PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

Procurement of Infrastructure Project

UPGRADING OF POWER SYSTEM AND CONSTRUCTION OF POWERHOUSE AT CALBAYOG AIRPORT

Government of the Republic of the Philippines

Bid No. 21-006-03 CHARLIE

Sixth Edition
July 2020

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Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender.* (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Invitation to Bid for

UPGRADING OF POWER SYSTEM AND CONSTRUCTION OF POWERHOUSE AT CALBAYOG AIRPORT
Bid No. 21-006-03 CHARLIE

1. The Civil Aviation Authority of the Philippines through the GAA 2018/ DOTr Downloaded Projects intends to apply the sum of **FIFTY MILLION FIVE HUNDRED EIGHTY TWO THOUSAND PESOS (PHP 50,582,000.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for **UPGRADING OF POWER SYSTEM AND CONSTRUCTION OF POWERHOUSE AT CALBAYOG AIRPORT (Bid No. 21-006-03 CHARLIE).** Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The Civil Aviation Authority of the Philippines now invites bids for the above Procurement Project. Completion of the Works is required within **Two Hundred Ten (210) Calendar Days upon receipt of the NOTICE TO PROCEED.** Bidders should have completed 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 non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. Interested bidders may obtain further information from the Civil Aviation Authority of the Philippines and inspect the Bidding Documents at the address given below from Monday to Friday, 8:00 AM to 5:00 PM.

5. A complete set of Bidding Documents may be acquired by interested bidders on **March 31, 2021 until deadline of submission of bid** from the given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Php 56,000.00 (inclusive of 12% VAT).** The Procuring Entity shall allow the bidder to present its proof of payment for the fees by presenting the official receipt in person.

6. The Civil Aviation Authority of the Philippines will hold a Pre-Bid Conference[1] on **April 07, 2021 @ 2:00PM** at CAAP Conference Room, CAAP Compound, MIA Road Ninoy Aquino Avenue, 1300 Pasay City, and Metro and/or through videoconferencing/webcasting via Jitsi/Zoom/Google Meet, which shall be open to prospective bidders.

[1] May be deleted in case the ABC is less than One Million Pesos (PhP1, 000,000) where the Procuring Entity may not hold a pre-bid conference.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **April 21, 2021 @ 2:00PM**. Late bids shall not be accepted.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.

9. Bid opening shall be on **2:00 P.M. of April 21, 2021** at the given address below and/or through Jitsi/Zoom/Google Meet. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. The Civil Aviation Authority of the Philippines 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 Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. For further information, please refer to:

DR. ROLLY T. BAYABAN
Civil Aviation Authority of the Philippines
BAC Head Secretariat
MIA Road Pasay City
Telefax No. – (02) 7 944-2097
www.caap.gov.ph

12. Bidding Documents 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.

March 30, 2021

CAPTAIN DONALDO A. MENDOZA
Chairperson, Bids & Awards Committee

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, Civil Aviation Authority of the Philippines invites Bids for the **UPGRADING OF POWER SYSTEM AND CONSTRUCTION OF POWERHOUSE AT CALBAYOG AIRPORT** with Project Identification Number: **Bid No. _____**.

The Procurement Project (referred to herein as "Project") is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for GAA 2018 / DOTr Downloaded Projects in the amount of **FIFTY MILLION FIVE HUNDRED EIGHTY TWO THOUSAND PESOS (PHP 50,582,000.00).**

2.2. The source of funding is:

a. NGA, the General Appropriations Act or Special Appropriations/DOTr Downloaded Projects.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the 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 and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. 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 PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be "similar" to the contract to be bid if it has the major categories of work stated in the **BDS**.

5.3. 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 Bidding Document prepared for this purpose.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

7. Subcontracts

7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address and/or through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the

IB, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents Comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section X. Checklist of Technical and Financial Documents**.

10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which 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. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

10.5. A 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, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section X. Checklist of Technical and Financial Documents**.

11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

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.

13. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

14. Bid and Payment Currencies

14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

14.2. *Payment of the contract price shall be made in:*

a. Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until *[indicate date]*. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB.**

18. Opening and Preliminary Examination of Bids

18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

18.2. The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** 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 Security as required by **ITB** Clause 16 shall be submitted for each contract (lot) separately.

19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

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**.

21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Bid Data Sheet

ITB Clause	
3.0	**Certificate of Site Inspection** *(Annex "B" Form 1)* duly signed by **Mr. Carmelito A. Escuadra, Airport Manager of Calbayog Airport** or his/her duly authorized representative, is required to be submitted. This shall include all of the following documents as attachment to the Certificate of Site Inspection and shall form part of the bidder's technical documents: a) Copy of company ID of the person who conducted the site inspection; b) Copy of the airport/facility visitor's logbook; & c) Picture of the proposed site including the personnel who conducted the site inspection together with the Airport Manager/Officer in Charge or his/her duly authorized representative. Bids not complying with the above instruction shall be disqualified.
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be: **"Building Construction with electro-mechanical works "or** **"Construction of Industrial Plant"**
7.1	Subcontracting is not allowed.
10.1	Bidder shall submit all eligibility and technical documents as specified in **Section X. Checklist of Technical and Financial Documents:** **Class "A" Documents** Legal Documents a. Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); or b. Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document; and c. Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas; and d. Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR); and *In connection to GPPB Circular 07-2017 dated 31 July 2017, the bidder shall have the following options:*

1. *Submit the Certificate of PhilGEPS Registration and Platinum Membership including its Annex "A" in lieu of the uploaded Class "A" Eligibility Documents identified in Section 8.5.2 of the Revised Implementing Rules and Regulations of Republic Act 9184 (Revised IRR of RA 9184), provided that all Class "A" Eligibility Documents listed under the aforesaid Annex "A" are all uploaded and maintained current and updated in the PhilGEPS Registry.*

2. *Submit a combination of the PhilGEPS Registration and Platinum Membership including its Annex "A" and Class "A" Eligibility Documents identified in Section 8.5.2 of the Revised IRR of RA 9184.*
   - *In the event that aforesaid Class "A" Eligibility Document(s) listed in the Annex "A" of the PhilGEPS Registration and Platinum Membership is/are reflected to be outdated, the bidder shall submit such current and updated Class "A" Eligibility Document(s).*

3. *Submit all the Class "A" Eligibility Documents only, provided that the PhilGEPS Registration and Platinum Membership shall be submitted as a Post-Qualification requirement in accordance with Section 34.2 of the Revised IRR of RA 9184.*

<u>Technical Documents</u>

e. Statement of the prospective bidder 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. *(Annex "A" Form 1);* and

f. Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules. *(Annex "A" Form 2);* and

g. 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 to be bid; and

h. Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission; or
Original copy of Notarized Bid Securing Declaration *(Annex "B" Form 2);* and

i. Project Requirements, which shall include the following:

   1. Organizational chart for the contract to be bid *(Annex "B" Form 3)*; and

   2. List of contractor's key 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 *(Annex "B" Form 4, 5a, 5b & 5c)*; and 3. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be *(Annex "B" Form 6)*; and j. Original duly signed Omnibus Sworn Statement (OSS) *(Annex "B" Form 7)*; and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder; and This shall include all of the following documents as attachment to the Omnibus Sworn Statement: 1. Certification, under oath, attesting that they have no pending case(s) against the Government, in addition to the eligibility requirements as prescribe under the 2016 Revise Implementing Rules and Regulation (R-IRR) of RA No. 9184; and 2. Legal Clearance to be issued by the CAAP Enforcement and Legal Service with respect to the non-pending cases of the prospective bidders against this Authority; and 3. Bid Bulletins (if applicable); and k. **Certificate of Site Inspection** *(Annex "B" Form 1)* duly signed by **Mr. Carmelito A. Escuadra, Airport Manager of Calbayog Airport** or his duly authorized representative; and This shall include all of the following documents as attachment to the Certificate of Site Inspection: 1. Copy of company ID of the person who conducted the site inspection; and 2. Copy of the airport/facility visitor's logbook; and 3. Picture of the proposed site including the personnel who conducted the site inspection together with the Airport Manager/Officer in Charge or his duly authorized representative: and <u>Financial Documents</u> l. The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized

	institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; and m. The prospective bidder's computation of Net Financial Contracting Capacity (NFCC). **Class "B" Documents** n. If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence; or duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful. Bids not complying with the above instruction shall be disqualified.
10.3	Valid PCAB License or Special PCAB License in case of Joint Ventures, and Registration *(**Medium A Category B for vertical works** - Building and Industrial Plant*) for the type and cost of the contract to be bid. Bids not complying with the above instruction shall be disqualified.
10.4	The key personnel must meet the required minimum years of experience set below: Key Personnel: Project (Civil) Engineer; Electrical Engineer; Mechanical Engineer; Materials Engineer; Construction Foreman; Safety and Health Officer General Experience: Five (5) years in General Engineering Relevant Experience: Three (3) years in Construction of Industrial Plant, Construction of bldg. with electro-mechanical works Bids not complying with the above instruction shall be disqualified.
10.5	The minimum major equipment requirements are the following: Equipment — Capacity — Number of Units Bagger Concrete Mixer — Two (2) Unit Elf Truck — One (1) Unit Concrete Vibrator — Two (2) Units Chain Block 5 Ton — Two (2) Units Compactor — One (1) Unit Fusion Machine — One (1) Unit Bar Cutter — One (1) Unit Welding Machine — One (1) Unit DC 500V Insulation Resistance Tester — One (1) Unit Fluke 101 Multi Tester — One (1) Unit Hydraulic Crimping Tool — One (1) Unit Material Handling Equipment — One (1)

	Bids not complying with the above instruction shall be disqualified.
11.1.	**The discounts stated in the Financial Bid Form shall be computer written with the same font style and size as of the whole text of the said Form.** **Discounts that are either handwritten, type written or computer written in other font style and size shall not be considered.** The second bid envelope shall contain the financial documents for the Bid as specified in **Section X. Checklist of Technical and Financial Documents**. This shall include the complete accomplishment of all of the following documents as stated and required under Section VIII of this PBD and shall form part of the bidder's financial documents: a) Original of duly signed and accomplished Financial Bid Form; and b) Bill of Quantities *(Annex "C" Form 1)*; and c) Summary of Bid Proposal *(Annex "C" Form 2)*; and d) Bill of Materials & Cost Estimates *(Annex "C" Form 3)*; and e) Summary Sheet indicating the Unit Prices of Construction Materials, Labor Rates, and Equipment Rentals used in coming up with the Bid *(Annex "C" Form 4, 5 & 6)*; and f) Cash Flow by Quarter and Payment Schedule *(Annex "C" Form 7)* Bids not complying with the above instruction shall be disqualified.
11.2	Bid exceeding the ABC of the project shall be disqualified.
12	No further instructions.
15.1	The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts: a. The amount of not less than two percent (2%) of ABC or **Php 1,011,640.00**, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. The amount of not less than five percent (5%) of ABC or **Php 2,529,100.00)** if bid security is in Surety Bond.

16	1. Each and every page thereof shall be initialed/signed by the duly authorized representative/s of the Bidder. Submitted Eligibility, Technical and Financial documents shall be properly marked with index tabs (ear tab) and must be sequentially paginated in accurate order in the form i.e. "page 3 of 100". Page number of last page of the document (per envelope basis). Pagination should be sequential based on the entire span of the whole documents inside the envelope. Bids not complying with the above instructions shall be automatically disqualified. 2. Each Bidder shall submit **one (1)** original and **two (2)** copies of the first and second components of its bid. 3. Submission online is not allowed.
19.2	Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20	The Bidder with the Lowest Calculated Bid (LCB) that complies with and is responsive to all the requirements and conditions shall submit its a) Latest income and business tax returns filed through the Electronic Filing and Payment System (EFPS); b) Business licenses and permits required by law (Registration Certificate, Mayor's Permit, Tax Clearance & PCAB License); c) Latest Audited Financial Statements; and d) Key personnel licenses 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, that 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.
21	The following relevant project documents are required to be submitted by the successful bidder who submitted the LCRB as part of the Contract Agreement during its signing: a) Construction schedule b) Bar Chart & S-curve c) PERT/CPM Network Diagram d) Manpower schedule e) Construction methods f) Equipment utilization schedule Construction safety & health programs approved by the Department of Labor & Employment **Upgrading of Power System and Construction of Powerhouse at Calbayog Airport**

Section IV. General Conditions of Contract

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to 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.

3.2 If possession of a portion is not given by the above date, 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 may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, 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.

5. Performance Security

5.1. 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 successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 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.

6. 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.

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, 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.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. 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.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated 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 stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, 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.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. 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.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

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**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests 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.

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may 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	
2	Not applicable.
3.1	The **CIVIL AVIATION AUTHORITY OF THE PHILIPPINES** shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
6	Certificate of Inspection signed by FIC or his/her representative.
7	Two (2) Years Warranty
10	No dayworks are applicable to the contract.
11.1	Not applicable
11.2	Not applicable
13	"No mobilization and advance payments will be extended or paid for all contracts/purchase orders for all goods, services and infrastructure projects. DOTr Memorandum dated 10 July 2018.
14	No further instructions.
15.1	The date by which operating and maintenance manuals are required is upon completion of the project The date by which "as built" drawings are required is upon completion of the project. PDF/AutoCAD File of the "as built" plans shall include as attachment to the required hard copy of the same upon completion of the project.
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is two percent (2.00%) of the Contract price. **(Php 1,011,640.00)**

Section VI. Specifications and Scope of Work

Name of Project	:	**Upgrading of Power System and Construction of Powerhouse at Calbayog Airport.**
Location	:	Calbayog City Samar
Duration	:	Two Hundred Ten (210) Calendar Days
Source of Funds	:	GAA 2018 / DOTr Downloaded Projects

SCOPE OF WORK

1. **Scope of Work**

The work to be done under this includes the furnishing of all tools, labor, supervision, equipment, fixtures and all necessary materials, each complete and in proper working condition, to complete the following items of work.

a.) Supply, Delivery, Installation, Testing and Commissioning of two (2) unit, Brand New 500KVA, 400KW, three phases, 230V, 60Hz Standby Generator Set, two (2) units of .75Hp Fuel Transfer Pumps with level controller, fuel piping and fittings, including conduit cable, cable ways/trays, interconnecting cables and other incidentals.

b.) Supply, Delivery and Installation of Synchronizing Panel, Automatic Transfer Switch (ATS), 3000AT Air Circuit Breaker (ACB) Main Disconnect Switch, 1500AT Air Circuit Breaker (ACB) Disconnect Switch, Low Voltage Switchgear (LVSG) including interconnecting cables.

c.) Supply, Installation and Testing of Power Cables, 600V and 15KV

d.) Supply/Installation and Testing of 3 x 167KVA, 1Ø, 60Hz, 13.2kv/230v, oil immersed pad mounted transformer including 15kv cut-out switch, metal cross-arm and incidentals.

e.) Provision of Transformer cage with cyclone wire fence and with transformer concrete platform, grounding system for 3 x 167KVA Transformer in bank.

f.) Provision of concrete manhole from transformer cage to Passenger Terminal Building (PTB) electrical room with PVC Pipe, End bell 110mm^2 including pipe duct seal.

g.) Supply of three (3) units, 333KVA, 1Ø, 60hz, primary: 7620/13200V secondary: 120/240V Distribution Transformer, Oil Immersed in bank including interconnecting cables for installation.

h.) Design, Supply and Installation of Concrete Transformer Platform for the 3 x333KVA Transformer in bank including 100mm^2 RSC Pipe, elbows and necessary fittings as service entrance pipe.

i.) Application to Local Electric Cooperative, Municipal Permits, DENR Permits to Operate and Install the 2 x 500KVA Generator.

j.) Mobilization/Demobilization, Provision of Temporary Facility and Testing /Commissioning

k.) Construction of Powerhouse with provision for 2 x 500kVA Diesel Engine Generator, 3-Phase, 230v.

