With experience on actual vertical structures for at least two (2) years specifically in community development project such as Core Shelter, Housing, water system facilities. With knowledge in Autocad and plan review.</td></tr><tr><td>2 Civil Engineer</td><td>With experience on general construction</td><td>With experience on actual vertical structure construction implementation and finishing of works on both building and water system projects for at least two (2) years. With knowledge in Autocad and plan review.</td></tr><tr><td>1 Electrical Engineer</td><td>With experience on general electrical works</td><td>With experience on solar power system.</td></tr><tr><td>1 Architect</td><td>With experience on architectural design and plan preparation and actual execution</td><td>With experience in design preparations, planning, and implementation for vertical structure construction for at least two (2) years.</td></tr><tr><td>1 Safety Officer</td><td>With experience on general construction</td><td>With experience as a safety Engineer or Safety Officer in construction site for at least one (1) year.</td></tr></table>	Key Personnel	General Experience	Relevant Experience	1 Project Engineer	With experience on general construction	With experience on actual vertical structures for at least two (2) years specifically in community development project such as Core Shelter, Housing, water system facilities. With knowledge in Autocad and plan review.	2 Civil Engineer	With experience on general construction	With experience on actual vertical structure construction implementation and finishing of works on both building and water system projects for at least two (2) years. With knowledge in Autocad and plan review.	1 Electrical Engineer	With experience on general electrical works	With experience on solar power system.	1 Architect	With experience on architectural design and plan preparation and actual execution	With experience in design preparations, planning, and implementation for vertical structure construction for at least two (2) years.	1 Safety Officer	With experience on general construction	With experience as a safety Engineer or Safety Officer in construction site for at least one (1) year.
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1 Safety Officer	With experience on general construction	With experience as a safety Engineer or Safety Officer in construction site for at least one (1) year.																	

	Construction Foreman (one per Municipality)	With experience on general construction	With experience on actual vertical structure construction and finishing of works for at least two (2) years. With knowledge on plan execution.																					
12.1(b)(iii.3)	The minimum major equipment requirements are the following: <table><tr><td>Equipment</td><td>Capacity</td><td>Number of Units</td></tr><tr><td>Dump Truck</td><td>8 cu.m</td><td>1 per Municipality</td></tr><tr><td>Concrete Mixer</td><td>1 bagger</td><td>1 per Municipality</td></tr><tr><td>Plate Compactor</td><td>Power Gen. BD170F(4.2HP)</td><td>1 per Municipality</td></tr><tr><td>Bar Cutter</td><td>42 mm Circular</td><td>1 per Municipality</td></tr><tr><td>Ground Water Drilling Machine</td><td>130m drill depth, 220mm max. diameter</td><td>1</td></tr><tr><td>Welding Machine</td><td>300 amperes</td><td>1</td></tr></table>			Equipment	Capacity	Number of Units	Dump Truck	8 cu.m	1 per Municipality	Concrete Mixer	1 bagger	1 per Municipality	Plate Compactor	Power Gen. BD170F(4.2HP)	1 per Municipality	Bar Cutter	42 mm Circular	1 per Municipality	Ground Water Drilling Machine	130m drill depth, 220mm max. diameter	1	Welding Machine	300 amperes	1
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13.1	No additional Requirements.																							
13.1(b)	The Bidder shall submit the following Financial Proposal Documents, <u>arranged and tabbed</u> in the following manner: (c) Duly accomplished and signed Financial Bid Form; (d) Duly accomplished and signed Bill of Quantities Form; (e) Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the bid; (f) Duly accomplished and signed cash flow by the quarter and payments schedule; (g) Flow Chart / Program Evaluation Review Technique (PERT) / Critical Path Method (CPM) / Gantt Chart; and Electronic copy of Item C in Flashdrive.																							
13.2	The ABC is <i>SIX HUNDRED ONE MILLION EIGHT HUNDRED SIXTEEN THOUSAND EIGHT HUNDRED NINETY-THREE AND 30/100 PESOS ONLY (PHP 601,816,893.30)</i> . Any bid with a financial component exceeding this amount shall not be accepted.																							
14.2	No further instructions.																							

15.4	No further instruction.
16.1	The bid prices shall be quoted in Philippine Pesos.
16.3	No further instructions.
17.1	Bids will be valid until one hundred twenty (120) calendar days from the date of the opening of bids.
18.1	<p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <p>1. The amount of not less than <i>2% of ABC</i>, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</p> <p>The amount of not less than <i>5% of ABC</i>, if bid security is in Surety Bond.</p>
18.2	The bid security shall be valid until one hundred twenty (120) calendar days from the date of the opening of bids.
20.1	<p>Bidders may submit certified true copies of their eligibility and technical documents certified by the owner or duly authorized representative whose full name should be indicated below the signature.</p> <p>Documents that emanate from and are required to be signed by the bidder or duly authorized representative such as, but not limited to: Statement of On-going Contracts, Statement of Single Largest Completed Contract (SLCC), Omnibus Sworn Statement, etc. should be originally signed by the bidder or duly authorized representative.</p>
20.3	Each Bidder shall submit <i>one (1) original</i> and <i>five (5) copies</i> of the first and second components of its bid.
21	<p>The address for submission of bids is:</p> <p>Bajau Conference Hall, Office of the Chief Minister, Bangsamoro Government Center, Cotabato City</p> <p>The deadline for submission of bids is on November 10, 2020 at 8:30 A.M.</p>
24.1	<p>The place of bid opening is:</p> <p>Bajau Conference Hall, Office of the Chief Minister,</p>

	<p>Bangsamoro Government Center, Cotabato City</p> <p>The date and time of bid opening is November 10, 2020 at 9:00 A.M.</p>
24.2	No further instructions.
24.3	No further instructions.
27.4	No further instructions.
28.2	<i>None.</i>
31.4(f)	<p>List of additional contract documents relevant to the Project:</p> <ol style="list-style-type: none"> 1. Construction Schedule and S-curve; 2. Manpower Schedule; 3. Construction Method; 4. Equipment Utilization Schedule; 5. Construction Safety and Health Program approved by the Department of Labor and Employment; and 6. PERT/CPM.

Section IV. General Conditions of Contract

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1. Definitions

For purposes of this Clause, boldface type is used to identify defined terms.

- 1.1. The **Arbiter** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in **GCC Clause 21**.
- 1.2. **Bill of Quantities** refers to a list of the specific items of the Work and their corresponding unit prices, lump sums, and/or provisional sums.
- 1.3. The **Completion Date** is the date of completion of the Works as certified by the Procuring Entity's Representative, in accordance with **GCC Clause 49**.
- 1.4. The **Contract** is the contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works.
- 1.5. The **Contract Effectivity Date** is the date of signing of the Contract. However, the contractor shall commence execution of the Works on the Start Date as defined in **GCC Clause 1.28**.
- 1.6. The **Contract Price** is the price stated in the Notice of Award and thereafter to be paid by the Procuring Entity to the Contractor for the execution of the Works in accordance with this Contract
- 1.7. **Contract Time Extension** is the allowable period for the Contractor to complete the Works in addition to the original Completion Date stated in this Contract.
- 1.8. The **Contractor** is the juridical entity whose proposal has been accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded.
- 1.9. The **Contractor's Bid** is the signed offer or proposal submitted by the Contractor to the Procuring Entity in response to the Bidding Documents.
- 1.10. **Days** are calendar days; months are calendar months.
- 1.11. **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.
- 1.12. A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.13. The **Defects Liability Certificate** is the certificate issued by Procuring Entity's Representative upon correction of defects by the Contractor.
- 1.14. The **Defects Liability Period** is the one year period between contract completion and final acceptance within which the Contractor assumes the

responsibility to undertake the repair of any damage to the Works at his own expense.

- 1.15 **Drawings** are graphical presentations of the Works. They include all supplementary details, shop drawings, calculations, and other information provided or approved for the execution of this Contract.
- 1.16 **Equipment** refers to all facilities, supplies, appliances, materials or things required for the execution and completion of the Work provided by the Contractor and which shall not form or are not intended to form part of the Permanent Works.
- 1.17 The **Intended Completion Date** refers to the date specified in the **SCC** when the Contractor is expected to have completed the Works. The Intended Completion Date may be revised only by the Procuring Entity's Representative by issuing an extension of time or an acceleration order.
- 1.18 **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- 1.19 The **Notice to Proceed** is a written notice issued by the Procuring Entity or the Procuring Entity's Representative to the Contractor requiring the latter to begin the commencement of the work not later than a specified or determinable date.
- 1.20 **Permanent Works** are all permanent structures and all other project features and facilities required to be constructed and completed in accordance with this Contract which shall be delivered to the Procuring Entity and which shall remain at the Site after the removal of all Temporary Works.
- 1.21 **Plant** refers to the machinery, apparatus, and the like intended to form an integral part of the Permanent Works.
- 1.22 The **Procuring Entity** is the party who employs the Contractor to carry out the Works stated in the **SCC**.
- 1.23 The **Procuring Entity's Representative** refers to the Head of the Procuring Entity or his duly authorized representative, identified in the **SCC**, who shall be responsible for supervising the execution of the Works and administering this Contract.
- 1.24 The **Site** is the place provided by the Procuring Entity where the Works shall be executed and any other place or places which may be designated in the **SCC**, or notified to the Contractor by the Procuring Entity's Representative as forming part of the Site.
- 1.25 **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.

- 1.26 **Slippage** is a delay in work execution occurring when actual accomplishment falls below the target as measured by the difference between the scheduled and actual accomplishment of the Work by the Contractor as established from the work schedule. This is actually described as a percentage of the whole Works.
- 1.27 **Specifications** means the description of Works to be done and the qualities of materials to be used, the equipment to be installed and the mode of construction.
- 1.28 The **Start Date**, as specified in the **SCC**, is the date when the Contractor is obliged to commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.29 A **Subcontractor** is any person or organization to whom a part of the Works has been subcontracted by the Contractor, as allowed by the Procuring Entity, but not any assignee of such person.
- 1.30 **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Permanent Works.
- 1.31 **Work(s)** refer to the Permanent Works and Temporary Works to be executed by the Contractor in accordance with this Contract, including (i) the furnishing of all labor, materials, equipment and others incidental, necessary or convenient to the complete execution of the Works; (ii) the passing of any tests before acceptance by the Procuring Entity's Representative; (iii) and the carrying out of all duties and obligations of the Contractor imposed by this Contract as described in the **SCC**.

2. Interpretation

- 2.1. In interpreting the Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of this Contract unless specifically defined. The Procuring Entity's Representative will provide instructions clarifying queries about the Conditions of Contract.
- 2.2. If sectional completion is specified in the **SCC**, references in the Conditions of Contract 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 this Contract shall be interpreted in the following order of priority:
- a) Contract Agreement;
 - b) Bid Data Sheet;

- c) Instructions to Bidders;
- d) Addenda to the Bidding Documents;
- e) Special Conditions of Contract;
- f) General Conditions of Contract;
- g) Specifications;
- h) Bill of Quantities; and
- i) Drawings.

3. Governing Language and Law

- 3.1. This Contract has been executed in the English language, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract. All correspondence and other documents pertaining to this Contract which are exchanged by the parties shall be written in English.
- 3.2. This Contract shall be interpreted in accordance with the laws of the Republic of the Philippines.

4. Communications

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 received by the concerned party.

5. Possession of Site

- 5.1. On the date specified in the **SCC**, the Procuring Entity shall grant the Contractor possession of so much of the Site as may be required to enable it to proceed with the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.
- 5.2. If possession of a portion is not given by the date stated in the SCC Clause 5.1, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay shall be in accordance with **GCC** Clause 47.
- 5.3. The Contractor shall bear all costs and charges for special or temporary right-of-way required by it in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by it for purposes of the Works.

- 5.4. The Contractor shall allow the Procuring Entity's Representative and any person authorized by the Procuring Entity's Representative access to the Site and to any place where work in connection with this Contract is being carried out or is intended to be carried out.

6. The Contractor's Obligations

- 6.1. The Contractor shall carry out the Works properly and in accordance with this Contract. The Contractor shall provide all supervision, labor, Materials, Plant and Contractor's Equipment, which may be required. All Materials and Plant on Site shall be deemed to be the property of the Procuring Entity.
- 6.2. The Contractor shall commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program of Work submitted by the Contractor, as updated with the approval of the Procuring Entity's Representative, and complete them by the Intended Completion Date.
- 6.3. The Contractor shall be responsible for the safety of all activities on the Site.
- 6.4. The Contractor shall carry out all instructions of the Procuring Entity's Representative that comply with the applicable laws where the Site is located.
- 6.5. The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the SCC, to carry out the supervision of the Works. The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.
- 6.6. If the Procuring Entity's Representative asks the Contractor to remove a member of the Contractor's staff or work force, for justifiable cause, the Contractor shall ensure that the person leaves the Site within seven (7) days and has no further connection with the Work in this Contract.
- 6.7. During Contract implementation, the Contractor and his subcontractors shall abide at all times by all labor laws, including child labor related enactments, and other relevant rules.
- 6.8. The Contractor shall submit to the Procuring Entity for consent the name and particulars of the person authorized to receive instructions on behalf of the Contractor.
- 6.9. The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the schedule of other contractors particularly when they shall require access to the Site. The Contractor shall also provide facilities and services for them during this period. The Procuring Entity may modify

the schedule of other contractors, and shall notify the Contractor of any such modification thereto.

- 6.10. Should anything of historical or other interest or of significant value be unexpectedly discovered on the Site, it shall be the property of the Procuring Entity. The Contractor shall notify the Procuring Entity's Representative of such discoveries and carry out the Procuring Entity's Representative's instructions in dealing with them.

7. Performance Security

- 7.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the Contractor shall furnish the performance security in any of the forms prescribed in **ITB** Clause 32.2.
- 7.2. The performance security posted in favor of the Procuring Entity shall be forfeited in the event it is established that the Contractor is in default in any of its obligations under the Contract.
- 7.3. The performance security shall remain valid until issuance by the Procuring Entity of the Certificate of Final Acceptance.
- 7.4. The performance security may be released by the Procuring Entity and returned to the Contractor after the issuance of the Certificate of Final Acceptance subject to the following conditions:
 - (a) There are no pending claims against the Contractor or the surety company filed by the Procuring Entity;
 - (b) The Contractor has no pending claims for labor and materials filed against it; and
 - (c) Other terms specified in the **SCC**.
- 7.5. The Contractor shall post an additional performance security following the amount and form specified in **ITB** Clause 32.2 to cover any cumulative increase of more than ten percent (10%) over the original value of the contract as a result of amendments to order or change orders, extra work orders and supplemental agreements, as the case may be. The Contractor shall cause the extension of the validity of the performance security to cover approved contract time extensions.
- 7.6. In case of a reduction in the contract value or for partially completed Works under the contract which are usable and accepted by the Procuring Entity the use of which, in the judgment of the implementing agency or the Procuring Entity, will not affect the structural integrity of the entire project, the Procuring Entity shall allow a proportional reduction in the original performance security, provided that any such reduction is more than ten percent (10%) and that the aggregate of such reductions is not more than fifty percent (50%) of the original performance security.

- 7.7. Unless otherwise indicated in the **SCC**, the Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to Act 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

8. Subcontracting

- 8.1. Unless otherwise indicated in the **SCC**, the Contractor cannot subcontract Works more than the percentage specified in **BDS** Clause 8.1.
- 8.2. Subcontracting of any portion of the Works does not relieve the Contractor of any liability or obligation under this Contract. The Contractor will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants or workmen.
- 8.3. If subcontracting is allowed. The contractor may identify its subcontractor during contract implementation stage. Subcontractors disclosed and identified during the bidding may be changed during the implementation of this Contract. In either case, subcontractors must submit the documentary requirements under ITB Clause 12 and comply with the eligibility criteria specified in the **BDS**. In the event that any subcontractor is found by any Procuring Entity to be eligible, the subcontracting of such portion of the Works shall be disallowed.

9. Liquidated Damages

- 9.1. The Contractor shall pay liquidated damages to the Procuring Entity for each day that the Completion Date is later than the Intended Completion Date. The applicable liquidated damages is at least one-tenth (1/10) of a percent of the cost of the unperformed portion for every day of delay. The total amount of liquidated damages shall not exceed ten percent (10%) of the amount of the contract. The Procuring Entity may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of this Contract, the Procuring Entity may rescind or terminate this Contract, without prejudice to other courses of action and remedies available under the circumstances.
- 9.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer of the Procuring Entity shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.

10. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

11. The Procuring Entity, Licenses and Permits

The Procuring Entity shall, if requested by the Contractor, assist him in applying for permits, licenses or approvals, which are required for the Works.

12. Contractor's Risk and Warranty Security

- 12.1. The Contractor shall assume full responsibility for the Works from the time project construction commenced up to final acceptance by the Procuring Entity and shall be held responsible for any damage or destruction of the Works except those occasioned by *force majeure*. The Contractor shall be fully responsible for the safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the Works, Equipment, installation, and the like to be affected by his construction work.
- 12.2. The defects liability period for infrastructure projects shall be one year from contract completion up to final acceptance by the Procuring Entity. During this period, the Contractor shall undertake the repair works, at his own expense, of any damage to the Works on account of the use of materials of inferior quality within ninety (90) days from the time the HoPE has issued an order to undertake repair. In case of failure or refusal to comply with this mandate, the Procuring Entity shall undertake such repair works and shall be entitled to full reimbursement of expenses incurred therein upon demand.
- 12.3. Unless otherwise indicated in the **SCC**, in case the Contractor fails to comply with the preceding paragraph, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GoP in his favor shall be offset to recover the costs.
- 12.4. After final acceptance of the Works by the Procuring Entity, the Contractor shall be held responsible for "Structural Defects," *i.e.*, major faults/flaws/deficiencies in one or more key structural elements of the project which may lead to structural failure of the completed elements or structure, or "Structural Failures," *i.e.*, where one or more key structural elements in an infrastructure facility fails or collapses, thereby rendering the facility or part thereof incapable of withstanding the design loads, and/or endangering the safety of the users or the general public:
 - (a) Contractor – Where Structural Defects/Failures arise due to faults attributable to improper construction, use of inferior quality/substandard materials, and any violation of the contract plans and specifications, the contractor shall be held liable;

- (b) Consultants – Where Structural Defects/Failures arise due to faulty and/or inadequate design and specifications as well as construction supervision, then the consultant who prepared the design or undertook construction supervision for the project shall be held liable;
- (c) Procuring Entity's Representatives/Project Manager/Construction Managers and Supervisors – The project owner's representative(s), project manager, construction manager, and supervisor(s) shall be held liable in cases where the Structural Defects/Failures are due to his/their willful intervention in altering the designs and other specifications; negligence or omission in not approving or acting on proposed changes to noted defects or deficiencies in the design and/or specifications; and the use of substandard construction materials in the project;
- (d) Third Parties - Third Parties shall be held liable in cases where Structural Defects/Failures are caused by work undertaken by them such as leaking pipes, diggings or excavations, underground cables and electrical wires, underground tunnel, mining shaft and the like, in which case the applicable warranty to such structure should be levied to third parties for their construction or restoration works.
- (e) Users - In cases where Structural Defects/Failures are due to abuse/misuse by the end user of the constructed facility and/or non-compliance by a user with the technical design limits and/or intended purpose of the same, then the user concerned shall be held liable.

12.5. The warranty against Structural Defects/Failures, except those occasioned on force majeure, shall cover the period specified in the **SCC** reckoned from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity.

12.6. The Contractor shall be required to put up a warranty security in the form of cash, bank guarantee, letter of credit, GSIS or surety bond callable on demand, in accordance with the following schedule:

Form of Warranty	Amount of Warranty Security Not less than the Percentage (%) of Total Contract Price
(a) Cash or letter of credit issued by Universal or Commercial bank: provided, however, that the letter of credit shall be confirmed or authenticated by a Universal or Commercial bank, if issued by a foreign bank	Five Percent (5%)

(b) Bank guarantee confirmed by Universal or Commercial bank: provided, however, that the letter of credit shall be confirmed or authenticated by a Universal or Commercial bank, if issued by a foreign bank	Ten Percent (10%)
(c) Surety bond callable upon demand issued by GSIS or any surety or insurance company duly certified by the Insurance Commission	Thirty Percent (30%)

12.7. The warranty security shall be stated in Philippine Pesos and shall remain effective for one year from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity, and returned only after the lapse of said one year period.

12.8. In case of structural defects/failure occurring during the applicable warranty period provided in **GCC** Clause 12.5, the Procuring Entity shall undertake the necessary restoration or reconstruction works and shall be entitled to full reimbursement by the parties found to be liable for expenses incurred therein upon demand, without prejudice to the filing of appropriate administrative, civil, and/or criminal charges against the responsible persons as well as the forfeiture of the warranty security posted in favor of the Procuring Entity.

13. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

14. Procuring Entity's Risk

14.1. From the Start Date until the Certificate of Final Acceptance has been issued, the following are risks of the Procuring Entity:

- (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) any type of use or occupation of the Site authorized by the Procuring Entity after the official acceptance of the works; or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed by or contracted to him except the Contractor.

- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

15. Insurance

15.1. The Contractor shall, under his name and at his own expense, obtain and maintain, for the duration of this Contract, the following insurance coverage:

- (a) Contractor's All Risk Insurance;
- (b) Transportation to the project Site of Equipment, Machinery, and Supplies owned by the Contractor;
- (c) Personal injury or death of Contractor's employees; and
- (d) Comprehensive insurance for third party liability to Contractor's direct or indirect act or omission causing damage to third persons.

15.2. The Contractor shall provide evidence to the Procuring Entity's Representative that the insurances required under this Contract have been effected and shall, within a reasonable time, provide copies of the insurance policies to the Procuring Entity's Representative. Such evidence and such policies shall be provided to the Procuring Entity's through the Procuring Entity's Representative.

15.3. The Contractor shall notify the insurers of changes in the nature, extent, or program for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of this Contract and shall produce to the Procuring Entity's Representative the insurance policies in force including the receipts for payment of the current premiums.

The above insurance policies shall be obtained from any reputable insurance company approved by the Procuring Entity's Representative.

15.4. If the Contractor fails to obtain and keep in force the insurances referred to herein or any other insurance which he may be required to obtain under the terms of this Contract, the Procuring Entity may obtain and keep in force any such insurances and pay such premiums as may be necessary for the purpose. From time to time, the Procuring Entity may deduct the amount it shall pay for said premiums including twenty five percent (25%) therein from any monies due, or which may become due, to the Contractor, without prejudice to the Procuring Entity exercising its right to impose other sanctions against the Contractor pursuant to the provisions of this Contract.

- 15.5. In the event the Contractor fails to observe the above safeguards, the Procuring Entity may, at the Contractor's expense, take whatever measure is deemed necessary for its protection and that of the Contractor's personnel and third parties, and/or order the interruption of dangerous Works. In addition, the Procuring Entity may refuse to make the payments under GCC Clause 40 until the Contractor complies with this Clause.
- 15.6. The Contractor shall immediately replace the insurance policy obtained as required in this Contract, without need of the Procuring Entity's demand, with a new policy issued by a new insurance company acceptable to the Procuring Entity for any of the following grounds:
- (a) The issuer of the insurance policy to be replaced has:
 - (i) become bankrupt;
 - (ii) been placed under receivership or under a management committee;
 - (iii) been sued for suspension of payment; or
 - (iv) been suspended by the Insurance Commission and its license to engage in business or its authority to issue insurance policies cancelled; or
 - (v) Where reasonable grounds exist that the insurer may not be able, fully and promptly, to fulfill its obligation under the insurance policy.

16. Termination for Default of Contractor

- 16.1. The Procuring Entity shall terminate this Contract for default when any of the following conditions attend its implementation:
- (i) Due to the Contractor's fault and while the project is on-going, it has incurred negative slippage of fifteen percent (15%) or more in accordance with Presidential Decree 1870, regardless of whether or not previous warnings and notices have been issued for the Contractor to improve his performance;
 - (ii) Due to its own fault and after this Contract time has expired, the Contractor incurs delay in the completion of the Work after this Contract has expired; or
 - (iii) The Contractor:
 - (i) abandons the contract Works, refuses or fails to comply with a valid instruction of the Procuring Entity or fails to proceed expeditiously and without delay despite a written notice by the Procuring Entity;

- (ii) does not actually have on the project Site the minimum essential equipment listed on the bid necessary to prosecute the Works in accordance with the approved Program of Work and equipment deployment schedule as required for the project;
- (iii) does not execute the Works in accordance with this Contract or persistently or flagrantly neglects to carry out its obligations under this Contract;
- (iv) neglects or refuses to remove materials or to perform a new Work that has been rejected as defective or unsuitable; or
- (v) sub-lets any part of this Contract without approval by the Procuring Entity.

16.2. All materials on the Site, Plant, Works, including Equipment purchased and funded under the Contract shall be deemed to be the property of the Procuring Entity if this Contract is rescinded because of the Contractor's default.

17. Termination for Default of Procuring Entity

The Contractor may terminate this Contract with the Procuring Entity if the works are completely stopped for a continuous period of at least sixty (60) calendar days through no fault of its own, due to any of the following reasons:

- (a) Failure of the Procuring Entity to deliver, within a reasonable time, supplies, materials, right-of-way, or other items it is obligated to furnish under the terms of this Contract; or
- (b) The prosecution of the Work is disrupted by the adverse peace and order situation, as certified by the Armed Forces of the Philippines Provincial Commander and approved by the Secretary of National Defense.

18. Termination for Other Causes

- 18.1. The Procuring Entity may terminate this Contract, in whole or in part, at any time for its convenience. The HoPE may terminate this Contract for the convenience of the Procuring Entity if he has determined the existence of conditions that make Project Implementation economically, financially or technically impractical and/or unnecessary, such as, but not limited to, fortuitous event(s) or changes in law and National Government policies.
- 18.2. The Procuring Entity or the Contractor may terminate this Contract if the other party causes a fundamental breach of this Contract.
- 18.3. Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) The Contractor stops work for twenty eight (28) days when no stoppage of work is shown on the current Program of Work and the stoppage has not been authorized by the Procuring Entity's Representative;
- (b) The Procuring Entity's Representative instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within twenty eight (28) days;
- (c) The Procuring Entity shall terminate this Contract if the Contractor is declared bankrupt or insolvent as determined with finality by a court of competent jurisdiction. In this event, termination will be without compensation to the Contractor, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Procuring Entity and/or the Contractor. In the case of the Contractor's insolvency, any Contractor's Equipment which the Procuring Entity instructs in the notice is to be used until the completion of the Works;
- (d) A payment certified by the Procuring Entity's Representative is not paid by the Procuring Entity to the Contractor within eighty four (84) days from the date of the Procuring Entity's Representative's certificate;
- (e) The Procuring Entity's Representative 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 Procuring Entity's Representative;
- (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 **GCC** Clause 9; and
- (h) In case it is determined prima facie by the Procuring Entity that the Contractor has engaged, before or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to, the following:
 - (i) corrupt, fraudulent, collusive, coercive, and obstructive practices as defined in **ITB** Clause 3.1(a), unless otherwise specified in the SCC;
 - (ii) drawing up or using forged documents;
 - (iii) using adulterated materials, means or methods, or engaging in production contrary to rules of science or the trade; and

(iv) any other act analogous to the foregoing.

- 18.4. The Funding Source or the Procuring Entity, as appropriate, will seek to impose the maximum civil, administrative and/or criminal penalties available under the applicable law on individuals and organizations deemed to be involved with corrupt, fraudulent, or coercive practices.
- 18.5. When persons from either party to this Contract gives notice of a fundamental breach to the Procuring Entity's Representative in order to terminate the existing contract for a cause other than those listed under **GCC** Clause 18.3, the Procuring Entity's Representative shall decide whether the breach is fundamental or not.
- 18.6. If this Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

19. Procedures for Termination of Contracts

19.1. The following provisions shall govern the procedures for the termination of this Contract:

- (a) Upon receipt of a written report of acts or causes which may constitute ground(s) for termination as aforementioned, or upon its own initiative, the Procuring Entity shall, within a period of seven (7) calendar days, verify the existence of such ground(s) and cause the execution of a Verified Report, with all relevant evidence attached;
- (b) Upon recommendation by the Procuring Entity, the HoPE shall terminate this Contract only by a written notice to the Contractor conveying the termination of this Contract. The notice shall state:
 - (i) that this Contract is being terminated for any of the ground(s) afore-mentioned, and a statement of the acts that constitute the ground(s) constituting the same;
 - (ii) the extent of termination, whether in whole or in part;
 - (iii) an instruction to the Contractor to show cause as to why this Contract should not be terminated; and
 - (iv) special instructions of the Procuring Entity, if any.

The Notice to Terminate shall be accompanied by a copy of the Verified Report;

- (c) Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Contractor shall submit to the HoPE a verified position paper stating why the contract should not be terminated. If the Contractor fails to show cause after the lapse of

the seven (7) day period, either by inaction or by default, the HoPE shall issue an order terminating the contract;

- (d) The Procuring Entity may, at anytime before receipt of the Contractor's verified position paper described in item (c) above withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Contractor's receipt of the notice;
- (e) Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the HoPE shall decide whether or not to terminate this Contract. It shall serve a written notice to the Contractor of its decision and, unless otherwise provided in the said notice, this Contract is deemed terminated from receipt of the Contractor of the notice of decision. The termination shall only be based on the ground(s) stated in the Notice to Terminate; and
- (f) The HoPE may create a Contract Termination Review Committee (CTRC) to assist him in the discharge of this function. All decisions recommended by the CTRC shall be subject to the approval of the HoPE.