2. Powerhouse Building Works

All works shall be done inside the powerhouse, Synchronizing Panel, Low Voltage Switch Gear, 2 x 500KVA Generator and its exhaust system, fuel system, cable ducting, interconnecting cables, support and accessories, contractor is required to coordinate with the Civil Works contractor of the powerhouse prior to installation of said equipment

3. Work Outside the Powerhouse

Works to be conducted outside the Powerhouse, 3 x 167KVA Transformer in Bank including the transformer Cage, 3000AT ACB Outdoor type Main Disconnect Switch, 1500AT ACB Outdoor type Disconnect Switch and the Concrete Transformer Platform, Concrete Manhole, excavation/back filling and piping layout, HV cabling from Transformer Cage to Passenger Terminal Building Electrical room, grounding system, interconnection of cables, support and accessories. Contractor is required to coordinate with the electrical contractor of PTB building for the interconnection of HV cables.

4. **Work included in the Scope of Work but to be performed by others**

Supply and Installation of primary poles including cross-arm, suspension insulators, anchors, connectors, line hardware's, 15KV overhead primary cables, 15KV Disconnect Switch or Recloser, Potential Transformer, Current Transformer, Electronic Meter, Testing and Installation of 3 x 333KVA Transformer in Bank including its parallel cabling, termination of incoming 13.2kv primary line including appurtenances and other accessories to complete the work. Contractor is required to facilitate the application and payment of labor and materials for the above mentioned works to Local Electric Cooperative of Calbayog Samar. Permits like Municipal, DENR and electrical shall be at the expense of the Contractor.

5. **Site Inspection**

The contractor is advised to conduct site inspection and satisfy himself to the local conditions and facilities that may affect his work.

6. **Subcontracting**

The contractor shall not subcontract the whole or any part of the work without the written consent of the Employer/Engineer. The contractor shall be responsible for any work carried out by his Sub-contractor.

7. **Injury to person or damage to property**

The contractor shall be responsible for any injury to persons and or damage to property caused by the work or by his employees and shall be liable for any claims against the Employer as a result of such injury and/or damage.

8. **Materials**

All materials to be supplied/installed shall be brand new and shall conform to

Specifications except as otherwise noted on the plans. All materials where not specified shall be of the top of the line of their respective kind. Sample of said material shall be submitted for approval.

9. **Workmanship**

The work throughout shall be executed in the best and through manner under the direction of and to the satisfaction of the Engineer/ Project In-charge, who shall have the power to reject any work or material, which in his judgement, are not in full accordance with these Specifications and Drawings.

10. **Temporary Facility/ Power and Water**

The contractor is required to provide temporary facilities to its workers/employee assigned at the site, the temporary facility shall be made of wood with GI roofing, provided also with cabinet for first aid kit and fire extinguisher. The contractor shall make arrangement and pay for the provision of necessary electrical power and water to its temporary facility.

11. **Manufacturer's data**

The contractor shall submit for each item the manufacturer's descriptive literature of catalogued products, equipment drawings, diagrams, performance and characteristic curves of the following item, but not limited to

a.) Low Voltage Switchgear (LVSG)
b.) Air Circuit Breaker (ACB)
c.) Molded Case Circuit Breaker (MCCB)
d.) Synchronizing Panel
e.) Automatic Transfer Switch (ATS)
f.) Disconnect Switch, 3000AT ACB, 1500AT ACB
g.) Cables
h.) Transformer

12. **Manufacturer's Instruction**

The contractor shall provide the manufacturer's instruction for the installation and instruction for the High Voltage cable, for tapping / jointing and HV termination kits installation.

13. **Field Test Report**

At least seven days prior to carrying out any testing or commissioning work for the contractor shall submit a complete set of typical test record, type of test to be conducted, time table for the testing and equipment to be test/commission for review by the Project In-charge/Engineer.

The contractor shall provide calibration certificates for all the test instrument s proposed to be used in the testing.

14. **Spare Parts**

After approval of materials and equipment, the contractor shall furnish CAAP list of recommended spare parts for three (3) years use of each major item of equipment supplied. Include current unit price and supply source detail.

15. **Operation and Maintenance Manual**

The contractor shall submit Operation and Maintenance Manuals as required for

systems and equipment indicated in the scope of work.
Manuals shall be furnished in three (3) copies, bound in binders or approved equal. Inscribed the following identification on the cover: the words "OPERATION AND MAINTENANCE MANUAL", the name of the system, equipment, building, name of contractor, contact number.
In the manual, the names, addresses, and telephone numbers of each sub-contractors installing the system of equipment shall be included. Include a table of contents and assemble the manual to conform to the table of contents, with the tab sheets placed before instructions covering the subject. The manual shall include:

a.) Internal and Interconnecting wiring and control diagrams with data to explain detailed operation and control of the system equipment.
b.) A control sequence describing start up, operation, shutdown.
c.) Description of the function of each principal item of equipment
d.) Installation and Maintenance Instruction
e.) Safety Precautions
f.) Diagram and Illustrations
g.) Testing Methods
h.) Performance Data
i.) Parts list

16. **Materials /Equipment Requirement**

a.) All materials and equipment to be supplied shall be in accordance with the requirements in the Specifications.
b.) The contractor shall be responsible for ordering the correct and sufficient quantities of cables and equipment.
c.) All materials and equipment to be provided shall be brand new and in accordance with CAAP Specifications and latest Edition of Philippine Electrical Code (PEC), Part 1, American Society for Testing and Materials (ASTM), National Electrical Manufacturers Association Standard (NEMA), Underwriters Laboratories (UL) Philippine Standards (PS) or any approved equivalent standards.
d.) The manufacturer of the materials and equipment shall be open to inspection by the CAAP or his representative in the course of manufacture of the materials or equipment or after they have been completed.
e.) Any materials or equipment found on such inspection not meeting the requirements of relevant standards, or of these specifications shall be rejected by CAAP.

17. **Labels**

a.) Low Voltage Switch Board (LVSG), Synchronizing Panel, Automatic Transfer Switch (ATS), Transformer and other apparatus and controls shall be labelled in accordance with the requirements of this specifications.
b.) All label shall be Polycarbonate plastic or approved equal, engrave black lettering on white.
c.) Major equipment items shall be fitted with a main label mounted in a prominent position.
d.) Labels shall be secured with brass screws or steel screws which have been rust proofed in an approved manner.

e.) Labels shall designate circuit number and equipment function.

f.) Appropriately worded and sized warning labels engraved white on red shall be fastened to all covers or panels giving access to live equipment. Panels giving access to equipment at voltages of 500V and above shall additionally warn "DANGER – HIGH VOLTAGE".

g.) Terminal strips shall be labelled to identify the circuit number, phase connection, terminal number and function – e.g. control, indication, protection, etc.

18. **Codes, Inspection, Permits and Fees**

a.) The work under this Contract shall be the complete installation of **Upgrading of Power System of Calbayog Airport, Calbayog, and Samar** in accordance with the requirements of the latest edition of Philippine Electrical Code, Part 1 and the Samar 1 Electric Cooperative (SAMELCO). Nothing contained in the specifications or shown on the drawings shall be construed in conflict with the National and Local Ordinances or Laws, governing the installation of electrical work and all such laws and ordinances are hereby made part of these Specifications.

b.) All permits and electrical fees required for this work for this contract, shall be obtained by and at the expense of the Contractor. The contractor shall furnish CAAP final certificate of inspection and approval from the proper government authorities after the completion of the work. The contractor shall prepare all "AS BUILT" drawings and all other paper works required by CAAP.

c.) The contractor shall contact SAMELCO and discuss the connection method, schedule and fees, necessary materials specified in the Specification shall be furnished to them. Connection fee shall be paid in accordance with pay item in the Bill of Quantities.

19. **Guarantee**

a.) The contractor shall Guarantee that the electrical systems are free from all unintentional grounds, from all defective workmanship and materials, and will remain so for a period of **two (2) year** from the date of issuance of **Certificate of Completion.** Any defects arising within the aforesaid period shall be remedied by the Contractor at his own expense without additional payment.

20. **Electrical Equipment and Materials**

Unless indicated or specified otherwise, install materials and equipment in accordance with the standards, codes, and regulation listed in the specification. Install all equipment in strict conformance with manufacturer's instruction and recommendation.

21. **Installation**

Installation work shall conform to the requirement of Philippine Electrical Code (PEC) and National Fire Protection Association (NFPA) 70, Standard for Electrical Safety in workplace. Unloading, moving, and installation of equipment shall be under the direct supervision of a competent and experienced installation engineer.

22. **As-Built Drawings**

The contractor shall, during the progress of the work, keep a careful record of all changes where the actual installation differs from that shown on the drawings.

The contractor shall in an accurate manner make a complete record of all changes and revision to the original design, as installed in the completed works. These drawings shall be submitted to CAAP for approval. After the approval, the complete set of As-Built drawings in both electronic format and hard copy shall be provided to CAAP. As-Built drawings shall be part of submittal for Final Payment.

23. **Coordination**

The contractor shall cooperate in every way and work with other Contractor's, (Contractor of Powerhouse Building and Passenger Terminal Building) where part of his work is connected to the said building.

24. **Electrical Test**

Perform all field test and trial operation and conduct all field inspection (except final field inspection). Provide all labor, equipment, and incidentals required for the tests. CAAP will witness all field tests and trial operations and will conduct final field inspections. CAAP shall be given ample notice of the dates and times scheduled for tests, trial operations, and inspections which require the presence of the CAAP representative/Engineer. All deficiencies found shall be rectified and work affected by such deficiencies shall be completely re-tested at the contractor's expense.

Test procedure shall conform to applicable standard practices.

a.) Inspect all devices and equipment for damage or maladjustment caused by shipment or installation.

b.) Use calibrated torque wrench to assure that tightness of bolted bus joints is in accordance with manufacturer's recommendation.

c.) Perform mechanical operator and contact alignment test on breakers and operating mechanism in accordance with manufacturer's recommendation.

d.) Measure circuit breaker contact resistance and perform minimum pick-up voltage tests on trip and closing coils.

e.) Check electrical continuity of current, potential, and control circuits in accordance with wiring diagrams.

f.) Perform insulation resistance test at 500 VDC on field-installed control wiring. Cables, factory installed control wiring. Minimum insulation resistance shall be 1,000,000 ohms.

h.) Verify type, range, and connections of instrument transformer. Confirm correct polarity of current transformer electrically.

i.) Remove short-circuit links from current transformer after checking that secondary circuit are complete

j.) Remove wedges, ties, and blocks installed by the manufacturer to prevent damage during shipment.

k.) Check Low-voltage circuit breakers in accordance with manufacturer's instruction.

l.) Check power relays and perform testing and calibration

m.) Verify maximum resistance to ground of grounding systems.
n.) Perform phase rotation checks on three phase (3□) wiring (disconnect all devices which could be damaged by the application of voltage or reversed phase sequence)
o.) Perform pressure test on High voltage cables and equipment.
p.) Perform functional / operational testing of all equipment
q.) Perform load testing on standby generators.
r.) Test for all Distribution Transformer shall be performed by Local Electric Cooperative

Test shall be performed as work progress and upon complete installation of each electrical system

Testing shall be performed in the presence of CAAP Representative / Engineer and at times duly arranged in advance thru notifications

25. **Commissioning Test.**

a.) Place into operation all equipment provided and installed. Make all necessary adjustment to equipment to assure proper operation as instructed by the manufacturer of equipment.
b.) Perform demonstration tests which shall include operating systems under various and varying conditions as necessary to prove that they operate and functions as intended under this contract.
c.) CAAP Manila representative and CAAP Calbayog Personnel shall witness the demonstration /commissioning test
d.) Commissioning Test shall be carried out for:
    d.1) Electrical Equipment, individually and separately installed
    d.2) Standby Generator
    d.3) The whole Power system under this specification

26. **Cleaning**

The contractor shall remove all dirt, debris, rubbish and waste materials caused by in the process of construction of his work. The contractor shall also remove all tools, temporary power installation, facilities, scaffolding and waste materials after completion and acceptance of the project.

I. GENERATOR

The proposed generator will operate in parallel as one system with the two (2) generators set to be supplied by the contractor. To attain a satisfactory performance, all the required generator sets shall be of the same make and the same manufacturer.

Ia. The work under this includes the Supply, Delivery, Installation, Testing and Commissioning of two (2) unit brand new 500KVA, 400KW, 3□, 230V, 60Hz Standby Generator Set.
Ib. Standby generator system and associated:
    1. Exhaust Piping System
    2. Fuel distribution systems including day tanks, fuel piping from storage tank to day tank, fuel pumps and level control etc…
    3. Water cooled radiator heat exchangers

4. Battery start-up systems

Ic. Total noise and vibration control systems conforming to Department of National Resources Standard (DENR)

Id. Paralleling Switchboard/Synchronizer with all necessary synchronizing relays, equipment and cabling interconnecting works.

Ie. Automatic Starting System including Automatic Transfer Switch

If. Power Cabling, control, instrumentation and grounding cables and grounding rod

Ig. Accessories and related works needed to compete this work in accordance with specification.

I1. **DIESEL-GENERATOR**

Diesel-generator shall be silent type complete with accessories, auxiliary equipment and associated works as specified. Each generator shall consist of a diesel engine direct-coupled to an alternator with brushless excitation system. It shall include all necessary accessories and auxiliary equipment to provide a complete self-contained unit capable of operating both independently and also in parallel.

Self-mounted radiator 50ºC, 120Pa, flexible exhaust connector, 10A battery charger, battery and cables, Sound shield enclosure, 85dBA at 5mtrs, residential type exhaust silencer, self-mounted electronic control panel, (AMF mode), fuel pre-filter with water separator, 8-hour fuel skid base tank.

I2. **ENGINE and ALTERNATOR DATA**

I2a. Engine Data

i. Type: 4 cycle
ii. Arrangement: 8-V
iii. Displacement: L (Cu ln): 14(854)
iv. Bore cm (in): 12.2 (4.8)
v. Stroke: cm (in): 15 (5.91)
vi. Compression ratio: 17.5:1
vii. Rated RPM: 1800
viii. Engine Governor: Electronic
ix. Max Power: kwm (bhp): 448 (601)
x. Speed Regulation: ±) 0.25%
xi. Air Cleaner: Dry
xii. Control/Monitoring: Electronic Engine Management System

I2b. Alternator

i. Capacity: 500KVA, 400KW
ii. Voltage output: 240V, 3Ø
iii. Power Factor: 80%
iv. Frequency: 60Hz
v. RPM: 1800
vi. Amps: 1203
vii. Temperature rise: 130ºC / 40ºC
viii. Connection: 12 Lead Delta

I3. **MOUNTING BASE and ENCLOSURE**

The structural base for the diesel-generator shall be of the skid type and shall have adequate strength and rigidity to maintain alignment of the equipment mounted

thereon without dependence on a concrete foundation. Provide at least four (4) vibration insulators to isolate the generator set from the concrete foundation. The isolators shall be specifically listed for this application and shall have a minimum deflection of 25mm.

I4. **ENGINE FUEL SYSTEM**

The engine shall be provided with all necessary equipment, including fuel piping, fittings, valves, filters, strainers and appurtenances. The engine shall be high-speed water-cooled, and shall operate satisfactorily on a commercial grade diesel fuel oil.

I5. **FUEL PUMP and LEVEL CONTROL**

Positive Displacement Gear pump, Size: 1"x 1" Suction and Discharge, rated to deliver 0.25-0.53 LPS (15-321LPM) against 22.47 PSI, Total Dynamic Head at 32 SSU viscosity, the pump is directly coupled to Standard AC Induction Motor, 1/2HP, 3Ø, 230VAC, 1750 RPM, 60Hz.
High- and Low-Level control Float Switch

I6. **ELECTRONIC GENERATOR CONTROL PANEL**

The electronic generator control panel shall be easy to program and with advance engine and generator monitoring capabilities

Main Features

I6a. Programming via the front panel or via computer
I6b. Digital Inputs for signals that provide a contact closure (oil pressure, coolant temp. etc)
I6c. Fuel/Ignition Output
I6d. Starter output
I6e. Three configurable analog inputs (for things like oil pressure, coolant temp.. etc)
I6f. Generator Voltage input (three phase)
I6g. Generator Current input (three phase)

Display Capabilities

I6h. Generator Voltage
I6i. Generator Current
I6j. Generator Frequency
I6k. Generator Power Output (Kw, var, Kwh)
I6l. Engine oil pressure
I6m. Engine coolant temperature
I6n. Engine Hours
I6o. Engine Status and Alarm
All other necessary display

I7. **FACTORY TEST**

The Original Equipment Manufacturer (OEM) shall conduct a Factory test on Alternator and Diesel-Generator prior to delivery to Philippines, the contractor is

required to coordinate with the OEM or his duly authorized representative hereat that CAAP will participate in the actual factory test via virtual. OEM shall provide CAAP hard and soft copies of test result.

I8. **LOCAL TEST**

The authorized or exclusive distributor of diesel-generator set shall conduct a test at his facility, the test shall be witnessed by CAAP Representative and the Contractor. The test shall be conducted prior to delivery at Calbayog Airport.

The test shall be Load Bank Testing via Resistive Coil Load Bank Machine or approved equal. Load bank testing shall be at Rated capacity by incremental loading: 25%, 50%, 75% and 100%. During test, the following data shall be recorded at the start, at 15 minutes interval, and at the end of each load run: Fuel consumption, exhaust temperatures, lube oil temperature and pressure and any other important data.

Hydrostatic test on water-jackets to demonstrate that the water seals and water jackets are watertight.

Upon completion of the tests check oil for presence of metal filings and/or water.

Fuel for the on-site testing shall be at the expense of generator distributor/contractor.

I9. **STANDARD**

Generator shall be compliance with NFPA 110 Standard for Emergency and Standby Power System, DENR on Emission Standard and Philippine Standard and other applicable standard.

I9a. **Generator Distributor**

The generator distributor shall have **Certificate of Exclusive or Authorized Distributorship from the Original Equipment Manufacturer (OEM)** with Notarized Certificate of Authentication from Philippine Consulate from country of origin.

The local authorized distributor of generator set should have facility / office that can provide the after sales support, spare parts inventory / stock, engineering services, repair and overhaul of generator, testing of generator and can maintain an acceptable level of spare parts availability.

I10. **Spare Parts Availability, Local Training**

The generator distributor shall issue a Certificate of Spare Parts Availability for five (5) years

An on-site Training on familiarization, operation and maintenance of generator set shall be conducted by the generator distributor to be attended by Calbayog ALPT and after the conduct of training a certificate will be issued to all attendees.

Three (3) sets of Operation and Maintenance Manual shall be provided, bound in hardback binders or approved equal.

II. GENERATOR PARALLELING SWITCHBOARD, SYNCHRONIZER

The paralleling switchboard shall be rated for operation with emergency bus rated

and configured as shown in the drawings

IIa. Equipment Construction

Switchboard shall be rigid, free standing, metal enclosed structure, designed for front and rear access, with generator and load connections entering thru bottom of the structure. Each section of the switchboard shall be constructed to provide protection of the enclosure against ingress of solid foreign objects (NEMA 1).

All wiring shall be 600 volts rated, and sized required. Each wire and device function shall be suitably identified by permanent label.

GENERATOR PARALLEING SWITCHBOARD

Technical Features & Characteristic

Service: Indoor
Enclosure: Free Standing NEMA 1, with Gasketed doors
Protection Class Applied: IP 10
Codes and Standard: UL 1008, IEEE Std 446, IEC 60947-6-1
No. of Poles: Three Pole
Operating Mode: Automatic and Manual
Controller: Electrically operated and Mechanical held

Cable / or Bus Duct Entrance

Power Supply: Microprocessor based
Power feeder: Bottom
Control Cables: Bottom
Size of Entrance holes: Suitable for 250mm sq THHN/THWN-2

Circuit Breaker

Nominal Voltage: 240V
Rated Maximum Voltage: 1000V
Rated impulse withstand voltage: 12KV
Rated Frequency: 60Hz

Rated Current, continuous

Outgoing ACB: 3000A – 1 unit
Generator Synchronizing ACB: 1500A – 2 unit
Short time withstand current: 65kA, Ue: 220V~500V
Maximum permissible tripping time delay: 3 sec
Maximum closing time: 2 sec
Operating mechanism: as per manufacturer design
Type: Air Circuit Breaker
Spring-charged motor operated
Closing and Tripping circuits
No. of trip coil: 2
No. of closing coil: 1
Trip circuit voltage: 125Vdc
Closing circuit voltage: 125Vdc
Operating endurance capabilities: As per ANSI Std. C37.06-2000

Generator Controller & Synchronizer

Construction: Modular
Mounting: Panel (flush mounted)
Power Supply: 125Vdc ±5%
I/O Control Supply: 125Vdc ±5%
Mode of Communication: Serial and Ethernet

Sensing Modules
Generator Source: Yes
Main / Bus Source: Yes
Three Phase AC Configuration: Selectable
Sensor input voltage: 120Vac to 690Vac (selectable)
Sensor input current: 1A /5A (selectable)
Sensing Accuracy
Voltage: ±1% of nominal voltage
Frequency: ±0.05Hz
Current: ±.5%
Ambient Temp. capabilities
Operating: -20ºC + 50ºC
Storage: -40ºC + 90ºC
Power Quality Metering Function:
Kw Meter: Yes
Produced kWh meter/day: Yes
Produced kWh meter/year: Yes
Generator/bus bar voltage: Yes
Mains/Bus bar current: Yes
Event Logger:
Event LOG with real time clock: Yes
Alarm LOG with real time clock: Yes
Battery test LOG with real time clock: Yes
Engine diagnostic active alarm LOG: Yes
Generator Controller and Synchronizer Protection
Emergency Stop: Yes
Interlocking Relay Function: Yes
Generator Breaker external trip: Yes
Over speed: Yes
Over excitation: Yes
Synchronization Function: Yes
Synchronization Failure: Yes
Mains breaker synchronization failure: Yes
Under voltage protection: Yes
Auto/manual supervision: Yes
Under excitation: Yes
Phase sequence voltage: Yes
Frequency voltage failure: Yes
General Auxiliaries:
Status relay: Yes
Lamp test: Yes
Emergency cooling down: Yes
Maintenance counters, hours and days: Yes
Serial Communication: Modbus RTU (RS485)
Ethernet communication: Ethernet TCP/IP Modbus RTU
Interface cable: Ethernet cable crossed, 3M UL94 approved, PC cable for utility

III. AUTOMATIC TRANSFER SWITCH

Technical Features & Characteristic
Service: Indoor

Enclosure: Free standing NEMA 1
Codes and Standards: UL 1008, IEEE 446, IEC 60947-6-1
Number of Pole: Three (3) pole
Operation Mode: Automatic & Manual (Electrically operated and Mechanical held)
Controller: Microprocessor Based, Vertically oriented equipped with electrical and mechanical interlock.

Switching Operation:

Low Voltage: Open Transition Type
Switch construction:
Low Voltage: Dual Single Throw
Switch Position:
Switch 1: Connected to Normal
Switch 2: Connected to Emergency

Contact Structure

Main: Current carrying
Arcing: Arc Extinguishing

Components

Power switching device: To shift the load circuits to and from the power source
Transfer Logic Controller: To monitor the condition of the power source and provide the control signal to the power switching device.

ATS @ Low Voltage Level

Maximum Rated voltage: 690kV
Nominal Rated voltage: 240V
Rated Frequency: 60Hz
Rated continuous current: 2500 r.m.s
Rated interrupting withstand current: 65ka, r.m.s
Rated interrupting withstand duration: 3 sec
Rated closing current: 100kA, peak

Rated Insulation Level

Lighting impulse withstand voltage: 6kV, peak
Power Frequency withstand voltage: 2.2kV, r.m.s

Operating Mechanism and Auxiliaries

Charging Mode: Motor Spring Charge
Motor voltage: 125Vdc

Solenoid mechanism

Coil voltage: 125Vdc
Number of coils: 1

Microprocessor Controller

Construction: Modular
Power Supply: 125Vdc
I/O Control supply: 125Vdc
Mode of communication: Ethernet

Sensing Modules

Main Source: Yes
Back up source: Yes
Sensor input voltage: 120Vac to 690Vac (selectable)
Sensor output current: 1A/5A (selectable)
Sensing Accuracy
Voltage: ±1% of nominal voltage

Frequency: ±0.05Hz
Current: ±0.5%

Capabilities

Operating: -20ºC to +50ºC
Storage: -40ºC to +90ºC
Graphical display: yes
Soft keys: Yes
Power quality metering: Yes
Data logger function: Yes
Customer configurable alarms: Yes

Additional Features

Test switch: Yes (password protected)
Reset function: Yes
Auto/Manual Selector: Yes
In-phase monitor: Yes
Source connected status LED: Yes
Source connected aux. contacts: Yes
Diagnostic: Yes

Communication Interface

Serial/RS485: Yes
Ethernet TCP/IP: Yes
Open Protocol
Event Logger: Yes
Auto Load shed: Yes

Miscellaneous Auxiliaries

ATS Position indicator, Mechanical Indicating Light, spring change indicator, manual operating device, electrical operating device.

ATS Operation access

Local, Remote, Local/Remote Switch, Operation Counter, Space Heater, Internal Light, Convenience Outlet

Alarm Devices

Type of contact use: C-contact
Number of contacts: 4-electrically independent
Alarm Auxiliary Power Supply: 125Vdc
Internal Light and convenience outlet: 230Vac
Controls: 125Vdc
Indicating Lights: 125Vdc

IV. LOW VOLTAGE SWITCHGEAR (LVSG)

The Low Voltage Switchgear assembly shall be indoor type, free standing, or floor mounted, oven baked finish, gasketed doors, cables shall be bottom fed. The LVSG shall be factory engineered and assembled with necessary interconnections, instrumentation, and control wiring. Metal enclosed and enclosure is NEMA 1. The switchgear shall consist of one (1) normally closed 3000 amps Air Circuit Breaker as mains, one (1) normally closed 1500 amps Air Circuit Breaker for Passenger Terminal Building, two (2) 60 amps Molded Case Circuit Breaker (MCCB) for Power House and Fire Shed, one (1) 100 amps Molded Case Circuit Breaker for Administration Building and one (1) 250 amps MCCB for Tower all three (3) phase, 230V.

Bus Bar – Copper with silver plated coated surfaces. Plating shall have a minimum of .005mm thick. Make bus connection and joints with hardened steel bolts. Buses shall be insulated from the devices so that only exposed energized parts will be at the point of connection to devices. Locate each bus horizontally in the rear of each section behind the components and vertically centered. Provide and secure ground bus to each vertical switchboard section and extend ground bus to the entire length of the structure.

Technical Features & Characteristic

Nominal Voltage: 240V
Rated Maximum Voltage: 690V
Number of Phase: 3Ø
Type of Circuit Breaker: 500A up to 6000A ACB, 500A below MCCB

Operating Mechanism:

ACB: Spring-charged motor operated
MCCB: Solenoid coil operated
Current Rating
Continuous: 3000A
Mains LVSG: 3000A
Shor-time withstand current: 25kA
Peak withstand current: 52kA
Short-time current duration: 3 sec

Rated Insulation Level

Power frequency withstand voltage: 2.2kV r.m.s
Lighting impulse withstand voltage: 6kV peak
Rated frequency: 60Hz

Material

Main Bus: Copper
Vertical Bus: Copper
Type of main bus connection: Bolted
Vertical to main bus connection method: Bolted
Number of circuit breaker per vertical section: One
Control system remote operation and indication: Yes
Supervisory control and monitoring function: Yes

Connection of Low Voltage Switchgear

Between ATS and LVSG: 600V THHN/THWN-2 Cable

Provide with the following associated equipment

Fault Annunciator System: Yes
Metering equipment: Yes
Protective Relays: Yes
Physical Characteristic
Type: Indoor
With gasketed doors: Yes
Protection Class applied: IP10
Cable and/ or Bus duct entrance
Power Supply: Bottom
Power Feeder: Bottom
Control Cables: Bottom
Size of entrance holes: suitable for 250mm sq THHN/THWN-2 cable
Main LVSG
Incoming Mains: 3000A

Branch 1- 10A, 3□ MCCB- Fire Shed
Branch 2-200A, 3□ MCCB – Admin Building
Branch 3-200A, 3□ MCCB - Powerhouse
Branch 4-500A, 3□ MCCB- Tower
Branch 5-1500A, 3□ ACB – to 3 x167 kVA transformer cage to PTB Bldg.
1-spare

V. 3000A AND 1500A DISCONNECT SWITCH

The 3000A is the main disconnect switch from the incoming 240V secondary of 3 x 333kva Distribution transformer of local cooperative, SAMELCO. The main panel is outdoor type, free standing and mounted on concrete pedestal. Provide lock and key on the gasketed door for its protection. Oven bake finish, factory engineered and assembled. All the incoming cable are bottom fed and location is beside the concrete transformer platform. Same specifications with 1500A Disconnect Switch which will installed inside the transformer cage.

Technical Features & Characteristic
Nominal Voltage: 240V
Rated Maximum Voltage: 1000V
Rated impulse withstand voltage: 12KV
No. of phase: 3Ø
Rated Frequency: 60Hz
Rated Current, continuous
Mains ACB: 3000A – 1 unit
Transformer Cage ACB: 1500A – 1 unit
Short time withstand current: 65kA, Ue: 220~500V
Maximum permissible tripping time delay: 3 sec
Maximum closing time: 2 sec
Type: Air Circuit Breaker (ACB)
Spring-charged motor operated
Operating endurance capabilities: As per ANSI Std. C37.06-2000
Physical Characteristic:
Type: Outdoor
Gasketed doors: Yes
Provide lock and key: Yes
Cable entrance: Bottom
Size of cable
For 3000A suitable for 6 x 250mm sq. cable/phase
For 1500A suitable for 3 x 250mm sq. cable/phase
Mounting: Floor Mounted on top of concrete pedestal
Protection Class applied: IP55

VI. DISTRIBUTION TRANSFORMER

The work under this covers the supply, delivery of distribution transformer, outdoor type for the 3 x 333kva, 1Ø, oil-immersed transformer the installation shall be performed by the local electric cooperative.
All the testing of transformers shall be conducted by the local electric cooperative in accordance with Philippine Electrical Code and SAMELCO standard at the

expense of the contractor.