19.2. Pursuant to Section 69(f) of RA 9184 and without prejudice to the imposition of additional administrative sanctions as the internal rules of the agency may provide and/or further criminal prosecution as provided by applicable laws, the procuring entity shall impose on contractors after the termination of the contract the penalty of suspension for one (1) year for the first offense, suspension for two (2) years for the second offense from participating in the public bidding process, for violations committed during the contract implementation stage, which include but not limited to the following:

- (a) Failure of the contractor, due solely to his fault or negligence, to mobilize and start work or performance within the specified period in the Notice to Proceed ("NTP");
- (b) Failure by the contractor to fully and faithfully comply with its contractual obligations without valid cause, or failure by the contractor to comply with any written lawful instruction of the procuring entity or its representative(s) pursuant to the implementation of the contract. For the procurement of infrastructure projects or consultancy contracts, lawful instructions include but are not limited to the following:
 - (i) Employment of competent technical personnel, competent engineers and/or work supervisors;

- (ii) Provision of warning signs and barricades in accordance with approved plans and specifications and contract provisions;
 - (iii) Stockpiling in proper places of all materials and removal from the project site of waste and excess materials, including broken pavement and excavated debris in accordance with approved plans and specifications and contract provisions;
 - (iv) Deployment of committed equipment, facilities, support staff and manpower; and
 - (v) Renewal of the effectivity dates of the performance security after its expiration during the course of contract implementation.
- (c) Assignment and subcontracting of the contract or any part thereof or substitution of key personnel named in the proposal without prior written approval by the procuring entity.
 - (d) Poor performance by the contractor or unsatisfactory quality and/or progress of work arising from his fault or negligence as reflected in the Constructor's Performance Evaluation System ("CPES") rating sheet. In the absence of the CPES rating sheet, the existing performance monitoring system of the procuring entity shall be applied. Any of the following acts by the Contractor shall be construed as poor performance:
 - (i) Negative slippage of 15% and above within the critical path of the project due entirely to the fault or negligence of the contractor; and
 - (ii) Quality of materials and workmanship not complying with the approved specifications arising from the contractor's fault or negligence.
 - (e) Willful or deliberate abandonment or non-performance of the project or contract by the contractor resulting to substantial breach thereof without lawful and/or just cause.

In addition to the penalty of suspension, the performance security posted by the contractor shall also be forfeited.

20. Force Majeure, Release From Performance

- 20.1. For purposes of this Contract the terms "*force majeure*" and "fortuitous event" may be used interchangeably. In this regard, a fortuitous event or *force majeure* shall be interpreted to mean an event which the Contractor could not have foreseen, or which though foreseen, was inevitable. It shall not include ordinary unfavorable weather conditions; and any other

cause the effects of which could have been avoided with the exercise of reasonable diligence by the Contractor.

- 20.2. If this Contract is discontinued by an outbreak of war or by any other event entirely outside the control of either the Procuring Entity or the Contractor, the Procuring Entity's Representative shall certify that this Contract has been discontinued. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and for any Work carried out afterwards to which a commitment was made.
- 20.3. If the event continues for a period of eighty four (84) days, either party may then give notice of termination, which shall take effect twenty eight (28) days after the giving of the notice.
- 20.4. After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the materials and Plant reasonably delivered to the Site, adjusted by the following:
 - (a) any sum to which the Contractor is entitled under **GCC** Clause 28;
 - (b) the cost of his suspension and demobilization;
 - (c) any sum to which the Procuring Entity is entitled.
- 20.5. The net balance due shall be paid or repaid within a reasonable time period from the time of the notice of termination.

21. Resolution of Disputes

- 21.1. If any dispute or difference of any kind whatsoever shall arise between the parties in connection with the implementation of the contract covered by the Act and this IRR, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 21.2. If the Contractor believes that a decision taken by the Procuring Entity's Representative was either outside the authority given to the Procuring Entity's Representative by this Contract or that the decision was wrongly taken, the decision shall be referred to the Arbiter indicated in the **SCC** within fourteen (14) days of the notification of the Procuring Entity's Representative's decision.
- 21.3. Any and all disputes arising from the implementation of this Contract covered by the R.A. 9184 and its IRR shall be submitted to arbitration in the Philippines according to the provisions of Republic Act No. 876, otherwise known as the " Arbitration Law" and Republic Act 9285, otherwise known as the "Alternative Dispute Resolution Act of 2004": *Provided, however, That, disputes that are within the competence of the Construction Industry Arbitration Commission to resolve shall be referred thereto. The process of arbitration shall be incorporated as a provision in this Contract that will be executed pursuant to the provisions*

of the Act and its IRR: *Provided, further*, That, by mutual agreement, the parties may agree in writing to resort to other alternative modes of dispute resolution.

22. Suspension of Loan, Credit, Grant, or Appropriation

In the event that the Funding Source suspends the Loan, Credit, Grant, or Appropriation to the Procuring Entity, from which part of the payments to the Contractor are being made:

- (a) The Procuring Entity is obligated to notify the Contractor of such suspension within seven (7) days of having received the suspension notice.
- (b) If the Contractor has not received sums due it for work already done within forty five (45) days from the time the Contractor's claim for payment has been certified by the Procuring Entity's Representative, the Contractor may immediately issue a suspension of work notice in accordance with GCC Clause 45.2.

23. Procuring Entity's Representative's Decisions

- 23.1. Except where otherwise specifically stated, the Procuring Entity's Representative will decide contractual matters between the Procuring Entity and the Contractor in the role representing the Procuring Entity.
- 23.2. The Procuring Entity's Representative may delegate any of his duties and responsibilities to other people, except to the Arbiter, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

24. Approval of Drawings and Temporary Works by the Procuring Entity's Representative

- 24.1. All Drawings prepared by the Contractor for the execution of the Temporary Works, are subject to prior approval by the Procuring Entity's Representative before its use.
- 24.2. The Contractor shall be responsible for design of Temporary Works.
- 24.3. The Procuring Entity's Representative's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 24.4. The Contractor shall obtain approval of third parties to the design of the Temporary Works, when required by the Procuring Entity.

25. Acceleration and Delays Ordered by the Procuring Entity's Representative

- 25.1. When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Procuring Entity's Representative will

obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.

- 25.2. If the Contractor's Financial Proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

26. Extension of the Intended Completion Date

- 26.1. The Procuring Entity's Representative shall extend the Intended Completion Date if a Variation is issued which makes it impossible for the Intended Completion Date to be achieved by the Contractor without taking steps to accelerate the remaining work, which would cause the Contractor to incur additional costs. No payment shall be made for any event which may warrant the extension of the Intended Completion Date.
- 26.2. The Procuring Entity's Representative shall decide whether and by how much to extend the Intended Completion Date within twenty one (21) days of the Contractor asking the Procuring Entity's Representative for a decision thereto after fully submitting all 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. Right to Vary

- 27.1. The Procuring Entity's Representative with the prior approval of the Procuring Entity may instruct Variations, up to a maximum cumulative amount of ten percent (10%) of the original contract cost.
- 27.2. Variations shall be valued as follows:
- (a) At a lump sum price agreed between the parties;
 - (b) where appropriate, at rates in this Contract;
 - (c) in the absence of appropriate rates, the rates in this Contract shall be used as the basis for valuation; or failing which
 - (d) at appropriate new rates, equal to or lower than current industry rates and to be agreed upon by both parties and approved by the HoPE.

28. Contractor's Right to Claim

If the Contractor incurs cost as a result of any of the events under **GCC** Clause 13, the Contractor shall be entitled to the amount of such cost. If as a result of any of the said events, it is necessary to change the Works, this shall be dealt with as a Variation.

29. Dayworks

- 29.1. Subject to **GCC** Clause 43 on Variation Order, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.
- 29.2. All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Procuring Entity's Representative. Each completed form shall be verified and signed by the Procuring Entity's Representative within two days of the work being done.
- 29.3. The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

30. Early Warning

- 30.1. The Contractor shall warn the Procuring Entity's Representative 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 Procuring Entity's Representative 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 Procuring Entity's Representative 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 Procuring Entity's Representative.

31. Program of Work

- 31.1. Within the time stated in the **SCC**, the Contractor shall submit to the Procuring Entity's Representative for approval a Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works.
- 31.2. An update of the Program of Work shall show 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.
- 31.3. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next

payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

- 31.4. The Procuring Entity's Representative's approval of the Program of Work shall not alter the Contractor's obligations. The Contractor may revise the Program of Work and submit it to the Procuring Entity's Representative again at any time. A revised Program of Work shall show the effect of any approved Variations.
- 31.5. When the Program of Work is updated, the Contractor shall provide the Procuring Entity's Representative 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.
- 31.6. All Variations shall be included in updated Program of Work produced by the Contractor.

32. Management Conferences

- 32.1. Either the Procuring Entity's Representative or the Contractor may require the other to attend a Management Conference. The Management Conference shall review the plans for remaining work and deal with matters raised in accordance with the early warning procedure.
- 32.2. The Procuring Entity's Representative shall record the business of Management Conferences and provide copies of the record to those attending the Conference and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the Procuring Entity's Representative either at the Management Conference or after the Management Conference and stated in writing to all who attended the Conference.

33. Bill of Quantities

- 33.1. The Bill of Quantities shall contain items of work for the construction, installation, testing, and commissioning of work to be done by the Contractor.
- 33.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.
- 33.3. If the final quantity of any work done differs from the quantity in the Bill of Quantities for the particular item and is not more than twenty five percent (25%) of the original quantity, provided the aggregate changes for all items do not exceed ten percent (10%) of the Contract price, the Procuring Entity's Representative shall make the necessary adjustments to allow for the changes subject to applicable laws, rules, and regulations.

- 33.4. If requested by the Procuring Entity's Representative, the Contractor shall provide the Procuring Entity's Representative with a detailed cost breakdown of any rate in the Bill of Quantities.

34. Instructions, Inspections and Audits

- 34.1. The Procuring Entity's personnel shall at all reasonable times during construction of the Work be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of the construction.
- 34.2. If the Procuring Entity's Representative 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.
- 34.3. The Contractor shall permit the Funding Source named in the **SCC** to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Funding Source, if so required by the Funding Source.

35. Identifying Defects

The Procuring Entity's Representative 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 Procuring Entity's Representative may instruct the Contractor to search uncover defects and test any work that the Procuring Entity's Representative considers below standards and defective.

36. Cost of Repairs

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability 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.

37. Correction of Defects

- 37.1. The Procuring Entity's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which is One (1) year from project completion up to final acceptance by the Procuring Entity's Representative.
- 37.2. Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified in the Procuring Entity's Representative's notice.
- 37.3. The Contractor shall correct the defects which he notices himself before the end of the Defects Liability Period.

- 37.4. The Procuring Entity shall certify that all defects have been corrected. If the Procuring Entity considers that correction of a defect is not essential, he can request the Contractor to submit a quotation for the corresponding reduction in the Contract Price. If the Procuring Entity accepts the quotation, the corresponding change in the SCC is a Variation.

38. Uncorrected Defects

- 38.1. The Procuring Entity shall give the Contractor at least fourteen (14) days notice of his intention to use a third party to correct a Defect. If the Contractor does not correct the Defect himself within the period, the Procuring Entity may have the Defect corrected by the third party. The cost of the correction will be deducted from the Contract Price.
- 38.2. The use of a third party to correct defects that are uncorrected by the Contractor will in no way relieve the Contractor of its liabilities and warranties under the Contract.

39. Advance Payment

- 39.1. The Procuring Entity shall, upon a written request of the contractor which shall be submitted as a contract document, make an advance payment to the contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum or, at the most two, installments according to a schedule specified in the **SCC**.
- 39.2. The advance payment shall be made only upon the submission to and acceptance by the Procuring Entity of an irrevocable standby letter of credit of equivalent value from a commercial bank, a bank guarantee or a surety bond callable upon demand, issued by a surety or insurance company duly licensed by the Insurance Commission and confirmed by the Procuring Entity.
- 39.3. The advance payment shall be repaid by the Contractor by an amount equal to the percentage of the total contract price used for the advance payment.
- 39.4. The contractor may reduce his standby letter of credit or guarantee instrument by the amounts refunded by the Monthly Certificates in the advance payment.
- 39.5. The Procuring Entity will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to the maximum amount stated in **SCC** Clause 39.1.

40. Progress Payments

- 40.1. The Contractor may submit a request for payment for Work accomplished. Such request for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as

otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

- 40.2. The Procuring Entity shall deduct the following from the certified gross amounts to be paid to the contractor as progress payment:
- (a) Cumulative value of the work previously certified and paid for.
 - (b) Portion of the advance payment to be recouped for the month.
 - (c) Retention money in accordance with the condition of contract.
 - (d) Amount to cover third party liabilities.
 - (e) Amount to cover uncorrected discovered defects in the works.
- 40.3. Payments shall be adjusted by deducting therefrom the amounts for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Procuring Entity's Representative within twenty eight (28) days from the date each certificate was issued. No payment of interest for delayed payments and adjustments shall be made by the Procuring Entity.
- 40.4. The first progress payment may be paid by the Procuring Entity to the Contractor provided that at least twenty percent (20%) of the work has been accomplished as certified by the Procuring Entity's Representative.
- 40.5. Items of the Works for which a price of "0" (zero) has been entered will not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

41. Payment Certificates

- 41.1. The Contractor shall submit to the Procuring Entity's Representative monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 41.2. The Procuring Entity's Representative shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 41.3. The value of Work executed shall:
- (a) be determined by the Procuring Entity's Representative;
 - (b) comprise the value of the quantities of the items in the Bill of Quantities completed; and
 - (c) include the valuations of approved variations.

- 41.4. The Procuring Entity's Representative 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.

42. Retention

- 42.1. The Procuring Entity shall retain from each payment due to the Contractor an amount equal to a percentage thereof using the rate as specified in GCC Sub-Clause 42.2.
- 42.2. Progress payments are subject to retention of ten percent (10%), referred to as the "retention money." Such retention shall be based on the total amount due to the Contractor prior to any deduction and shall be retained from every progress payment until fifty percent (50%) of the value of Works, as determined by the Procuring Entity, are completed. If, after fifty percent (50%) completion, the Work is satisfactorily done and on schedule, no additional retention shall be made; otherwise, the ten percent (10%) retention shall again be imposed using the rate specified therefor.
- 42.3. The total "retention money" shall be due for release upon final acceptance of the Works. The Contractor may, however, request the substitution of the retention money for each progress billing with irrevocable standby letters of credit from a commercial bank, bank guarantees or surety bonds callable on demand, of amounts equivalent to the retention money substituted for and acceptable to the Procuring Entity, provided that the project is on schedule and is satisfactorily undertaken. Otherwise, the ten (10%) percent retention shall be made. Said irrevocable standby letters of credit, bank guarantees and/or surety bonds, to be posted in favor of the Government shall be valid for a duration to be determined by the concerned implementing office/agency or Procuring Entity and will answer for the purpose for which the ten (10%) percent retention is intended, *i.e.*, to cover uncorrected discovered defects and third party liabilities.
- 42.4. On completion of the whole Works, the Contractor may substitute retention money with an "on demand" Bank guarantee in a form acceptable to the Procuring Entity.

43. Variation Orders

- 43.1. Variation Orders may be issued by the Procuring Entity to cover any increase/decrease in quantities, including the introduction of new work items that are not included in the original contract or reclassification of work items that are either due to change of plans, design or alignment to suit actual field conditions resulting in disparity between the preconstruction plans used for purposes of bidding and the "as staked plans" or construction drawings prepared after a joint survey by the Contractor and the Procuring Entity after award of the contract, provided that the cumulative amount of the Variation Order does not exceed ten

percent (10%) of the original project cost. The addition/deletion of Works should be within the general scope of the project as bid and awarded. The scope of works shall not be reduced so as to accommodate a positive Variation Order. A Variation Order may either be in the form of a Change Order or Extra Work Order.

- 43.2. A Change Order may be issued by the Procuring Entity to cover any increase/decrease in quantities of original Work items in the contract.
- 43.3. An Extra Work Order may be issued by the Procuring Entity to cover the introduction of new work necessary for the completion, improvement or protection of the project which were not included as items of Work in the original contract, such as, where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the Work or character provided for in the contract.
- 43.4. Any cumulative Variation Order beyond ten percent (10%) shall be subject of another contract to be bid out if the works are separable from the original contract. In exceptional cases where it is urgently necessary to complete the original scope of work, the HoPE may authorize a positive Variation Order go beyond ten percent (10%) but not more than twenty percent (20%) of the original contract price, subject to the guidelines to be determined by the GPPB: *Provided, however,* That appropriate sanctions shall be imposed on the designer, consultant or official responsible for the original detailed engineering design which failed to consider the Variation Order beyond ten percent (10%).
- 43.5. In claiming for any Variation Order, the Contractor shall, within seven (7) calendar days after such work has been commenced or after the circumstances leading to such condition(s) leading to the extra cost, and within twenty-eight (28) calendar days deliver a written communication giving full and detailed particulars of any extra cost in order that it may be investigated at that time. Failure to provide either of such notices in the time stipulated shall constitute a waiver by the contractor for any claim. The preparation and submission of Variation Orders are as follows:
 - (a) If the Procuring Entity's representative/Project Engineer believes that a Change Order or Extra Work Order should be issued, he shall prepare the proposed Order accompanied with the notices submitted by the Contractor, the plans therefore, his computations as to the quantities of the additional works involved per item indicating the specific stations where such works are needed, the date of his inspections and investigations thereon, and the log book thereof, and a detailed estimate of the unit cost of such items of work, together with his justifications for the need of such Change Order or Extra Work Order, and shall submit the same to the HoPE for approval.

- (b) The HoPE or his duly authorized representative, upon receipt of the proposed Change Order or Extra Work Order shall immediately instruct the appropriate technical staff or office of the Procuring Entity to conduct an on-the-spot investigation to verify the need for the Work to be prosecuted and to review the proposed plan, and prices of the work involved.
- (c) The technical staff or appropriate office of the Procuring Entity shall submit a report of their findings and recommendations, together with the supporting documents, to the Head of Procuring Entity or his duly authorized representative for consideration.
- (d) The HoPE or his duly authorized representative, acting upon the recommendation of the technical staff or appropriate office, shall approve the Change Order or Extra Work Order after being satisfied that the same is justified, necessary, and in order.
- (e) The timeframe for the processing of Variation Orders from the preparation up to the approval by the Procuring Entity concerned shall not exceed thirty (30) calendar days.

44. Contract Completion

Once the project reaches an accomplishment of ninety five (95%) of the total contract amount, the Procuring Entity may create an inspectorate team to make preliminary inspection and submit a punch-list to the Contractor in preparation for the final turnover of the project. Said punch-list will contain, among others, the remaining Works, Work deficiencies for necessary corrections, and the specific duration/time to fully complete the project considering the approved remaining contract time. This, however, shall not preclude the claim of the Procuring Entity for liquidated damages.

45. Suspension of Work

- 45.1. The Procuring Entity shall have the authority to suspend the work wholly or partly by written order for such period as may be deemed necessary, due to *force majeure* or any fortuitous events or for failure on the part of the Contractor to correct bad conditions which are unsafe for workers or for the general public, to carry out valid orders given by the Procuring Entity or to perform any provisions of the contract, or due to adjustment of plans to suit field conditions as found necessary during construction. The Contractor shall immediately comply with such order to suspend the work wholly or partly.
- 45.2. The Contractor or its duly authorized representative shall have the right to suspend work operation on any or all projects/activities along the critical path of activities after fifteen (15) calendar days from date of receipt of written notice from the Contractor to the district engineer/regional director/consultant or equivalent official, as the case may be, due to the following:

- (a) There exist right-of-way problems which prohibit the Contractor from performing work in accordance with the approved construction schedule.
 - (b) Requisite construction plans which must be owner-furnished are not issued to the contractor precluding any work called for by such plans.
 - (c) Peace and order conditions make it extremely dangerous, if not possible, to work. However, this condition must be certified in writing by the Philippine National Police (PNP) station which has responsibility over the affected area and confirmed by the Department of Interior and Local Government (DILG) Regional Director.
 - (d) There is failure on the part of the Procuring Entity to deliver government-furnished materials and equipment as stipulated in the contract.
 - (e) Delay in the payment of Contractor's claim for progress billing beyond forty-five (45) calendar days from the time the Contractor's claim has been certified to by the procuring entity's authorized representative that the documents are complete unless there are justifiable reasons thereof which shall be communicated in writing to the Contractor.
- 45.3. In case of total suspension, or suspension of activities along the critical path, which is not due to any fault of the Contractor, the elapsed time between the effectivity of the order suspending operation and the order to resume work shall be allowed the Contractor by adjusting the contract time accordingly.

46. Payment on Termination

- 46.1. If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Procuring Entity's Representative 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 SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.
- 46.2. If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, the Procuring Entity's Representative 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.

- 46.3. The net balance due shall be paid or repaid within twenty eight (28) days from the notice of termination.
- 46.4. If the Contractor has terminated the Contract under **GCC** Clauses 17 or 18, the Procuring Entity shall promptly return the Performance Security to the Contractor.

47. Extension of Contract Time

- 47.1. Should the amount of additional work of any kind or other special circumstances of any kind whatsoever occur such as to fairly entitle the contractor to an extension of contract time, the Procuring Entity shall determine the amount of such extension; provided that the Procuring Entity is not bound to take into account any claim for an extension of time unless the Contractor has, prior to the expiration of the contract time and within thirty (30) calendar days after such work has been commenced or after the circumstances leading to such claim have arisen, delivered to the Procuring Entity notices in order that it could have investigated them at that time. Failure to provide such notice shall constitute a waiver by the Contractor of any claim. Upon receipt of full and detailed particulars, the Procuring Entity shall examine the facts and extent of the delay and shall extend the contract time completing the contract work when, in the Procuring Entity's opinion, the findings of facts justify an extension.
- 47.2. No extension of contract time shall be granted the Contractor due to (a) ordinary unfavorable weather conditions and (b) inexcusable failure or negligence of Contractor to provide the required equipment, supplies or materials.
- 47.3. Extension of contract time may be granted only when the affected activities fall within the critical path of the PERT/CPM network.
- 47.4. No extension of contract time shall be granted when the reason given to support the request for extension was already considered in the determination of the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection.
- 47.5. Extension of contract time shall be granted for rainy/unworkable days considered unfavorable for the prosecution of the works at the site, based on the actual conditions obtained at the site, in excess of the number of rainy/unworkable days pre-determined by the Procuring Entity in relation to the original contract time during the conduct of detailed engineering and in the preparation of the contract documents as agreed upon by the parties before contract perfection, and/or for equivalent period of delay due to major calamities such as exceptionally destructive typhoons, floods and earthquakes, and epidemics, and for causes such as

non-delivery on time of materials, working drawings, or written information to be furnished by the Procuring Entity, non-acquisition of permit to enter private properties or non-execution of deed of sale or donation within the right-of-way resulting in complete paralyzation of construction activities, and other meritorious causes as determined by the Procuring Entity's Representative and approved by the HoPE. Shortage of construction materials, general labor strikes, and peace and order problems that disrupt construction operations through no fault of the Contractor may be considered as additional grounds for extension of contract time provided they are publicly felt and certified by appropriate government agencies such as DTI, DOLE, DILG, and DND, among others. The written consent of bondsmen must be attached to any request of the Contractor for extension of contract time and submitted to the Procuring Entity for consideration and the validity of the Performance Security shall be correspondingly extended.

48. Price Adjustment

Except for extraordinary circumstances as determined by NEDA and approved by the GPPB, no price escalation shall be allowed. Nevertheless, in cases where the cost of the awarded contract is affected by any applicable new laws, ordinances, regulations, or other acts of the GoP, promulgated after the date of bid opening, a contract price adjustment shall be made or appropriate relief shall be applied on a no loss-no gain basis.

49. Completion

The Contractor shall request the Procuring Entity's Representative to issue a certificate of Completion of the Works, and the Procuring Entity's Representative will do so upon deciding that the work is completed.

50. Taking Over

The Procuring Entity shall take over the Site and the Works within seven (7) days from the date the Procuring Entity's Representative issues a certificate of Completion.

51. Operating and Maintenance Manuals

- 51.1. If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the **SCC**.
- 51.2. If the Contractor does not supply the Drawings and/or manuals by the dates stated in the **SCC**, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative shall withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
1.17	The Intended Completion Date is after 300 cd upon issuance of the Notice to Proceed.
1.22	The Procuring Entity is Office of the Chief Minister – Bangsamoro Autonomous Region in Muslim Mindanao with office address at Bangsamoro Government Center, Gov.Gutierrez Ave., Cotabato City..
1.23	The Procuring Entity’s Representative is _____
1.24	The Site is located at _____ and is defined in drawings No. _____.
1.28	The Start Date is within 15 days from the receipt of notice to proceed.
1.31	The Works consist of Construction of 1130-Units of Core Shelter with Solar Power Light and Water Component
2.2	not applicable.
5.1	The Procuring Entity shall give possession of all parts of the Site to the contractor within 15 days from the receipt of notice to proceed.
6.5	<p>The Contractor shall employ the following Key Personnel:</p> <p><i>[List key personnel by name and designation]</i></p> <p>NOTE: The names of the Key Personnel and their designation shall be filled out by winning contractor prior to contract signing.</p>
7.4(c)	<i>Specify additional conditions, if any, that must be met prior to the release of the performance security, otherwise, state “No further instructions.”</i>
7.7	No further instructions.
8.1	No further instructions.
10	deed of donation of the Project Sites.
12.3	No further instructions.
12.5	Fifteen (15) years.
13	All partners to the joint venture shall be jointly and severally liable to the Procuring Entity.
18.3(h)(i)	No further instructions.

21.2	The Arbiter is: _____
29.1	Dayworks are applicable at the rate shown in the Contractor's original Bid.
31.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within seven (7) Calendar days of delivery of the Notice of Award.
31.3	<p>The period between Program of Work updates is seven (7) Calendar days.</p> <p>The amount to be withheld for late submission of an updated Program of Work is one tenth (1/10) of one percent (1%) per day of delay for the current progress billing.</p>
34.3	The Funding Source is the <i>Government of the Philippines</i> .
39.1	The amount of the advance payment is 15% of the total contact price, which shall be paid in lump sum, subject to the requirement of the 2016 revised IRR of the RA 9184 and the other relevant laws.
40.1	Materials and equipment delivered on the site but not completely put in place shall be included for payment.
51.1	<p>The date by which operating and maintenance manuals are required is not later than fifteen (15) Calendar days upon the completion of the project.</p> <p>The date by which "as built" drawings are required is not later than fifteen (15) Calendar days upon the completion of the project.</p>
51.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is 1% of the contract price .

Section VI. Specifications

DIVISION (2) - SITE WORK

52. SECTION 02110 CLEARING OF SITE

PART 1 GENERAL

02110.1 SCOPE

a. Work Included:

1. Labor, materials, equipment, plans and other facilities and the satisfactory performance of all work necessary to the preparation of site excavation, and grading.

02110.2 SITE INSPECTION

- a. Visit the site of the work and examine to fully understand all existing conditions relative to the work.
- b. No increase in cost or extension of time will be considered for failure to know its conditions.

02110.3 PERMITS

Secure and pay for the necessary permits needed for work.

02110.4 PROTECTION

- a. Workmen: Provide adequate measure to protect workmen and passersby in the site.
- b. Surrounding Area: Street and adjacent property shall be fully protected throughout the operations.
- c. Surface Drainage: Provide in a manner to creating a nuisance to adjacent area during the period of construction.

PART 2 PRODUCTS

02110.5 MATERIALS

Provide necessary tools such as telltale pipes and other instrument to make measurement and clearing.

PART 3 EXECUTION

02110.6 PREPARATION

a. Clearing:

1. Remove all trees that would interfere with the boundaries of the building only.
 2. Remove all shrub, bushes, other, debris, existing foundations, pavements, structures, fences and other that would interfere with the construction operations.
 3. Protect from damage all trees and shrub are not to be removed. Grab roots out at least 45 centimeter below existing surface.
 4. Remove or dispose from the site all items.
- b. Base Stakes: Erect base batter boards and base reference mark as indicated at such place where they will not be disturbed.
 - a. Bench Marks: Construct two benchmarks near the site construction for determining any settlement that may occur during the progress of the work.

53. SECTION 02200 EARTHWORK

PART 1 GENERAL

02200.1 SCOPE

- a. Work Included:
 1. Furnishing of all labor equipment and material for excavation and backfilling.
 2. Inspection of site to survey necessary labor, equipment and materials.
 3. Excavation and hauling of excavated materials.
 4. Backfilling and grading up to the property line.
- b. Related Work Specified Elsewhere:
 1. Preparation of sub-grade for concrete pouring.
 2. Trenching and backfilling for storm sewer system.
 3. Trenching and backfilling for sanitary sewer system.

02200.2 PROTECTION

- a. Provide adequate bracing and shoring to existing construction as may required.

- b. Perform all excavation work with a minimum amount of damage to work, which is to remain.
- c. Repair any damage caused by negligence of Contractor at his own expense.
- d. Provide adequate protection measures for materials, men and adjoining property.
- e. Avoid creating nuisance to adjacent areas.

02200.3 MEASUREMENT AND PAYMENT

- a. Excavation shall be measured in its original position by cross-sectioning the area excavated. Volume will be computed from the cross-section measurements by the average-end-area method.
- b. Accepted quantities will be paid for at the contract price per unit of measurement for excavation, including embankment construction.

PART 2 PRODUCTS

02200.4 MATERIALS

- a. Borrow material shall be selected, laboratory approved material obtained from off-site sources and having 3.5 percent liquid limit, and 4 to 12 percent plasticity index.
- b. Granular fill to form a capillary water barrier shall be clean, crushed, non-uniformly graded and of a size, which will pass a 25 millimeters mesh screen and be retained on a No. 4 mesh screen.
- c. Excavated material approved for used as backfill shall be free of fibers, vegetables or organic materials, boulders, large rocks or pockets, lumps or other concentration of silt, debris, or cinders.
- d. No fill material shall be placed when free water is standing in the area where fill is to be placed.

PART 3 EXECUTION

02200.5 PREPARATION

- a. Stakes and Batter Boards:
 - 1. Stake out the building accurately and establish grades. Secure the approval of the Owner and/or Architect.
 - 2. Erect batter boards and reference mark where they will not be disturbed during construction.
 - 2. Store material and conduct work in such a manner as to preserve all reference marks.

3. Re-establishment of lines and grades where necessary shall be done at the Contractor's expense.
- b. Rough Grading
1. Cut and fill machine grade the site area.
 2. Deposit materials in horizontal layers not exceeding 20 centimeter (8 inches) in depth and compact to 95% of maximum density. (Modified Proctor Test)

02200.6 EXCAVATION

a. Foundation:

1. Excavate to grade indicated.
2. Excavate trenches to a near size, leveled to line at the bottom ready to receive the foundation.
3. Excavation greater than required by the drawings and specifications and which is within the bearing area of walls, footings, or floor slabs shall be filled with class "D" concrete at Contractor's expense.
4. All foundations are designed for an allowable soil bearing capacity computed and the soil boring test results. Contractor shall report to the Engineer actual soil conditions uncovered and confirm soil actual capacity before any concreting is started.

b. Trenching for Utility and Foundation Drawings

1. Excavate to a point 1.0 meter beyond building line of sufficient distance from the walls and footings to allow placement removal of forms.
2. Backfill materials and concrete fill. Where excavation is at lower levels or greater depth than required for foundation, or where unsatisfactory material is removed, the excess material shall be replaced with backfill material, except below grade beams, footings or other structural concrete where fill to depth or level shall be with concrete of the same strength as specified.

02200.7 DEWATERING

- a. Water encountered during excavation shall be removed by piling or pumping, care being taken that the surrounding particles of soil are not disturbed or removed.
- b. Pump water out of excavated area throughout the construction.

02200.8 SUB-DRAINAGE

- a. Excavate trenches for underground utility system and drain lines. Grade and tamp to provide firm bed trenches for drain lines.

- b. When rock is encountered, excavate to a depth 15 centimeter below the bottom of the pipe, and before pipe is laid, the space below the pipe shall be filled with sand, gravel or crushed stone.

02200.9 SOIL COMPACTION

All existing earth within building lines that has been disturbed should be placed in 15 centimeter layers and compacted to 95% of maximum density required for fill.

02200.10 DISPOSAL OF EXCAVATED MATERIAL

Surplus materials resulting from the site excavation and grading operations shall be removed from the site and disposed off in proper manner at the Contractor's expense.

02200.11 BACKFILLING AND GRADING

a. Backfilling:

1. Commence after approval of construction below finish grade, underground utility system inspected and tested, form removed and the excavation clean of trash and debris.
2. Place in layers not more than 15 centimeter thick and evenly compact and ram by wetting, tamping or rolling until the correct grade is reached.

b. Finish Grading:

1. Place fill materials in horizontal loose layers not exceeding 15 centimeter in thickness and spread, mix and place in such manner as to produce a uniform thickness of material.
2. Start in deepest area and progress approximately parallel to finish grade.
3. Grade finish surface to drain water away from the building.

SECTION 02280 SOIL POISONING

PART 1 GENERAL

02280.1 SCOPE

- a. Soil Poisoning shall be executed by a duly licensed and certified termite and pest control company to guarantee the soil poisoning works for five years.
- b. Furnish material and equipment and perform labor required to complete soil poisoning work.

02280.2 EXAMINATION OF SITE

Visit the site of the work and examine the premises to fully understand all existing conditions relative to the work.

PART 2 MATERIALS

02280.3 SOIL POISONING

- a. Soil poise shall be water-base emulsions. Any of the following may be used:
 - 1. Benzene Hexachloride - 0.8 percent gamma isomer concentration.
 - 2. Chloride - 1 percent concentration.
 - 3. Dieldrin - 0.5 percent concentration.
 - 4. Aldrin - 0.5 percent concentration.
 - 5. Heptachlor - 0.5 percent concentration.

PART 3 EXECUTION

02280.4 APPLICATION

- a. Soil poisoning work shall not begin until all preparations for footings, CHB under grade and slab on fill have been completed.
- b. Soil Poisson shall not be applied when soil is excessively wet.
- c. After grading and leveling the soil in the ground and layer of gravel is laid preparatory to the pouring of concrete floor or soap every square meter of floor area with soil Poisoning working solution.
- d. Thoroughly drench and saturate every linear meter excavation for footings and other foundation work with soil poison working solution before pouring of concrete.
- e. 7.6 liters of soil poison working solution per 1.5 linear meter shall be applied to all area immediately below expansion joints, control joints, and all areas, where slab will be penetrate by pipe duct and other construction features.
- e. Hollow masonry walls resting on grades shall have its voids treated with 3.79 liter of soil poison working solution per 1.5 linear meter of wall. Poisons are poured directly into the hollow spaces.
- f. Prior to landscaping of the lawn, saturate very linear meter perimeter of the building about 3 meters wide with soil poison working solution.
- g. Treat earthfill thoroughly. As soon as fill is packed and levelled, drench every 1 square meter area with soil poison working solution.

02280.5 INSPECTION AND TIME

- a. One sample of concentrates toxicant shall be tested.
- b. One sample of working solution shall be tested for each 1,000 square meter of treated area. There shall be at least two sample tested.
- c. Samples shall be taken and analytical tests performed by approved testing laboratory. Test shall be paid by the Contractor. The result shall be submitted to the Owner.

02280.6 GUARANTEE

Upon completion of the work, and a condition of final acceptance, the Owner shall be furnish with a written guarantee which shall provide that: THE SOIL POISONING TREATMENT SHALL PREVENT SUB-TERRANEAN TERMITES FROM ATTACKING THE BUILDING OR ITS CONTENT FOR A PERIOD OF NOT LESS THAN 5 YEARS.

G. DIVISION 3 CONCRETE

54. SECTION 03100 - CONCRETE FORMWORK

PART 1 GENERAL

03100.1 SCOPE

- a. Work Included :
 - 1. All labors, materials, equipment, plant, tools and other facilities necessary to complete all concrete formwork.
 - 2. Refer to General Conditions.
 - 3. Work shall BE DONE IN accordance with the "NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, Volume 1, 3rd Editions and the "ACI BUILDING CODE (ACI 318-latest edition)" and the National Building Code, 1988 Edition in so far as they do not conflict with specific provisions.

03100.2 PROTECTION

- a. Forms shall be used whenever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving or sloughing from adjacent, excavated surfaces.

- b. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position.
- c. Forms shall be sufficiently tight to prevent loss of mortar from the concrete.
- d. Forms for exposed surfaces against which backfill is not to be placed shall be lined with a form grade plywood.
- e. Bolts and rods used for internal ties shall be so arranged that when the forms are removed all metal will not be less than two (2) centimeters from the formed surface.

PART 2 PRODUCTS

03100.3 MATERIALS

- a. Forms:
 - 1. Plywood, metal, plaster of Paris or plastic materials or surfaced lumber forms shall be used for all cast-in-place concrete works.
 - 2. In no case shall the forms for beams and slabs be less than 12 millimeters (1/2 in) thick plywood for exposed concrete, 20 millimeters (3/4 in") T & G for covered concrete.

- b. Quality:

Provide forms that will produce correctly aligned concrete. Plastering in general shall not be allowed so that care shall be exercised in the choice of surface of forms and fittings that will be in contact with concrete.

PART 3 EXECUTION

03100.4 PREPARATION

- a. Check all formwork for plumbness and correct alignments.
- b. Provide openings for column forms for cleaning and inspection preferably at lowest points of pour lifts.
- c. Provide camber as indicated in construction notes.
- d. Before placing the concrete, the contact surfaces of the form shall be cleaned of encrustations of mortar, the grout, or other foreign material, and shall be coated with a commercial form oil that will effectively prevent sticking and will not stain the concrete surfaces.

03100.5 FORMS AND SHORING

- a. Removal:

1. Forms and shoring shall not be removed until concrete is adequately set and strong enough to withstand anticipated loading and in no case less than what is required in the following tabulations:

PARTS OF STRUCTURE	CLASSIFICATION OF PARTS	TIME REQUIRED
Footing	a. Massive footing b. Cantiliver footing c. Slab Footing	a. 1 day (24 hours) b. 5 days (120 hours) c. 5 days (120 hours)
Walls and Plasters	a. Massive Walls, 30 centimeters b. Thin Walls - less than 150mm c. Cantiliver walls	a. Up to 60 centimeters (2 ft.) - 1 day (24 hours). Add 1 day for additional 90 centimeters (3 ft.) of height or fraction thereof. b. Up to 180 centimeters (6 ft.) high - 2 days (48 hours). Add 1 1/2 days (36 hours) for every additional 90 centimeters of height or fraction thereof but not more than 28 days (672 hours) a. without load same as <u>a</u> and <u>b</u>
Columns	a. ratio of height to least dia. up to 4 b. Ratio of height to least dia. from 4 to 15	a. 2 days (48 hours) b. Add to the above number 1 day (24 hours) for every additional 90 centimeters (3 ft.) of height or fraction thereof but not more than 28 days (672 hours)
Slabs	a. 90 centimeters (3 ft.) to 210 centimeters (7 ft.) span b. over 210 centimeters (7 ft.) span	a. 90 centimeters (3 ft.) span - 5 days (120 hours). Add 1/2 day (12 hours) for every 30 centimeters (1 ft.) span or fraction thereof. b. 210 centimeters (7 ft.) span - 7 days (168 hours). Add 1/2 day (12 hours) for every 30 centimeters (1 ft.) additional span or fraction thereof but not more than 28 days (672 hours)

PARTS OF STRUCTURE	CLASSIFICATION OF PARTS	TIME REQUIRED
beams and Girders	a. sides b. bottoms	a. 3 days (72 hours) b. Up to 425 centimeters (14 ft.) - 15 days (336 hours). Add ½ day (12 hours) for every 30 centimeters (1 ft.) additional span or fraction thereof but not more than 28 days (672 hours).

2. Forms and shoring may be removed earlier than specified above provided that test samples of concrete are taken and are shown to be adequately strong to carry safely, dead and construction loads to the satisfaction of the Project Engineer.
3. Forms shall be removed in a manner, which will prevent damage to the concrete. Forms shall not be removed without approval by the Project Engineer. Any repairs of surface imperfections shall be performed at once and curing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

55. SECTION 03200 - CONCRETE REINFORCEMENT

PART 1 GENERAL

03200.1 SCOPE

- a. Related Work Specified Elsewhere:
 1. Concrete Formworks: ITEM 900
 2. Masonry: ITEM
 3. Thermal and Moisture Protection: ITEM 1016

03200.2 PROTECTION

- a. Storage of Materials:

Steel reinforcements shall be stored under cover or otherwise prevented from rusting.
- b. Concrete cover shall be determined before concrete pouring is started.

03200.3 DESIGN CONDITION

All Steel reinforcements shall be designed in accordance with the ACI Building Code (ACI 318-latest edition), Uniform Building Code 1988 Edition, and the National Structural Code of the Philippines, Volume 1, 3rd Edition.

03200.4 TESTING

The Owner, his duly authorized representative or the Architect shall have the right to order the test of any steel supplied by the Contractor, Such tests shall conform to the ASTM Designations enumerated below on materials. Samples shall be provided by the Contractor without cost to the Owner and expenses for testing shall be borne by the Contractor and copies of results shall be furnished to the Owner and to the Architect.

PART 2 PRODUCTS

03200.5 MATERIALS

a. Steel Bars:

1. Reinforcing steel bars to be used shall be new and free from rust, oil, grease or kinds.
2. Shall conform to the latest edition of ASTM Designation A615M Specifications.
3. Reinforcing steel for columns shall be intermediate grade. For all other parts of the structure such as beams, girders, slab, footings, walls, etc., reinforcing steel shall be structural grade, unless noted in the plan.
4. Ties and stirrups for beams and column as well as slab reinforcements may be plain bars unless noted in the plan or specified herein.

PART 3 EXECUTION

03200.6 PREPARATION

- a. Remove all loose rust or scale, adhering materials and oil or other materials , which tend to destroy bond between concrete and reinforcement before steel is placed or before pouring.
- b. All bars shall be bend cold, unless otherwise permitted by the Engineer.

03200.7 PLACING REINFORCEMENTS

a. Metal Reinforcements:

1. Placing shall be in accordance with the plans furnished. Refer to the Architect/Engineer in case of doubt or ambiguity in the placing of steel.

2. Reinforcing bars shall be accurately placed and adequately secured by concrete metal wires, or metal chair spaces.
3. Spacing of bars shall be done in accordance with the ACI - Building Code or as follows:

Clear distance between parallel bars shall be one and one half ($1\frac{1}{2}$ times) the diameter for round bars, and twice the side dimension for square bars.

4. Clear distance shall not be less than 2.54 centimeters (1 inch) nor more than $1\frac{1}{3}$ times the minimum size of aggregates.
5. Where bars are used in two or more layers, the bars in the upper layers shall be placed directly above those in the lower layers at a clear distance of not less than 25 mm.

b. Stirrups and Ties:

Bends for stirrups and ties shall be made around a pin having a diameter of not less than 6 times the minimum thickness of the bar, except that for bars larger than 25 mm, the pin shall not be less than 8 times the minimum thickness of the bar.

03200.8 OFFSET AND SPLICES IN REINFORCEMENT

a. Splices

1. In slabs, beams and girders at points of maximum stress shall not be made, and may be allowed only upon written approval of splice details by the Project Engineer.
2. Provide sufficient lap to transfer stress between bars by bonding shear or by welding.
3. Splices in adjacent bars shall be generally staggered.
4. Unless otherwise indicated, the minimum splice length shall be 24 times the bar diameter or 300 mm whichever is greater.

- b. Offsets - Where changes in cross section of column occur, longitudinal bars shall be offset in a region where lateral support is afforded. The slope of the inclined portion of an offset bar with axis of column shall not exceed 1 in 6. Portions of the bar above and below an offset shall be parallel to axis of column. Horizontal support at offset bends shall be provided by lateral ties, spirals, or parts of the floor construction. Horizontal support provided shall be designed to resist $1\frac{1}{2}$ times the horizontal component of the computed force in the inclined portion of an offset bar. Lateral ties or spirals, if used, shall be placed not more than 150 mm from points of bend. Offset bars shall be bend before placement in the forms.

56. SECTION 03300 - CAST-IN-PLACE CONCRETE

PART 1 GENERAL

03300.1 SCOPE

- a. Related Works Specified Elsewhere:
 - 1. Concrete Formworks: ITEM 900
 - 2. Concrete Reinforcement: ITEM 901
 - 3. Masonry: ITEM
 - 4. Moisture Control: ITEM 1016
 - 5. General Conditions
- b. Foundations and bedded slabs
- c. All other structural concrete members except pre-cast concrete.
- d. Unless otherwise specified herein, concrete work shall conform to the requirements of the ACI Building Code (ACI 318 latest edition). Full cooperation shall be given other trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tests for concrete aggregates and other materials shall have been done.

03300.2 STORAGE OF MATERIALS

- a. Cement bags shall be stored in a suitable weatherproof structure, which shall be as air-tight as practicable; floors shall be elevated above the ground a distance sufficient to prevent the absorption of moisture. Bags shall be stocked against outside walls. The manners of storage shall permit easy access for inspection and identification for each shipment. Cement that has been in storage for a long time, that there is doubt of its quality will be tested by standard mortar tests to determine its suitability for use and such cement shall not be used without approval.
- b. Aggregates shall be stored in such a manner as to avoid the inclusion of foreign materials in the concrete. Aggregates of different sizes shall be stored in separate piles. Stock Piles of coarse aggregate shall be build in horizontal layers not exceeding 4 feet in depth to avoid segregation. Should the coarse aggregate become segregated, it shall be remix to conform to the grading requirements given herein. Sufficient live storage shall be maintained at all times to permit continuous placement of concrete at the rate specified.

03300.3 MEASUREMENT AND PAYMENT

Cast-in-place concrete shall be measured in cubic meter and payment shall be based on the actual poured volume using the unit prices on the proposal form.

03300.4 DESIGN CONDITIONS

All strengths of concrete shall be as indicated on the construction notes.

PART 2 PRODUCTS

03300.5 MATERIALS

a. Cement:

Portland cement shall conform to the Standard Specifications for Portland cement (ASTM Designation C150, latest revision) for type I Portland Cement.

b. Concrete Aggregate:

1. Well-graded, clean, hard particles of gravel or crushed rock conforming to the "STANDARD SPECIFICATIONS FOR CONCRETE AGGREGATES (ASTM Designation C33, latest revision).
2. Maximum size of aggregate shall not be longer than $1/5$ of the narrowest dimension between sides of the forms nor larger than $3/4$ of the minimum clear spacing between reinforcing bars, nor $1/3$ the depth of slab and in no case larger than 5 centimeters in diameter.
3. Fine aggregates shall consist of natural Porac sand. Fine aggregates shall consist of hard, tough, durable, uncoated particles. The stipulated percentages of fines in the sand shall be obtained either by the processing of natural sand or by the production of a suitably graded manufactured sand. The shape of the particles shall be generally rounded or cubical and reasonably free from flat or elongated pieces. Rock, which breaks down into thin, flat elongated particles, regardless of the type of processing equipment used will not be approved for use in the production of fine aggregate. A thin, flat elongated particle is defined as a particle having a maximum dimension in excess of five times the minimum dimensions. The fine aggregate shall conform to the following specific requirements:

Sieve Designation US Standard, Square Mesh	Cumulative Percentage Passing	Weight Retained
3/8"	100	0
No. 4	95-100	0-5
No. 8	-	-
No. 16	45-80	20-55
No. 30	-	-
No. 50	10-30	70-90
No. 100	2-10	90-98

In addition to the grading limits shown above, the fine aggregate as delivered to the mixer, shall have a fineness modulus of not less than 2.3 or more than 3.0, and, during normal operations, the grading of the fine aggregate shall be controlled so that the fineness module of at least nine of ten test samples of the fine aggregate as delivered to the mixer shall not vary more than 0.20 from the average fineness modules of all samples tested during the preceding 30-day period. The fineness modules shall be determined by dividing by 100, the sum of the cumulative percentage retained on US Standard Sieve Nos. 4, 8, 16, 30, 50 and 100. At the option of the Contractor, fine aggregate may be separate into two or more sizes or classifications, but the resulting combined sand shall be of uniform grading within the limits specified above. It may be generally assumed that a fine blending sand will be required to meet the above grading.

4. Coarse aggregate shall consist of gravel, crushed gravel or rock, or a combination of gravel and crushed gravel or rock, approved by the Engineer. The coarse aggregate, as delivered to the batching plant shall have uniform and stable moisture content. The approval of deposits shall not be construed as constituting the approval of all materials taken from the deposits, and the Contractor will be held responsible for the specified quality of all such materials, used in the work. Coarse aggregate shall consist of hard, tough, durable, clean and uncoated particles. All foreign materials and dust shall be removed by adequate processing. The particle shape of the smallest size of crushed coarse aggregate shall be generally rounded or cubical, and the coarse aggregate shall be reasonably free from flat and elongated particle in all sizes. A thin, flat and elongated particle is defined as the particle having a maximum dimension greater than five times the minimum dimension. The coarse aggregate shall be well graded from fine to coarse. It shall be separate into the following sizes as delivered to the mixer.

Sieve Size US Standard Square Mesh	Percent by Weight ¾: Size	Passing Individual 1 ½: size
2"	-	-
1 ½"	-	-
1"	100	100
¾"	90-100	90-100
3/8"	20-55	0-10
No. 4	0-10	0.5

The sizes of coarse aggregate to be used in the various parts of the work shall be in accordance with the following or as directed:

General use	Sizes
Footings, piers, columns, walls, slabs on fill, catch basins and others not specified	¾
Beams, pillaters, jambs, pre-cast, catch basin Covers	¾

- c. Water shall be clean and free from injurious amounts of oils, acids, alkali, organic materials or other substances that may be deleterious to concrete or reinforcement.
- d. Concrete Additives:
 - 1. Calcium Chloride in the amount of not more than 630 grams per 40-kilogram bag of cement may be used as accelerator and curing agent with the previous approval of the Engineer.

03300.6 CONTROLLED STRENGTHS OF CONCRETE

- a. Concrete for all columns, beams, girders, walls, framed slabs, stairs, footings, foundations, roof slabs and gutters shall develop a minimum 28-day cylinder strength of 20.7 MPa (3,000 psi). (see Construction Notes).
- b. Concrete for bedded floor slabs, walks, manholes, catch basins, curbs and gutters, pavements shall develop a minimum 28-day cylinder strength of 17.24 MPa (2,500 psi).

03300.7 METHOD OF DETERMINING STRENGTH

The Contractor shall submit mix designs obtained from samples made in accordance with "METHOD OF SAMPLING FRESHLY MIXED CONCRETE (ASTM Designation C172 and "TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS (ASTM Designation C39) for each strength required stating the proposed slump and the proportional weights of cements, saturated surface, dry aggregates, and water. This mixture shall be proved by preliminary tests 30 days before concreting and shall show a 28-day strength of 15 percent higher than the ultimate required. No substitutions shall be made in the materials mix without additional tests to show that the quality of concrete is satisfactory.

03300.8 CONCRETE PROPORTIONS AND CONSISTENCY

a. Cement and Aggregate:

Proportions shall be such as to produce a concrete mixture, which will work readily into the corners and angles of the forms and around reinforcement with the method of placing materials to segregate, or excess free water to collect on the surface.

b. Measurement:

1. Concrete materials shall be measured preferably by weight such that the proportions can be accurately controlled and easily checked at any time during work.
2. Measurement of materials for ready mixed concrete shall conform to "STANDARD SPECIFICATIONS FOR READY MIXED CONCRETE (ASTM Designation C94), or "SPECIFICATIONS FOR CONCRETE MADE BY VOLUMETRIC BATCHING and "CONTINUOUS MIXING (ASTM C 685), where applicable.
3. The water content shall, in no case, exceed 27 liters per bag of cement for all portions in the structure. Slumps shall be within the following limits:

Portions of Structure	Slumps (Centimeters)
Columns and end supported beams, girders Slabs	7.5 - 15
Foundation elements, bedded slabs and cantilevered beams and slabs	5 - 12.5

c. Job Mix Adjustment of Water Content:

Shall be allowed only on permission of the Project Engineer and provided that cement is also added to keep the original water cement ratio of the design mix. Job-mixed concrete shall conform to Section 5.5.2.3 of NSCP, 3rd edition.

03300.9 MIXING CONCRETE

- a. No hand mixing shall be allowed, except in case of emergency such as mixer breakdown during pouring operations and shall stop at the first allowed construction joints. All concrete shall be machine mixed for at least 1 1/2 minutes after all materials including water are in the mixing drum.
- b. The mixer shall be of an approved size and type, which will ensure a uniform distribution of material throughout the mass, it shall be equipped with a

DEVICE FOR ACCURATELY MEASURING AND CONTROLLING THE AMOUNT OF MIXING WATER IN EACH BATCH.

- c. Placing of material in mixer shall be done in such a way that the first batch of concrete materials placed in the mixer shall contain sufficient excess of cement, sand and water to coat the inside of the drum without reducing the cement content of the mix to be discharged.
- d. Retampering of concrete, or concrete that has been remixed after initial set shall not be used.

PART 3 EXECUTION

03300.10 PREPARATION

- a. Forms:
 - 1. Shall be inspected, cleaned and all installations checked before concrete is placed.
 - 2. Surfaces shall be thoroughly wet and grouted before placing concrete.
 - 3. All laitance from previous pouring shall be cleaned and possible exposed aggregates before renewing pouring.

03300.11 DEPOSITING CONCRETE

- 1. Depositing shall be done without segregation, rehandling or flowing of concrete. It shall be done with the use of buggies, buckets or wheelbarrows. Use of chutes will not be allowed except to transfer concrete from hoppers to buggies, wheelbarrows or buckets in which case shall not exceed 6 meters in aggregate length.
- 2. Placing of concrete with a free drop or fall of more than 1.5 meters is not allowed.
- 3. Conveyors when used shall be kept full of concrete and ends shall be kept buried in the newly placed concrete as pouring progresses.
- 4. Concreting shall be carried out at such a rate that the concrete is at all times plastic and flows readily into spaces between reinforcement.
- 5. Top surfaces of vertically formed lifts shall be generally level.
- 6. Approval of the Engineer shall be obtained before starting any concrete pour. Concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequent segregation is reduced to a minimum. Near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified. Free water shall be collected in depressions away from the forms and

removed by piling prior to placement of additional concrete. All concrete placing equipment and methods shall be subject to approval.

7. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes.

b. Consolidation of Concrete

1. No placing of concrete will be allowed without vibrators.
2. Segregation due to over vibration shall be avoided.
3. Concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by hand-spading and tamping. In no case shall vibrators be used to transport concrete inside the form. The vibrating equipment shall be of the internal type and shall at all times be adequate in number of units and power of each unit to properly consolidate all concrete. Form or surface vibrators shall not be used unless specifically approved.
4. Vibrators shall not be inserted into lower courses that have commenced initial set, and reinforcements embedded in concrete beginning to set or already set shall not be disturbed by vibrators.

c. Construction Joints:

1. If possible, concreting shall be done continuously until section is complete. When stoppage of concrete operations occur, construction joints shall be placed either horizontally or vertically as indicated by the Project Engineer and provided with shear keys or dowels to develop bond.
2. Construction joints shall be as per plan or shall be approved or as directed by the Project Engineer.

03300.12 CURING CONCRETE

a. Finished Surface:

1. Keep concrete continuously wet or moist for at least one week after placing.
2. Floors and vertical surface may be sprayed with an approved retarder.
3. Curing shall begin as soon as concrete has attained initial set.

- b. Curing additive may be used. A minimum of 48 hours continuous moist curing after placing of concrete shall be done after which subsequent additional curing can be dispensed with.

- c. Water for curing shall be generally clean and free from any elements that may cause objectionable staining or discoloration of the concrete.

03300.13 REPAIR OF CONCRETE

- a. Imperfections:

- 1. Repairs shall be completed within 24 hours after removal of forms.
 - 2. Damaged or honeycombed concrete must be removed to reach sound concrete and should be replaced with drypack, rich mortar or concrete with pea gravel.

- b. Large Bulges:

Where present large bulges and abrupt irregularities protrude, it shall be removed by bush hammering and grinding.

- c. Drypack Filling:

- 1. Shall be used for holes having at least one surface dimension less than the depth of the hole.
 - 2. Holes left by the removal of fasteners from the ends of the rods; for grout and pipe recessed; and for narrow slats cut for repair of cracks shall also be filled with dry pack.
 - 3. Drypack shall not be used for filling behind reinforcement and for filling holes that extend completely through the concrete.

- d. Mortar filling placed under impact by use of mortar gun shall be used for holes too wide for drypack filling and too shallow for concrete filling and no deeper than the far side of the reinforcement nearest the surface.

- e. Concrete filling shall be used for holes extending entirely through the concrete, for holes which are greater in area than 1,000 square centimeters and deeper than 10 centimeters and for holes in reinforced concrete which are greater in area than 500 square centimeters and which extend beyond reinforcement.

- f. All materials, procedures and operations used in the repair of concrete shall be as directed.

- g. Fillings shall be bonded tightly to the surface of the holes and shall be sound and free from shrinkage, cracks and dumpy area after the fillings have cured and dried.

- h. The cost of all materials, labor and equipment used in the repair of all materials shall be borne by the Contractor.

03300.14 FLOOR FINISHES

- a. Shall be noted carefully by the Contractor. Prepare the slabs suitably for the intended surface finish.
 1. Where plain cement floor finish is specified, it shall be bonded. The slab shall be brought to a true surface 2.0 centimeters - 1.3 centimeters (3/4" to 1/2") below finished floor elevation and it shall be roughen by being raked as it sets. At a later date, when it is time to apply the finish, the slab shall be thoroughly cleaned by brushes and with a small jet from a high-pressure hose.
 2. All dirt shall be removed from crevices and depressions. After the surface has been wet, it shall be grouted with 1:1 grout. The 2 centimeters (3/4") sand finish composed of 1 part cement and 2 1/2 parts of sharp clean sand mixed with 7.6 - 11.4 liters (2 to 3 gallons) of water per bag of cement shall be supplied, rammed, and floated. This shall be trowelled sufficiently when dry to a smooth hard finish using a light dusting of cement only.
 3. Coloring admixtures shall be as determined by the Architect/Engineer.

03300.15 TEST OF CONCRETE

- a. Reasonable number of tests for the concrete may be required by the Owner during the progress of the work. Not less than four (4) cylindrical specimens shall be made for each test of which at least two (2) shall be reserved for the 28 - day test. Not less than one (1) test shall be made in case less than one (1) test for each day's concreting. Samples shall be secured and molded in accordance with "METHOD OF SAMPLING FRESHLY MIXED CONCRETE (ASTM Designation C172) and METHOD OF MAKING AND CURING CONCRETE TEST SPECIMENS IN THE FIELD (ASTM Designation C31)". The Contractor shall provide the samples to be taken at the place of deposit and as specified by the Project Engineer, without cost to the Owner. The Contractor shall pay for the cost of testing the samples. The Contractor shall take care of transporting the samples to the approved testing laboratory without cost to the Owner.
- b. To conform to the requirements of these specifications, the average strength of test samples representing each class of concrete as well as the average of any five consecutive strength tests representing each class concrete, shall be equal to or greater than the specified strength and not more than one strength test in 10 shall have an average value less than 90 percent of the specified strength.
- c. Should the tests fail to give the required strength, the Owner shall have the right to order a change in the proportions or in the procedure of curing of the concrete for the rest of the structure.

03300.16 FAILURE TO MEET CONCRETE STRENGTH REQUIREMENTS

For failure to meet the specified strengths of concrete as per designed, prepared and deposited by the Contractor, removal of the concrete so deposited and replacement of the same, following the specified strength of the concrete shall be at the expense of the Contractor.