Technical Features & Characteristic

Three (3) units 333KVA and three (3) units 167KVA Distribution Transformer, 1Ø, oil immersed self-cooling, primary voltage: 7620/13200 Wye, Secondary voltage: 120/240 volts, with 2-2.5% taps (FCAN & FCBN), 95KV BIL – Prim, 30KV BIL -Sec, Copper Winding double bushing, externally -operated tap changer, mineral oil-filled (PCB free), Temperature rise 65ºC, Pole mounted

VII. POWER & CONTROL CABLES

15KV Power Cable

No. of conductors/cable and size: 1C x 38mm sq
Conductor metal: Annealed Copper Stranded Wire
Conductor shape: Circular stranded
Type of insulation: XLPE
Thickness of insulation: As per manufacturer design
Type of jacket (outer cable sheath): PVC jacketed
Thickness of jacket: As per manufacturer design
Reel Length: Not less than 500mtr per reel
Maximum operating temperature: 90ºC
Percent Insulation: 133%

600V Power Cable

No. of conductors / cable and size: 1C x 250mm sq, 1C x 500mm sq
Conductor metal: Annealed Copper Stranded Wire
Type of insulation: THHN/THWN-2
Thickness of insulation: As per manufacturer design
Type of jacket (outer cable sheath): PVC jacketed
Thickness of jacket: As per manufacturer design
Maximum outside diameter: As per manufacturer design
Weight per meter length: As per manufacturer design
Reel Length: Not less than 1000m per reel
Maximum operating temperature: 90ºC

600V Control and Instrumentation Cables

No. of conductors / cable and size: 1.25mm sq
Conductor metal: Annealed Copper Stranded Wire
Type of insulation: THHN, TW
Thickness of insulation: As per manufacturer design
Type of jacket (outer cable sheath): PVC jacketed
Provide with filler and binder tape: Yes
Reel Length: Not less than 1000m per reel
Maximum operating temperature: 90ºC

VIII. GROUNDING SYSTEM

Grounding works shall comply to applicable standards, Philippine Electrical Code (PEC) Part 1., grounding conductor size shall be in accordance with the applicable standard code, connection/bonding between ground rod to cable or cable to cable shall be exothermic.

Ground Rod shall be copper clad steel, UL Listed and 5/8” diameter x 3mtrs length.

IX. TRANSFORMER CAGE

Provide Transformer Cage that will house the 3 x 167 kva transformer, the cage is 7 x 7 mtrs with six concrete column and 2" diameter GI post schedule 40, the fence is Cyclone wire with 2" opening. A cyclone wire door with GI frame and barrel bolt padlock shall be part of the transformer cage. The base of the transformer cage is 100mm thk gravel and provide 100mm thk concrete pad, 1 x 3mtr with top surface 50mm above the base/ground level. Provide a sleeve for PVC pipe (abang na tubo) according to the equipment to be mounted. Pls see attached plan.
Provide a metal signs reading "DANGER – HIGH VOLTAGE – KEEP OUT"
Installation of transformer cage shall be in accordance with Art 1.10.3.2 PEC Part 1

X. CONCRETE MANHOLE AND CONDUIT SYSTEM

Provide concrete manhole in accordance to the specifications and plan, the concrete manhole shall measure 1.2 x 2.1 mtr with a 600mm Cast Iron Cover, the manhole shall be reinforced with 12mm dia. steel bar and concrete strength of 3000 psi. Installation of manhole shall be in accordance with Art 4.3.4 of PEC Part 2
Provide three (3) set of 110mm diameter PVC pipe in between manhole to manhole going to the PTB electrical room, each end of the PVC pipe shall be provided with end bell and cable ducting seal. Conduits, including joints and bends should be suitably restrained by backfill or other means to maintain its position under stress of installation procedure.

XI. TRANSFORMER PLATFORM

The scope of this works includes the Design, Supply and Installation of Concrete Transformer Platform for the 3 x333KVA Transformer in bank including 110mm dia. RSC Pipe, elbows and necessary fittings as service entrance pipe.
The contractor shall submit the plans, detailed drawings and specifications duly signed and sealed by Registered Civil Engineer to CAAP Representative/Engineer of the concrete transformer platform, the design shall be in accordance to the standard of local electric cooperative, SAMELCO and PEC Part.1
The recommended minimum thickness of concrete floor slab is 100mm and 300mm for the column.
The following proportions of concrete mixture shall be used in the design of the concrete platform:
Columns and footings - Class A (1:2:4)
Concrete floor slab - Class A (1:2:4)
Reinf. Conc. Beams - Class A (1:2:4)

XII. The materials, equipment and methods of installation comprising the complete works, shall be in accordance with the latest applicable codes, standard and guidelines published by the following organization.

PEC – Philippine Electrical Code Part 1, Part 2
IIEE- Integrated Institute of Electrical Engineers of the Philippines
UL- Underwriters Laboratories
IEEE-Institute of Electrical and Electronics Engineers

ANSI- American National Standards Institute
NEMA-National Manufacturers Association
NFPA-National Fire Protection Association
ICAO-International Civil Aviation Organization
IEC-International Electrotechnical Commission

XIII. CONSTRUCTION OF POWERHOUSE

ARCHITECTURAL WORKS

1.1. CARPENTRY AND JOINERY WORKS

SCOPE OF WORK

The work to be done under this Item consist of furnishing all required materials, fabricated woodwork, tools, equipment and labor and performing all operations necessary for the satisfactory completion of all carpentry and joinery works in strict accord with applicable drawings, details and these Specifications.

A. MATERIAL REQUIREMENTS

1. Lumber

Lumber of the different species herein specified for the various parts of the structure shall be well seasoned, sawn straight sun-dried or kiln-dried and free from defects such as loose and unsound knots, pitch, pockets, sapwood, cracks and other imperfections impairing its strength, durability and appearance.

2. Grades of Lumber and Usage

a) **Stress grade lumber** is seasoned, close-grained and high quality lumber of the specified specie, free from defects and suitable for sustaining heavy load.

b) Stress grade limber shall be used for wooden structural members subject to heavy loads, and for sub-floor framing imbedded or in contact with concrete and masonry.

c) **Select grade lumber** of the specified specie is generally of high quality of good appearance, without waste due to defects and suitable also for natural finish.

d) Select grade lumber shall be used for flooring, sidings, fascia and base boards, trims, molding, millwork, railings, stairs, cabinet work, shelves, doors, windows and frame of openings.

e) **Common grade lumber** has minimum tight medium knot not larger than 25 mm in diameter, with minimal imperfections, without sapwood, without decay, insect holes, and suitable for use with some waste due to minor defects and suitable also for paint finish.

f) Common grade lumber shall be used for light framework for walls and partitions, ceiling joists and nailers.

3. Lumber Species and Usage

Unless otherwise specified on the Plans, the following lumber species shall be used as indicated:

a) Yacal (*stress grade*) for structural member such as posts, girders, girts, sleeper door and window frames set or in contact with concrete or masonry.

b) Guijo (*select grade*) for door and window frames set in wooden framework, for stair, for roof framing supporting ceramic or cement tiles, for floors and other wooden structural parts.

c) Apitong (*common grade*) for roof framing supporting light roofing materials such as galvanized iron, aluminum or asbestos sheet, for wall framing, ceiling joists, hangers and nailers.

d) Tanguile (*select grade*) for doors and windows, fascia and base boards, trims, mouldings, mill work, railings, stairs, cabinet work, shelves, floorings and sidings.

e) Narra (*select grade*) for stair railings, flooring boards, cabinet, work millwork, doors and windows when indicated as such in the plans.

f) Dao (*selected grade*) for parts of the structure as enumerated or when indicated in the plan.

4. Moisture Content

a) Rough Lumber for framing and siding boards shall be air-dried or sun-dried such that its moisture content shall not exceed 22 percent.

b) Dressed lumber for exterior and interior finishing for doors and windows, millwork, cabinet work and flooring boards shall be kiln dried having no moisture content in excess of 14 percent at the time of its installation.

5. Substitution in Lumber Specie

a) Any lumber equally good for purpose intended may be substituted for the specified kind subject to the prior approval of the supervising Architect or Engineer. Provided that the substitution shall be have equal or better specie acceptable to the supervising Architect.

b) In case of substitution with better specie, no additional cost therefore shall be allowed to the Contractor.

6. Plywood

Plywood shall be of good grade and made of laminated wood strips bonded together with water resistant resin glue.

a) The laminated glue core shall be finished both faces with select grade tan guile, red lauan veneers or equivalent not less than 2mm thick, similarly bonded to the core.

b) The plywood of not less than 19 mm thick shall be free from defects such as split in veneer, buckling or warping and shall conform to the requirements of the Philippine Trade Standard 631-02

c) Thickness of a single layer of laminae shall not be less than 2m. The laminae shall be superimposed in layers with grains crossing at right angles in successive layers to produce stiffness.

d) The face veneers shall be rotary cut from selected grade timber. The laminae and face veneers shall be bonded with water resistant resin glue, hot pressed and pressure treated.

e) Ordinary tan guile, red lauan, palosapis, or equivalent grade with good quality face veneers, 6 mm thick shall be used for double walling and ceiling not exposed to moisture.

f) Waterproof or marine plywood shall be used for ceiling exposed to moisture such as at toilets and eaves, and ceiling to be finished with acrytex.

7. Lawanit or Hardiflex

a) Lawanit or Hardiflex when required in the plan shall be 6 mm and 8 mm thick respectively, tempered or oil impregnated for moisture/ water resistance.

b) Texture of Lawanit or Hardiflex shall be subject to the approval of the supervising Architect or Engineer.

8. Materials Other than Lumber

a) Plastic Sheet

When required for counter top, plastic sheet such as Formica shall not be less than 1.50 mm thick and shall have hard, durable and glossy surface resistant

to stain, abrasion and . Color and design shall be as selected from the manufacturer's standard and approval by the supervising Architect or Engineer.

b) Glue

Shall be from water resistant resins which, upon hardening, shall not dissolve nor lose its bond or holding power even when soaked with water for extended period. Glue in powder form shall be sealed container shall be without evidence of lumping or deterioration in quality.

c) Fasteners

Nails screw; bolts and straps shall be provided and used where suitable for fixing carpentry and joinery works. All fasteners shall be brand new and of adequate size to ensure rigidity of connections.

Nails of adequate size shall be steel wire, diamond-pointed, ribbed shank and bright finish.

Screw of adequate size shall be cadmium or brass plated steel with slotted head.

Lag Screw of adequate size, for anchoring heavy timber framing in concrete or masonry, shall be galvanized steel.

Bolts and nuts shall be of steel having a yield point of not less than 245 Mpa. Bolts shall have square heads and provided with standard flat steel washers and hexagonal nuts and provided with standard flat steel washers and hexagonal nuts.

Threads shall conform to American coarse thread series. The threaded portion shall be long enough such that the nut can be tightened against the bolted members without any need for blocking.

Wrought Iron Straps or Angles, when required in conjunction with bolts or lag screws to provide proper anchorage shall be of the shape and size shown on Plans.

B. CONSTRUCTION REQUIREMENTS

1. Quality of Materials

All materials to be incorporated in the carpentry and joinery works shall be of approved quality as specified. Before using all materials shall have been inspected and accepted by the supervising Architect or Engineer.

2. Storage and Protection of Materials

a) Lumber and other materials shall be protected from dampness during and after delivery at the site.

b) Materials shall be delivered well in advance of actual need and in adequate quantity to preclude delay in the work.

c) Lumber shall be piled in orderly stack at least 15.0 cm. above the ground and at sheltered place where it will be of least obstruction to work.

3. Shop Drawing

Complete Shop Drawings with essential dimensions and details of construction, as may be required by the supervising Architect or Engineer in connection with carpentry and joinery work, shall be submitted for approval before proceeding with the work.

4. Rough Carpentry

Rough carpentry covers timber structural framing for roof, flooring, siding, partition and ceiling.

a) Framing shall be *stress grade or common grade lumber* of the specie specified. Rough carpentry shall be done true to lines, levels and dimensions. It shall be squared, aligned, plumbed and well fitted at joints

b) Trusses and other roof framing shall be assembled, fitted and set to exact location and slope indicated on the Plans.

c) Fasteners, connectors and anchors of appropriate type, size and number shall be provided and fitted where necessary.

d) Members damaged by such cutting or boring shall be reinforced by means of specifically formed and approved steel plates or shapes. Otherwise, damaged structural members shall be remove and replaced to the satisfaction of the Architect or Engineer.

e) Timber framing in contact with concrete or masonry shall be treated with termite proofing solution and after drying coated with bituminous paint.

5. Finished Carpentry

Finished carpentry covers work on flooring, siding and ceiling boards, stairs, cabinets, fabricated woodwork, millwork and trims.

a) Framing lumber shall be select grade, free from defects and where exposed in finished work, shall be selected for color and grain.

b) Joints of framing shall be tenoned, mortised or doweled where suitable, closely fitted and secured with water resistant resin glue. Exterior joints shall be mitered and interior angles coped.

c) Panels shall be fitted to allow for construction or expansion and insure that the panels remain in place without warping, splitting and opening of joints.

d) Exposed edges of plywood or plywood for cabinets shall provide with selected grade hardwood strips, rabbetted as necessary, glued in place and secured with finishing nail. To prevent splitting, hardwood for trims shall be drilled before fastening with nails or screws.

e) Fabricated woodwork shall be done preferably at the shop. It shall be done true to details and profiles indicated on the Plans.

f) Where set against concrete or masonry, woodwork shall be installed after curing is completed.

g) Exposed wood surfaces shall be free from disfiguring defects such as raised grains, stains, uneven planning, sanding, tool marks and scratches.

h) Exposed surfaces shall be machine or hand sanded to an even smooth surface, ready for finish.

6. Fasteners

a) Nails shall not be driven closer together than one half their length unless driven in bored holes, or closer to the edge of the timber than one quarter their length.

b) Nails shall penetrate by at least half their length into the timber farthest from the head.

End distance, edge distance and spacing of nails shall be such as to avoid splitting of the wood.

c) Lag Screw shall be set into pre-bored lead holes and not driven. The lead hole for the hank shall have the same diameter as the shank and the same depth as the unthreaded portion of the shank.

d) The lead hole for the threaded portion shall have the same diameter equal to about 75% of the diameter of the shank and the same length as the threaded portion.

e) Lengths of bolts shall be enough to extend through the nut and an allowance for nut tightening.

f) Bolts shall be set into drill holes suitably sized enough for snug fit.

7. Pressure Treated Lumber and Plywood.

a) Lumber, plywood and ply board specified a treated with wood preservative shall be pressure treated with water borne preservatives as Wolman Salt, Boliden Salt or Tanalith H-R.

b) Pressure treatment shall meet the standards set by the American Wood Preservers Association per publication C 2-77, or the Philippines Trade Standards PTS 243-02.00 as to penetration and amount of chemicals retained in the treated lumber.

c) Final retention of chemicals in the wood shall be a minimum of 5.6 kg/m3.

d) Pressure treated lumber shall be accompanied by a certification of pressure treatment from the wood preserving plant as to the pressure treatment, sizes and quantity of wood treated.

e) Notwithstanding the presentation of said certification, the supervising Architect or Engineer may require physical inspection and undertake borings to ascertain penetration of preservative into the wood.

f) Each boring should show penetration of not less than 2.5 centimeters.

8. Rat Proofing

a) Enclosed hollow spaces between wooden flooring and ceiling and between double sidings or partitions shall be made rat proof in accordance with Department of Health Requirements

b) Hollow space between wooden flooring and ceiling shall be rendered rat-proof by laying continuous strips of galvanized iron sheet or 10 mm wire mesh, about 25 cm. wide and centered along floor plates or sills of partitions and exterior walls.

c) The rat proofing strips shall be sandwiched between floor joists/plates and sills of partitions or sidings. The strips shall be nailed to the top of joists as well as to underside of sills and floor boards.

d) This part of the rat proofing man be omitted whenever it is clear than an equally effective protection is provided by concrete or tile floors or by the upper surface of reinforced concrete or steel directly supporting the sidings.

e) all exterior openings between adjoining floor joist and girders or beam that might give rats direct access into the hollow space inside, shall when not closed by fascia board or the like, be covered with strips of the same rat proofing material or sufficient size to close entirely the opening in question.

f) Double sidings or partitions as well as furred posts are made rat proof by lining the inner face of the board or panel sheeting with continuous vertical strips of the aforementioned rat proofing material up to height of at least 30 cm from the base of the partition, siding

or furred post. The lower edge of the pat proofing sheet shall be in contact with floor throughout its entire length.