DIVISION 4 - MASONRY

SECTION 04110 CEMENT AND LIME MORTARS

PART 1 GENERAL

04110.1 SCOPE

a. Work Included:

1. All labor, materials, equipment, plans and other facilities and the satisfactory performance of all work necessary to complete all cement and masonry work shown on the drawings and specifies herein.
2. Refer to the General Conditions accompanying these specifications.

PART 2 PRODUCTS

04110.2 MATERIALS

- a. Sand : ASTM C-4
- b. Portland Cement : ASTM C150, Type I
- c. Water shall be clean and free from deleterious substances.

04110.3 MIXES

a. Cement Mortar for Finish Coat:

- 1 part - Portland Cement
- 2 part - Sand but not more than 4 parts

b. Cement Mortar for Plastering:

- 1 part - Portland Cement
- 3 part - Sand

PART 3 EXECUTION

04110.4 INSTALLATION

- a. Surface to receive plasters shall be cleaned of all projections, dust, loose particles, grease bone breaker an other foreign matter. Plaster shall on be applies directly to concrete on masonry surface that have been coat with bituminous compound, to surface that have been painted on previously plastered. Before the plasterwork is started, masonry surface shall be wetted thoroughly with fog spray of clean water to produce a uniformly moist condition. Metal grounds, corner bend and other accessories shall be check carefully of alignment before work is started.
- b. Brown coat shall be applied with sufficient pressure to fill the groove in hollow block on concrete to prevent aid pocket and receive a good bond Brown coat shall be lightly scratch an bromide Each coat of cement plaster shall be keep moist of 48 hour after application and then allowed to dry.
- c. Finish coat shall be applied untie after brow coat has seasoned for days Just before application of the finish coat, brown coat shall again be evenly moisten with fog spray finish coat shall be float first to a true an even surface the trowel in a manner that will force the sand particle Dow into the plaster. Plaster surface shall be and free from rough areas, trowel marks, checks and blemishes.

04110.5 PATCHING

- a. Patch plaster following work of other trades.

57. SECTION 04200 UNIT MASONRY

PART 1 GENERAL

04200.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete concrete unit masonry
- b. See drawing for sizes, details and location work required.

04200.2 HANDLING AND STORAGE

- a. Handle in a manner to prevent undue chipping and breakage.
- b. Protect storage piles, stacks on bins from heavy traffic.
- c. Provide platforms to protect bottom piles from contact with soil.

PART 2 PRODUCTS

04200.3 MATERIALS

- a. Concrete Hollow Block - 100 mm x 200 mm x 400 mm and 150 mm x 200 mm x 400 mm and 200 mm x 200 mm x 800 mm.

- b. Mortar - 1 part Portland Cement, 3 parts sand
- c. Wire Ties - 16 gauge looped at both ends.
- d. Bars and Rods - ASTM Standard of masonry reinforcement and minimum diameter at 10 millimeter (3/8 inch).

PART 3 EXECUTION

04200.4 ERECTION

- a. Lay all masonry units plumb, true to line, level and with accurately spaced courses.
- b. Bond shall be kept plumb throughout. Corners and reveals shall be plumb and true.
- c. Built-in anchors, wall plug and accessories to masonry as erection progresses.
- d. Each course shall be solidly bedded in Portland cement mortar. All must be damp when laid.
- e. Units terminating against beam or slab soffits shall be wedged tight with mortar and reinforcement properly secured to dowels.
- f. Reinforcements shall be as shown in drawings. Minimum reinforcement is 12 millimeters (1/2 inch) round horizontal bars at every 3 courses and 12 millimeters (1/2 inch) round vertical bars at every 2 blocks.

04200.5 UNFINISHED WORK

- a. Unfinished work shall be stepped back for joining with new works.
- b. Before new work is started, all loose mortar shall be removed and the exposed joint thoroughly wetted not less than one hour before laying new work.

04200.6 PLASTERING

- a. Grout wall to be plastered generously and let dry.
- b. Apply scratch coat same as specified under Section 04110.4.
- c. Final plaster finish shall be 1 part Portland cement and 2part sand, and 1/4 part hydrates lime. Plaster shall conceal all joints and even-out wall surface to a uniform smooth finish using Manila Paper or rubber sponge.

04200.7 CLEANING

Wash finish wall with a solution of 10 percent by volume of muriatic acid applied with stiff fiber brushes.

04200.8 OPENINGS

- a. Provide beam blocks over or above openings not exceeding 1.20 meters span with same height and width as unit masonry blocks exceeding at least two masonry block lengths beyond the edge of the opening into the wall.
- b. Provide 2-4 longitudinal reinforcing bars each at top and bottom of beam blocks with ties at 25 centimeter (10 inches O.C.).
- c. For openings over 1.20 meters (4 ft.) in span, refer to drawing of cast-in-place design of lintel beam.

04200.9 CONSTRUCTION STANDARDS

Provisions of Section 6.10 of the National Structural Code of the Philippines, 3rd Edition, shall strictly be followed.

04200.10 TESTING

Testing of masonry materials shall be done in accordance with ASTM C140-70, METHOD OF TEST FOR CONCRETE MASONRY UNITS.

DIVISION 6 WOOD AND PLASTIC

SECTION 06100 ROUGH CARPENTRY

PART 1 GENERAL

06100.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete framing sheathing and related rough carpentry work as indicated on the drawings and/or specified herein.
- b. Include in the work, plates, straps, joints hangers, rods, dowels, rough hardware, fasteners and other miscellaneous iron and steel items pertinent to rough carpentry work.
- c. See drawings and details for location of framing, sheathing and related rough carpentry work required.

06100.2 STORAGE AND PROTECTION

- a. Stack framing lumber and plywood to insure against deformation and maintain proper ventilation.
- b. Protect lumber and plywood from elements.
- c. Lumber in contact with concrete or masonry shall be coated with asphalt or any approved preservative.

PART PRODUCTS

06100.3 LUMBER

- a. Moisture Content - not to exceed 20 percent.
- b. Grade and Trade Mark - required on each piece of lumber.
- c. Quality - lumber must be sound, thoroughly seasoned, well cut and free from wrap.
- d. Preservative and Pressure Treatment - all lumber shall be pressure impregnated with waterborne preservative like wolman salt, boiled salt and tanalite H.R. Surface, cut after treatment, shall be brush coated with same preservative.

06100.4 PLYWOOD

Unless otherwise specified or indicated in drawings, use the following:

- a. For Interior Plywood: Use 6 millimeter (1/4 inch) thick.
- b. Pressure Treatment: All plywood shall be pressure treated.

06100.5 ROUGH HARDWARE AND METAL FASTENERS

Plates, straps, nails, spikes, screws, bolts, joists, hangers, rods, dowels, fasteners and miscellaneous iron and steel items shall be of size and types to rigidly secure members in place.

PART 3 EXECUTION

06100.6 INSTALLATION

- a. Framing shall be cut square on bearings, closely fitted, accurately set to required lines and levels and rigidly secured in place. Plans and dress side of frames that will receive wallboards or sidings.
- a. Wood Furring and Nailers shall be in accordance with detailed drawings. Where not indicated on the drawings or mentioned herein, furring trips shall be 2.5 centimeter x 5 centimeter (1" x 2") spaced at 40 centimeter (16 inches) on center both ways. Fasten wood furring securely by expansion bolts or other approved device at every 60 centimeter (2 ft.) on center. Wood plugs shall not be used.

06100.7 SCHEDULES

- a. Treated Apitong Lumber shall be used for:
 - 1. Vertical and Horizontal Studding of Wood Partitions.
 - 2. Ceiling Nailers and Ceiling Joists
 - 3. Other Related Rough Lumber Works

- b. Well-seasoned Yakal shall be used for all plates, plugs and other portions of the work directly in contact with concrete or masonry.

SECTION 06200 FINISH CARPENTRY

PART 1 GENERAL

06200.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete built-in cabinetry and countertops and related finish carpentry work as indicated on the drawings and/or specify herein.
- a. See drawings and details for location and quantity of finish carpentry work required.

6200.2 STORAGE AND PROTECTION

- a. Protect millwork against dampness during and after delivery.
- b. Do not bring in interior finish, including doors, into building until plaster is thoroughly dry.

06200.3 MEASUREMENT AND COORDINATION

- a. Check and verify measurement at sits prior to fabrication.
- a. Coordinate work with all other related trades.

06200.4 LUMBER

- a. Kiln-dried quarter saws containing not more than 14% moisture, free from imperfections impairing its strength and finish.
- b. Trademark is required on each piece of lumber.

06200.5 PLYWOOD

For interior plywood, use Class A Plywood the specie and thickness shall conform to Schedule and Drawings.

PART 3 EXECUTION

06200.6 WORKMANSHIP

- a. All wood finish, millwork and built-in cabinet work shall be true to details, clean and sharply defined.
- b. Panels must be set to allow for free movement in case of swelling or shrinkage.

- c. Means of fastening various parts together shall be concealed.

06200.7 FINISH

- a. Mill, fabricate and erect interior finish as indicated on the drawings. Machine-sand at the mill and hand-sand smooth at the job.
- b. Interior trim set against concrete, masonry or wood shall be separated with 6 millimeter (1/4 inch) stone cut joints.
- c. Intersecting plywood veneers or plywood panels shall be finished with a corner trim of wood with same specie and finish as the plywood.
- d. Make joints tight and in a manner to conceal shrinkage. Secure trim with fine finishing nails, screws or glue where required.
- e. Set nails for putty stopping
- f. Window and door trim shall be single length.
- g. Mites molding at corner, cope at angles.

06200.8 WOOD DOOR, JAMBS AND HEAD

- a. Set door frames plumb and level and brace until built-in.
- b. Anchor wood frames to masonry with approved metal anchors on each side of jamb. Place top and bottom anchors 20 centimeter (8 inches) from head and floor.

06200.9 WOOD SHELVING

- a. Each shelf shall be supported on a continuous wood cleat at walls.
- b. Secure cleats to masonry walls by expansion bolt or approved fastening device.

06200.10 BUILT-IN CABINETS AND COUNTERTOPS (MILL MADE)

- a. Fabricate counter and cabinets in accordance with details.
- b. Only sound kiln-dried lumber or plywood shall be used.
- c. Erect cabinet straight, level and plumb and securely anchor in place. Scribe and closely fit cabinets to adjacent work. Provide necessary grounds and anchors for securing cabinet work in place.

06200.11 FIXED GLASS ON WOOD FRAMES

Where fixed glass is set on wood frames, thoroughly prime rabbets and wood stops. Fit screw and secure in place loosely with chrome oval-head screws.

06200.12 HARDWARE INSTALLATION

- a. Accurately fit and install all finish hardware items required.
- b. In surface-applied hardware is fitted and applied before painting, remove all such items, except butts, and reinstall after painting is completed.

06200.13 SCHEDULES

- a. Kiln-Dried Tanguile Lumber shall be used for:
 - 1. Exposed woodwork as ceiling including wood slats.
 - 2. Other finish carpentry work as shown on the drawings unless indicated or specified otherwise.
 - 3. Cabinets and Shelving
- b. Well-seasoned Yakal Lumber shall be used for:
 - 1. Door jambs and heads

58. SECTION 07610 SHEET METAL ROOFING

PART 1 GENERAL

07610.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete:
 - 1. sheet metal roofing
 - 2. metal roof flashing and trim
- b. See drawings and details for sizes and location of work required.

07610.2 SAMPLES

Submit samples of sheet metal flashing and trim, grilled and louvers.

07610.3 GUARANTEE

THE CONTRACTOR SHALL ISSUE A WRITTEN GUARANTEE TO THE OWNER TO MAINTAIN ENTIRE ROOF FLASHING AND COUNTER FLASHINGS IN A WATERTIGHT CONDITION FOR A PERIOD OF FIVE (5) YEARS.

PART 2 PRODUCTS

07610.4 MATERIALS

- a. Corrugated Sheets - Gauge 26 galvanized iron zinc coated by hot dip process.
- b. Plain Sheets - Gauge 26 galvanized iron sheet zinc coated by hot dip process.
- c. Solder - Standard solder for galvanized iron sheets.

PART 3 EXECUTION

07610.5 INSTALLATION OF SHEET METAL ROOFING

- a. Space purlins to fit sizes of the sheets so that center line of purlins will come of line 15 centimeters (6 inches) from bottom line of end laps.
- b. Space intermediate purlins equidistant from purlins at end laps.
- c. Minimum end lap shall be 25 centimeters (10 inches). Minimum side lay shall be 2-1/2 corrugations.
- d. Lay sheets in a manner such that vertical joints are broken. Lay top sheets with side corrugation down. Nail upper end of each sheet securely to purlins with 8-d G.I. nail in the valley of every second corrugation. The upper end of each sheet shall be covered by other sheets or by ridge and hip rolls.
- e. Secure lower end of first sheet laid at gutter line by straps to the purlins after gutter hangers are in place. Use No. 24 gauge strap one inch wide with corners clipped off at riveting ends. Bend strap around purlins and rivet to the sheets.
- f. Place first row of straps at gutter line. Then rivet the lower end of every sheet to the sheet beneath at the top of every fourth corrugation. Such rivets to alternate with rivets engaging top line of straps.
- g. Rivet side laps with two lines of rivets staggered and spaced not to exceed 23 centimeters (9 inches) on centers.
- h. Rivets must be anchored on top of corrugations.

07610.6 RIDGE ROLLS, HIP ROLLS AND VALLEY

- a. Use Gauge 24 ridge roll. Minimum lay of ridge roll shall be 30 centimeters (12 inches) over roofing sheets. Rivet ridge to roofing sheets at top of every fourth corrugation in addition to rivets engaging top line of straps
- b. Use Gauge 24 hip roll. Minimum lay of hip roll shall be 30 centimeters (12 inches) over roofing sheets. Rivet hip roll at every second corrugation.
- c. Use Gauge 24 valley. Project 45 centimeters (18 inches) away and under roofing sheet edge each way and secure to framework with G.I nails spaced not to exceed 30 centimeters (12 inches) on center.

07610.7 FLASHING AND COUNTER FLASHING

- a. Use Gauge 24 plain G.I. sheet for flashings at intersection of roof and parapet walls. Raise one wing of flashing not less 20 centimeters (8 inches) high terminated at horizontal reglet.
- b. Where corrugation run parallel to the walls, corrugate one wing of the flashing sheet to match corrugation of G.I. sheets which other wing shall go up against the walls and counterflashed.

H. DIVISION 8 - DOORS AND WINDOWS

59. SECTION 08210 WOOD DOORS

PART 1 GENERAL

08210.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete flush doors and other wood doors
- b. See drawings and details for sizes, location, extent and other requirements.

08210.2 SAMPLES

Submit sample corner sections of wood doors and jambs.

08210.3 PROTECTION

Adequately protect doors from scratches, and other stains with heavy building paper.

PART 2 PRODUCTS

08210.4 MATERIALS

- a. Plywood: First quality plywood grain and color suitable for painted finish.
- b. Framing: Kiln-dried tanguile treated lumber for interior framing.

08210.5 FABRICATION

- a. Assemble joints in doors with water-resistant glue keep doors under pressure until glue has thoroughly set.
- b. Sand smooth finished door. Door must have tiger joints and clear-cut mouldings.
- c. Faces shall be free from defects or machine marks that will show through the finish.
- d. Wood flush doors hollow core:

1. Size, design and thickness shall be as indicated on the drawings.
2. Doors shall have cross banding, and faces of two or more plies with a combined minimum thickness of 2.5 millimeters (1/10 inch) after sanding. Face veneer shall be first class quality selected plywood either rotary-cut or sliced-cut.

Provide lock blocks of size required for hardware use. Rails and side edge bands shall be of hardwood same as face veneer.

3. Doors shall be rimmed square and factory pre-fit to standard sizes.

PART 3 EXECUTION

08210.6 INSTALLATION

- a. Each door shall be accurately cut, trimmed and fitted to its frame and hardware.
- b. Give allowance for painter's finish and possible swelling or shrinkage.
- c. Clearance at lock and hanging stiles and at top shall not exceed 3 millimeters (1/8 inch). At bottom, not bigger than 6 millimeters (1/4 inch).
- d. All corners shall be rounded to 1.5 millimeters (1/16 inch radius). Lock and rail edges shall be slightly leveled.
- e. The screws for hardware shall not be driven, but merely started by driving and then screwed home.
- f. All doors shall operate freely and with all hardware properly adjusted and functioning.

08210.7 SCHEDULE

Refer to Schedule of Drawings.

60. SECTION 08800 GLASS

PART 1 GENERAL

08800.1 SCOPE

- a. Furnish glass free from imperfections and watermarks and other materials and equipment and perform labor required to complete all glass and glazing work.
- b. See drawings for size, location and details.

08800.2 SAMPLES

Submit samples of glass panel.

08800.3 PROTECTION

Protect materials from loss, injury, staining, and breakage. Lost and damaged materials shall be replaced by the Contractor at his own expense.

PART 2 PRODUCTS

08800.4 MATERIALS

- a. Plate Glass - mechanically round and polished after rolling resulting in parallel, distortion free surfaces. Use where good vision is required.
- b. Float Glass - manufactured by "floating continuous ribbon of molten glass onto a bath of molten tin where it is reheated to obtain a flat, fire-polished finish. It is then allowed to cool to a degree permitting it to be drawn on rollers in a long oven and then annealed.

Commonly used in windows, sliding doors, and window walls.

Grade AA - intended for use where superior quality is required.

Grade A - intended for selected glazing.

Grade B - intended for general glazing.

Greenhouse quality - intended for Greenhouse glazing or similar application where quality is unimportant.

08800.5 GLAZING

Glazing materials for glass installation may be:

- a. Bull compounds such as:

Mastics - elastic compounds and non-skinning compound.

Puttied - wood sash putty, metal sash putty.

Sealant - one component, two components.

- b. Performed sealant such as:

Synthetic polymer - bass sealant - resilient or non-resilient type.

Performed gaskets - compression type, structural type.

PART 3 EXECUTION

08800.6 GLAZING

- a. Prevent glass from all contact with metal or any hard or sharp materials by use of resilient shims placed at quarter points.
- b. Use resilient sealant.
- c. Use stops in sizes permitting a "good grip" of the glass.
- d. Install glass only in openings that are rigid, plumb and square.
- e. Allow sufficient clearance at edges of glass to compensate for its expansion or for some settlement of the building. Clearance should be 6 millimeters (1/4 inch) from edge to frame and 3 millimeters (1/8 inch) for face.
- f. Markings, banners, posters, and other decay shall not be applied directly to glass surface as these could cause thermal stress.
- g. Removal of putty or glazing compound smears from glass shall be performed by the glazing contractor during the materials normal work life. Failure to do so may result in damage to the glass.

08800.7 HEAT ABSORBING GLASS

- a. Special attention must be given to the installation of all types of heat absorbing glass, because of its ability to absorb heat. Partial shading, painted signs, large interior labels, tight draperies or blinds, heavy masonry structure, and heating-cooling outlets directing aid against the glass may increase edge tension stresses.
- b. The ability of heat absorbing glass to resist solar energy breakage is primarily related to its edge strength. Therefore:
 - 1. Clean out all edges.
 - 2. Do not install glass with flared edges at bottom.
 - 3. Do not seal edges.
 - 4. Do not nib edges nor scarf corners.
 - 5. Do not bump nor brush edges against metal or other hard objects.
 - 6. Do not use pocket flush glazing.
 - 7. Radius cutting should be reviewed by manufacturer.

I. DIVISION 9 FINISHES

61. SECTION 09310 TILE WORK

PART 1 GENERAL

09310.1 SCOPE

Furnish materials and equipment and perform labor required to complete ceramic glazed and vitrified ceramic tile work.

See drawings and details for location and extent of work required.

09310.2 SAMPLES

Submit sample of floor and wall tiles including all required beads and moldings.

09310.3 DELIVERY OF MATERIALS

Deliver all materials in original cartons and container with labels intact and seals unbroken.

09310.4 PROTECTION OF FINISHED WORK

- a. Cover floor with heavy building paper before foot traffic is permitted over finished tile floors.
- b. Lay board walkways on floors to be used as passageways.

PART 2 PRODUCTS

09310.5 CERAMIC TILES

- a. Ceramic Glazed Wall Tiles - standard grade bright or matte glaze. Square edge or cushion edge with integral spacer approximately 8 millimeter (5/16 inch.) thick.
- b. Vitrified Ceramic Floor Tile - standard grade vitrified unglazed natural clay type dust-pressed or extrudes approximately 6 millimeter (1/4 inch) thick.
- c. Trim - compatible with type, color, thickness, face size and finish as specified wall tiles.
- d. Accessories - soap holders and paper holders shall be recessed type to follow color of specified wall files.

09310.6 GROUT MATERIALS

Portland Cement Grout:

1. Scratch Coat: 1 part portland cement to 5 part damp sand to 1/5 part hydrate lime.
2. Mortar Bed: 1 part Portland cement to 5 parts dam sand to 1/2 part hydrate lime.
3. Bond Coat: Neat Portland cement paste.

PART 3 EXECUTION

09310.7 APPLICATION OF SCRATCH COAT

- a. Thoroughly dampen, but do not saturate surface on masonry or concrete walls before applying the scratch coat. Surface area shall appear slightly damp. Allow no free water on the surface.
- b. On masonry, first apply a thin coat with great pressure, then bring it out sufficiently to compensate for the major irregularities of the masonry surfaces to thickness of not less than 6 millimeter (1/4 inch.) at any point.
- c. On surfaces not sufficiently rough to provide good mechanical key, dash on the first coat with a whist broom or fiber brush using a strong whipping motion. Do not trowel or otherwise disturb mortar applied by dashing until it has hardened.
- d. Evenly rake scratch coats, but not dash coats, to provide good mechanical key for the subsequent coat before the mortar has fully hardened.

09310.8 FLOOR TILE INSTALLATION ON MORTAR BED

- a. Before spreading the setting bed, establish line on borders and center the fieldwork in both directions to permit the pattern to be laid with a minimum on cut tiles.
- b. Clean concrete sub-floor then moisten but not soak. Afterwards sprinkle dry cement over the surface and spread the mortar on the setting bed.
- c. Mix mortar 1 part Portland cement to 3 part sand. Tamp to assure good bond over the entire area and screed to provide a smooth and level bed at proper height and slope.
- d. Pitch floor to drain as required.
- e. After setting bed has set sufficiently to be worked over, sprinkle dry cement over surface and lay tile.
- f. Keep tile joints parallel and straight over the entire area by using straight edges.
- g. Tamp the tile solidly onto the bed, using wood block on size to ensure solid bedding free from depressions.
- h. Lay tiles from centerlines outward and make adjustment at walls.

09310.9 WALL TILE INSTALLATION ON MORTAR BED

- a. Before application of mortar bed, dampen the surface on scratch coat evenly to obtain uniform suction.

- b. Use temporary or spot ground to control the thickness on the mortar bed. Fill out the mortar bed even with the grounds and rob it to a true plane.
- c. Apply the mortar bed over an area no greater than can be covered with tiles while the coat is still plastic.
- d. Allow no single application of mortar to be 19 millimeter (3/4 inch.) thick.
- e. Completely immerse glazed wall tile in clean water and soak it at least 1/2 hour. After removal, stack tile on edge long enough to drain off excess water. Resoak and drain individual tiles that dry along edges.
- i. Allow no free moisture to remain on the back of the tile during setting.
- f. Apply a bond coat 0.8 millimeter to 1.6 millimeter (1/32 to 1/16 inch) thick to the plastic setting bed or to the back of each shell of tile.
- g. Press tile firmly into the bed and beat into place within 1 hour.
- h. Lay tile fields in rectangular block area not exceeding 60 centimeter x 60centimeter (24 by 24 inches). Cut the setting bed through its entire depth along the edge on each block area after placement and before subsequent block are installed.
- i. Within 1 hour after installation on tile, remove strings from string-set tile and wet the face on face-mouthed tile and remove the paper and glue. Avoid using excess water. Adjust any tile that is out of alignment.

09310.10 SETTING TILE ON ADHESIVE TWO METHODS

Note:

There are two methods of setting tiles with adhesive:

1. Spreading it on the back of each tile at set is called the "Buttering" method.
2. Combine adhesive over the entire foundation surface is called the "Floating method.

The "Floating method is generally preferred because it is faster, gives a more uniform appearance, used less adhesive and gives better waterproofing treatment to the wall.

The "Buttering" method is recommended where tile must be cut and fitted around plumbing and electrical fixtures.

a. Floating Method:

1. Apply gobs on adhesive to wall and comb out adhesive with a trowel or scraped having notched and flats as recommended by manufacturer.
2. Hold trowel at 30 - 45 angle to the wall surface for easy spreading and maximum coverage.

3. Set tile using a slight twisting motion and press down to give a final adhesive thickness on 1.5 millimeter (1/16 inch).
 4. Do not allow spread adhesive to stand over 45 minute before setting tile.
- b. Buttering Method:
1. Apply sufficient adhesive to the back on each tile to produce a spot of approximately 75 centimeter (3 inches) in diameter, when bonded.
 2. Press down adhesive thickness to 1.5 millimeter (1/16 inch) using a slight twisting motion.

09310.11 GROUTING

- a. After tile has sufficiently set, force a maximum of grout into joints by trowel, squeeze, and brush on finger application.
- b. Before grout sets, strike on tool the joints of cushion-edges tile to the depth of the cushion.
- c. Fill all joints of square edges tile flush with the surface of the tile. Fill all gaps of skips.
- d. During grouting clean all excess grout of with clean burlap, other clothes or sponges.

09310.12 CLEANING

Sponge and wash tile thoroughly with clean water after the grout has stiffened. Then clean by rubbing with damp clothes on sponge and polish clean with dry cloth.

62. SECTION 09900 PAINTING

PART 1 GENERAL

09900.1 SCOPE

- a. Furnish materials and equipment and perform labor required to complete painting and varnishing works
- b. See Drawings for location, quantity and extent of surfaces to receive paints.

09900.2 DELIVERY OF MATERIALS

- a. Deliver at jobsite in original container with labels intact and seals unbroken.

- b. Submit to Owner the manufacturer's certificate of origin and quality of paints including quantity purchased.

09900.3 QUALIFICATION OF PAINTING CONTRACTOR

- a. Painting contractor shall be approved by the Owner

09900.4 TEST PANELS

- a. Sample panels of selected color or shade shall be prepared on 60 centimeters (2 feet) plywood panel for approval by the Architect.

09900.5 PROTECTION

- a. Provide all drop cloth and other coverings requisite to protection of floors, walls, aluminum, glass, finishes and other works.

PART 2: PRODUCTS

09900.6 PAINT MATERIALS

- a. Tinting colors and thinning materials must be the same brand as the paint specified

09900.7 SCHEDULE

EXTERIOR

a.	Exterior concrete painted surface	3 coats Acrylic base masonry paint
b.	Exterior concrete exposed aggregate finish	one coat water repellant
c.	Exterior metal ferrous	prime with epoxy enamel primer
d.	Exterior metal galvanized	prime with zinc chromate primer
e.	Exterior wood painted	3 coats oil based paint
f.	Exterior wood varnished	water repellant varnish

INTERIOR

a.	Interior concrete or masonry painted	2 coats acrylic base masonry paint
b.	Interior concrete exposed aggregate finish	no paint
c.	Interior metal ferrous	prime with epoxy enamel primer follow 2 coats enamel paint
d.	Interior wood work sea-mist	3 coats 3 part thinner 1 part lacquer paint apply wood filler

e.	Interior wood work varnish	1 st coat - one part sanding sealer to one part solvent 2 nd coat - 2/3 sanding sealer, 1/3 solvent 3 rd coat - same as 2 nd coat 4 th coat pure solvent
f.	Interior woodwork painted	3 coats oil base paint

PART 3 : EXECUTION

09900.8 PREPARATION OF SURFACES

	PREPARATION	TREATMENT	SURFACE CORRECTION
CONCRETE AND MASONRY WORKS	Remove all loose dirt excess mortar or any film left from oil, grease, or concrete curing compound	Treat with one kilo of zinc sulphate crystal to a 4.5liters of water (1 gal.)	Putty surface with patching compound
WOOD WORK	Thoroughly sand to remove excessive roughness, loose edges splinters and then brush to remove dust	Knots, sappy streaks, and stain from wood preservatives shall be given a thin coat of shellac.	Fill all cracks, nail holes and other surface defects with patching paste or putty
METAL WORK	Remove rust, grease or other foreign matter	Wash with metal treatment solution	Scrape, wire-brush, sand-blast or clean with flame

09900.9 GENERAL WORKMANSHIP

- All paints shall be evenly applied. Coats shall be of proper consistency and well brushed out so as to show a minimum of brush marks.
- Thoroughly stir paint to keep pigment evenly in suspension when paint is being applied.
- All coats shall be thoroughly dry before the succeeding coat is applied. Allow at least 24 hours between application of coats.
- If surface are not fully covered or cannot be satisfactorily finished in the number of coats specified, such preparatory coats and subsequent coats as may be required shall be applied to attain the desired evenness of the paint without extra cost to the Owner.
- If surface is not in proper condition to receive paint, the Project Inspector shall be notified immediately. Work on the questioned portion shall not commenced until receipt of order to proceed from the Project Inspector.

- f. Hardware, hardware accessories, plates, lighting fixtures and other similar items shall be removed or otherwise protected during the painting operations and reinstalled after completion of work.

09900.10 PROCEDURE FOR SEA-MIST FINISH

- a. Depress wood grain by steel brush and sand surface lightly.
- b. Apply sanding sealer
- c. Apply two coats of industrial lacquer paint.
- d. Spray last coat mixed with lacquer.
- e. Apply paste wood filler thinned with turpentine or paint thinner to wood surface
- f. Wipe off pastewood filler immediately
- g. Spray flat or gloss lacquer whichever is specified.

09900.11 PROCEDURE FOR VARNISH FINISH

- a. Sand surface thoroughly
- b. Putty all cracks and other wood imperfections with paste filler
- c. Apply oil stain
- d. Apply lacquer sanding sealer
- e. Sand surface along grain
- f. Spray three coats of clear lead flat lacquer
- g. Polish surface using cloth pad
- h. Spray gloss lacquer if glass finish is desired.

09900.12 PROCEDURE FOR DUCCO FINISH

- a. Sand surface thoroughly
- b. Apply primer surface white or gray by brush or spray
- c. Apply lacquer paint spot putty in thin coat. Allow each coat to become thoroughly dry before applying next coat.
- d. Apply primer surfacer, Allow 2 hours drying time before applying the next coat.

- e. Apply one (1) coat of flat tone semi-gloss enamel as per Architect's color scheme.

DIVISION 12 - MECHANICAL

SECTION 1201 - WATER PUMPING SYSTEM

1201.1 Description

This Item shall consist of furnishing and installation of water pumping system, inclusive of all piping and pipe fitting connections, valves, controls, electrical wiring, tanks and all accessories ready for service in accordance with the approved Plans and Specifications.

1201.2 Material Requirements

1201.2.1 Water Pump

The type, size, capacity, location, quantity and power characteristics shall be as specified or as shown on the Plans.

1201.2.2 Overhead Tank

The tank shall be provided with manhole, cover, drain pipes, distribution pipe outlet, overflow pipes and air vent.

Suitable float switch or electrode shall be provided in the tank to stop and start the operation of the pump.

1201.2.3 Pneumatic Tank

Tank shall be designed for twice the maximum total dynamic pressure required and shall have the following accessories.

- (a) A suitable pressure switch to stop pump if pressure required is attained.
- (b) Air volume control device to maintain correct air volume inside the tank.
- (c) Pressure relief valve should be installed on top of the tank
- (d) Electrode to be connected in the motor pump control the water level.
- (e) Air compressor shall be provided for tank of 3,785 liters to maintain air pressure inside the tank.

1201.2.4 Pipes and Fittings

All pipes and fittings shall be G.I. pipe Schedule 40.

All piping 100 mm and larger shall be welded or flanged while smaller sizes shall be screwed.

1203.3.6 Valves

A gate valve followed by a check valve shall be placed between discharge of pump and tank to prevent back flow of water when pump stops.

1203.3.6 Foundation

Refer to sub-section 1200.2.9 - Air Conditioning System

1203.3.6 Electrical Works

Refer to sub-section 1200.2.10 - Air Conditioning System

1203.3.6 Construction Requirements

Exposed piping shall be provided with concrete saddle or steel clamps or hangers to secure them firmly to the building structures.

Pipe threads shall be lubricated by white lead, red lead, Teflon or other approved lubrication before tightening.

Piping supports shall be placed at 3mm interval or less.

1201.3.1 Test

Appropriate test shall be done to demonstrate that the system complies with the requirements of the Plans and Specifications.

1201.3.2 Guarantee and Service

Refer to sub-section 1200.3.2 - Air Conditioning System.

1201.3.3 Miscellaneous

Refer to sub-section 1200.3.3 - Air conditioning System.

1201.4 Method of Measurement

The work under this Item shall be measured either by set, length and piece actually placed and installed as indicated on the Plans. Equipment shall be measured by set pipes by length, valves and fittings by piece.

1201.5 Basis of Payment

All work performed and measured and as provided for in this Bill of Quantities shall be paid for at the Unit Bid or Contract Unit Price which payment and incidentals necessary to complete this item.

Payment shall be made under:

Item	Description	Unit of Measurement
A	Pump and Water Tank	Set
B	Air Compressor	Set
C	Pipes	Length
D	Valves and Fittings	Piece

J. DIVISION 15 - SANITARY/PLUMBING

63. SECTION 15400 PLUMBING SYSTEM

PART 1 GENERAL PROVISIONS

15400.1 EXPLANATION

OWNER-GENERAL CONTRACTOR-PLUMBING RELATIONSHIP

- a. The plumbing and sanitary work is a Specialty Trade which shall be performed by a Contractor hereinafter referred to as Plumber Contractor.
- b. The scope of work and responsibility of the Plumbing Contractor is stipulated in this Specification and is treated separately from the function of the General Contractor and other Specialty Trade Contractor for the sole purpose of delineating the plumbing work.
- c. Should the General Contractor subcontract the Plumbing Work to a specialty trade Plumbing Contractor all responsibilities and functions of the Plumbing Contractor stipulated in the Specifications shall be assumed by the General Contractor
- d. There shall be no contractual relation between the Owner and the Plumbing Specialty Trade Contractor.

15400.2 GENERAL REQUIREMENTS

- a. All works shall be performed in accordance with the requirements of all applicable laws of the Republic of the Philippines and all codes and ordinances so required.

- b. The Plumbing Contractor is required to refer to all architectural, structural, mechanical and electrical plans and specifications and shall investigate all possible interference and conditions affecting his work.
- c. Contractor and all providing labor, material, or both, for this project are specifically referred to the General Conditions of the Contract, to contract drawings, to all the divisions of the specifications and the various other contract documents which may affect the completion of any work in other divisions. In the absence of any agreement between sub-contractor as the General Contractors (authorized by the Owner), supply of others affected by the construction of this project, the General Contractor shall be held responsible for the coordination and completion of all work.
- d. All plumbing work to be done and sizes to be used shall be in accordance with the National Plumbing Code of the Philippines as so required under the direct supervision of the licensed Sanitary Engineer or Master Plumber.

15400.3 WORK INCLUDED

Furnish all materials and equipment and perform all labor necessary for all complete installation, testing and operation of the plumbing system in accordance with the applicable drawings and this division of the specification consisting of, but not limited to the following:

- a. Sanitary drainage system
- b. Storm drainage system
- c. Soil, waste, and vent pipe systems within the building.
- d. Water distribution and supply pipes, and fitting.
- e. Fire standpipe system
- f. Installation of drinking fountain, (Verify)
- g. Water services connections
- h. Plumbing fixtures of exposed pipes and appurtenances and asphalt protective coating and concrete covering for all pipes laid underground.
- i. Any and all other works involved in providing the complete operation of the domestic water supply system, fire protection system, sanitary plumbing and storm drainage system for the above-named project.

15400.4 ITEMS BY OTHERS

- a. General cutting and patching of openings except for pipe hangers and inserts.
- b. All concrete foundations or based required for plumbing equipment.
- c. Concrete sumps and pits.

- d. Flashing of roof drains and pipes penetrating the roof.
- e. Water for construction and testing purposes will be supplied by the General Contractor.

15400.5 COORDINATION WITH OTHER TRADES

Refer to all electrical, structural, mechanical and architectural plans and specifications and investigate all possible interference and conditions affecting the plumbing works. Proposed solutions to anticipated problems shall be submitted to the Sanitary Engineer for approval as least one (1) week ahead of the construction schedule.

15400.6 INTENT

It is not intended that the Drawings shall show every pipe fitting, valve and appliance. All such items, whether specific, all mentioned or not, or indicated on the drawings shall be furnished and installed if necessary to complete the system in accordance with the best practice of the plumbing trade and to the satisfaction of the Owner.

15400.7 EXTRA WORK

Cost estimate of all extra works that shall be deemed necessary during the progress of the work shall be submitted to the Owner for approval as least two (2) days before any extra work shall be started.

PART 2 REQUIREMENTS OF REGULATORY AGENCIES

15400.8 CODES AND PERMITS

- a. Execute the work in full accordance with the requirement of all governmental agencies having jurisdiction thereof as well as with the requirements and/or recommendation of the National Plumbing Code of the Philippines, the Philippine Rating Bureau, the Underwriters, all applicable laws of the Republic of the Philippine and all codes and ordinances.
- b. Secure and pay for all necessary approvals, permit, inspection, and the like, before starting work, and turn over the official records of the granting permits to the Owner without additional cost.
- c. Obtain all necessary allowances, pay all royalties, and the like, in connection with the use of any patented devices or system, and save the Owner harm from any claim or law suit arising from such use.

15400.9 All materials shall conform to the standard tabulated below:

- a. Concrete sewer and drainage pipes - ASTM 076 - 59T and ASTM C-14-59
- b. Cast iron soil pipes and fittings, extra heavy, ASTM 076-595 and ASTM G-14-59, service weight pipes conforming to federal specifications or "SILVA" or approved equal.

- c. Cast iron drainage fittings - ASC B16.12 1953.
- d. Wrought iron pipe - ASTM A72-52T
- e. Malleable iron fittings - ASTM A-338-51T
- f. Caulking Lead- Federal Specifications QQ-L-156
- g. Galvanized iron pipes and fittings - ASTM A-120-57T
- h. Bronze gate valves-Federal Specifications Wx-V-54
- i. Gate Valves - AWWA c500-59
- k. Lead sheet-Federal Specifications - QQ-L-201
- l. Water meter - MWSS or LUWA approved
- m. PVC Pipes and fittings-Neltex Series 1000, Moldex Sch. 40 or approved equal.
- n. Plumbing Fixtures - Saniware or approved equal.

15400.10 IDENTIFICATION OF MATERIALS

- a. Each length of pipe, fittings, trap, fixture and device used in the plumbing system shall have cast, stamped or indelible marked on it the manufacturer's trade mark or name, the weight, the type, the classes of product when so required by the standard mentioned above.
- b. All plumbing fixtures and fittings installed without the above trademarks shall be removed and replaced with properly marked fixtures and fittings without any extra cost to the Owner.

PART 3 PLUMBING FIXTURES

15400.11

All bids to be considered shall include all plumbing fixtures shown on the drawings and specified herein or by the Architect.

- a. All plumbing fixtures shall be installed free and open in a manner to afford access for cleaning and shall be furnished with brackets, cleats, plates, and anchors required to support the fixtures rigidly in place.
- b. After the installation of any or all the plumbing fixtures of the building same shall be kept clean and in working order but shall not be used by anybody until the building has been turned over and accepted by the Owner.
- c. Fixture trim, traps, faucets, escutcheons and waste pipes that are exposed to view in finishing or finished spaces shall be brass with polisher chromium plating or nickel finish, unless otherwise specified. Exposed supply pipes shall be brass or copper tubing plates in the same manner otherwise specified.

- d. The Plumbing Contractor shall be responsible for providing those portions of fixture fittings (as trims), which are not provided with the fixture but are required for the complete installation. All fixtures shall be carefully checked to determine the portions, which must be provided to complete the installation.
- e. All fixtures shall be provided with separate stop valves for cold water so that each fixture may be separately controlled without affecting any other fixtures.
- f. All flush valves shall be equipped with vacuum breaking device.

15400.12 GUARANTEE

The Plumbing Contractor shall furnish to the Owner a written guarantee covering satisfactory operations of the plumbing installation in all its parts for a period of one (1) year after date of final acceptance. During this period, the Plumbing Contractor shall repair or replace any defective work and pay for any repair or replacement costs. Included with this guarantee certificate shall be the guarantee certificates of every material supplier employed by this Trade.

15400.13 AS-BUILT DRAWINGS

- a. The Plumbing Contractor with the approval of the Engineer shall mark down with red pencil, on two sets of plumbing plans all the revisions, omissions and/or additions to the various plumbing installation drawing as the construction progresses one set of the plans as marked shall be submitted to the Engineer after completion of work.
- b. Before the final payment to the Contractor is made, he shall submit to the Owner an As-Built Drawing incorporating all the changes made and noted in the marked plans retained by him. The As-Built Drawings shall be prepared on reproducible form.
- c. The Plumbing Contractor shall prepare and submit the As-Built Drawings without extra cost to the Owner.

PART 5 PROTECTION

15400.14 The Plumbing Contractor shall protect all the work and materials from loss, injury or defacement. Protection of fixtures and materials shall be by boards, papers and/or cloth as required and any lost, damaged, or defaced material be replaced by the Contractor as his own expense.

15400.15 Cover and protect all openings left in floor or wall for passage of pipes. Protect pipes with suitable coverings as soon as set. Close all open ends of pipes with a plug or cap fitting to prevent obstruction and damage.

15400.16 Seal all set traps.

15400.17 Do not use new, permanent, water closet and other new plumbing fixtures during the progress of the work.

15400.18 Do not use new, permanent, roof and floor drains for the plumbing of waste cement mixed during the progress of the work.

15400.19 As soon as installed, cover all metal fixture trimming with non-corrosive grease and maintain it until construction work is completed.

PART 6 OPERATING AND MAINTENANCE INSTRUCTIONS

15400.20 Provide three (3) sets of operating and maintenance instructions covering completely the operations and maintenance of plumbing equipment controls and accessories.

PART 7 ALTERNATE

15400.21 Use of any materials, device, fixtures or appurtenance not specified in these specifications may be allowed, provided that such alternate has been approved, in writing, by the Owner to substantiate Contractor claims, the cost shall be borne by the Contractor.

15400.22 Test shall be done by an agency approved by the Owner and in accordance with generally accepted standards. In the absence of such standards, the Owner may specify the test procedure.

15400.23 In any substitution, all health and safety requirements shall be observed.

SECTION 15401 COLD WATER SYSTEMS

PART 1 CLEARING AND GRUBBING

15401.1 The pipeline route shall be cleared and grubbed prior to performing any excavation or placing any fill.

15401.2 Clearing and grubbing refer to brush, roots, stumps, vegetation, pavements sidewalks and surface obstructions of any kind that are required to be temporarily or permanently removed and that lie within the actual area to be excavated.

15401.3 No trees shall be fitted, destroyed, or interfere with by the Contractor without the approval of the Owner.

PART 2 EXCAVATION

15401.4 Excavation shall include the removal of all materials of whatever nature encountered that would interfere with the proper execution and completion of work. The removal of said materials shall conform to the required grade line. Materials unsuitable for backfill must be removed from the site.

15401.5 The width and length of the area to be excavated for the installation of pipes and fittings shall not exceed the maximum linear dimensions of such structure by more than 300 mm on each side.

15401.6 Excavated material that cannot be used to backfill an excavation shall be stockpiled or wasted in a manner approved by the Owner.

PART 3 BACKFILL

- 15401.7 Backfill shall include the supply placing and compacting of all materials to fill pipe trenches and excavations for other structures. Excavated material suitable for backfill shall be used for that purpose.

PART 4 SUPPLY, LAY AND JOINT PIPES AND FITTINGS

- 15401.8 The Contractor shall provide and maintain in good condition the proper tools and equipment for the handling and laying of pipe, valves and fittings. Methods of pipe laying and use of tools and equipment shall also conform to applicable manufacturer's recommendations. For the laying of the first 100 meters of pipe, the pipe manufacturer shall provide a supervisor to instruct the Contractor's pipe laying crew in the procedures to be followed.

The interior of all laid pipes, valves, and fittings shall be kept clean and free of foreign matter and dirt at all times. Precautions shall include the liberal use of cleaning cloth during laying, and the watertight plugging of all openings at the close of work each day. Pipe valves and fittings shall be carefully examined for defects at the time of laying. Any defective material discovered before, during or after being laid shall be permanently marked, removed from the job site, and replaced with sound material. Where it is required to join pipe, valves, or fittings of different types, size or joint combination, adapt here shall be used of a class and type appropriate to the connecting ends.

PART 5 PAINTING AND PROTECTIVE COATINGS

The Contractor shall give the Architect at least 48-hours advance notice of the start of any surface preparation work or coating application work. All such work shall be performed in the presence of the Architect unless the Architect has granted prior written approval to perform such work in his absence. Galvanized, and other metal surfaces shall be treated with a phosphoric acid etching cleaned before painting, abrasions and bare spots in shop prime coatings shall be repaired with metal primer of the same type. All surfaces to be coated shall be cleaned with the approved equipment before the application of coating material.

PART 6 TESTING AND DISINFECTION

All testing and disinfecting operations shall be done in the presence of the Architect. Late delivery of valves would not be allowed to delay testing and commissioning of a pipeline. In such cases, the Contractor shall supply and install spool or make up pieces so that existing and commissioning may proceed. The Contractor shall install valves later in a manner that minimized interruption of service.

a. Field Hydrostatic Pressure Test

All tests shall be conducted on the pipeline in sections after the trench is backfilled, but before pavement restoration. The pipeline shall be prepared for testing by closing all valves, putting substantial stops and bulkheads at openings, opening aid valve assemblies and fitting aid release taps at all other high points along the pipeline. These taps shall later be removed after

completion of the testing and disinfection and unless otherwise specified, replaced with permanent plugs. The pipeline shall be slowly filled with water, allowing all air pockets to be released until the pipe is completely filled and under slight pressure at which condition it should be allowed to stand for 24 hours. Any apparent defects in the pipeline at this stage shall be rectified by the Contractor. The duration of the pressure test shall be for a period of two (2) hours. Any defective pipe, fitting, joint, valve or service connection shall be removed and replaced and the test shall be repeated until satisfactory to the Architect.

b. Field Leakage Test

The leakage test shall be conducted concurrently with the pressure test. The pipeline and service connection tubing leakage shall be taken as the amount of water, as measured by the metering service, needed to be injected into the line to maintain the test pressure for the two (2) hour leakage test period.

c. Disinfection

1. The entire water system shall be thoroughly flushed and disinfected with chlorine before it is placed in service.
2. Chlorine shall be liquid chlorine or hypochlorite (HTH) and shall be introduced into the water lines in a manner approved by the Architect.
3. Chlorine dosage shall be to provide no less than 50 parts per million (50ppm) of available chlorine and allowed to stand for 24 hours, after which the system shall be flushed with potable water until the residual chlorine content is about 0.2 parts per million. All valves in the system shall be opened and closed several times during the chlorinating period.
4. The Contractor shall furnish and pay for all devices, chlorine materials, labor and power required for disinfection purposes. Disinfection shall be made in the presence of the Architect.
5. Before being placed into service and before certification of completion by the Owner, all new water mains, or extensions and connections to existing systems, or valves section of such extension, any replacement in the existing water system, shall be disinfected with chlorine, and a satisfactory bacteriological analysis of the water certified shall be submitted to the Architect.

d. Color Coding for Pipes

1. Cold Water Pipes - - - - - Blue
2. Storm Water Pipes - - - - - Aluminum
3. Sewage Pipes - - - - - Gray
4. Vent Pipes - - - - - Green

5. Fire Lines - - - - - Red

SECTION 15405 SOIL AND WASTE PIPING SYSTEMS

PART 1 HOUSE SEWER SYSTEM

- 15405.1 Provide house sewers to conduct the sanitary drainage from the building to the main sewer system, including all piping, trenching, shoring, manholes and/or pumping as required, backfilling, final connection to the main sewers, street openings and repaving as required to make the system complete.
- a. Make the connection to the main sewers, open the street and repave in accordance with the requirements of the authorities.
 - b. Commence the sewer pipe installation as the connection to the main sewer with all spigot ends pointing in the direction of flow. Lay all pipe with ends abutting and in a true line, carefully centered to form a sewer with a uniform inverts.

PART 2 DRAINAGE VENT

- 15405.2 Provide ventilating pipes from the various sanitary plumbing fixtures and other equipment to which drainage connections are made. Connect ventilating pipes to the discharge of each trap and carry individually to a point above the rim of the fixture before connecting with any other vent pipe, in general, this will be approximately 1.067 meters (3 feet, 6 inches) above the finished floor. Pitch branch vents back to fixtures.
- 15405.3 Collect individual vent pipes together in branch vent lines and connect to vent stacks, paralleling soil and waste stacks. Whether possible, vent stack offsets shall be made with 45-degree fittings. Vent stack shall be connected to adjacent soil stack as the base of the stacks.
- 15405.4 Extend the tops of ventilating stack independently through the roof or collect together and run through the roof in series of larger pipes, as shown on the drawings. Provide roof couplings at a level 45 millimeters (18 inches) above the finished roof to receive flashing.

PART 3 DRAINAGE SYSTEM TEST

- 15405.5
- a. The entire drainage and venting system shall have all necessary openings, which can be plugged to permit the entire system to be filled with water to the level of the highest stack vent and/or vent stack above the roof.
 - b. The system shall hold this water for a full thirty (30) minutes during which time there shall be no drop more than 100 millimeters (4").
 - c. If and when the Architect decide that an additional test is needed, such as an aid or smoke test on the drainage system, the Contractor shall perform such test without additional cost to the Owner.

64. SECTION 15420 PLUMBING EQUIPMENT

PART 1 MATERIAL SCHEDULE

15420.1 WATER SUPPLY

- a. Service pipe from Existing Water Main: Galvanized Iron Pipe ASTM Schedule 40 with tar coating, or Centrifugally Cast Iron Pipe (CCIP) AWWA C600-59.
- b. Pipes for Cold Water Line and Toilet Roughing-In: Galvanized Iron (G. I.) Pipes Schedule 40.

15420.2 STORM DRAINAGE SYSTEM

- a. Drainage Pipes: Plain concrete drain pipe and fittings, T&G for 10 centimeters to 20 centimeters (4" to 6") diameter conforming to ASTM C11-59; and reinforced concrete drain pipes and fittings for 10" and larger, centrifugally cast iron or vibrated, T&G conforming to ASTM C-76-74
- b. Jointing Materials: shall be cement of one part cement to two parts sand in proportion with oakum yarning.
- c. Roof Drains and Downspouts: All roof drains, downspout, fittings and connections shall be Neltex Series 1000 or Moldex Schedule 40 or approved equal. Each vent pipe thru roof and each conductor connection to gutter channel shall have a copper #6 gauge wire ball strainer fitted to the opening and roof drain respectively.
- d. Area Drain - Catch Basin: Load-bearing Concrete Hollow Blocks (CHB) Jackbilt or approved equal) or reinforced concrete with R.C. grating covers as shown on the drawings.
- e. Manholes: Manholes for the drainage line on the roadway shall be pre-cast R.C. Sections with galvanized steel ladder rungs and cast-iron frame and covers.
- f. Building storm drain connections to street mains shall be reinforced concrete pipe, PERMANENT, PACIFIC or approved equal.

15420.3 SANITARY DRAINAGE SYSTEM

- a. Soil and Waste Pipe: Cast Iron soil pipes, service weight manufactured locally by ASA or SILVA brand or approved equal for pipes buried underground as well as in pipe chases. For stacks embedded in structural concrete members use wrought iron pipe with drainage pattern fittings. For pipes passing under building or driveways, roadways, use cast iron extra heavy by SILVA or approved equal.

- b. Vent Pipes: Pipes and fittings for all circuit vents shall be PVC manufactured locally by Neltex or Moldex or approved equal. Main and Vent stack pipe shall be cast iron pipe.
- c. Laboratory waste pipes: Cast-iron service weight by SILVA or approved equal.
- d. Shower and floor drain: Shall be made of high grade, strong, tough and even grained metals. No shower or floor drains must be on the way of person that may step on it.
- e. Castings: Shall be free from blowholes, porosity, hard spots, excessive shrinkage, cracks or other injurious defects. They shall be smooth and well cleaned both inside and outside. Castings shall not be repaired. Plugged, brazed or "burned-in". The wall thickness of iron castings shall not be less than 6millimeters (one-quarter inch.)
- f. All drains installed in connection with waterproof roofs shall be equipped with a clamping device.
- g. When drains are installed in connection with membrane waterproofing, a sheet of 454 grams (16oz) copper sheet 30 centimeters square (1 foot square) shall be place between the layers in an approved with hot asphalt and bonded to the membrane.

15420.4 IDENTIFICATION OF MATERIALS

- a. Each length of pipe, fitting, trap, fixture and device use in the plumbing system shall have cast, stamped or indelibly marked on it the manufacturer's trade or name, the weight, the type, and class of product when so required by the standards mentioned above.
- b. All plumbing fixtures and fittings installed without the above trademarks shall be removed and replaced with properly marked fixtures and fittings without any extra cost to the owner.

15420.5 PIPE JOINTS AND FITTINGS

All joints shall be air and watertight. For jointing pipes, the following shall be used:

- a. For PVC pipes - PVC solvent cement
- b. For cast iron soil and waste pipes -bell and spigot joints calked with oakum and soft peg lead or epoxy.
- c. Galvanized wrought or steel pipes - screwed or threaded joints carefully reamed and jointed with red lead applied on male thread
- d. Concrete pipes - bell and spigot or tongue and groove by use of oakum and cement mortar.

- e. Dissimilar pipes - screwed pipe to cast iron joints shall be either calked or threaded joints. Adapter fittings are acceptable. PVC pipe joint to metal pipe with flanged fittings. Rigid pipe - taper sleeve method.

15420.6 CLEANOUT PLUGS AND TRAPS

a. Cleanout Plugs:

1. Cleanout installed in connection with cast iron bell and spigot pipes shall consist of a long-sweep quarter bend or one or two eight-bends extended to an easily accessible place, where indicated on the drawings.
2. An extra heavy, cast-brass ferrule, with countersunk tap screw cover shall be calked into the hub of the fitting and shall be flushed with the finished floor or wall.
3. Where cleanout in connection with threaded pipes are indicated and are accessible, they shall be cast-iron drainage pattern 90 branch fittings with extra-heavy screw plugs of the same size as the pipe up to and including 100 millimeters (4 inches).
4. Cleanout plugs: Comply with the National Plumbing Code, with American Standard Pipe Thread, "Permacel" teflon tape applied to the male thread, or as approved.
5. No floor clean out must be on the way of person that may step on it.

b. Traps:

1. Every plumbing fixture connected to the sanitary drainage system shall be equipped with a trap. Traps are specified to be supplied with the fixtures.
2. Each trap shall be placed as near to the fixtures as possible.
3. Traps installed on hub-spigot pipe shall be extra-heavy cast iron.
4. Traps installed on threaded pipe shall be recessed drainage pattern.
5. Traps shall be set level with respect to their waterseal.

15420.7 VALVE AND HOSE BIBBS

- a. The entire plumbing system shall be provided with the valves so located that they can be operated, replaced, repaired, and provide complete control of the water supply to each group of fixtures, to each cold water riser and where indicated on drawings. Pressure reducing valves shall be provided as shown on drawings or as required by the Sanitary Engineers.

- b. Valves 20 millimeters (3/4 inch) and smaller shall be glove valves; larger size shall be solid-wedge type gate valve 65 millimeters (2-1/2 inches) and smaller shall be brass or bronze; larger size shall be iron body, brass mounted. Valves 65 millimeters (2-1/2 inches) and smaller shall have screwed ends. Valves 85 millimeters (3 inches) and larger, unless otherwise noted, shall have flanged ends. Check valves shall be 68 kgs. (150 lbs.) working pressure type. Walworth or approved equal.
- c. Hose bibs shall be size 13 millimeters (1/2 inch) male inlet and 20 millimeters (3/4") hose thread bronze body conforming to ASTM Specifications BG2 suitable for cold water pressure up to 689kpa (100psi). Equal or similar to No. 58 Chicago Hose valve. Every hose bibs shall be provided with a gate valve.

15420.8 SLEEVES

- a. Provide sleeves for all pipes passing through floors, walls and concrete pits or concrete fireproofed beams.
 - 1. Sleeves in concrete beams, through concrete walls, and where serving exposed pipes penetrating floors - Schedule 40 Steel Pipes
 - 2. Sleeves within furred cut enclosure, through steel beams and concrete blocks walls: gauge 18 galvanized sheet metal.
 - 3. Provide sleeves in foundation walls and in concrete pits with anchor flanges.
- b. Provide sleeves with an I. D. at least 12 millimeters (1/2 inch) and 25 millimeters (1 inch) outside of the pipe served, including pipe insulation, which must be continuous through the sleeve.
 - 1. Finish sleeve flush with underside of slab and 25 millimeters (1 inch) above finished floor. Pack the space between pipes and other sleeves with Fiberglass and finish with BF 60-30 trowel grade non-hardening mastic or as approved.
 - 2. Calk the space between pipes and sleeves in exterior walls, foundation walls, pits and membrane waterproofed floors with lead and oakum.
- c. Set sleeves as construction progresses and secure in place during curing of concrete
 - a. Do not support pipes by resting clamps on sleeves
 - b. Plastering of floor drains in membrane waterproofed floors and roof drains will be performed under specifications of another trade. Provide drains with suitable flashing devices.
 - 1. Where drains are installed in non-waterproofed floors, with fill, provide 910 millimeters (3 ft x 3 ft) square copper flashing at each drain

2. Provide waterproofed type pipe sleeves, Zurn Z-195 galvanized with flashing clamp, brass bolts where penetrating membrane waterproofed floors.
- f. Pipes passing through wall be flashed under the Specifications of another trade, provide roof couplings Zurn Z 196 or approved equivalent at suitable level above roof to terminate flashing
- a. Whenever pipes are exposed and pass through walls, floors partitions or coiling, fit them with chromium plated cast brass escutcheons held in place with setscrew. Fit escutcheons snug over insulation, secure in place. Take special care to protect the escutcheons during the construction progress.

15420.9 FIXTURES AND EQUIPMENT SUPPORTS AND FASTENING

- a. All fixtures and equipment shall be supported and fastened in a safe and satisfactory manner.
- b. Inserts shall be securely anchored and the anchors shall be properly slushed with mortar, insert shall be installed flush with the finished wall and shall be completely concealed when the fixtures are installed.
- c. Where through bolts are used, they will be provided with plates or washers at the back and set so that heads, nuts washers will be concealed by plaster. Exposed bolts, nuts, cap nuts, and screw head shall be provided with chromium plated brass washers.