9. Measurement and Payment

a) Carpentry and Joinery Work shall be measured per complete item supplied, installed and accepted.

b) Payment shall be based on the measured quantity of each completed item and the Unit Bid Price as quoted in the Bid Proposal.

c) Such unit bid price shall be inclusive of all plant, materials, labor, overhead, profit and other incidental expenses in connection with the finished work.

d) Structural timber framework for roofing, flooring, partition and siding shall be measured on the basis of lumber board feet involved and paid for based on the quoted bid price per board foot. Such bid price shall be inclusive fasteners needed to complete the framework.

e) Flooring and siding boards, base and fascia boards, solid panels, stairs, handrails and trim shall be measured on the basis of number of board feet involved and paid for based on the corresponding quoted unit bid price per board foot.

f) Double walling for partitions and sidings shall be measured on the basis of the area involved in square meters and paid for based on the quoted unit bid price per square meter.

g) Ceiling boards shall be measured based on the area involved in square meters. Payment shall be based on the quoted unit bid price per square meter. Such unit bid price shall be inclusive of the cost of nailers, hangers and fasteners.

h) Cabinets shall be measured based on the number of units completed, installed and accepted. Payment shall be based on the number of units completed and the unit bid price per unit.

i) Incidental work for the main items on carpentry and joinery work such wood preservation, rat proofing and any other items necessary to complete the work but not specifically mentioned in the Bill of Quantities contained in the Bid Proposal shall be deemed to be covered by the unit or lump sum prices quoted for the other items of work listed in said Bill of Quantities

Pay item Number	Description	Unit of Measure
Item – 1	Structural timber framework	Bd. Ft.
Item – 2	Flooring, and siding boards, Base and fascia board shall Panels, stair, handrails and trims	Bd. Ft.
Item – 3	double walling	Sq. M.
Item – 4	Ceiling Boards	Sq. M.
Item – 5	CabinetsEach	

1.2. HARDWARE

SCOPE OF WORK

This Item shall consist of furnishing and installing all building hardware required to ensure rigidity of joints or connections of the different parts of the structure such as door, windows, cabinets, lockers, drawers and other similar operating parts as indicated on the plans in accordance with this Specifications.

A. GENERAL CONDITIONS

1. The contractor shall provide all rough hardware required for the completion of the work, including nails, spikes, bolts, log screws, etc., and shall provide and fit in place all finishing hardware hereinafter specified – put on in the most improved manner with screws to match the finish.

2. The contractor shall provide and fit in place all hardware not herein specifically mentioned but necessary to leave the work complete. All such hardware should there be any, shall conform in every respect to the balance of the hardware herein specified.

3. Finishing hardware, suitable to the service required to fully equip in the most satisfactory operative condition, for all doors, windows transom sashes, screen doors and windows, closet, built-in cabinets counters, drawers, lockers and other operating members throughout the project shall be furnished and installed or fitted by the Contractor.

4. Where the exact types of hardware specified are not adoptable to the finishing, shape or size of members requiring the hardware, suitable types having as applicable the same operation and quality as the corresponding individual types specified shall be furnished.

B. MATERIAL REQUIREMENTS

1. Rough Hardware

All rough hardware such as nails, screw, lag screws, bolts and other related fasteners required for carpentry work shall be first class quality and locally available.

2. Finishing Hardware

All finishing hardware consisting of locksets, latches, bolts, and other devices, door closers, knobs, handles, hinges and other similar hardware shall be first class quality available locally and conforming with the following Specifications.

a) Door Locksets

Door locks appropriate for particular functions shall be of durable construction, preferably the product of reputable manufacturer for consistent quality and master keying.

b) Door Closer

i. All door closer shall be cast bronze provided with a key valve or cap valve for making necessary adjustment.

ii. The following table shall serve as guide in determining door closer sizes.

Door Maximum Width	Size of Closer
76 cm.	Size 2
90 cm.	Size 3
107 cm.	Size 4
120 cm.	Size 5
137 cm.	Size 6

Use larger size where unusual conditions exist.

c) Hinge

Hinge unless otherwise indicated on the Plans shall be rass coated wrought iron steel for interior doors and wrought bronze for exterior doors with non-rising loose steel pins with button tips and mounting screws of the same materials.

d) Sliding Door Hardware

i. Track is of rolled steel formed or extruded aluminum.

ii. Bearing is of plain steel balls or steel rollers

iii. Wheels to be steel, brass, rubber or plastic as the case maybe.

e) Make

i. The plate numbers herein given designates the quality and style as to the type, design, operation, materials and finish of hardware designated.

ii. Any other hardware equally good, may be substituted only in cases of urgent necessity and subject to the written approval of the supervising Architect or Engineer.

f) Finish

Unless otherwise shown or specified on the plans, exposed surfaces shall have the following Standard Finishes.

i. *Polished, bright brass or Bronze.* Bronze surfaces exposed on exterior of building not specified to have US 26 finish.

ii. *US 26 polished chromium plated over nickel or brass.* Brass or bronze surfaces exposed on toilets, lavatory and shower rooms and all others in the interior of the building.

iii. *USP Prime coated for painting.* Ferrous metal surfaces unless zinc coated.

g) Fastenings

Fastenings of suitable size, quality and type shall be provided to secure hardware in position. Machine screws and expansion shields shall be provided for securing items of hardware concrete, brick tile or masonry instead of wood screws.

h) Exposed Items of Hardware

i. After hardware has been properly fitted, all exposed items such as knobs platers, pulls, locks, etc., shall be removed until final coat of painters finish has been applied, and then hardware installed.

ii. Other items of hardware, unless to be painted over that are not to be removed before painting shall be properly marked or completely covered

until final coat of painter's finish has been applied, after which such protective shall be removed.

C. PLACING ORDER OF HARDWARE

1. The contractor shall place his order for all hardware early in order to avoid delay in the job.

2. No request for extension of time shall be entertained by the Owner due to this delay

3. No substitution of hardware shall be allowed due to negligence of contractor on this matter.

D. CONSTRUCTION REQUIREMENTS

1. Door Knobs, and Latch Strikes

a) All lock and latch strikes shall be installed in door frames at the same height from the floor.

b) Door knobs shall be located so that the center of the knob in 95 centimeters from the finished floor and or as directed by the supervising Architect or Engineer.

2. Butt Hinges

a) Each panel of hinged doors shall be hung on two butts for doors 1.50 m. or less in height.

b) Three butts, over 1.50 m. high and not over 2.10 m. four butts above 2.10 m, in height.

c) Doors of a greater height than 2.10 m. unless otherwise specified shall be hung on additional one butt for each 65 centimeters or fraction thereof.

d) Where the size of the butt hinges is not sufficient to allow door to clear door trim in open position, same shall be increased.

3. Counters, Shelves, Cabinets, Lockers, etc.

a) Other hardware not covered by previous specifications for all wooden counters, shelves, cabinets, drawers, cabinet doors, closet doors, cupboard, or wall cabinets, glass showcases, storage shelves, work tables, lockers and all

other woodwork and interior finishing of similar nature indicated on plans are included in this contract.

b) It shall be done in accordance with detail drawings and full size details which shall be requested by the Contractor from the supervising Architect or Engineer, well ahead of their installation.

c) The Contractor shall furnish and install all necessary hardware for all the above work, complete and suitable to the service required to fully equip then in very satisfactory of the Specifications and the applicable drawings.

d) All modifications in hardware required by reason of construction indicated, shall be made to provide specific operative functional requirements.

e) All hinges that are needed shall be steel brass plated and of the size suitable for the purpose. Use Hager, Stanley, Kwikset or Corbin or an approved equivalent.

f) All necessary hardware for all woodwork specified above such as bolts, automatic catches, cylinder locks, drawer pulls, cabinet and closet door pull knots, push or cover plates, strikes, holder, indicators, push or pull bars, drawer locks, etc., shall be cast bronze or brass chromium finished in accordance with the specifications.

g) Their sizes shall be suitable for the purpose approved by the Owner or in accordance with those shown and specified in the full size details.

h) Schedule of all hardware to be purchased by the Contractor shall be submitted first to the supervising Architect or Engineer for approval before ordering them.

i) All hardware shall be brought to the job in original package. Samples shall accompany schedules.

4. Butt Hinges Make

For all doors on Butt Hinges, unless otherwise specified use button stop butts, Hager, Sanley, Kwikset or approved equivalent highly polished and plated with non-raising pin for door opening outside.

5. Bar Doors

Provide and fit a set “Lawson Universal” gravity pivot type hinges No. 4604 nickel polished finish for each bar door in all toilet rooms. Approved equivalent, locally made of this type will be acceptable.

6. Cabinet Door Catch and Pull

a) Each cabinet door sash shall be provided with a door pull, Corbin No. 4347, extruded brass, chrome finish, or approved equivalent.

b) Cabinet doors with locks shall be provided with elbow-catches, Corbin No. 01623 cast bronze or approved equal on the inactive sash.

c) Cabinet doors not provided with locks shall be provided and fitted with fraction catches.

d) Siding cabinet doors shall be provided with drawer pulls of the flush type, cast brass or bronze.

7. Drawer Pull and Locks

a) Each drawer shall be provided with pulls of the type specified for cabinet doors.

b) The contractor shall provide and set complete, ready for operation, one pin tumbler cylinder lock of the medium of standard type, for each door in accordance with the schedule below.

c) U.S. Standard finishes as specified shall apply to all locks used "Russwin Yale, Corbin, Weiser, Schlage" Standard type, of the approved equivalent.

d) The trade mark and plate numbers given herein are to designate only the quality, type, operation, materials and style or design required.

e) Schedule of Lockets: (in this Item, specify the name of door lock as to the brand, serial number, color and what particular door is to be installed such as: main door, bed room, toilet, etc.)

8. Master Key and Grand Master Key

a) All door lock shall be Master keyed as stated on the above schedule of lockset and grand master keying for the whole building.

b) Before placing the purchase order for door locks, it shall comply with the manufacturers requirements regarding the master keying for the locks.

c) The keying for this project shall be in accordance with the requirement of the

Owner: Supply of Keys:

D- 1 Grand Master Key ---------- 6 each
D-2 Master Key ---------- 3 each
D-3 Keys for each lock ---------- 3 each

As specification writer, you can make your own specification as to the number, quality and type. This is only a guide on how you will prepare your specifications.

d) Other doors not included in this schedule, but necessary to leave the works complete, shall be provided and fitted complete, by the Contractor with one lockset suitable to the service required and depending under which type and finish of each door lock, shall be classified by the Architect or Engineer.

1.3. ALUMINUM GLASS DOORS AND WINDOWS DOORS

SCOPE OF WORK

This Item shall consist of furnishing all aluminum glass door and window materials, labor, tools and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specification.

A. MATERIAL REQUIREMENTS FOR DOOR

1. Frames and panel members shall be furnished from extruded aluminum sections true to details with clean, straight, sharply defined profiles and free from defects impairing strength, durability and appearance.

2. Extruded aluminum sections shall conform to the specification requirements of ASTM B-211.

3. Screws, nuts, washers, bolts, rivets and other miscellaneous fastening devices shall be made of non-corrosive material such as aluminum and stainless steel.

4. Hardware for fixing and locking devices shall be closely matched to the extruded aluminum section and adaptable to the type and method of opening.

5. Vinyl weather strip shall be first class quality flexible vinyl forming an effective seal and without adverse deformation when installed.

6. Pile weather strip shall be silicon treated and free from residual wetting agents and made of soft fine hair as on wool, fur, etc.

7. Glazing shall conform to the requirement specified in Item Glass and Glazing Specifications.

B. CONSTRUCTION REQUIREMENTS

1. For all assembly and fabrication works, the cut ends shall be true to line and accurately joined, free of burrs and rough edges.

2. Cut-out recesses, mortising, grinding operation for hardware shall be accurately made and properly reinforced when necessary.

3. Main frame shall consist of head, sill and jamb stiles specifically designed and machined to inter-fit and be joined at corners with self-threading screws.

4. Frame sill shall be stepped and sloped with offset weep holes for efficient drainage to the exterior.

5. Door panel shall be accurately joined at corners assembled and fixed rigidly to the exterior.

6. Aluminum glass door and main frame shall be installed in a prepared opening to be set plumb, square, level and true details.

7. All joints between metal surface and masonry shall be fully caulked to ensure weather tightness.

8. Sliding type door panel shall be equipped with concealed roller overhead tracks with bottom guide.

9. Double action type door panel shall be equipped with heavy duty hinges that will control the door leaf in a close or open position.

10. Weather strip shall be furnished on edges at the meeting stiles of doors.

11. Where aluminum is to be in contact with steel, concrete, cinder, block, tile, plaster or other similar masonry construction, the aluminum surface shall be back painted before erection with a bituminous paint.

12. Exposed aluminum surface shall be electro type hard coats.

13. Protection

a) All aluminum parts shall be protected adequately to ensure against damaged during transit and construction operations.

b) Aluminum parts in contact with steel members shall be properly insulated by a coat of zinc chromate primer applied to the steel or by application of bituminous paint.

14. Cleaning

a) The Contractor shall protect all entrance units during construction and shall be responsible for removal of protection materials and cleaning of all aluminum surfaces.

b) Aluminum shall be thoroughly cleaned with plain water with kerosene or gasoline and then wipe surfaces using clean cotton fabric. No abrasive cleaning agents shall be permitted.

C. MEASUREMENT AND PAYMENT

1. Aluminum glass door, fully equipped with fixing accessories and locking devices shall be measured in square meters based on actual in place installed as shown on the Plans accepted to the satisfaction of the supervising Architect or Engineer Architect or Engineer.

2. The area in square meters of aluminum glass doors installed including main frame and ready for service as provided in this Specifications shall be the basis of payment based on the Unit Bid Price or Contract Price.

WINDOWS

SCOPE OF WORK

The scope of work under this item is the same as that of Aluminum Glass Doors and also the Material and construction Requirements of Section 11-1 and 11-2 of this chapter respectively.

A. MATERIAL REQUIREMENTS

1. Window Panel

Window Panel shall be connected at corners which miter joint fixed rigidly to ensure weather tightness.

2. Sliding Windows

a) Sliding windows shall be provided with nylon sheave.

b) Sliding panels shall be suspended with concealed roller overhead tracks with bottom guide pitch outward and slotted for complete drainage.

c) The sliding panels shall be provided with interior handles.

d) The locking devices shall be a spring loaded extruded latch that automatically engages special frame hips.

3. Casement Window

a) Casement window type shall be provided with two hinges fabricated from extruded aluminum alloy. They shall open on stay arms having adjustable sliding friction shoes to control window panel operations.

b) Locking device shall be one arm action handle for manual operations complete with strike plate.

c) All joints between metal surface and masonry shall be fully and neatly caulked.

d) Aluminum parts in contact with steel members shall be properly insulated by a coat of zinc chromate, primer/bituminous paint applied to the steel surface.

e) Weather strip shall be furnished on edges at the meeting stiles.

f) Exposed aluminum surfaces shall be electrotype hard coats such as anodize, satin, etc.

g) All aluminum parts shall be protected adequately to ensure against damage during transit and construction phase.

4. Cleaning

a) The Contractor does not only protect all entrance units during the construction phase but shall also be responsible for removal of protective materials cleaning the aluminum surface including glazing before work is accepted by the supervising Architect or Engineer.

b) Aluminum shall be thoroughly cleaned with kerosene or gasoline diluted with water and then wipe surface using clean cloth rugs.

c) No abrasive cleaning materials shall be permitted in cleaning aluminum surfaces.