15420.10 HANGERS, ANCHORS, GUIDES IN BUILDING

- a. All piping shall be rigidly supported by means of approved hangers and supports. Piping shall be supported to maintain required position and pitching of lines, to prevent vibration and to secure piping in place and shall be arranged as to provide for expansion and contraction.
- b. Pipe hangers shall be thoroughly cleaned and painted with one coat of asphalt varnish.
- c. Horizontal runs of pipes shall be hung with adjustable wrought iron or malleable iron pipe hangers space one length apart but not over 3 meters (10ft.), except hub and spigot soil pipes which shall have hangers spaced not over five (5) feet apart and located near the hub. PVC pipes and tubing shall have hangers spaced not over six (6) feet apart.
- d. Hangers shall conform to the standard details but the contractor may, if he elects, use other commercial hangers having parts not lighter than indicated on the detail, provided that he has obtained prior written approval of the Architect/Engineer. Chain, straps, perforated bars or wire hangers will not be permitted.

- e. Inserts shall be cast steel and shall be of a type to receive a machine bolt or nut after installation. Inserts shall permit adjustment of the bolt in one horizontal direction and shall installed before the concrete is poured.
- f. Vertical runs of pipe shall be supported by wrought-iron clamp or collars spaced not more than two floors apart.
- g. Chromium-plated pipes shall have a clearance of not less 20millimeters (3/4 inch) or more than 25millimeters (1 inch) where run on the face of plaster and the pipe shall be supported where required by cast brass supports finished to match the pipe.
- h. Hangers on water piping 65millimeters (2-1/2inch) and larger vent lines shall be band type 6millimeters x 25millimeters (1/4" x 1") flat mild steel or black iron with 12 millimeters (1/2") round iron rod with plates and nuts, flat iron clamps or expansion shields installed to developed their full strength. Hangers on water piping 50millimeters (2") and smaller shall be split ring type with 10millimeters (3/8") iron rods with inserts, plates and nuts, toggle bolts, clamps or expansion shields as specified above.
- i. Space hangers on all cast-iron soil, waste, drain and vent lines 1.50m (5ft) on centers and at all changes in direction.
- j. All soil, waste, vent and water riser shall be provided at the base of riser and on each floor, heavy blacksmith construction friction clamps.
- k. Approved bolts and inserts and clamps shall be used for connecting hangers, supports, fixtures or equipment. Wood plugs shall not be used.

15420.11 CEILING PLATES AND FLASHING

- a. Floor, Wall and Ceiling Plates:
 - 1. Where uncovered exposed pipes pass through floors, finished walls or finishing ceiling, they shall be fitted with chromium plated pipes or with cast-iron or steel plates on ferrous pipes.
 - 2. Plates shall be large enough to completely close the hole around the pipe and shall be square, octagonal or round, with the least dimensions not less than 38millimetrs (1-1/2") larger than the diameter of the pipe.
 - 3. Plates shall be secured in an approved manner.
- b. Flashing:
 - 1. All pipes passing through roof shall be provided with lead flashing.
 - 2. All flashing shall be built of 2.72 kilograms (6lbs.) sheet lead and shall extend up to the pipe at least 150mm (6") above the roof and along the roof plans not less than 300millimeters (12") distance around.

3. Lead counter flashing of the same weight shall be turn down over the top of pipe and shall fit over flashing to make waterproof joint.
4. All drain flashing installed in connection with membrane waterproofed floors shall be equipped with clamping devices.
5. Roof drains and floor drains installed in connection with membrane waterproofing shall be made watertight with a sheet of 16 ounces soft copper sheet one (1) foot square placed between the layer in an approved manner. The metal surfaces mopped with hot asphalt and bonded to the membrane. The copper sheet shall extend at least twelve (12) inches from drain rim into membrane waterproofing.
6. Roof drains shall be cast iron body, with removable lock type mushroom dome strainer or flat strainer; clamping collar with integral gravel guard, corrosion resistant clamping bolts bronze expansion joint with graphite asbestos packing, female threaded connection similar and equal to that manufactured by Metma Foundry and Machine Shop, figures K 278, K-279 and K-280; size as indicated on drawings.
7. Floor drains for mechanical equipment room shall be cast-iron body and grate; combination drip and floor drain with integral seepage pan and adjustable strainer head circular slotted floor level grate, similar and equally manufactured by Metma Foundry or M-200-0, or approved equal; size as indicated on drawings.

PART 2 FIRE PROTECTION SYSTEM

15420.12 FIRE HOSE STATION

Cabinet for fire hose stations shall be recessed 1.52mm (gauge 16) steel or aluminum body, door and trim. Cabinet shall accommodate a 38mm x 30m fire hose and a 4.55 kg. Fire extinguisher. Door shall be full plate glass and aluminum frame. Cabinet finish shall be baked white enamel inside and red enamel outside. Pin rack for fire hose station cabinets shall be semi-automatic type, designed for 30m of 38mm hose and furnished with a 38mm brass rack nipple.

Hose for fire hose station shall be 30m of 38mm cotton, single jacketed, rubber lined and subjected to wax and gum treatment. Hose coupling shall be 38mm male/female National Standard hose threads.

Nozzle for fire hose station shall be 38mm adjustable, capable of complete shut-off, solid straight stream, or any degree of solid conical fog, polished brass or led lexan type. A suitable spanner wrench and fireman's ax shall be provided for each fire hose station. Portable extinguisher for each fire hose station shall be 4.55 kg. Dry chemical type, class ABC, tested and listed by UL and/or FM

15420.13 FIRE STAND PIPE SYSTEM

- a. Wet stand pipe system shall consist of risers, siamese connections and hose valves; valves to be underwriters approved high grade cast bronze mounted, 175 lbs working pressure.
- b. Pipe shall be schedule 40 G.I. and fittings shall be 150lbs malleable iron.
- c. All wet standpipe have to be tested by the Plumbing Contractor at a pressure designated by the Architect/Engineer and the Fire Department concerned.

PART 3 PREPARATION AND INSTALLATION

15420.14 CUTTING AND REPAIRING

The Work shall be laid in advance and any cutting of construction shall be done with the written permission of the Owner or his authorized representative. "Roughing-in" for fixtures shall be carried along with the building construction. Opening shall be left in walls and floors of proper sizes correctly located for the pipes but the contractor shall do any additional cutting needed in case of error or omission and shall properly replace any concrete work or flashing around the pipe as may be required without additional cost to the Owner.

15420.15 GENERAL INSTALLATION OF PIPES

- a. Install pipe approximately as shown on the Drawings and as directed during installation as straight and direct as possible, forming right angle or parallel lines with building walls and other pipes, and neatly spaced. Erect pipe risers plumb and true, and parallel with walls and other pipes and neatly spaced.
- b. Keep all horizontal runs of piping, except where concealed in particulars, as high as possible and close to the walls. Maintain minimum 10 millimeters fall per meter (1/8" fall per foot) on all soil, waste and drain line.
- c. Do not install pipes or other apparatus in a manner, which interferes with the full swing of the door or windows.
- d. The arrangement, positions and connections, of pipes, fixtures, drains, valves, and the like indicated on the drawing shall be followed as closely as possible, but the right is reserved by the Architect/Engineer to change location and elevation to accommodate condition which may arise during the progress of the work, prior to installation without additional cost to the Owner for such changes. The responsibility for accurately laying out of the work, and coordinating the installation with other Trades rests with the Contractor. Should it be found that any work if laid out, interference will occur, will report matter to the Architect/Engineer before commencing work.
- e. Ream all screwed pipe smooth before installation. DO not bend, flatten, split or injure the pipe in any way.
- f. Use reducing fitting, unless otherwise approved in special cases, in making reduction in size of pipe. Bushing will not be allowed unless specifically approved.

- g. Where chrome piping is installed, cut and thread pipe so that no unplated pipe threads are visible when the work is completed.
- h. Carry fixtures connections, concealed in building construction, to point above floor, break out close to the underside of fixtures and rise exposed to fixtures.
- i. Provide protective pans under and over individual pipes passing high voltage (460V) electrical bus duct or switchgear equipment. Construct the pans of 12 gauges black with a 150millimeters (6inches) lip, the corners being welded to make the pans watertight. Give each pan three coats of Rust-Oleum paint or approved equal and support pan with pipe hangers, and drain. Clear off the bus duct or switchgear.
- j. Do not install exterior piping in water or when trench or weather conditions are unsuitable for the work, as decided by the Architect/Engineer.
- k. Wedge fitting at bends or toes in buried water pipes against concrete thrust blocks poured between the vertical natural face of the trench and the fittings to prevent the fittings from being blown off the lines when under pressure. The size of the concrete block is based on the working pressure plus 586(kpa) (85psi), the pipe size and the bearing capacity of the soil, all as recommended in the Standards of the American Water Works Association.
- l. Use friction type wrench and vises on all copper tubing and brass piping. Remove and replace pipe showing tools marks with new materials.

15420.16 INSTALLATION OF WATER SUPPLY PIPES AND FITTINGS

- a. The piping shall be extended to all fixtures, outlets and equipment from the gate valve installed in the branch near the riser. The coldwater piping shall be installed with a fall toward main shut-off valve and drains. Ends of pipes and outlets shall be capped or plugged and left ready for future connections.
- b. The branch water piping to the fixtures, shall not be less than the following sizes:

Fixtures	Cold Water Supply
Water closet flush-o-meter type	32mm (1 - 1/4")
Water closet - tank type	15mm (1/2 ")
Urinal, flush-o-meter type	25mm (1")
Slop sink	15mm (1/2")
Lavatories	15mm (1/2")
Shower	15mm (1/2")
Laboratory sink	15mm (1/2")
Sill cocks	20mm (3/4")
Drinking fountain	15mm (1/2")
Hose Bib	15mm (1/2")

- c. Where the branch serves more than one fixture, the branch shall be increase in size in proportion to sizes as shown above or as shown on the drawings
- a. Other fixtures not definitely detailed herein are to have stand and pipe connections and valves to correspond to the fixtures connected
- b. Cast bronze unions shall be installed at the connection to any equipment so that they may be conveniently disassembled.
- c. Upon completion of water system, flush out line and all valve seats to clear system of particle and dirt.
- d. Air chamber. All individual branches to fixtures and/or equipment shall be provided with air chambers, shock absorbers as shown on the drawings.

15420.17 JOINTS AND CONNECTIONS

a. Fixture Connections:

- 1. Where space condition will not permit the use of standard fittings in conjunction with cast iron floor flanges, special short-radius fittings shall be provided
- 2. Connection between fixtures and flanges on soil, pipe shall be made absolutely air and watertight with an approved setting compound. Rubber gaskets or putty will not be permitted to this connection.
- 3. Closet bolts shall be less than 6 millimeters (1/4") in diameter and shall be equipped with chromium plated nuts and washers.
- 4. Fixtures without outlet flanges shall be set at the proper distance from floor or wall to make first class joint with the use of closet-setting compound or gasket.
- 5. No fixtures shall be set in place until the Owner or his representative has examined and approved such flanged.

b. Unions:

- 1. Unions on ferrous pipe shall be malleable iron and conform to the requirement of U.S. Federal Specifications WW-U 531. Type B, zinc-coated.
- 2. Provide unions where indicated and in the following locations even if not indicated:
 - a. In long runs for piping for water supply and other services, each drainage at intervals as directed to permit convenient disassembly for alterations and repairs.
 - b. In by-passes around equipment

- c. In connection to water tanks and other equipment which requires disconnection for repair and replacement
 - d. On inlet side of fixture traps.
- 3. Unions shall be located between shut-off and equipment
 - 1. Unions shall not be concealed in walls, partitions or ceilings.
- c. Cast Iron Pipe Joints

All joints in bell and spigot cast iron soil waste and vent pipe, or between cast iron soil waste and vent pipes and threaded pipes or calking ferrules, shall be firmly packed with oakum and calked with lead at least 25mm (1") deep. Cast Iron pressure pipe joints shall be calked with lead at least 50mm (2") deep.
- d. Threaded Pipe Joints
 - 1. Threaded joints shall be standard taper screw thread in accordance with a U.S. Federal Specifications GG-P-351 with graphite and oil compound applied to the male thread.
 - 2. Connection between threaded pipe and soil pipe shall be calked joint. The threaded pipe shall have a ring or half coupling screwed on the hub-end of soil pipe
- e. Concrete Pipe joints:
 - 1. Ends must be cleaned thoroughly before laying joints and the pipe properly aligned.
 - 2. Joints must be spaced evenly before cement mortar is applied
 - 3. Press the mortar evenly into the joint and bank for about 50millimeters (2") and smooth with towel.
 - 4. Remove surplus mortar inside joint to leave interior of pipe free from construction.
- f. Union Connection:
 - 1. Slip joint shall be permitted only in trap seals or on the inlet side of the trap.
 - 2. Brass ground joint seat union connection shall be used.
 - 3. Use of long threads and bushings for underground piping is prohibited.
- g. PVC Pipe Joints:

1. All joints in PVC pressure DW pipes with pre-moulded fittings shall be made in accordance with the pipe manufacturers recommendations.
2. Joints, between PVC and other pipe materials shall be made with adaptors.

15420.18 EXCAVATION, PIPE LAYING AND BACKFILLING

a. Excavation and Pipe Laying:

1. Trenches for all underground pipelines shall be excavated to the required depths and grades.
2. Bell holes shall be provided, so that pipe will rest on well-tamped solid bedding for its entire length.
3. Cast iron, galvanized or concrete pipe in trenches shall be laid true to line and grade on a stable or suitably prepared foundations, each section of the pipe being properly bedded and the bottom of the trench shaped to fit the lowest 90 Arc of the pipe circumference.
4. When rock is encountered, excavation shall extend to a depth six (6) inches below the pipe bottom, and before pipe is laid, the space between the bottom of pipe and rock surface shall be filled with sand or gravel, or other approved filling materials.
5. Water supply pipes and sewers shall be laid in separate trenches
6. Width of an open pipe trenches for all sizes of pipes shall be twelve (12) inches greater than the outside diameter of the bell of the pipe.

b. Backfilling:

1. After the pipe have been tested, inspected and approved by the Architect/Engineer and prior to backfilling, all sheatings leggings and bracings shall be removed and the excavation shall be cleaned of all trash and debris.
2. Materials for backfilling shall consist of the materials excavated or other approved materials. Backfilling materials shall be free of debris and big stones and shall be placed in horizontal layers not exceeding those included on the drawings.
3. Backfilling shall be carefully placed and tamped under and around the pipe barrel in such manner that the pipeline and joints are not disturbed. Each layer shall be properly moistened and compacted by hand or machine tamper or by other suitable equipment to an optimum density that will prevent excessive settlement and shrinkage.
4. Backfill shall be brought to a suitable elevation above grade o provide for anticipated settlement and shrinkage.

15420.19 WORKMANSHIP

All labor shall perform in first class, neat and workmanlike manner by mechanics skilled in their trades, and such mechanics and work shall be satisfactory to the Owner.

PART 4 EXPANSION AND CONTRACTION OF PIPING

15420.20

Accessible contraction-expansion joints shall be made where necessary horizontal runs of pipe over 15feet (50ft) length shall be anchored to the wall or to the supporting structure about midway on the run to force expansion and contraction equally towards the ends.

15420.21 CLEANING AND PAINTING

- a. All exposed metal surfaces shall be rid of grease, dirt or other foreign materials. Chrome or nickel-plated pipings, fittings and trimmings shall be polished upon completion. All equipment pipes, valves and fittings shall be cleaned of grease and sludge, which may have accumulated.
- b. Any stoppage or discoloration or other damages to part of the building or its finish of furnishing, due to the contractor's failure to properly clean the piping system, shall be repaired by the contractor at his expense.

15420.22 PAINTING

- a. All exterior of surface of piping to be installed in or through concrete floor fill of tile floor and underground shall be given one coat of acid resistant paint having a bituminous base.
- b. Pipe hangers, support and all other ironwork in concealed space shall be thoroughly cleaned and painted with one coat of red lead and finish coat of oil enamel paint.
- c. All exposed soil, waste and vent piping of cast-iron that are asphalt or tar-coated shall be given two (2) coats of shellac and two (2) coats of oil paint.
- d. Color Code: All exposed pipings shall be adequately and durably identified by distinctive colored paints as follows:

Cold water pipes	-----	Blue
Storm Water Pipes	-----	Aluminum
Soil pipes	-----	Gray
Vent Pipes	-----	Green
Fire lines	-----	Red

PART 6 WARRANTY AND DISINFECTIONS

15420.23 DRAINAGE SYSTEM TEST

- a. The entire drainage and venting system shall have all necessary openings, which can be plugged to permit the entire system to be filled with water to the level of the highest stack vent and/or vent stack above roof.
- b. The system shall hold this water for a full 30 minutes during which time there shall be no drop greater than four (4) inches.
- c. Where only a portion of the system is to be tested, the test shall be conducted in the same manner as described for the entire system except that a vertical stack ten (10) feet above the highest horizontal line to be tested may be installed and filled with water to maintain sufficient pressure or a water pump may be used to supply the required pressure.
- d. If and when the Architect/Engineer decides an additional test, such as air or smoke test, on the drainage system, the Plumbing Contractor shall perform such test without additional cost.

15420.24 WATER SYSTEM TEST

- a. Upon completion of the roughing-in and before connecting fixtures, the entire cold water piping system shall be tested at a hydrostatic pressure of one and a half (1-1/2) times the expected working pressure in the system when in operation, and proved tight at this pressure.
- b. Where a portion of the water piping system is to be concealed, before completing this portion, shall be tested separately in a manner similar to that described for the entire system, and in the presence of the Architect/Engineer.

15420.25 DEFECTIVE WORK

- a. If the inspection or test shows any defects, such defective work or materials shall be replaced and the inspection and test repeated, until satisfactory to the Architect/Engineer.
- b. All repairs to piping shall be made with new materials at the expense of the Plumbing Contractor.
- c. Calking of screwed joints or holes will not be permitted.

15420.26 DISINFECTION

- a. The entire system shall be thoroughly flushed and disinfected with chlorine before it is placed in operation.

- b. Chlorination materials shall be liquid chlorine or hypochlorite as specified and shall be introduced into the manner approved by the Architect/Engineer into the water lines.
- c. The chlorine dosage shall be such as to provide no less than fifty parts per million (50ppm) of available chlorine.
- d. Following a contact period of not less than sixteen (16) hours, the heavily chlorinated water shall be flushed from the system with clean water until the residual chlorine content is not greater than two-tenths (0.2) ppm
- e. All valves in waterlines being disinfected shall be opened and closed several times during the 16-hour chlorination period.

PART 7 PERMITS, DRAWINGS AND GUARANTEE

15420.27 "AS-BUILT" DRAWINGS

Upon completion of the work, the Plumbing Contractor shall submit two (2) sets of prints with all "AS-BUILT" changes shown on the drawings in a neat and professional manner. Such prints shall show changes or actual installation and condition of the plumbing system in comparison with the original drawings. The prints shall be marked "Revised to show As-Built Conditions". Failure to submit the As-Built drawings may be considered cause from withholding final payment until drawings have been submitted and approved by the Architect/Engineer.

15420.28 PERMITS

All construction permit, inspection fees, license and taxes due to local, National Government necessary for the prosecution of the work shall be secured and paid by the Plumbing Contractor, who shall solely be responsible should there be any delay by reason of his failure to comply with the provision of this clause. He shall also be responsible for any penalties, incurred by himself or his Agents. He shall secure the Plumbing Certificate after final inspection of the proper authorities concerned.

15420.29 PUBLIC SAFETY AND GUARANTEE

- a. The Plumbing Contractor shall furnish, erect and maintain such barrier, lights and signs as necessary to give adequate warning or instruction in installation for safety and personal security.
- b. The Plumbing Contractor shall guarantee his work from defects or installation of materials or equipment for a period of one (1) year, after acceptance of his work. A written guarantee to this effect shall be furnished to the Architect/Engineer. During this period, the Plumbing Contractor shall repair or replace any defective work and pay for any repair or replacement cost.

PART 8 SEPTIC TANK AND WATER METER

15420.30 SEPTIC TANK

The Plumbing Contractor shall construct the septic tank, in such like manner, size and its dimension based on the detailed plans.

15420.31 WATER METERS

- a. Water meter and their parts, especially parts that are in continuous contact with water shall be made of materials resistant to corrosion and should be non-toxic. Use of dissimilar metals in contact under water should be avoided in order to minimize electrolytic corrosion.
- b. All internal parts of the measuring unit that is in contact with water should be smooth in order to prevent adhesion of sediments.
- c. Best suitable materials to fulfill the above requirements both for internal and external parts are thermoplastics, brass and stainless steel.
- d. Water meter shall be approved by the MWSS.

PART 9 MISCELLANEOUS

15420.32

- a. Throughout the construction period, open ends of all installed pipelines shall be kept closed by temporary plugs. Drainage lines shall not be used to conduct dirty construction washwater, especially those with cement mixes, to avoid possible clogging.
- b. A temporary fire protection system shall be provided by the Plumbing Contractor during the construction period. This shall be of sufficient capacity to put out any fire that may break out due to construction operations. This is in addition to temporary fire extinguisher required.
- c. A temporary potable water supply shall be made available at all times to construction workers as construction work progresses.
- d. A temporary sanitary human excreta disposal system shall be provided by the Plumbing Contractor during the construction period.

DIVISION 16 ELECTRICAL SYSTEMS

65. SECTION 16000 GENERAL PROVISIONS

PART 1 GENERAL

16000.1 EXPLANATION

OWNER-GENERALCONTRACTOR-ELECTRICAL
RELATIONSHIP

CONTRACTOR

- a. The Electrical Work is a Specialty Trade which shall be performed by a Contractor hereinafter referred to as the CONTRACTOR
- b. The scope of work and responsibility of the CONTRACTOR is stipulated in this specification and is treated separately from the function of the General Contractor and other Specialty Trade Contractors for the sole purpose of delineating the electrical work.
- c. Should the General Contractor subcontract the Electrical Work to a Specialty Trade Contractor, all responsibilities and functions of the Specialty Trade Contractor stipulated in the Specifications shall be assumed by the General Contractor.
- d. There shall be no contractual relation between the Owner and the Specialty Trade Contractor subcontracted by the General Contractor.

16000.2 GENERAL REQUIREMENTS

- a. The General Conditions and Provisions of the Civil Works Contract not in conflict with these specifications and the Drawings form part of and are included in this Specification.
- b. Examine the Specifications and Drawings of the Civil Works, the Airconditioning Works and Sanitary Works, for requirements, which affect work under this Division whether or not such work is specifically mentioned in this Division.
- c. Visit the site and ascertain local conditions and facilities, the nature of the soil, and other conditions as may affect the work. The CONTRACTOR will be deemed to have done this before preparing his proposal and no subsequent claim on the ground of inadequate or inaccurate information will be entertained.

16000.3 WORK INCLUDED

The work of the CONTRACTOR consists of furnishing all plant, labor and supervision, equipment and materials, and performing all operations in connection with the electrical system shown of the Drawings, their test and inspections, complete and in accordance with this specifications and the Drawings and subject to the terms and conditions of the contract and all other labor and materials not specifically mentioned as furnished and/or installed by others, to bring the electrical system to operating condition and ready for use by the Owner. The specific scope of work of the CONTRACTOR (by area and/or by work items) shall be as outlined in other contract documents.

16000.4 WORK BY OTHERS

The following will be by others unless otherwise shown in the Drawings.

- a. Service connection to the utility companies facilities.

- b. Others as may be specified IN the Drawings, elsewhere in the specifications, the addenda, or in the contract documents

16000.5 INTENT

- a. It is the intention of the Specifications and Drawings to call for finished work tested and ready for operation, and/or continuation.
- b. Any apparatus, appliance, material, or work not shown of Drawings but mentioned in the Specifications or vice versa, or any incidental accessories necessary to make the work complete in accordance with the scope set forth elsewhere, even if not particularly specified, shall be furnished, delivered and installed by the CONTRACTOR without additional expenses to the Owner.
- c. Minor details not usually shown or specified but necessary for proper installation and operation shall be included in the Contractor's estimate, the same as if herein specified shown
- d. With submission of bid, the CONTRACTOR shall give written notice to the Architect of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules and necessary items of work omitted. In the absence of such written notice, it is mutually agreed that the CONTRACTOR has included the cost of all required items in his proposal and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.

16000.6 DRAWINGS

- a. The Drawings accompanying this Specifications, addendum drawings and additional detail or clarification drawings as may be subsequently prepared by the ARCHITECT and shop drawings as may be submitted by supplier and/or manufacturer are hereby made part of this Specifications.
- b. The Drawings are diagrammatic and indicate the general layout of the system and the CONTRACTOR shall be responsible for the proper installation of the system without substantial alterations or modifications. The Contractor shall follow drawings in laying out work and check drawings of other trade to verify spaces in which work will be installed. Whenever field conditions or exigencies of construction make departure from these Specifications and other Drawings necessary, detail of such departure and reason thereof shall be submitted without delay to the Architect and no departure shall be made without written approval of the ARCHITECT.
- c. If directed by the ARCHITECT, the CONTRACTOR shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trade or not proper execution of the work.
- d. The Drawings and these Specifications are complementary to each other and what is called for by one shall be binding as if call for by both. Any apparent conflict between the Drawings and this Specifications and unclear points of either shall be referred to the ARCHITECT for final decision.

16000.7 EXTRA WORK AND CHANGE ORDERS

Cost estimates of all extra works and change order that are deemed necessary during the progress of the work shall be submitted to the Owner for approval at least ten (10) days before any work shall be started, or within a reasonable length of time so as not to impede the progress of the work.

16000.8 TEMPORARY FACILITIES

The CONTRACTOR shall make all arrangements and pay for the provisions of the necessary electricity required for the work and shall clean away all temporary installation before or upon completion of the work.

16000.9 INSPECTIONS AND TESTS

The ARCHITECT or his representative shall be allowed access to all parts of the work at all times and shall be furnished such information and assistance by the CONTRACTOR as may be required to make a complete detailed inspection. Materials and installation shall be subject to such test as are deemed necessary by the ARCHITECT to properly ascertain their fitness both during installation and after installation is complete. The cost of such test shall be borne by the CONTRACTOR.

16000.10 LEAVING THE SITE

The CONTRACTOR shall not withdraw from the site until the OWNER has agreed that no further work is necessary at the time.

16000.11 SUSPENSION OR DELAYS

The CONTRACTOR shall not suspend or fail to make proper progress with the work without justifiable cause. The OWNER, in the event of delay or suspension of work still persisting after written complaint, in accordance with existing laws and regulations shall have the right to take over the work and all materials of the site and make arrangements as are necessary to have the work completed by others.

16000.12 CLEANING UP

During the process of the work and of the completion of the project, the CONTRACTOR shall remove from the premises all dirt, debris, rubbish and waste materials caused by him in the performance of his work. He shall remove all tools, scaffolding and surplus materials after completion and acceptance of the work.

PART 2 GENERAL REQUIREMENTS

16000.13 CODES AND REGULATIONS

The installation specified herein shall comply with the following, which are hereby made part of this Specification:

- a. All laws and regulations applying to electrical installation in effect;
- b. The provisions of the latest approved edition of the Philippine Electrical Code, Part I and Part II
- c. The rules and regulations of the local utility companies concerned.

16000.14 PERMITS AND APPROVAL

The CONTRACTOR shall obtain at his own expense all permits required by the Government Authorities. Work shall not be started unless the plans have been approved by said authorities and a valid wiring permit has been issued. Likewise, the CONTRACTOR shall secure from the power company their approval of the plans prior to start of the work.

All work done in violation of the above conditions shall be at the risk of subsequent rejection. The replacement or correction of such rejected work shall be the sole responsibility of the CONTRACTOR.

16000.15 OTHER REQUIREMENTS

The CONTRACTOR shall obtain all necessary allowances, pay all royalties and the like, in connection with the use of any patented devices or systems and save the OWNER from any claim or lawsuit arising from such use.

PART 3 WORK STANDARDS

16000.16 STANDARD OF WORKMANSHIP

- a. The CONTRACTOR shall execute all work in a neat and workmanlike manner and shall do all necessary work whether it is clearly specified in these Specifications or shown on the Drawings or not. All work shall be done in accordance with the best practices employed in modern electrical installations.
- b. The CONTRACTOR shall employ only competent and efficient workmen and shall, upon written request of the ARCHITECT, discharge or otherwise remove from work any employee who is, in the opinion of the ARCHITECT, careless or incompetent, or who obstructs the progress of the work or acts contrary to instructions or conducts himself improperly.

16000.17 REMOVAL OF DEFECTIVE OR UNAUTHORIZED WORK

Any defective work whether the result of poor workmanship, defective materials, damage through carelessness or any other cause, found to exist prior to acceptance of, or final payment for, the work shall be removed immediately and replaced by work and material which shall conform to these Specifications, or shall be otherwise remedied in an acceptable manner. This clause shall have full effect regardless of the fact that the work

may have been done with the full knowledge of the ARCHITECT or the Implementing Agency

16000.18 COORDINATION WITH OTHER CONTRACTORS

- a. The CONTRACTOR shall arrange his work and dispose his materials so as not to interfere with the work or storage of materials of the other Contractors.
- b. Where the work of the CONTRACTOR will be installed in close proximity to work of other trades, or where there is evidence that the work of the CONTRACTOR will interfere with the work of other trades, he shall assist in working out space conditions to make a satisfactory adjustment. If so directed by the ARCHITECT, the CONTRACTOR shall prepare a composite working drawing and sections at a suitable scale clearly showing other trades.

If the CONTRACTOR installs his electrical work before coordinating with the work of other trades, he shall make necessary changes in his work to correct the condition without extra charge.

- c. The complexity of equipment and the variation between equipment manufacturers require complete coordination of all trades. The CONTRACTOR, who offers for consideration, substitute of equal products of reliable manufacturers, has to be responsible for all changes that affect his installation and the installation of equipment of other trades.

16000.19 CUTTING AND PATCHING

The CONTRACTOR shall do all cutting and patching required by the work by engaging men who are skilled in the particular trade to do the work. Surfaced obtained by cutting and patching shall exactly match surrounding work so that there will be no evidence of alteration and patching.