B. MEASUREMENT AND PAYMENT

1. Aluminum glass window fully equipped with fixing accessories and locking devices shall be measured in square meters actually installed in place and accepted to the satisfaction of the supervising Architect or Engineer.

2. The area of aluminum glass window in square meters ready for service as provided in the Bill of Quantities shall be the basis of payment based on the Unit Bid Price which price and payment.

GLASS AND GLAZING

SCOPE OF WORK

This Item consists of furnishing all glass and glazing materials, labor, tools, plant and equipment required in undertaking the proper installation as shown on the Plans and in accordance with this Specifications.

1. MATERIAL REQUIREMENTS

All glass and glazing shall be delivered at jobsite with labels affixed indicating quality, make, type and thickness. Each glass in glazed position shall resist a design pressure of 244 kilograms per square meter.

1. Plate Glass

Plate glass shall be manufactured from float glass that is mechanically rounded and polished and sealed with a coating of silver and a uniform film of electrolytic copper plating, then applied with protective coating of paint to seal our moisture from the silver. Use where good vision is required.

2. Float Glass

These basic types of glass shall be manufactured by floating continuous ribbon of molten glass into a bath of molten tin where it is reheated to obtain a flat fire polished finish and annealed slowly to produce a transparent float glass eliminating grinding and polishing.

Variation of these basic types is:

Graded AA – Intended for use were superior quality is required.

Grade A – Intended for selected glazing.

Grade B –Intended for general glazing.

Greenhouse quality – Intended for greenhouse glazing where quality is not very important.

3. Glazing Materials

a) Glazing materials for glass installation may be:

i. Bulk compound such as mastic that are elastic and non-skinning compound.

ii. Putties – wood sash putty, or metal sash quality.

iii. Sealant – shall be chemically compatible with setting blocks, edge blocks and sealing tapes.

b) Performed Sealant such as:

i. Synthetic polymer – shall be base sealant that is resilient or non-resilient type.

ii. Performed Gasket – shall be compression or structural type.

c) Setting and Edge Blocks shall be made of lead or neoprene, chemically compatible with sealant.

d) Accessories like glazing clips, shims spacer strips etc. Shall be made from non-corroding metal accessories.

4. Schedule of Glass and Mirrors

a) Use 5.6 mm (7/32") thick sheet glass locally manufactured clear quality for the following: *(unless otherwise indicated on the Plans as frosted).*

i. Aluminum windows and doors, notwithstanding plate glass indicated elsewhere.

ii. Jalousie window glass salts.

iii. Fixed glass louvers.

iv. Glass panels for partitions and counter door panels, if any.

v. Sliding glass doors for cabinets.

b) All glass panels for cabinets, except sliding doors shall be clear glass of locally manufactured float glass quality, 4.7 mm (3/16") thick.

c) They shall be clear, except where indicated on the Plans as frosted, diffused or opaque. Same shall be used for wooden sashes.

d) Unless otherwise noted, clear glass that are locally manufactured shall be used for steel windows.

Use 3.1 mm – 1/8" thick for areas exceeding .60 m^2
Use 4.7 mm thick for areas exceeding .60 m^2

e) All comfort rooms whether shown or not, the Contractor shall provide and fit securely in place at the most convenient height above each lavatory one mirror, made from local glazing quality polished plate glass 6 mm thick with beveled edges and brass chromium plated frame 12 mm thick waterproof tanguile marine plywood backing, all in accordance with full size details. Sizes are as follows:

i. Over single lavatories - - - 60 cm. x 75 cm

ii. For two lavatories - - - - - 120 cm. x 75 cm

iii. For three lavatories - - - - 180 cm. x 75 cm

2. CONSTRUCTION REQUIREMENTS

a) Safety precaution and procedure shall be observed in determining the sizes and in providing the required clearances by measuring the actual opening to receive the glass.

b) Movable items or parts shall be kept in a closed and locked position until after the glazing compound has thoroughly set.

c) All glass sheets shall be bedded, back puttied, secured in place and face puttied. Secure glass in aluminum frame with non-corrosive clips except where glazing bead are required.

d) Apply putty in a uniformly straight lines, with accurately formed bevels and clean cut corners, then remove excess putty from glass frames.

e) Set glass in hollow metal doors and in metal frames of interior partitions in felt channel insets or bedded in putty to prevent any rattle.

i. Secure glass in wood doors and wooden frames in putty glazing stops.

ii. Secure stops on doors with screws.

f) Glass breakage caused in executing that work or by faulty installation shall be replaced by the Contractor without extra cost.

g) Improperly installed glass which does not fully meet the requirements of its grade, will not be accepted and shall be replaced without extra cost.

h) The contractor shall provide and install complete set ready or use mirrors in all comfort rooms and elsewhere shown the Plans. The size and location for each mirror shall be as indicated on the Plans or as directed by the Architect.

1. Workmanship

a) All glass shall be accurately cut to fit openings and set with equal bearing on the entire width of plane.

b) Putty shall be neatly run in straight lines parallel with inside of glazing rebate.

c) Corners shall be carefully made. All excess putty shall be removed and surfaces left clean.

d) Apply a thin layer of putty to rebate and set glass.

e) Place spring wire or angle glazing clips and run face putty. Remove excess putty from other side flush with edge of rebate.

2. Cleaning

Clean all glass both sides after putty has been applied completely. Do not disturb edge of putty with scraper. At completion of work leave glass and glazing works free from cracks and rattles and clean on both sides.

3. Samples

The Contractor shall submit for approval duplicate sample (15 cm. x 25 cm.) of each type of glass bearing manufacturer's label and a can of each type of putty.

C. MEASUREMENT AND PAYMENT

1. This Item shall be measured by actual area of glass sheets installed respective of the quality type and thickness in square meters.

2. The quantified unit of measurement shall be those accepted to the satisfaction of the Owner.

3. The quantities as measured shall be paid for the Unit Bid Price which payment constitute full compensation for all glass and glazing materials, labor and other facilities, and incidentals necessary to complete the work.

1.4. TILES

VINYL FLOOR TILES

SCOPE OF WORK

This item shall consist of furnishing all vinyl tiles and fitting accessories, adhesive materials, labor, tools, equipment and the satisfactory performance in undertaking the proper installation of vinyl tile flooring as shown on the Plans and in accordance with this Specifications.

A. MATERIAL REQUIREMENTS

1. Vinyl Tiles

Vinyl tiles shall be of first grade quality measuring 30 x 30 cm. x 3 mm thick, fully homogeneous, flexible, resilient and resistant to alkali moisture, grease and oil. The color and design pattern of vinyl tile shall be uniformly distributed throughout the thickness of the tile.

2. Adhesive

Adhesive shall be best suited for tropical application and compatible with the vinyl to be installed.

3. Seal Polish

Seal polish shall be plastic emulsion suited for the particular type of floor as recommended by the vinyl tile manufacturer.

B. CONSTRUCTION REQUIREMENTS

1. Installation

Installation of the tiles shall not commence until the work of other trade, including painting has been completed.

a) The contractor shall carefully examine all surfaces over which the tiles are to be set.

b) Floor surfaces that are to receive vinyl tile shall be clean, thoroughly dry; smooth; firm and sound; free from oil, paint, wax, dirt, and any other damaging materials.

2. Tile Laying Design

a) The tile design shall be indicated on Plans and in the colors selected and approved by the Architect for each area.

b) All joints shall be parallel to wall lines except otherwise indicated on plan.

c) Where line patterns of tile run perpendicular to lines of other tiles, they shall be laid truly at right angles.

3. Adhesive

a) Adhesive shall be applied in accordance with the adhesive manufacturers printed directions unless specified or directed otherwise.

b) Smoking, the use of open flames, and other sources of ignitions are strictly prohibited in the area where solvent containing adhesives are being used or laid.

4. Application of the Tiles

a) Start in the center of the room or work area and work from the center towards the edges.

b) Keep tile lines and joints square, symmetrical, tight and even and keep each floor in a true, level plane, except where indicated as sloped.

c) Vary edge width as necessary to maintain full size tiles in the field but no edge tile shall be less than one half the field tile size, except where irregular shaped rooms make it impossible.

5. Cutting

a) Cut vinyl floor tile to fit around all permanent fixtures, pipes and outlets.

b) Cut edges, fit and scribe to walls and partition after flooring has been applied.

6. Edge Strips

a) Provide edging strips where flooring terminates at points higher at doorways where thresholds are provided.

b) Edge strip shall be extruded aluminum butt type and beveled at exposed edges.

c) The top surface of the metal strips shall be finished flush with the tiles.

d) Secure strips at the end and between at about 20 cm. apart with screws.

e) Submit samples of metal strips for approval before application and installation.

7. Cleaning and Waxing

After the vinyl tiles and accessories are laid and set, it shall be cleaner as recommended by the manufacturer and a coat of approved seal polish.

8. Protection

After the floor has been waxed, they shall be carefully protected against damage, either with heavy building paper or by keeping traffic off the floors until the area is ready for use.

C. MEASUREMENT AND PAYMENT

1. All works performed under this section shall be measured in square meters/linear meters or actual number of vinyl floor tiles installed completes with accessories and ready for service.

2. The actual area in square or linear meters or number of quantities shall be the basis of payment based on the Unit Bid or Contract Unit Price.

CERAMIC TILES

SCOPE OF WORK

This Item shall consist of furnishing all Ceramic Tiles and cementitious materials, tools and equipment including labor required in undertaking the proper installation of walls and floor tiles as shown on the Plans and in accordance with these Specifications.

A. MATERIAL REQUIREMENTS

1. Ceramic Tiles

a) Ceramic Tiles and trims shall be made of clay, or a mixture of clay and other materials which is called the body of the tile classified by ASTM C-242 as to their degree of water absorption.

b) Ceramic Tiles and trims are manufactured either by dust pressed process or by plastic in which the clays are made plastic by mixing with water, shaped by extrusion or in molds and then fired.

2. Glazed Tiles and Trim

a) Glazed tiles and trims shall have an impervious face of ceramic materials fused on to the body of the tiles and trims.

b) The glazed surface may be clear white or colored depending on the color scheme approved by the Architect.

c) Standard glaze may be bright (glossy) semi-matte (less glossy) matte (dull) or crystalline (mottled and textured) good resistance to abrasion.

d) Glazed tiles shall be used for walls. Crystalline glazed tiles may be used for floors provided that these are used as light duty floors.

3. Unglazed Tiles and Trims

a) Unglazed tiles shall be hard dense tile of homogeneous composition. Its color and characteristics are determined by the materials used in the body, the method of manufacture and the thermal treatment. Unless otherwise specified, used unglazed tiles for all floors as indicated on the Plan.

b) Trims are manufactured to match wall tile color, texture and to coordinate with it in dimension.

c) These are shaped in various ceramic trim units such as caps, bases, coves, bull-nose, corners, angles, etc. that are necessary for edging or making a transition between intersecting surfaces.

B. CONSTRUCTION REQUIREMENTS

Tile work shall not be started until roughing-ins for plumbing, electrical and other trades have been completed and tested. The work of all other trades shall be protected from any kind damages.

1. Surface Preparation

a) Mortar mix for scratch coat and setting bed shall consist of one part Portland cement ¼ part lime and 3 parts sand by volume.

b) Surface to receive tile must be level, true to elevation, dry, free from dirt, oil and other kinds of ointments.

c) Allow at least seven days curing of scratch coat and setting bed. Installation work shall not be allowed to proceed until satisfactory conditions are corrected.

d) Thoroughly dampen surfaces of masonry or concrete before scratch coat is applied.

e) On masonry surface apply first a thin coat with pressure, then bring it out sufficiently to compensate for the major irregularities of the surface to a thickness not less than 10 mm at any point.

f) Evenly rake the scratch coat to provide good mechanical key before the mortar mix has fully hardened.

2. Installation of Ceramic Glazed Wall Tiles

Ceramic tiles shall be soaked in cleaned water prior to installation for a minimum of one hour.

a) Determine and mark layout of ceramic tiles as to joint location, position of trims and fixtures so as to minimize cutting less than one half size of the tile.

b) Thoroughly dampen surface of wall but not to saturate the surface.

c) Apply a bond coat mix with consistency of cream paste 1.5 mm thick to the wall surface or to the back of the tile to be laid.

d) Lay the tiles true to profile then exert pressure and tamp tile surface before the bond coat mix has initially set.

e) Continue with the next full tile to be laid and pressed firmly upon the setting bed tamped until flush and in place of the other tiles.

f) Intersections and returns shall be formed accurately using the appropriate trim.

g) All lines shall be kept straight and true to profiles, plumbed and internal corners rounded using the appropriate trims.

3. Installation of Vitrified Unglazed Floor Tiles

a) Before tile is laid to the floor, surface shall be tested for levelness or uniformity of slope by flooding it with water. Area where water ponds are filled and leveled, shall be tested again before the setting bed is applied.

b) Establish the lines of borders and center of the walls at the field work in both directions to permit the pattern to be laid with a minimum cutting of tiles.

c) Clean concrete sub-floor then moisten but do not soak. Then, sprinkle dry cement over the surface and spread the mortar on the setting bed.

d) Apply and spread mortar mix for setting bed and tamp to assure good bond over the entire area to be laid with tile.

e) Pitch floor to drain as shown on Plans or as directed by the Architect or Engineer.

f) Allow the setting bed to set sufficiently, then spread a bond coat over the surface and lay the tile.

4. Grouting and Pointing

a) Before grouting joints, tiles shall have been laid in place for at least 24 hours. Grouting mortar shall be white Portland cement or blended with pigments to acquire the color appropriate for the ceramic tiles.

b) Grouting mortar shall be applied over the tile by float or squeegee stroked diagonally across the joints.

c) Remove excess mortar with a wet sponge stroked diagonally or in a circular motion after 12-15 minutes.

d) Follow with a barely damp or dry sponge to remove remaining haze while smoothing all grouted joints.

5. Cleaning

a) Clean ceramic tiles surface thoroughly as possible upon completion of grouting.

b) Remove all grout haze observing tile manufacturer's instructions as to the use of acid or chemical cleaners.

c) Rinse tile thoroughly with clean water before and using chemical cleaners.

d) Polish surface of tile with soft cloth.

6. Protection

a) Apply a protective coat of neutral cleanser solution diluted with water in the proportion of 1.4 or one liter cleanser concentrate to one gallon of water.

b) In addition, cover tile flooring with heavy duty non-staining construction paper, taped in place.

c) Just before final acceptance of the work, remove paper and rinse the protective coat of neutral cleaner from the tile surface.

d) Don not let protective paper get torn or removed.

C. MEASUREMENT AND PAYMENT

1. All works performed under this Item shall be measured in square meters for areas actually laid with ceramic tiles and accepted to the satisfaction of the Architect or Engineer.

2. Ceramic tile work determined and provided in the Bill of Quantities shall be paid for based on the Unit Bid Price which price and payment constitute full compensation for furnishing all materials, tools, equipment and other incidentals necessary to complete this Item.

1.5. PAINTING AND VARNISHING

SCOPE OF WORK

This item shall consist of furnishing paints, enamels, varnishes and other products to be used including labor, tools and equipment required as shown on the Plans and in accordance with this Specification.

A. MATERIAL REQUIREMENTS

1. All paint materials shall meet the requirements of the Standard Specifications of the Standardization Committee on supplies.

2. All paint materials shall be delivered on the job site in their original containers with labels and seals unbroken.

3. Manufacture or brand of painting materials to be used shall either be Dutch Boy, Davies, Boysen or any equivalent approved by the designing Architect.

    a) Kind of Paint
    b) Tinting Color
    c) Patching Compound
    d) Natural Wood Paste Filler
    e) Wood Stain
    f) Varnish
    g) Lacquer
    h) Sanding Sealer
    i) Glazing Putty
    j) Concrete Neutralizer
    k) Silicon Water Repellant

B. CONSTRUCTION REQUIREMENTS

The Contractor prior to commencement of the work shall examine the surfaces to be applied with paints, enamels, varnishes, lacquers, sanding sealers and other related products in order not to jeopardize the quality and appearance of painting or finishing work.

1. SURFACE PREPARATION

a) Surface Examination.
b) Preparation
c) Interior Woodwork
d) Plaster or Masonry
e) Metals
f) Concrete and Brick Surface
g) Cleaning Methods

Meters of the various concrete, word and metal surfaces painted complete as shown on the Plans as specified and accepted by the Architect or Engineer.

2. The accepted work shall be paid at the Unit Bid Price, which price and payment shall constitute full compensation for furnishing all materials, equipment, labor, tools and incidentals necessary to complete this Item.

All Scopes of Work for the project must be in accordance with the approved Plans and Specifications. Quality and types of materials must be approved by the CAAP Project-in-Charge.

Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]

Section VIII. Bill of Quantities

Bill of Quantities, Bid Proposal & Detailed Estimate should be submitted together with the Annex "C" Form 1 to 7 in pages 106 to 140

Non-attachment of Annex "C" Form 1 to 7 shall be automatically disqualified.

BILL OF QUANTITIES

Name of Project: Upgrading of Power System and Construction of Power House at Calbayog Airport

Location: Calbayog, Samar Philippines

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	AMOUNT
I	Supply, delivery, installation, testing and commissioning of two (2) units brand new 500KVA/400KW, 3Ø, 230V standby generator	1	lot		
II	Supply, delivery, installation of Synchronizing panel, 3000A ATS, 3000A Disconnect switch, LVSG	1	lot		
III	Supply, delivery, installation and testing of Power cables	1	lot		
IV	Supply, testing, installation of 3 – 167KVA Oil immersed Transformer 240v/13.2KV, outdoor type, pad mounted	1	lot		
V	Provision of transformer cage with concrete platform and grounding system	1	lot		
VI.	Provision of concrete manhole from transformer cage to passenger terminal building	1	lot		
VII	Supply of 3 x 333KVA distribution transformer connected in bank.	1	lot		
VIII	Provision of concrete transformer platform for 3 – 333KVA transformer	1	lot		
IX	Electric cooperative application, local municipal permit to operate and install 2 x 500KVA generator	1	lot		
X	**Construction of Powerhouse**				
X.1	General Requirements	1	lot		
X.2	Site Works	1	lot		
X.3	Concrete Works (footings/wall footings/column beams/parapet/slab/roof deck/slab on fill)	1	lot		
X.4	Masonry works	1	lot		
X.5	Structural works	1	lot		
X.6	Doors and Windows	1	lot		
X.7	Acoustic Ceiling and accessories	1	lot		
X.8	Provision of roll up/roll down protection	1	lot		
X.9	Finishes	1	lot		
X.10	Waterproofing/moisture protection	1	lot		
X.11	Plumbing works	1	lot		
X.12	Mechanical works	1	lot		
X.13	Electrical works	1	lot		
X.14	Genset Foundation	1	lot		
X.15	Cable Trench	1	lot		
X.16	Fuel Tank (8000 liters)	1	lot		
X.17	Office equipment/furniture's	1	lot		
XI	Equipment rental	1	lot		
	TOTAL BID				

Submitted by:

Signature: _____

Printed Name: _____

Position: _____

Name of Company: _____

Date:: _____

Section IX. Bidding Forms

TABLE OF CONTENTS

Bidding Forms

(ANNEX "A")

{ATTACH COMPANY LETTERHEAD/LOGO}

Statement of all its ON-GOING 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

Name of Project: _____
Location of Project: _____

Name of Company : _____
Address of Company: _____

Name of Contract	a. Owner's Name b. Address c. Telephone No.	Nature of Work	Contractor's Role		Contract Amount at Award	a. Date Awarded b. Date of Contract c. Contract Duration d. Date Started e. Date Completed	Accomplishment		Values of Outstanding Works
			Description	%			Planned	Actual	
Government									
Private									
							Total value of outstanding works		

Submitted by: _____
(Print Name & Signature)

Designation: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

Statement of single largest COMPLETED contract similar to the contract to be bid

Name of Project: _____
Location of Project: _____

Name of Company : _____
Address of Company: _____

Name of Contract	a. Owner's Name b. Address c. Telephone No.	Nature of Work	Contractor's Role		Contract Amount at Award	a. Date Awarded b. Date of Contract c. Contract Duration d. Date Started e. Date Completed
			Description	%		

Submitted by: _____
(Print Name & Signature)

Designation: _____

Date: _____

JOINT RESOLUTION

Whereas, _____ (Bidder / Name of Particular JV Partner), duly organized and existing under the Laws of the _____, with office address at _____, represented herein by its _____, _____, and _____ (Name of Particular JV Partner), duly organized and existing under the Laws of the _____, with main office address at _____, represented by herein by its _____, have entered into a Joint Venture (JV) Agreement to undertake the following project / contract:

(Name of Project / Contract)

Whereas, in order to facilitate the orderly execution and conduct of the contract that was entered into by the joint venture in the name of the joint venture, it is hereby resolved by the parties in the Joint Venture as follows:

a. To appoint _____ as the Authorized Managing Officer and Official Representative, to represent, to manage the Joint Venture and is empowered to enter in contract in the name of the Joint Venture, or to sign for any document in the name of the Joint Venture required by the (Procurement Agency) or any entities pursuant to the terms of the Joint Venture Agreement:

b. That, the parties agreed to make _____(Name of Particular Lead Partner) _____ as the Lead Partner of the Joint Venture and (Name of Authorized Officer) _____ as the Official Representative & Managing Partner of the Joint Venture, and are granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the Joint Venture in the Eligibility Check, Bidding and Undertaking of the said contract in the name of the Joint Venture, as fully and effectively and the Joint Venture may do and if personally present with full power of substitution and revocation. _____ is fully authorized and empowered to sign any or all documents pertaining to the above stated project / contract in the name of the Joint Venture.

c. That the parties agree to be jointly and severally liable for their participation in the Eligibility Check, Bidding and Undertaking of the said contract.

d. That the terms of the JV Agreement entered into the parties shall be valid and is co-terminus with the final completion and turnover of the Name of Contract / Project

to the agency of the government, which in this case, the (Name of Procurement Entity);

IN WITNESS THEREFORE, We hereby sign jointly this Joint Resolution this _____ day of _____, 20 ____ in _____.

Name of Bidder (Lead Partner)

By: _____

Signature & Name of Managing Officer

_____

Designation / Position

Name of Bidder (Member Partner)

By: _____

Signature & Name of Authorized Authorized Representative

_____

Designation / Position

Name of Bidder (Member Partner)

By: _____

Signature & Name of Managing Officer

_____

Designation / Position

Name of Bidder (Member Partner)

By: _____

Signature & Name of Authorized Authorized Representative

_____

Designation / Position

SIGNED IN THE PRESENCE OF:

_____

_____

_____

_____

A C K N O W L E D G E M E N T

REPUBLIC OF THE PHILIPPINES)

CITY OF_____)S.S.

BEFORE ME, a Notary Public, for and in the City of _____, Philippines, this _____ day of _____, 20____ personally appeared the following persons:

NAME	**Community Cert. No.**	**Date / Place of Issue**

Representing to be the _____ of _____ and _____ of _____ respectively, known to me and to me known to be the same persons who executed the foregoing instrument for and in behalf of said corporations and who acknowledge to me that same is their free and voluntary act and deed as well as of the corporations which they represent, for the uses, purposes, and considerations therein set forth and that they are duly authorized to sign the same.

This Instrument consists of THREE (3) pages including this page wherein this Acknowledgement is written and signed by the parties and their instrumental witnesses on each and every page thereon.

WITNESS MY HAND AND NOTARIAL SEAL at the place and date hereinafter first above written.

NOTARY PUBLIC

Doc. No. _____

Book No. _____

Page No. _____

Series of _____

Bidding Forms

(ANNEX "B")

Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

CERTIFICATE OF SITE INSPECTION

This is to CERTIFY that _____, employee of _____, has conducted the required Site Inspection for the bidding of the project "_____" at _____.

Issued this _____**, 2020**

Airport Manager/Officer-in-Charge:

_____
Signature over Printed Name

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 ____.

Contractor's Organizational Chart for the Project

Submit Copy of the Organizational Chart that the Contractor intends to use to execute the contract if awarded to him. Indicate in the chart the names of the Key Engineering Personnel who will be assigned in the Project.

{ATTACH COMPANY LETTERHEAD/LOGO}

Attach the required Proposed Organizational Chart for the Contract as stated above.

Submitted by: _____

Designation : _____

Date : _____

{ATTACH COMPANY LETTERHEAD/LOGO}

Qualification of Key Personnel Proposed to be Assigned to the Project

Name of Project: _____
Location of Project: _____

Name of Company: _____
Address of Company: _____

	Project Manager/Engineer	Material Engineer	Foreman	Construction Safety and Health Personnel	Other Position deemed required by the Applicant for this project
1. Name					
2. Address					
3. Date of Birth					
4. Employed Since					
5. Experience					
6. Previous Employment					
7. Education					
8. PRC License					

Note: Attached individual PRC License of the (professional) personnel.

Submitted by : _____
(Signature over Printed Name)
Designation : _____
Date : _____

{ATTACH COMPANY LETTERHEAD/LOGO}

Date: _____

CAPTAIN DONALDO A. MENDOZA
Chairman, Bids and Awards Committee
Civil Aviation Authority of the Philippines
Mia Road, Pasay City, M.M. 1300
Tel: 02 7 944-2358

Subject: Contractor’s Letter-Certificate to Procuring Entity

Dear Sir:

Supplementing our Organizational Chart for the Contract, we have the honor to submit herewith, and to certify as true and correct, the following pertinent information:

That I/we have engaged the service of *(Name of Employee)*, to be the *(Designation)* of the *(Name of Project)*, who is a *(Profession)* with Professional License Certificate No. __ issued on _____ and who has performed the duties in the construction of the project enumerated in the filled Annex “B” Form 5b.

That *(Name of Employee)* shall personally perform the duties of the said position in the above-mentioned project, if and when the same is awarded in our favor.

That *(Name of Employee)* shall employ the best care, skill and ability in performing his duties in accordance with the Contract Agreement, Conditions of Contract, Plans, Specifications, Special Provisions, and other provisions embodied in the proposed contract.

That *(Name of Employee)* shall be personally present at the jobsite all the time to supervise the phase of the construction work pertaining to his assignment as *(Designation)*.

That *(Name of Employee)* is aware that he shall be authorized to handle only one contract at a time.

That in order to guarantee that *(Name of Employee)* shall perform his duties properly and be personally present in the Job Site, he is hereby required to secure a certificate of appearance for the Procuring Entity's Engineer at the end of every month.

That in the event that I/we elect or choose to replace *(Name of Employee)* with another Engineer, the Procuring Entity will be accordingly notified by us in writing at least twenty one (21) days before making replacement. We will submit to the Procuring Entity, for prior approval, the name of the proposed new *(Designation)*, his qualification, experience, list of projects undertaken and other relevant information.

That any willful violation on my/our part of the herein conditions may prejudice my/our standing as a reliable contractor in future bidding of the Procuring Entity.

Very truly yours,

_____

(Authorized Representative of Bidder)

CONCURRED BY:

_____

(Name of Engineer)

{ATTACH COMPANY LETTERHEAD/LOGO}

Date: _____

CAPTAIN DONALDO A. MENDOZA
Chairman, Bids and Awards Committee -
Civil Aviation Authority of the Philippines
Mia Road, Pasay City, M.M. 1300
Tel: 944-2358

Subject: Key Personnel's Certificate of Employment

Dear Sir:

I am *(Name of Employee)* a License _____ Engineer with Professional License No. issued on *(Date of Issuance)* at *(Place of Issuance)* .

I hereby certify that *(Name of Bidder)* has engaged my services as *(Designation)* for *(Name of the Project)* , if awarded in their favor.

As *(Designation)* , I know I will have to stay in the job site all the time to supervise and managed the Contract works to the best of my ability, and aware that I am authorized to handle only one (1) contract at a time.

I do not allow the use of my name for the purpose of enabling the above-mentioned Contractor to qualify for the Contract without any firm commitment on my part to assume the post of *(Designation)*

As *(Designation)* , I supervised the following completed projects similar to the contract under bidding:

NAME OF PROJECT	OWNER	COST	DATE COMPLETED

At present, I am supervising the following project:

NAME OF PROJECT	OWNER	COST	DATE COMPLETION

In case of my separation for any reason whatsoever from the above-mentioned Contractor, I shall notify the _____*(Name of the Procuring Entity)* at least twenty one (21) days before the effective date of my separation.

_____
(Signature of Engineer)

SUBSCRIBED AND SWORN to before me this ___ day of _____, 20___ affiant exhibiting to me his/her Residence Certificate No. _____ issued on _____ at _____, Philippines.

_____
Notary Public

Until 31 December 20
PRT No.: _____
Issued at: _____
Issued on: _____
TIN No.: _____

Doc. No._____
Page No._____

Book No. _____
Series of_____

CAAP-BAC-SF Annex "B" Form 5c

KEY PERSONNEL

(FORMAT OF BIO-DATA)

Give the detailed information of the following personnel who are scheduled to be assigned as full-time field staff for the project. Fill up a form for each person.

1. Authorized Managing Officer / Representative: _____

2. Sustained Technical Employee:

Name: _____

Date of Birth: _____

Nationality: _____

Education and Degrees: _____

Specialty: _____

Registration: _____

Length of Service with the Firm:

_____Year From _____ (months) _____ (year)

To _____ (months) _____ (year)

Years of Experience:

If Item 7 is less than ten (10) years, give name and length of service with previous employers for a ten (10) year period (attached additional sheet/s, if necessary:

Name and Address of Employer	Length of Service	
_____	_____ year(s)	from _____to _____
_____	_____ year(s)	from _____to _____
_____	_____ year(s)	from _____to _____

Experience:

This should cover the past ten (10) years of experience. (Attached as many pages as necessary to show involvement of personnel in projects using the format below).

a. Name: _____
b. Name and Address of Owner: _____
   _____
c. Name and Address of the Owner's Engineer (Consultant):_____
   _____
d. Indicate the Features of Project (particulars of the project components and any other particular interest connected with the project): _____
   _____
e. Contract Amount Expressed in Philippine Currency: _____
f. Position: _____
g. Structures for which the employee was responsible: _____
   _____
h. Assignment Period: from _____(months) _____ (years)
   to _____(months) _____ (years)

_____

Name and Signature of Employee

It is hereby certified that the above personnel can be assigned to the _____ Project, if the contract is awarded to our company.

_____ _____

(Place and Date) (The Authorized Representative)

List of Equipment, Owned or Leased and/or under Purchased Agreements, Pledge to the Proposed Project

Name of Project: _____
Location of Project: _____

Name of Company: _____
Address of Company: _____

Description	Model/Year	Capacity/ Performance/ Size	Plate No.	Motor No./ Body No.	Location	Condition	Proof of Ownership/ Lessor or Vendor
A. Owned							
I.							
II.							
III.							
IV.							
V.							
B. Leased							
I.							
II.							
III.							
IV.							
V.							
C. Under Purchased Agreement							
I.							
II.							
III.							
IV.							
V.							

Submitted by : _____
(Signature over Printed Name)
Designation : _____
Date : _____

Omnibus Sworn Statement

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

A F F I D A V I T

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.

_____
Bidder's Representative/Authorized Signatory

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.