PART 4 MATERIALS

16000.20 STANDARD OF MATERIALS

All materials shall be new and shall conform to the Technical Specifications. All materials shall be the standard products of reputable manufacturers and shall bear the name of the manufacturer. All local materials shall bear the PS mark when such standards have been set. All materials of foreign origin shall bear marks of approval by standards agencies of the country of origin.

16000.21 EQUIVALENTS

- a. Where the Technical Specifications or the Drawings give the name of the manufacturer and/or catalog number of materials, it is given as a guide to the size, strength, quality or class of the materials, desired and shall be interpret to mean that item or another fully equal for the service intended. Substitution shall be subject to prior written approval of the ARCHITECT.

- b. The apparent silence of the Specifications and Drawings as to any detail, or apparent omission from the of a detailed description concerning any material shall be required to mean that only material of first class quality shall be used.

16000.22 APPROVAL

- a. All materials shall be subject to the approval of the ARCHITECT. All materials and equipment installed without prior approval of the ARCHITECT shall be at the risk of subsequent rejection.
- b. Approval by the ARCHITECT shall not relieve the CONTRACTOR of the responsibility of inspecting such materials for defects or not-conformance with the Specifications.

16000.23 DEFECTIVE MATERIALS

- a. All materials not conforming to the requirements of the Specifications shall be considered as defective.
- b. No defective material, the defect of which has been subsequently corrected, shall be re-used until approval has been given by the ARCHITECT.

PART 5 SUBMITTALS

16000.24

The CONTRACTOR shall, within Forty five (45) days after the award of the contract, submit for the approval of the ARCHITECT a list of materials he proposes to use in the work, including such samples, catalog, drawings, and descriptive data as far be required by the ARCHITECT.

16000.25 SHOP DRAWINGS

The CONTRACTOR shall submit to the ARCHITECT with such promptness as not to cause delay in his work or in that of any Contractor, five (5) copies of all shop drawings and the schedules required by the work. Shop Drawings shall be submitted on all major pieces of electrical equipment, specifically panelboards, wireways and gutters, and all fabricated items. The shop drawing shall give complete information on the proposed equipment. Each item of the drawings shall be properly labeled, indicating the intended service of the material, the job name, and Contractor's name.

The CONTRACTOR shall make any corrections required by the ARCHITECT, and submit five (5) corrected copies and other copies as needed. The Architect's approval of such drawings shall not relieve the CONTRACTOR of responsibility for deviations from the Drawings and Specifications unless he has in writing called attention to such deviation at the time of submission, nor shall it relieve him of responsibility for errors of any sort.

16000.26 "AS-BUILT" DRAWINGS

- a. Upon substantial completion of the project, the CONTRACTOR shall submit to the OWNER five (5) sets of "AS-BUILT" Drawings showing all changes and deviations from the Contract Drawings. The "AS-BUILT" Drawings shall be identical to the Contract Drawings except for the said changes and deviations.
- b. Where the changes and deviations are substantial, the CONTRACTOR shall also submit additional sets of "AS-BUILT" Drawings for submission to the Government Approving Authorities.

16000.27 CERTIFICATION OF FINAL INSPECTION AND APPROVAL

After completion of the work, the CONTRACTOR shall furnish the Owner with a Certificate of Final Inspection and Approval issued by the government authorities who issued the wiring permit. The CONTRACTOR shall pay all inspection fee, other fees and penalties, which said authorities would impose.

16000.28 GUARANTEE

The CONTRACTOR shall furnish the Owner a written guarantee covering the satisfactory operation of the electrical installation in all its parts for a period of one (1) year from the date of final certificate of approval issued by government authorities having jurisdiction or from the date of final acceptance by the Owner whichever comes first. During this period, the CONTRACTOR shall repair or replace any defective work and pay for any repair or replacement costs. Included with this guarantee certificate shall be the guarantee certificate of the material suppliers employed by this trade. Should any part of the work be accepted and occupied or utilized by the owner prior to final acceptance, the guarantee period for that portion of the work shall commence on the mutually acknowledged date of said acceptance, use or occupancy.

PART 6 PROTECTION

16000.29 CONTRACTOR'S WORK AND MATERIALS

The CONTRACTOR shall protect all his work and material from loss, injury or defacement. Any cost, damaged or defaced material shall be replaced by the CONTRACTOR at his own expense.

- a. All conduit openings shall be closed with caps in plugs during installation.
- b. All equipment shall be tightly covered and protected against dirt, water or mechanical injury, and shall be installed in perfect condition.

16000.30 OTHER CONTRACTOR'S WORK AND MATERIALS

Should the CONTRACTOR cause damage to any other Contractor on the work, the CONTRACTOR shall, upon due notices, settle with such Contractor by agreement or arbitration. The CONTRACTOR shall be liable

for any claims by other Parties against the Owner on account of such damage.

16000.31 INJURY TO PERSONS OR DAMAGE TO PROPERTY

The CONTRACTOR shall be responsible for all injury to persons and damage to property caused by the works or by workmen and shall be liable for any claims against the OWNER on account of such injury and/or damage.

The CONTRACTOR shall likewise take necessary precautions to protect the property of the OWNER against rain or other inclemency of the weather and against theft. Where exposure to such inclement weather or theft is due to the performance of his work, the CONTRACTOR shall be liable for any such damage or loss.

66. SECTION 16050 BASIC MATERIALS AND METHODS

PART 1 RACEWAY MATERIALS AND WORKMANSHIP

16050.1 GENERAL

Install a complete raceway system as shown on the drawings and stated in other section of the Specifications. All materials used in the raceway system shall be new and the proper material for the service intended.

16050.2 MATERIAL SPECIFICATIONS

Raceway materials shall be as hereunder specified:

- a. Rigid Steel Conduit (RSC) shall be hot-dipped galvanized, manufactured to U.L. and ANSE Standards, 3 meters in length, taper threaded at both ends with one coupling, conduit shall be "KOREA", "PUSAN" brand, or any PS approved local equivalent.
- b. Electric Metallic Tubing (EMT) shall be hot-dipped galvanized mill steel pipe, manufactured to ANSE Standards, 3 meters in length, not-threaded: tubing shall be "MATSUSHITA", "MARUICHI", or PS approved local equivalent.
- c. Rigid PVC Conduit shall be schedule 40 or thick wall unplasticized PVC (uPVC) pipe 3 meters in length for electrical use (red orange), it shall be suitable for installation in concrete slab and manufactured to PSC Standard PNS 14 conduit shall be "ATLANTA", "NELTEX" or "EMERALD".
- d. Flexible PVC Conduit shall be corrugated unplasticized Polyvinyl Chloride (PVC) and shall be manufactured to applicable PSC Standards conduit shall be "MOLDFLEX".
- e. Fittings for rigid steel conduit shall be U.L. listed or PS approved local equivalent. Connectors and coupling for EMT shall be approved for the purpose, U.L. listed.

- f. Other raceways not mentioned above but called for of the Drawings shall be as specified thereon.

16050.3 INSTALLATION

- a. Not more than four 90 degree bends shall occur in any run. When it becomes necessary to have more than four (4) 90 degrees bends in any run, an intermediate pull box shall be installed to facilitate pulling-in of wires. All bends shall be free of dents or flattening. Field bends shall not be allowed for conduits larger than 20 mm dia. trade size except by hydraulic in motor operated benders.
- b. All raceways runs shall be in floors, ceilings, and walls. Embedded runs shall be installed in such manner as not to weaken or interfere with the structure of the building. No horizontal runs of embedded conduit or tubing shall be permitted in solid walls and partitions. Concealed raceways shall be run in as direct manner and with as long a bend as possible. Exposed raceways shall be run parallel to or at right angle with lines of the building. Where raceways cross building joints, furnish and install expansion fittings for contraction, expansion and settlement.
- c. Raceway shall be of ample size to permit the ready insertion and withdrawal of conductors without abrasion. All joints shall be cut square, reamed smooth, and drawn up tight.
- d. Open ends shall be capped with suitable seals as soon as installed and keep capped until ready to install conductors. A No. 16 galvanized iron or steel fish wire shall be left in all conduits in which the permanent wiring is not installed.
- e. Hangers and supports
 1. Raceway shall be securely and rigidly supported to the building structure in a neat and workmanlike manner and wherever possible, parallel runs of horizontal raceways shall be grouped together of adjustable trapeze hangers. Support spacing shall not be more than 300 mm.
 2. Exposed raceways shall be supported by one-hole malleable iron straps, two-hole straps, suitable beam clamps, or spilt ring hanger with support rod.
 3. Single raceways 32 mm dia. and larger run concealed horizontally shall be supported by suitable beam clamps or spilt-ring hangers with support rod. Multiple runs shall be grouped together of trapeze hangers where possible.
 4. Raceways 20 mm diameter and smaller run concealed above a ceiling may be supported directly to the building structure with strap hangers or No. 16 gauge galvanized wire provided the support spacing does not exceed 122 mm.
 5. Raceways shall be firmly supported and fastened at three (3) meter intervals and within 0.1 meter of each outlet or cabinet.

f. Coupling and connection to boxed and cabinets

1. Metallic conduit shall be securely fastened to all sheet metal outlets, junction and pull boxed with galvanized locknuts and bushings, care being observed to see that the full number of threads project through to permit the bushing to be drawn tight against the end of the conduit, after which the locknuts shall be made up sufficiently tight to draw the bushings into firm electrical contact with the box.
 2. Electric metallic tubing shall not be coupled together nor connected to boxes, fittings, or cabinets by means of threads in the wall of the tubing. Only fittings approved for the purpose shall be used. Treadles couplings and connectors used with the tubing shall be of the concrete tight type where not exposed to the weather and raintight type where exposed to the weather.
 3. Metallic raceways shall be continuous from outlet to outlet to cabinets or junction or pull boxed in such a manner that each system shall be electrically continuous throughout.
 4. Not-metallic raceways shall be securely fastened to outlet boxes, junction and pull boxed with proper adapters to permit the installation of metallic bushings.
- g. Other raceways shall be installed in the manner prescribed in the latest approved edition of the Philippine Electrical Code, in accordance with the best practices employed in modern electrical installations, and in accordance with the manufacturer's instructions.

PART 2 OUTLET BOXES

16050.4 GENERAL

Install all junction and outlet boxes as shown of the Drawings or as required by the construction. The Drawings indicate only the approximate location of each fixture, receptacle, and special purpose outlet and wall switch. The exact location shall be determined later at the site as the work progresses. The right is reserve by the ARCHITECT to change the exact location of any switch, light outlet, receptacle outlet and any other outlet in any room before the same is installed. If any outlet is installed by the CONTRACTOR in such a manner as to be out of proper relation to beams, walls, or other details of the building construction its position or location shall be corrected by and at the expense of the CONTRACTOR and under the direction of the ARCHITECT.

16050.5 MATERIAL SPECIFICATIONS

- a. Outlet boxed and junction boxed shall be galvanized, pressed-steel boxed where not exposed to the weather and case metal boxed where exposed to the weather as in outdoor or roof deck installations. Minimum thickness of pressed-steel boxes shall be 1.6 mm and case-metal boxes shall be at least

3.2 mm thick. The boxes shall be complete with the approved type of connectors and required accessories. Cast-metal boxes shall have threaded hubs.

- b. Boxed shall be of approved design and construction, and of such for and dimensions as required to serve the kinds of devices or fixtures to be used and the number, size and arrangement of conduits connecting thereto.

The allowable conduit fill as given in Section 5.7.2.2 of the Philippine Electrical Code shall not be exceeded. Deep boxes, box rings and raised plastic covers shall be used, when necessary, to obtain the required conductor capacity.

16050.6 INSTALLATION

- a. Receptacle Outlet Boxes. Wall receptacles shall be mounted approximately 300 mm above the finished floor (AFF) at center unless otherwise noted. All receptacle outlet boxes shall be equipped with grounding leaf, which shall be connected to grounding terminal of device. The leaf shall be properly bonded to the box and to the separate ground wire, if any.
- b. Switch Outlet Boxes. Wall switched shall be mounted approximately 1200 mm above the finished floor (AFF) at center unless otherwise noted. When the switch is mounted in a masonry wall, the bottom of the outlet box shall be in line with the bottom of a masonry unit.
- c. Lighting Fixture Outlet Boxes. The lighting fixtures outlet boxes shall be furnished with the necessary accessories to install the fixture. The support must be such as not to deepen of the outlet box supporting the fixture. The supports for the lighting fixtures shall be independent of the ceiling system.
- d. Boxes for outlet of auxiliary systems shall be as specified elsewhere in this Specification or as shown of the Drawings.

PART 3 PULL BOXES, WIREWAYS AND AUXILIARY GUTTERS

16050.7 GENERAL

- a. Pull boxes shall be installed at all necessary points, whether indicated of the drawings or not, to prevent injury to the insulation or other damage that might result from pulling resistance, or for other reasons necessary to proper installation. Pull box locations shall be approve by the ARCHITECT prior to installation. Minimum dimensions shall be not less than PEC requirements and shall be increased if necessary for practical reasons or where required to fit a job condition.
- b. Wireways shall be used where indicated of the Drawings or as required by the construction.
- c. Auxiliary gutters shall be used to supplement wiring spaces as required by the construction or as indicated of the Drawings.

16050.8 CONSTRUCTION SPECIFICATIONS

- a. All pull boxes, wireways and auxiliary gutters shall be constructed of galvanized sheet steel, with minimum thickness of 1.2 mm, and painted inside and outside to prevent corrosion.
- b. Covers shall be attached to the box with a suitable number of countersunk flathead machine screws. Screws, which may cause injury to the insulation shall not be used.
- c. Each circuit in box shall be marked with a tag guide denoting panels to which they connect.

PART 4 CONDUCTOR MATERIAL AND WORKMANSHIP

16050.9 GENERAL

Provide and install a complete wiring system as shown of the Drawings.

16050.10 CONDUCTOR SPECIFICATIONS

- a. Conductors used in the wiring system shall be of soft-annealed copper having a conductivity of not less than 98% of that of pure copper and insulate for 600 V.
- b. The wires and cables shall be delivered to the site in its original package whenever possible, plainly marked or tagged as follows:
 - 1. Size, kind, and insulation of wire
 - 2. Name of Manufacturer
 - 3. Trade name of wire
- c. Wires and cables shall be PHELPS DODGE, COLUMBIA or DURAFLEX.

16050.11 CONDUCTOR WORKMANSHIP

- a. Install conductors in all raceways as required to a neat and workmanlike manner. Empty conduits, as noted, shall have a No.14 gauge galvanized pull wire left in place for future use. No wires shall be drawn into the raceways until all works, which may cause injury to the wire are completed.
- b. Conductors shall be color-coded in accordance with the Philippine Electrical Code. Mains, feeders and sub-feeders shall be tagged in all pull, junction, and outlet boxed and in the gutter of panels with approved wire markers.
- c. No lubricant other than powdered soapstone or approved pulling compound may be used to pull conductors.
- d. At least 200 mm of slack wire shall be left in every outlet box whether it be in use or left for future use.

- e. All conductors and connections shall test free of grounds, shorts, and opens before turning the job over to the Owner.
- f. Branch circuits splices shall be soldered or joined by the use of insulate splicing devices (wire nuts). All soldered joints shall be made mechanically strong before soldering and shall be carefully soldered without the use of acid, then taped with plastic tape to a thickness equal to or exceeding that of the insulation.
- g. Unless otherwise indicated in the Drawings or specified, not more than the specified number of conductors constituting a single circuit or branch shall be drawn in one conduit.

SECTION 16400 SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 SERVICE ENTRANCE

16400.1 GENERAL

Provide and install a complete service-entrance system as shown on the Drawings and as required for a complete system. All materials and workmanship shall conform to Section 16050 of these Specifications, the Philippine Electrical Code, and the local laws and regulations. The electric service-entrance shall conform to the requirements and regulations of the electric utility serving the project.

16400.2 MATERIALS

- a. Conduits used for service-entrance shall be galvanized rigid steel conduit.
- b. Conductors for service-entrance shall be copper, type THWW.

16400.3 SCOPE

- a. Verify with the electric utility company serving the project the point of connection to the utility facilities before preparing the bid and include therein all work entailed for such connection.
- b. Verify with the electric utility company the scope of the work regarding the metering facilities and include in the bid all materials, labor, and charges that the utility company may require of the Owner, for the purpose of installing permanent metering connection.

PART 2 FEEDERS AND BRANCH CIRCUITS

16400.4 GENERAL

Provide and install a complete electrical distribution system as shown on the Drawings or as required for a complete system. All materials and workmanship shall conform to Section 16050 of the Specifications, the Philippine Electrical Code, and the local laws and regulations.

16400.5 MATERIALS

- a. Raceways shall be as indicated on the Drawings.
- b. Conductor type shall be as indicated on the Drawings. No wire smaller than 1.2 mm diameter or 2.0 square mm (AWG No. 14) shall be used for any lighting or power circuit. Conductors smaller than 5.5 square mm shall be solid. Conductors 5.5 square mm and larger shall be stranded.

16400.6 INSTALLATION

- a. Feeder conductors and raceways shall be installed as shown on the Drawings and no change in size shall be made without written consent of the ARCHITECT. Feeder conductors shall be continuous, and without splices between terminals unless expressly indicated in the Drawings. When feeders are run in multiple, they shall be exactly of the same length to avoid unbalanced division of the current.
- b. The Drawings indicate the general methods of installation of all circuit wiring and the outlet, which are to be supplied for these circuits. Branch circuit raceways shall be run from outlet to panelboards as direct as the building conditions will allow. Circuit allocations shall be as indicated on the Drawings. Where it becomes necessary to connect any outlet to a circuit other than the one shown on the Drawing, this shall be done without extra charge and only upon written consent of the ARCHITECT. All lighting outlet shall be supplied from single-phase circuits. Number of wires for all circuits shall be as indicated on the Drawings.

PART 3 DISCONNECT AND SAFETY SWITCHES

16400.7 GENERAL

Furnish and install safety switches as indicated on the Drawings or as required. All safety switched shall be General Duty Type. The switched shall be Fuse Safety Switched (FSS) or Not-Fuse Safety Switched (NFSS) as shown on the Drawings or required.

16400.8 MATERIAL SPECIFICATIONS

Safety Switched shall be approved by the Bureau of Product Standards and shall exhibit the "PS" mark as proof thereof.

16400.9 INSTALLATION

The safety switched shall be securely mounted in accordance with the Philippine Electrical Code. The CONTRACTOR shall provide all mounting materials.

PART 4 PANELBOARDS - CIRCUIT BREAKERS

16400.10 GENERAL

Furnish all install circuit-breaker panelboards as indicated in the panelboards schedule and where shown on the Drawings.

16400.11 MATERIAL SPECIFICATIONS

- a. The panelboards shall be dead-front type equipped with molded-case circuit breakers and shall be the type as indicated in the panelboards schedule/detail.
- b. Provide molded-case circuit breakers of frame, trip rating and interrupting capacity as shown on the Drawings. Also provide the number of spacer for future circuit breakers as shown in the schedule. The circuit breakers shall be quick-make, quick-break, thermal-magnetic, trip-indicating, and have common trip on all multiple breakers with internal trip mechanism.
- c. But bad connections to the branch circuit breakers shall be the "phase-sequence" type. Single-phase three-wire panelboards bussing shall be such that any two adjacent single-pole breakers are connected to opposite polarities in such a manner that two-pole breakers can be installed in any location. Three-phase four-wire bussing shall be such that any three adjacent single-pole breakers are individually connected to each of the three different phases in such a manner that two or three-pole breakers can be installed at any location. All current-carrying parts of the panelboards shall be plated. Provide solid neutral (S/N) assembly when required. The assembly shall be isolated from the enclosure.
- d. Terminals for feeder conductors to the panelboards mains and neutral shall be suitable for the type of conductor specified. Terminals for branch-circuit wiring, both breaker and neutral, shall be suitable for the type of conductor specified.
- e. The panelboards buy assembly shall be enclosed in a steel cabinet. The size of the wiring gutters and gauge of steel shall be in accordance with NEMA Standards. The box shall be fabricated from galvanized steel or equivalent rust-resistant steel. Fronts shall include door and have flushed, brushed stainless steel, spring-loaded door pulls. The flush lock shall not protrude beyond the front of the door. All panelboards locks shall be keyed alike. Fronts shall have hash provisions for padlocking onto the tub.
- f. On the inside of the door of each cabinet, provide a typewritten directory, which will indicate the location of the equipment or outlet supplied by each circuit. The directory shall be mounted in a metal frame with a non-breakable transparent cover. The panelboards designation shall be stenciled in 1-1/2 inch-high letters on the inside of the door.

- g. Panelboards and circuit breakers shall be FUJI, MITSUBISHI, GE, ITE, SQUARE A or WESTINGHOUSE, GOLDSTAR.
- h. There shall be no intermixing of brands in one panel.

16400.12 INSTALLATION

- a. Before installing panelboards, check all the architectural drawings for possible conflict of space. Adjust the location of the panelboards to prevent such conflict with other items.
- b. When the panelboards is recessed into a wall serving an area with accessible ceiling space, provide and install an empty conduit system for each spare circuit for future wiring. A 1-1/2 inch conduit shall be stubbed into the ceiling space above the panelboards as such accessible ceiling space exists.
- c. The panelboards shall be mounted in accordance with Article 5.8 of the Philippine Electrical Code. Furnish all materials for mounting the panelboards.

PART 5 WIRING DEVICES

16400.13 GENERAL

Furnish and install all wiring devices and plate as called for on the Drawings and as specified herein.

16400.14 MATERIAL SPECIFICATIONS

- a. Switched shall be 15A, 250V or 300V except as otherwise noted. Terminals shall be screw-type or quick-connect type.
- b. General use receptacle shall be 10A, 240V grounding type unless otherwise indicated on the Drawings. Terminals shall be screw-type or quick-connect type. Hospital grade receptacles shall be used when called for on the Drawings.
- c. Special purpose receptacles shall be as called for on the Drawings. Matching plugs shall be supplied.
- d. Wiring devices shall be EAGLE, NATIONAL, MEIKOSHA, TOSHIBA, JIMBO, or as called for on the Drawings.

16400.15 INSTALLATION

- a. Mounting height shall be as follows unless otherwise noted on the Drawings:
 - 1. Switched - 1.20 meters above floor finish.
 - 2. Receptacle - 0.30 meter above floor finish.

- b. For screw type devices, the wire connected thereto shall be formed into a clockwise loop to fit around the screws. For quick-connect devices, the exact length of wire shall be stripped of insulation and then pushed in.

67. SECTION 16500 LIGHTING

16500.1 GENERAL

Furnish, install and connect all lighting fixtures to the building wiring system unless otherwise noted.

16500.2 SPECIFICATIONS

- a. Fixture type shall be as indicated on the Drawings.
- b. Fluorescent ballast shall be pre-heat, high power factor or high frequency (electric) energy saving type. The ballast shall be subject to one (1) year manufacturer's guarantee. The guarantee shall be filed with the Owner. The ballast shall indicate Bureau of Produce Standards approval (with "PS" mark)
- c. Fluorescent fixture housing shall be GA. 22 minimum, with baked enamel finish.
- d. Downlights and pinlights shall be of heavy gauge spun aluminum with wooden plaster bevel and equipped with the lamp type indicated on the drawings. Pinlights shall have no live parts exposed at the back of the fixtures. Minimum opening diameter shall be 150 mm and minimum depth shall be 200 mm.
- e. Fluorescent lamps shall be cool-white and lampholders shall be made of thermosetting plastic.
- f. Special lighting requirements shall be as call for the Drawings.

16500.3 INSTALLATION

Coordinate with the Ceiling Contractor and the General Contractor in order that the proper type of fixture be furnished to match the ceiling system or building construction material.

68. SECTION 16721 FIRE ALARM AND DETECTION SYSTEM

16721.1 GENERAL

Furnish and install a fire-alarm system as described in these Specifications and indicated on the Drawings. The system is to be wired and installed in accordance with the Manufacturer's Specifications and left in first class operating condition.

16721.2 OPERATION

At each designated exit, and other locations shown on the plans, there shall be a non-coded fire alarm station. At each location, where shown, there shall be a bell or horn. Operating any station shall cause all sounding devices to operate continuously until the fire alarm has been restored to normal. It shall also be possible for those in authority to transmit a test signal from any station. The stations and sounding devices shall be connected to a control panel, which shall permit a small supervisory current to pass through the entire system. A trouble bell shall also be provided and shall sound continuously in the event of failure of the main power supply source or a ground fault of its installation wiring circuit.

16721.3 EQUIPMENT

- a. Install where shown a non-coded manual fire alarm station. Station shall mount on standard outlet boxes with single gang cover.
- b. Install where shown on plans an underdome vibrating bell
- c. Install where shown a close-circuit fire alarm control panel in wall-type steel cabinet equipped with hinged door and with lock and keys. Panel shall contain all necessary relays, meters, resistance, thermal cutouts, terminals and fuses for the control and double supervision of the system. Panel shall contain the number of zone and station circuits required. A trouble bell shall be provided for external connection.
- d. All interior wiring shall be strictly in accordance with NFPA Code 72 and all local electrical and fire codes applying. Size and number of wire shall be in accordance with wiring diagram supplied by manufacturer of fire-alarm system, but shall not be less than as shown on the Drawings.
- e. Provide and install smoke detector and other automatic detectors as required. The fire alarm panel shall be factory-wired to accept these any other devices specified herein or as shown on the Drawings.
- f. All materials and equipment shall be U.L. listed.

69. SECTION 16740 TELEPHONE SYSTEM

16740.1 GENERAL

Furnish and install the complete telephone system from the point indicated on the Drawings up to all outlets including raceways, cables, cabinets, terminals, outlets and wall plates.

16740.2 MATERIAL SPECIFICATIONS

- a. Material shall conform to the latest PLDT Manual of Building Telephone Facilities, or the requirement of the telephone company holding the franchise.

- b. Cabinets and pull boxes shall be gauge 18 sheet steel, with anti-corrosive and acrylic paint finish. Terminal or protector cabinets shall be provided with 19mm thick anti-termite pressure treated plywood backboard and with knockouts for conduit entrances.
- c. Station wiring to outlets shall be 0.65mm diameter, 3 conductor (0.65/3C) (No. 22/3C) jacketed wires.
- d. Terminal shall be acceptable to PLDT or the local telephone company.

16740.3 DRAWINGS

Prepare the necessary drawings for PLDT, or the local telephone company signed and sealed by a licensed Electronics and Communication Engineer. Any change in layout and sizes required by the local telephone company shall be incorporated on the plans and in the installation.

70. SECTION 16401 OVERHEAD DISTRIBUTION SYSTEM

PART I : PRIMARY (HIGH VOLTAGE) - not included

PART II : SECONDARY (LOW VOLTAGE) DISTRIBUTION

16401.1 GENERAL

Provide and install complete outside secondary distribution system or systems as indicated on the drawings specific scope of works shall be as described on the drawings or as indicated elsewhere in the Specifications. Connections and tapping work shall include the following:

- a. To utility company facilities - sufficient length of cables (2meters minimum) and quantity of solderless connection shall be provided by the contractor.
- b. To building under construction or renovation - sufficient length of cables
- c. To existing building - sufficient length of cable, quantity of properly sized connector and the tapping work itself shall be provided by the contractor.

16401.2 MATERIALS TYPE OF CONSTRUCTION

Supply lines shall be insulated power cables supported by messenger cable from clamps bolted to the sides of poles or crossarms. Poles shall be pre-cast concrete round poles.

16401.3 CONCRETE POLES SPECIFICATIONS

Concrete poles shall be Class 7A per Meralco and NEA Standards.

16401.4 POLE SETTING

- a. Holes for poles should be large enough to admit the poles without any slicing or chapping and should be of the same diameter from top to bottom. The diameter of the hole shall be large enough so that a tamping bag can be worked on all sides between the pole and the sides of the hole.
- b. Poles shall be set in alignment and plumb except at corners, terminals, angles, junctions or other points of strains where they shall be set and raked against the strain so that the tension of the cables will tend to straighten them. Poles shall be raked against the conductor strain not less than 2.5cm for each 3meters of pole length nor more than 7.6cm for each 3 meters of pole length after the conductor are installed at the required tension. Pole backfill must be thoroughly and slowly tamped the full depth.. Excess earth must be banked around pole.

16401.5 CROSSARMS

- a. Crossarms shall withstand all the vertical and transverse loads that the structure will experience, computed in accordance with or a specified in the pertinent provisions of the Philippine Electrical Code, Part II without exceeding 50% of the designated fiber stress of the material or a minimum of 320kg., applied horizontal load applied at the outermost conductor attachment point, whichever is greater.
- b. Wood crossarm shall be of selected tanguile or lauan with a minimum cross section of 83mm x 110mm.
- c. Wood crossarm shall be free from all defects (subject to inspection prior to installation) and shall be treated with approved preservative preferably creosote Petroleum (70-30)

16401.6 LINE HARDWARE

- a. Line hardware shall be hot dip galvanized iron or steel, with U.S. Standard cut threads.
- b. Belts shall have sufficient length for the intended use.
- c. Round washers shall be used under heads of carriage bolts, which fasten crossarms to crossarm. Square washer shall be used for others.
- d. Guy clamps shall be 3 bolts heavy type.

16401.7 CABLES

Cables shall be as specified on the Drawings. Conductors shall be U.L. listed. Steel cable messenger wires and guying shall be U.S. made.

16401.8 GUYING

- a. Poles shall be provided with guys to ensure continuity of service under the most severe condition that are likely to be obtained.
- b. Terminal poles and poles carrying two sets of double crossarms shall be head guyed. Side guys shall be installed on other poles.
- c. Where it impractical to install a guy directly from the attachment to the ground, a side walk guy shall be used.

71. SECTION 16612 GENERATOR

16612.1 GENERAL

Unless expressly deleted or not included in other contract documents defining the scope of work, the contractor shall furnish the install, as indicated on the Drawings, a complete standby engine generator set rated as shown on the Drawings.

16612.2 SPECIFICATIONS

- a. All materials shall be new and of current manufacture.
- b. Voltage, phase and kilowatt (or kva) rating shall be as shown on the Drawings. Alternators shall be 4-pole, 1800 RPM, 60Hz. Alternator shall be manufactured to NEMA Standards. Voltage regulation shall be as specified on the Drawings.
- c. The engine shall operate satisfactorily on the fuel specified. The horsepower rating shall be adequate for the requirements of the alternator including the motor starting capability. The engine shall have a battery, a starting motor and a charging generator. Engine control shall include start-stop mechanism, high-water-temperature shutdown, low oil pressure shutdown, over speed shutdown and cranking limiter.
- d. Instrument panel: The instrument panel on the standby unit shall contain engine oil-pressure and water temperature indicators, battery charge rate ammeter, start and stop button for manual operation of unit, manual reset circuit breaker, voltage regulator ammeter with phase selector switch, running time and frequency meter.
- e. Control panel: The control panel shall contain the necessary control equipment to automatically start the standby generator set when the line voltage drops to 70 percent of normal value.
- f. Other accessories shall include an air cleaner, lube oil filter, 8-hr capacity fuel tank and fuel lines, muffler and flexible exhaust fittings, parts list and maintenance manual.
- g. The transfer switch shall be as described on the Drawings.
 - 1. Automatic Transfer Switch and Control (ATS) shall be contactor type, electrically and mechanically interlocked and mechanically held at both

positions. Time delay of transfer from normal to emergency shall be 1-10 seconds. Time delay transfer from emergency to normal source shall be 2-10 minutes. The cool off time delay shall be as required by the engines. The ATS shall contain N.O. and N.C, auxiliary contacts.

2. Manual transfer switch shall be double throw, quick make, quick break switches or mechanically interlocked circuit breakers, as specified on the Drawings. Green and Red power available indicating lights for normal and emergency respectively shall be provided.

16612.3 INSTALLATION

- a. The generator set shall be cushion mounted on a heavy steel base and be free from torsional vibration.
- b. An operational test shall be conducted after installation to insure that all units of the system will operate satisfactorily under all conditions required by the specifications. This shall be done in the presence of an approved representative of the Architect/Engineer.

Section VII. Drawings

See Annex "A" for the actual drawings and site plans

Section VIII. Bill of Quantities

Section IX. Bidding Forms

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Bid Form

Date: _____

IB⁸ N°: _____

To: *[name and address of PROCURING ENTITY]*

Address: *[insert address]*

We, the undersigned, declare that:

- (a) We have examined and have no reservation to the Bidding Documents, including Addenda, for the Contract *[insert name of contract]*;
- (b) We offer to execute the Works for this Contract in accordance with the Bid and Bid Data Sheet, General and Special Conditions of Contract accompanying this Bid;

The total price of our Bid, excluding any discounts offered below is: *[insert information]*;

The discounts offered and the methodology for their application are: *[insert information]*;

- (c) Our Bid shall be valid for a period of *[insert number]* days from the date fixed for the Bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract;
- (e) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from the following eligible countries: *[insert information]*;
- (f) We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- (g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the Funding Source;

⁸ If ADB, JICA and WB funded projects, use IFB.

- (h) We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- (i) We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- (j) **We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].**
- (k) **We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.**

Name: _____

In the capacity of: _____

Signed: _____

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

Date: _____

Form of Contract Agreement

THIS AGREEMENT, made this *[insert date]* day of *[insert month]*, *[insert year]* between *[name and address of PROCURING ENTITY]* (hereinafter called the “Entity”) and *[name and address of Contractor]* (hereinafter called the “Contractor”).

WHEREAS, the Entity is desirous that the Contractor execute *[name and identification number of contract]* (hereinafter called “the Works”) and the Entity has accepted the Bid for *[insert the amount in specified currency in numbers and words]* by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be attached, deemed to form, and be read and construed as integral part of this Agreement, to wit:
 - (a) General and Special Conditions of Contract;
 - (b) Drawings/Plans;
 - (c) Specifications;
 - (d) Invitation to Bid;
 - (e) Instructions to Bidders;
 - (f) Bid Data Sheet;
 - (g) Addenda and/or Supplemental/Bid Bulletins, if any;
 - (h) Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;
 - (i) Eligibility requirements, documents and/or statements;
 - (j) Performance Security;
 - (k) Notice of Award of Contract and the Bidder’s conforme thereto;
 - (l) Other contract documents that may be required by existing laws and/or the Entity.
3. In consideration of the payments to be made by the Entity to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Entity to execute and complete the Works and remedy any

defects therein in conformity with the provisions of this Contract in all respects.

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

IN WITNESS whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

Signed, sealed, delivered by _____ the _____ (for the Entity)

Signed, sealed, delivered by _____ the _____ (for _____ the Contractor).

Binding Signature of Procuring Entity

Binding Signature of Contractor

[Addendum showing the corrections, if any, made during the Bid evaluation should be attached with this agreement]

Omnibus Sworn Statement

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, *[Name of Affiant]*, of legal age, *[Civil Status]*, *[Nationality]*, and residing at *[Address of Affiant]*, after having been duly sworn in accordance with law, do hereby depose and state that:

1. *Select one, delete the other:*

If a sole proprietorship: I am the sole proprietor or authorized representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

If a partnership, corporation, cooperative, or joint venture: I am the duly authorized and designated representative of *[Name of Bidder]* with office address at *[address of Bidder]*;

2. *Select one, delete the other:*

If a sole proprietorship: As the owner and sole proprietor or authorized representative of *[Name of Bidder]*, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity]* *[insert "as shown in the attached duly notarized Special Power of Attorney" for the authorized representative]*;

If a partnership, corporation, cooperative, or joint venture: I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for *[Name of the Project]* of the *[Name of the Procuring Entity]*, accompanied by the duly notarized Special Power of Attorney, Board/Partnership Resolution, or Secretary's Certificate, whichever is applicable;

3. *[Name of Bidder]* is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board;
4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. *[Name of Bidder]* is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. **Select one, delete the rest:**

If a sole proprietorship: The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

If a partnership or cooperative: None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

If a corporation or joint venture: None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the following responsibilities as a Bidder:
- a) Carefully examine all of the Bidding Documents;
 - b) Acknowledge all conditions, local or otherwise, affecting the implementation of the Contract;
 - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d) Inquire or secure Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of __, 20__ at _____, Philippines.

Signatory

Bidder's

Representative/Authorized

SUBSCRIBED AND SWORN to before me this ____ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. _____ *[date issued]*, *[place issued]*

IBP No. _____ *[date issued]*, *[place issued]*

Doc. No. _____

Page No. _____

Book No. _____

Series of _____

* This form will not apply for WB funded projects.

Bid-Securing Declaration

(REPUBLIC OF THE PHILIPPINES)

CITY OF _____) S.S.

X-----X

Invitation to Bid *[Insert reference number]*

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1 (f), of the IRR of RA 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
 - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right;
 - c. I am/we are declared as the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of [month] [year] at [place of execution].

[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

SUBSCRIBED AND SWORN to before me this __ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. ____.

Witness my hand and seal this __ day of [month] [year].

NAME OF NOTARY PUBLIC

Serial No. of Commission _____

Notary Public for _____ **until** _____

Roll of Attorneys No. _____

PTR No. __, [date issued], [place issued]

IBP No. __, [date issued], [place issued]

Doc. No. ____

Page No. ____

Book No. ____

Series of ____.

Section X. Foreign-Assisted Projects

Notes on Foreign-Assisted Projects

This Section is intended to assist the Procuring Entity in providing the specific information for foreign-assisted projects of the Asian Development Bank (ADB), the Japan International Cooperation Agency (JICA), and the World Bank.

- (a) If the Funding Source is ADB, the Procuring Entity should use the ADB Bid Data Sheet and ADB Special Conditions of Contract.
- (b) If the Funding Source is JICA, the Procuring Entity should use Section III. Bid Data Sheet and Section V. Special Conditions of Contract, both of the GoP.
- (c) If the Funding Source is World Bank, the Procuring Entity should use the World Bank Bid Data Sheet and the World Bank Special Conditions of Contract.

The Procuring Entity shall use these PBDs with minimum changes as necessary to address project-specific conditions. Any such changes shall be introduced only through the Bid Data Sheet or through the Special Conditions of Contract, and not by introducing changes in the standard wording of the Instructions to Bidders and the General Conditions of Contract.

The Procuring Entity shall allow the Bidders sufficient time to study the Bidding Documents, prepare and complete responsive bids, and submit their bids. A period of at least twenty (20) days for bid preparation shall be required.

Notes on the Invitation to Bid

The Invitation to Bid provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The Invitation to Bid shall be:

- (a) Advertised at least once in a newspaper of general nationwide circulation which has been regularly published for at least two (2) years before the date of issue of the advertisement, subject to Sections 21.2.1(c) of the IRR of R.A. 9184¹³;
- (b) Posted continuously in the Philippine Government Electronic Procurement System (PhilGEPS) website, the website of the Procuring Entity concerned, if

¹³ Two years after the effectivity of the 2016 Revised IRR of RA 9184 on _____, advertisement in a newspaper of general circulation shall no longer be required. However, a Procuring Entity that cannot post its opportunities in the PhilGEPS for justifiable reasons shall continue to publish its advertisements in a newspaper of general nationwide circulation.

available, and the website prescribed by the foreign government/foreign or international financing institution, if applicable, from the time the Invitation to Bid is advertised until the deadline for the submission and receipt of bids; and

- (c) Posted at any conspicuous place reserved for this purpose in the premises of the Procuring Entity concerned from the time the Invitation to Bid is advertised until the deadline for the submission and receipt of bids, as certified by the head of the Bids and Awards Committee (BAC) Secretariat of the Procuring Entity concerned.

Apart from the essential items listed in the Bidding Documents, the Invitation to Bid should also indicate the following:

- (a) The date of availability of the Bidding Documents, which shall be from the time the Invitation to Bid is first advertised/posted until the deadline for the submission and receipt of bids.
- (b) The place where the Bidding Documents may be acquired or the website where it may be downloaded.
- (c) The deadline for the submission and receipt of bids; and
- (d) Any important bid evaluation criteria.

The Invitation to Bid should be incorporated into the Bidding Documents. The information contained in the Invitation to Bid must conform to the Bidding Documents and in particular to the relevant information in the BDS.

Notes on the Bid Data Sheet

This Section is intended to assist the Procuring Entity in providing the specific information in relation to the corresponding clauses in the ITB, and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, the applicable rules regarding Bid price and currency, and the Bid evaluation criteria that will apply to the Bids. In preparing this Section, the following aspects should be checked:

- (a) Information that specifies and complements provisions of Section II. Instructions to Bidders must be incorporated.
- (b) Amendments and/or supplements, if any, to provisions of Section II. Instructions to Bidders as necessitated by the circumstances of the specific procurement, must also be incorporated.

Notes on the Special Conditions of the Contract

Similar to the Section III. Bid Data Sheet, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC.

The provisions of this Section complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- (a) Information that complements provisions of Section IV. General Conditions of Contract must be incorporated.
- (b) Amendments and/or supplements to provisions of Section IV. General Conditions of Contract, as necessitated by the circumstances of the specific project, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of Section IV. General Conditions of Contract should be incorporated herein.

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Invitation to Bid for Foreign-Assisted Projects

[Letterhead of the Procuring Entity]

INVITATION TO BID FOR *[Insert name of Project]*

1. The Government of the Philippines (GoP) *[has received/has applied for/intends to apply for]* a *[Loan//Grant]* from the *[state the foreign government/foreign or international financing institution (e.g., Asian Development Bank, Japan International Cooperation Agency, or World Bank)]* toward the cost of *[insert name of project]*, and it intends to apply part of the proceeds of this *[loan//grant]* to payments under the contract for *[insert name/no. of contract]*.
2. The *[insert name of Procuring Entity]* now invites bids for *[insert brief description of Works to be procured]*.¹⁴ Completion of the Works is required *[insert the required completion date or expected contract duration]*. Bidders should have completed, within _____ (), a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Sub-section 5, Section II. Instructions to Bidders and the corresponding *{[insert Asian Development Bank or World Bank, as appropriate]}* Bid Data Sheet.
3. Bidding will be conducted in accordance with relevant procedures for open competitive bidding as specified in the IRR of RA 9184 (R.A. 9184), with some amendments, as stated in these bidding documents and is open to all bidders from eligible source countries as defined in the applicable procurement guidelines of the *[state the foreign government/foreign international financing institution concerned]*. The contract shall be awarded to the Lowest Calculated Responsive Bidder (LCRB) who was determined as such during post-qualification. The approved budget for the contract (ABC) is *[insert here the amount of the ABC]*.

[If ADB-funded project, ABC may be published, but it shall not be stated or implied that bid prices may not exceed ABC.]
4. Interested bidders may obtain further information from *[insert name of the Procuring Entity]* and inspect the Bidding Documents at the address given below from *[insert office hours]*.
5. A complete set of Bidding Documents may be acquired by the interested bidders on *[insert date of availability of Bidding Documents]* from the address below *{[insert if necessary and upon payment of the applicable fee for the bidding*

¹⁴ A brief description of the scope of Works should be provided, including quantities, location of project, and other information necessary to enable potential bidders to decide whether or not to respond to the invitation.

documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of *[insert amount in pesos]*^{15.}

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) *{[insert and the website of the Procuring Entity, as applicable,]}* provided that bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

6. The *[insert name of the Procuring Entity]* will hold a Pre-Bid Conference¹⁶ on *[insert time and date]* at *[insert address for Pre-Bid Conference, if applicable]*, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat at the address below on or before *[insert date and time]*. All bids must be accompanied by a bid security in the amount of _____ in *[insert the acceptable form]*.

Bids will be opened in the presence of the bidders' representatives who choose to attend at the address below. Late bids shall not be accepted.

8. *[Insert such other necessary information deemed relevant by the Procuring Entity]*
9. The *[insert name of the Procuring Entity]* reserves the right to accept or reject any bid, to annul the bidding process, and to reject all bids at any time prior to contract award, in accordance with Section 41 of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.
10. For further information, please refer to:
[Insert name of officer]
[Insert name of office]
[Insert postal address] and/or *[Insert street address]*
[Insert telephone number, indicate city code]
[Insert contact's email address]
[Insert facsimile number]
[Insert website address, if applicable]

¹⁵ For ADB-funded projects, the bidding documents fee should only cover reproduction and mailing/courier costs, and may not be in accordance with the GPPB Guidelines. As such, the text “, pursuant to the latest Guidelines issued by the GPPB,” shall be deleted.

¹⁶ May be deleted in case the ABC is less than One Million Pesos (P1,000,000) where the Procuring Entity may not hold a pre-bid conference.

*[Insert Name and Signature of the BAC
Chairperson or the Authorized
Representative of the BAC Chairperson]*

Asian Development Bank Bid Data Sheet

ITB Clause	
1.1	<p>The Procuring Entity is <i>[insert name of Procuring Entity]</i>.</p> <p>The name of the Contract is <i>[insert the name of the contract]</i>.</p> <p>The identification number of the Contract is <i>[insert identification number of the contract]</i>.</p>
2	<p>The Funding Source is the Asian Development Bank (ADB) through <i>[indicate the Loan/Grant/Financing No.]</i> in the amount of <i>[insert amount of funds]</i>.</p> <p>The name of the Project is <i>[Insert the name of the project]</i></p> <p>Payments by the Foreign Funding Source will be made only at the request of the Procuring Entity and upon approval by the Funding Source in accordance with the terms and conditions of the Loan <i>{[or Grant, or Financing]}</i> Agreement No. _____ (hereinafter called the "Financing Agreement") and</p> <p>will be subject in all respect to the terms and conditions of that Financing Agreement and the applicable law. No party other than the Procuring Entity shall derive any rights from the Financing Agreement or have any claim to the funds.</p>
3.1	<p>ADB's Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>(i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;</p> <p>(ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an</p>

	<p>obligation;</p> <p>(iii) “coercive practice” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;</p> <p>(iv) “collusive practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;</p> <p>(v) “obstructive practice” means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or (e) materially impeding ADB’s contractual rights of audit or access to information; and</p> <p>(vi) “integrity violation” is any act which violates ADB’s Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB’s Anticorruption Policy, including failure to adhere to the highest ethical standard.</p> <p>(b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;</p> <p>(c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;</p> <p>(d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB’s Anticorruption Policy and</p>
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	<p>Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate in ADB-financed, administered, or supported activities or to benefit from an ADB-financed, administered, or supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and</p> <p>(e) will have the right to require that a provision be included in bidding documents and in contracts financed by ADB, requiring Bidders, suppliers, and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.</p>
5.1	<p>Eligible Bidders are as described in ADB Procurement Guidelines as stated in the Financing Agreement and as described on ADB's web page www.adb.org</p> <p>An Eligible Bidder shall be deemed to have the nationality of a country if it is a citizen or constituted or incorporated, and operates in conformity with the provisions of the laws of that country.</p>
5.2	<p>Eligible Bidders are as described in ADB Procurement Guidelines as stated in the Financing Agreement and as described on ADB's web page www.adb.org.</p>
5.4	<p>Instruction is the same as the GoP Bid Data Sheet</p>
8.1	<p>Instruction is the same as the GoP Bid Data Sheet</p>
8.2	<p>Instruction is the same as the GoP Bid Data Sheet</p>
9.1	<p>Instruction is the same as the GoP Bid Data Sheet</p>
10.1	<p>Instruction is the same as the GoP Bid Data Sheet</p>
10.4	<p>Instruction is the same as the GoP Bid Data Sheet</p>
12.1	<p>The first envelope shall contain the following eligibility and technical documents:</p> <p>a. Eligibility Requirements</p> <p>i. Registration Certification of the Company;</p> <p>ii. List of relevant contracts that comply to the experience</p>

	<p>requirement as specified in ITB Clause 5.4;</p> <p>iii. Audited financial statement for the past two years;</p> <p>iv. In case of Joint Venture, the JV Agreement, if existing, or a signed statement from the partner companies that they will enter into a JV in case of award of contract;</p> <p>b. Technical Documents (To Be Revisited)</p> <p>v. Project Requirements, which shall include the following:</p> <p>(v.1) List of contractor's personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data; and</p> <p>(v.2) List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project;</p> <p>vi. Bid Security or a Bid Securing Declaration as required in the ITB 18;</p> <p>vii. Sworn statement in accordance with Section 25.3 of the IRR of RA 9184 and using the form prescribed in Section VIII. Bidding Forms; and</p> <p>viii. Credit line from a Universal or Commercial Bank extended in favor of the bidder if awarded the contract for the project.</p> <p>Foreign bidders may submit the equivalent documents, if any, issued by the country of the foreign bidder.</p>
12.1(a)(iii)	Foreign bidders may submit their valid Philippine Contractors Accreditation Board (PCAB) license or special PCAB License in case of joint ventures, and registration for the type and cost of the contract for this Project as a pre-condition for award as provided in the Financing Agreement.
13.1	Instruction is the same as the GoP Bid Data Sheet
13.1(b)	<p>This shall include the following document:</p> <p>1) Priced Bill of Quantities</p> <p><i>(To Be Revisited- the GOP's requirements of detailed estimates and cashflow/payment schedule)</i></p>
13.2(a) and (b)	ABC does not apply as ceiling for bid prices

14.2	Instruction is the same as the GoP Bid Data Sheet
15.4	Instruction is the same as the GoP Bid Data Sheet
16.1	Instruction is the same as the GoP Bid Data Sheet
16.3	Instruction is the same as the GoP Bid Data Sheet
17.1	Instruction is the same as the GoP Bid Data Sheet
18.1	Instruction is the same as the GoP Bid Data Sheet
18.2	Instruction is the same as the GoP Bid Data Sheet
20.3	Instruction is the same as the GoP Bid Data Sheet
21	Instruction is the same as the GoP Bid Data Sheet
24.1	<p>The BAC shall open the bids in public on <i>[insert date and time of bid opening]</i>, at <i>[insert place of bid opening]</i>.</p> <p>The time for the bid opening shall be the same as the deadline for receipt of bids or promptly thereafter. Rescheduling the date of the opening of bids shall not be considered except for force majeure, such as natural calamities. In re-scheduling the opening of bids, the BAC shall issue a Notice of Postponement to be posted at the PhilGEPS' and the Procuring Entity's websites.</p>
24.2	During bid opening, if the first envelope lacks any of the documents listed in the ADB BDS 12.1, the bid shall be declared non-responsive but the documents shall be kept by the Procuring Entity. Only the unopened second envelope shall be returned to the Bidder.
24.3	The BAC shall immediately open the financial proposals in the second envelope of the responsive bids. The bid price shall be read and recorded.
27.4	ABC does not apply as ceiling for bid prices.
28.2	Instruction is the same as the GoP Bid Data Sheet
31.4(f)	<p>Instruction is the same as the GoP Bid Data Sheet</p> <p><i>(To Be Revisited together with the Technical Documents)</i></p>

Asian Development Bank Special Conditions of Contract

(Maybe subject to further changes)

GCC Clause	
1.17	Instruction is the same as the GoP Special Condition of Contract
1.22	Instruction is the same as the GoP Special Condition of Contract
1.23	Instruction is the same as the GoP Special Condition of Contract
1.24	Instruction is the same as the GoP Special Condition of Contract
1.28	Instruction is the same as the GoP Special Condition of Contract
1.31	Instruction is the same as the GoP Special Condition of Contract
2.2	Instruction is the same as the GoP Special Condition of Contract
5.1	Instruction is the same as the GoP Special Condition of Contract
6.5	Instruction is the same as the GoP Special Condition of Contract
7.4(c)	Instruction is the same as the GoP Special Condition of Contract
7.7	The Contractor shall be primarily and solely responsible for the acts, defaults, and negligence of any subcontractor.
8.1	Instruction is the same as the GoP Special Condition of Contract
10	Instruction is the same as the GoP Special Condition of Contract
12.3	In case the Contractor fails to comply with the preceding paragraph, the Procuring Entity shall forfeit its performance security. All payables of the GoP in the Contractor's favor shall be offset to recover the costs.
12.5	Instruction is the same as the GoP Special Condition of Contract
13	Instruction is the same as the GoP Special Condition of Contract
18.3 (h) (i)	In case it is determined prima facie by the Procuring Entity that the Contractor has engaged, before or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to, corrupt, fraudulent, collusive, coercive and obstructive practices as defined in

	ITB Clause 3.1(a)
21.2	Instruction is the same as the GoP Special Condition of Contract
29.1	Instruction is the same as the GoP Special Condition of Contract
31.1	Instruction is the same as the GoP Special Condition of Contract
31.3	Instruction is the same as the GoP Special Condition of Contract
34.3	The Funding Source is the Asian Development Bank through <i>[indicate the Loan/Grant/Financing No.]</i> in the amount of <i>[insert amount of funds]</i> .
39.1	Instruction is the same as the GoP Special Condition of Contract
40.1	Materials and equipment delivered on the site but not completely put in place shall be included for payment.
40.3	If the Procuring Entity delays payment, the Contractor shall be paid interest on such payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the annual rate of <i>[insert percentage rate]</i> .
51.1	Instruction is the same as the GoP Special Condition of Contract
51.2	Instruction is the same as the GoP Special Condition of Contract

World Bank Bid Data Sheet

ITB Clause	
1.1	<p>The Procuring Entity is <i>[insert name]</i>.</p> <p>The name of the Contract is <i>[insert the name of the contract]</i>.</p> <p>The identification number of the Contract is <i>[insert identification number of the contract]</i>.</p>
2	<p>The Funding Source is World Bank through <i>[indicate the Financing Agreement No.]</i> in the amount of <i>[insert amount of funds]</i>.</p> <p>The name of the Project is <i>[Insert the name of the project]</i></p>
3.1	The World Bank Guidelines on Anti-Corruption, as stated in the Financing Agreement and as annexed to the World Bank Standard Conditions of Contract, shall be adopted.
5.1	The Financing Agreement provides that procurement shall follow the Bank's Procurement Guidelines and Section 1.8 thereof permits the participation of firm from all countries except for those mentioned in Section 1.10 thereof.
5.2	The Financing Agreement provides that procurement shall follow the Bank's Procurement Guidelines and Section 1.8 thereof permits the participation of firm from all countries except for those mentioned in Section 1.10 thereof.
5.4	Instruction is the same as the GoP Bid Data Sheet
8.1	Instruction is the same as the GoP Bid Data Sheet
8.2	Instruction is the same as the GoP Bid Data Sheet
9.1	Instruction is the same as the GoP Bid Data Sheet
10.1	Instruction is the same as the GoP Bid Data Sheet
10.4	Instruction is the same as the GoP Bid Data Sheet

12.1	<p>During Bid opening, if the first bid envelope lacks any of the following documents, the bid shall be declared non-responsive.</p> <p>The first envelope shall contain the following eligibility and technical documents:</p> <p>a. Eligibility Requirements</p> <p>i. Registration Certification of the Company;</p> <p>ii. List of relevant contracts that comply to experience requirement as specified in ITB Clause 5.4;</p> <p>iii. Audited financial statement for the past 2 years;</p> <p>iv. In case of Joint Venture, the JV Agreement, if existing, or a signed Statement from the partner companies that they will enter into a JV in case of award of contract.</p> <p>B . Technical Documents</p> <p>v. Project Requirements, to include:</p> <p>(v.1) List of contractor's personnel (e.g. Project Manager, Project Engineers, Materials Engineers, and Foremen). To be assigned to the contract to be bid, with their complete qualification and experience data; and</p> <p>(v.2) List of contractor's major equipment units, which are owned, leased and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from equipment lessor/vendor for the duration of the project;</p> <p>vi. Bid Security or Bid Securing Declaration as required in ITB 18;</p> <p>vii. Sworn statement in accordance with Section 25.3 of the IRR of RA 9184 and using the form prescribed in Section VIII. Bidding Forms.</p> <p>viii. Credit line from a universal or commercial bank extended in favor of the bidder is awarded the contract for the project.</p> <p>Foreign bidders may submit the equivalent documents, if any, issued by the country of the foreign bidder.</p>
12.1(a)(iii)	<p>Foreign bidders may submit their valid Philippine Contractors Accreditation Board (PCAB) license or special PCAB License in case of joint ventures, and registration for the type and cost of the contract for this Project as a pre-condition for award as provided in the Financing Agreement, and ITB Nos. 12.1(b)(ii.2) and 12.1(b)(iii.3)</p>

13.1	Instruction is the same as the GoP Bid Data Sheet
13.2 (a) & (b)	<p>ABC does not generally apply as a ceiling for bid prices.</p> <p><i>However, subject to prior concurrence by the World Bank, a ceiling may be applied to bid prices provided the following conditions are met:</i></p> <p><i>a) Bidding Documents are obtainable free of charge on a freely accessible website. If payment of Bidding Documents is required by the procuring entity, payment could be made upon the submission of bids.</i></p> <p><i>b) The procuring entity has procedures in place to ensure that the ABC is based on recent estimates made by the engineer or the responsible unit of the procuring entity and that the estimates are based on adequate detailed engineering (in the case of works) and reflect the quality, supervision and risk and inflationary factors, as well as prevailing market prices, associated with the types of works or goods to be procured.</i></p> <p><i>c) The procuring entity has trained cost estimators on estimating prices and analyzing bid variances. In the case of infrastructure projects, the procuring entity must also have trained quantity surveyors.</i></p> <p><i>d) The procuring entity has established a system to monitor and report bid prices relative to ABC and engineer's/procuring entity's estimate.</i></p> <p><i>e) The procuring entity has established a monitoring and evaluation system for contract implementation to provide a feedback on actual total costs of goods and works.</i></p>
14.2	Instruction is the same as the GoP Bid Data Sheet
15.4	Instruction is the same as the GoP Bid Data Sheet
16.1	Instruction is the same as the GoP Bid Data Sheet
16.3	Instruction is the same as the GoP Bid Data Sheet
17.1	Instruction is the same as the GoP Bid Data Sheet
18.1	Instruction is the same as the GoP Bid Data Sheet
18.2	Instruction is the same as the GoP Bid Data Sheet

20.3	Instruction is the same as the GoP Bid Data Sheet
21	Instruction is the same as the GoP Bid Data Sheet
24.1	<p>The BAC shall open the bids in public on <i>{insert date and time of bid opening}</i>, at <i>{insert place of bid opening}</i>.</p> <p>The time for the bid opening shall be the same as the deadline for receipt of bids or promptly thereafter. Rescheduling the date of the opening of bids shall not be considered except for force majeure, such as natural calamities. In re-scheduling the opening of bids, the BAC shall issue a Notice of Postponement to be posted at the PhilGEPS' and the Procuring Entity's websites.</p>
24.2	During Bid opening, if the first envelope lacks any of the documents listed in World Bank BDS 12.1, the bid shall be declared non-responsive but the documents shall be kept by the Procuring Entity.
24.3	The financial proposals in the second envelope of all the bidders shall be read for record purposes. The first and second envelopes shall not be returned to the bidders.
27.4	<i>ABC does not generally apply as a ceiling for bid prices; unless the conditions mentioned in ITB No. 13.2 are obtaining and that there is prior World Bank concurrence.</i>
28.2	Instruction is the same as the GoP Bid Data Sheet
31.4(f)	Instruction is the same as the GoP Bid Data Sheet

World Bank Special Conditions of Contract

The World Bank adopts the provisions of the Special Conditions of Contract of the GOP as contained in the Harmonized Philippine Bidding Documents dated _____, except GCC Clauses 18.3(h)(i) and 18.4, 34.3 as follows:

GCC Clause	
18.3 (h) (i)	The World Bank's Guidelines On Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants as annex herein shall be applied.
18.4	The World Bank is the Funding Source through Loan Agreement No.____.
34.3	The Funding Source is the World Bank.