{ATTACH COMPANY LETTERHEAD/LOGO}

Bid Form

Date: _____

IB[2] 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;

[2] 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: _____

Bid Forms

(ANNEX "C")

DETAIL OF BILL OF QUANTITIES

PROJECT : **Upgrading of Power Systems and Construction of Powerhouse at Calbayog Airport**
Location : **Calbayog Airport, Calbayog, Western Samar**
Appropriation : **DOTr Downloaded Project, 2020**
Amount Appropriated :

ITEM NO.1		**SCOPE OF WORK**		
500 KVA DEGS		**Supply, Delivery, Installation, Testing**		
		and Commissioning of Two (2) Unit		
		Brand New 500 KVA/400 KW,		
		3Φ, 230V, 60Hz Standby Generator Set		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
2	set	Diesel Engine Generator Set		
		Technical Features & Characteristic:		
		GENERATOR TECHNICAL DATA		
		Standby rated Diesel engine coupled to		
		a single bearing alternator mounted		
		on a common base frame and complete		
		with the following accessories:		
		i. Set mounted radiator 50^{o}C, 120Pa		
		ii. flexible exhaust connector		
		iii. 10A battery charger		
		iv. Battery and battery cables		
		v. Sound shield enclosure, 85dBA at 5mtrs		
		vi. Residential type exhaust silencer		
		vii. Set mounted control panel (AMF mode)		
		viii. Fuel pre-filter with water separator		
		ix. 8 - hour fuel skid base tank		
		Engine Data:		
		Type: 4-cycle		
		Arrangement: 8-V		
		Displacement L (Cu In): 14 (854)		
		Bore cm (in): 12.2 (4.8)		
		Stroke: cm (in): 15 (5.91)		
		Compression ratio: 17.5:1		
		Rated RPM: 1800		
		Engine Governor: Electronic Isochronous		
		Max Power: kWm (bhp): 448 (601)		
		Speed Regulation: ±0.25%		

		Air Cleaner: Dry		
		ALTERNATOR		
		Capacity: 500 KVA / 400KW		
		Voltage output: 3Φ, 240V		
		Power Factor: 80%		
		Frequency: 60Hz		
		RPM: 1800		
		Amps: 1,203		
		Temp Rise: 130°C/40°C		
		Connection: 12 Lead Delta		
		Includes:		
		Droop Kit		
		Operation and Maintenance Manual		
		Delivery at site (FOB Calbayog AP)		
		Bonds and Insurance		
		Brokerage fee, Duties and Taxes		
2000	liters	Diesel Fuel 2000 Liter for testing		
			Materials	
		LABOR		
1	lot	Heavy Equipment Operator		
		Foreman		
		Skilled		
		Unskilled Laborer		
			Labor	
			Sub Total	
ITEM NO.2		**Supply, Delivery and Installation of**		
Synch. Panel		**Synchronizing Panel, Automatic Transfer**		
ATS, ACB		**Switch, 3000AT ACB Disconnect Switch**		
		Low Voltage Switch Gear (LVSG)		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
1	set	Synchronizing Panel with gasketed door		
		free standing , oven baked finish		
		indoor type, NEMA 1 IP10 Enclosure		
		compose of four (4) panel:		
		Generator Side: 2- 1500AT 1500AF, 3Φ		
		240V, 65Kaic, Imax 1500A, fixed type ACB		
		Feeder Side: 3000AT 3000AF, 3Φ		
		240V, 85Kaic fixed type ACB with		
		3000A Common Bus Bar		
		Unitized with Automatic Transfer Switch		
		(ATS) Open Transition Switch combined		
		with Integrated controller, indoor NEMA 1		

		IP10 enclosure, 240V, 3Φ rated 3000A		
		all cables are bottom fed.		
1	set	Main Disconnect Switch		
		3000AT 3000AF, 240V, 3Φ fixed type ACB		
		85Kaic, Imax 3000A, Ui 1000V		
		Outdoor type, Oven Baked finish		
		with gasketed door, free standing,		
		enclosure protection IP56 cables		
		are bottom fed.		
1	set	Disconnect Switch		
		1500AT 1500AF, 240V, 3Φ fixed type ACB		
		65Kaic, Imax 1500A, Ui 1000V		
		Outdoor type, Oven Baked finish		
		with gasketed door, free standing,		
		enclosure protection IP56 cables		
		are bottom fed.		
1	set	Low Voltage Switch Gear (LVSG)		
		Indoor type, oven baked finish,		
		gasketed doors, NEMA 1 IP10		
		enclosure protection, cables bottom fed		
		Nominal Voltage: 240V		
		Rated Maximum Voltage: 1000V		
		Number of Phase: 3Φ		
		Type of Circuit Breaker:		
		500A to 3000A: ACB		
		500A Below: MCCB		
		Short time withstand current: 25Ka		
		Peak Withstand current: 52Ka		
		Short time current duration: 3sec		
		Main: 3000AT 3000AF, 85Kaic, Ui 1000V		
		Imax 3000A, 240V, 3Φ, fixed type		
		ACB		
		Branch:		
		1- 1500AT 1500AF, 240V, 3Φ ACB		
		1- 100AT 100AF, 240V, 3Φ MCCB		
		2- 200AT 200AF, 240V, 3Φ MCCB		
		1-500AT 500AF, 240V, 3Φ MCCB		
		1-spare		
			Materials	
		LABOR		
1	lot	Foreman (Electrician)		
		Skilled (Electrician)		
		Unskilled Laborer		
			Labor	

			Sub Total	
ITEM NO.3		**SCOPE OF WORK**		
Power Cables		**Supply, Delivery, Installation, Testing**		
		of Power Cables.		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
	mtrs	250mm sq THHN/THWN-2 , 600V		
		Power Cable, from Service Entrance Post		
		of Transformer Platform to 3000AT		
		Main Disconnect Switch to ATS, Synch		
		(6-250mm sq/phase)		
		Panel at Powerhouse		
	mtrs	60mm sq TW Cable, grounding from		
		service entrance post to 3000AT		
		Main Disconnect Switch to ATS, Synch		
		Panel at Powerhouse (1-60mm sq)		
	mtrs	250mm sq THHN/THWN-2 , 600V		
		from 500KVA Generator to Synchronizing		
		Panel (3 -250mm sq/phase)		
	mtrs	60mm sq TW Cable, grounding from		
		for 500KVA Generator		
	mtrs	250mm sq THHN/THWN-2 , 600V		
		from Synchronizing Panel, 1500AT, ACB		
		to primary side of 500KVA 240/13.2kv		
		transformer (3-250mm sq/phase)		
	mtrs	60mm sq TW Cable, grounding for		
		1500AT ACB to 500KVA transformer		
	mtrs	**15KV Power Cable**		
		from Secondary Side of 500KVA 240/13.2kv		
		dry type transformer to Electrical room		
		of Passenger Terminal Building (PTB).		
		No. of conductors and size: 1C x 38mm sq		
		Conductor metal: Annealed Copper Stranded Wire		
		Conductor shape: Circular Stranded		
		Type of Insulation: XLPE		
		Type of jacket (outer cable sheath): PVC Jacket		
		Max Operating Temp: 90^{o}		
		Percent Insulation: 133%		
	lot	Size 250mm Terminal Lugs, single hole		
		Long barrel, 600V Cable, (76 pcs)		
	pcs	Size 38mm Terminal Lug, single hole		
		Long Barrel, 15kv Vable		
	lot	Termination Kit for 38mm sq 15KV Cable		

			Materials	
		LABOR		
1	lot	Foreman (Electrician)		
		Skilled (Medium Voltage Electrician)		
		Skilled Electrician		
		Unskilled Laborer		
			Labor	
			Sub Total	
ITEM NO.4		**SCOPE OF WORK**		
Transformer		**Supply/Testing/Installation of 3-167KVA**		
		oil immersed transformer 240v/13.2kv		
		outdoor, pad/pole mounted		
		(from transformer yard to PTB elect room)		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
3	set	167 KVA Distribution Transformer, 1Φ, 60Hz		
		Oil Immersed Self-cooling.		
		Primary Voltage: 7620/13200 Volts, Wye		
		Secondary Voltage: 120/240 Volts		
		with 2-2.5% taps		
			Materials	**648,000.00**
		LABOR		
Qty	**Hours**	**Manpower**	**Hourly Rate**	**Total Cost**
1	lot	Foreman (Electrician)		
		Skilled (Electrician)		
		Unskilled Laborer		
			Labor	
			Sub Total	
ITEM NO.5		**SCOPE OF WORK**		
		Provision of Transformer Cage with		
		transformer concrete platform and		
		grounding system for 3x167KVA transformer.		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
	bags	Cement		
	cu.m	wash sand		
	cu.m	gravel		
	pcs	CHB 4		
	pcs	12mmΦ RSB x 6mtrs		
	pcs	10mmΦ RSB x 6mtrs		
	pcs	10mmΦ Plain round bar x 6mtrs		

	lot	formworks		
	pcs	50mmØ x 6mtr GI pipe		
	mtrs	#8 x 2" opening cyclone wire		
	set	Fence Barrel bolts and Hinges, Padlock		
	kls	GI tie wire #16		
	kls	Common Wire Nail		
	kls	welding rod		
	pcs	Grinding disk		
	gal	Aluminium paint		
	gal	Primer Paint		
	gal	Paint Thinner		
	pcs	Paint Brush (2")		
	gals	Rust Converter		
	pcs	Caution sign (Danger High Voltage)		
			Materials	
		Grounding System		
	pcs	5/8"x 3M Copper Clad Grounding rod		
	mtrs	60mm sq bare copper wire		
	pcs	exothermic powder (for copper to		
		ground rod connection) Cadweld or		
		approved equal.		
	pcs	exothermic powder (for copper to		
		copper connection) Cadweld or		
		approved equal.		
	pcs	Terminal Lug, single hole, short barrel		
		for 60mm sq cable		
			Materials	
		LABOR		
Qty	Hours	Manpower	Hourly Rate	Total Cost
	cu.m	Excavation		
	cu.m	Backfill		
	lot	Foreman (Electrician)		
		Skilled (Electrician, Mason)		
		Unskilled Laborer		
			Labor	
			Sub Total	
ITEM NO.6		**SCOPE OF WORK**		
		Provision of Concrete Manhole from		
		transformer cage to Passenger Terminal		
		Building (PTB) Electrical room with		
		3 x 100mmΦ PVC Pipe, thickwall		
		(16 units of concrete manhole)		
		MATERIALS		

Qty	Unit	Description	Unit Cost	Total Cost
	pc	600mmΦ steel cover with frame, cast iron		
	cu.m	Concrete 3000psi		
	cu.m	Gravel		
	kl	Reinforcing Steel Bar, 12mmΦ		
	sq.m	Formworks		
	kls	GI wire		
	kls	Common Wire nail		
	pcs	20mmΦ plain Round bar, cable hook		
	pcs	20mmΦ plain Round bar, cable ladder		
	pcs	4"Φ PVC end bell		
	lbs	duct seal		
		Layout of PVC pipe from transformer		
		cage to PTB Electrical room		
	pcs	110mmΦ PVC pipe thick wall		
	pcs	110mmΦ pvc elbow		
	mtrs	Detectable Caution tape		
			Materials	
		LABOR		
	lot	Concrete breaking in front of PTB Building		
		and side to make way for the installation		
		of manhole and pvc pipe (approx. 20 cu.m)		
		(air compressor w jack hammer rental for		
		10 days @ Php 3000.00/day)		
	cu.m	Excavation		
		6.96 cu.m for Manhole		
		288 cu.m for PVC lay-out		
	cu.m	Backfill		
1	lot	Foreman (Mason)		
		Skilled (Electrician, Mason)		
		Unskilled Laborer		
			Labor	
			Sub Total	
ITEM NO.7		**SCOPE OF WORK**		
Transformer		**Supply of three (3) units 333KVA**		
in Bank		**Distribution Transformer to be connected**		
		in bank as requirement of Electric Cooperative		
		for the provision of power to Calbayog		
		Powerhouse.		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
	units	333KVA Distribution Transformer, 1Φ, 60Hz		
		Oil Immersed Self-cooling.		

		Primary Voltage: 7620/13200 Volts, Wye		
		Secondary Voltage: 120/240 Volts		
		with 2-2.5% taps		
	set	Combination Cut-out Switch with		
		Arrester, 15KV (AB Chance or approved		
		equal)		
	pc	5/8"x 3M Copper Clad Grounding rod		
	mtrs	60mm sq bare copper wire		
			Materials	
		LABOR		
		Installation of Transformer will be		
		conducted by Electric Cooperative		
		Personnel		
			Labor	
			Sub Total	
ITEM NO.8		**SCOPE OF WORK**		
Transformer		**Provision of Concrete Transformer**		
Platform		**Platform**		
		MATERIALS		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
1	lot	Design/Supply/Installation of Concrete		
		Transformer Platform that can accommodate		
		the 3-333KVA Distribution Transformer		
		with 4 - 100mmØ RSC including elbow and		
		fittings as service entrance.		
		The design shall be signed and sealed		
		by a Registered Civil Engineer and shall		
		conform to Samar Electric Cooperative		
		Calbayog, Samar		
			Materials	
			Sub Total	
ITEM NO.9		**SCOPE OF WORK**		
Permits		**Electric Cooperative Application, Local**		
		Municipal Permits, DENR Permits to		
		operate and install the 2 x 500KVA		
		Generator		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
1	lot	Supply of Materials, labor and supervision		
		and testing / energization for the		
		provision of power from Local Electric		
		Cooperative (SAMELCO)		
		Transformer Testing (1MVA)		
		15KV Disconnect Switch, 3Φ		
		15KV Fuse Cut-out Arrester combination		

		KWH Meter, 3Φ,electronic type, Form 48A		
		Current Transformer outdoor type		
		50:5 Ratio, 15KV		
		Potential Transformer, outdoor type		
		70:1 Ration, 15KV		
		Inspection Fee		
		Service Fee		
		Consumption Deposit		
		Line Hardware, ACSR primary conductors		
		insulators, concrete pole 40'		
		cross arm, anchor log, machine bolts		
1	lot	Local Municipal and DENR permits to		
		install and operate the 2 x 500KVA		
		Generator		
1	lot	P Qube3 Power Analyser Power Monitoring Device to monitor		
		and measure sensitive communication and navigational loads at		
		control tower		
			Materials	
			Sub Total	
ITEM NO.10		**SCOPE OF WORK**		
Powerhouse		Construction of Powerhouse		
Qty	**Unit**	**Description**	**Unit Cost**	**Total Cost**
	10.1	**GENERAL REQUIREMENTS**		
1		1. Mobilization/Demobilization		
1		2. Temporary Facilities		
1		3. Testing of Materials		
1		4. Shop Drawings/As Built Plans		
			Sub Total	
	10.2	**SITE WORK**		
1	lot	1. Site Preparation (Clearing/Grubbing)		
		2. Batter boards		
	bd.ft	2" x 3" coco lumber		
	kls	Assorted C.W Nail 4", 3", & 2 1/2"		
	kls	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
	cu.m	3. Excavation		
			Labor	
			Sub Total	

	cu.m	4. Backfilling		
			Labor	
			Sub Total	
	cu.m	5. Gravel Bedding		
			Materials	
			Labor	
			Sub Total	
		6. Backfilling/Compaction		
	cu.m	Suitable Exc. Materials		
			Materials	
			Labor	
			Sub Total	
		7. Drainage System (Open Canal)		
	cu.m	7.1. Excavation		
			Labor	
			Sub Total	
	cu.m	7.2. Gravel Base		
			Materials	
			Labor	
			Sub Total	
		7.3. Concreting		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
			Materials	
			Labor	
			Sub Total	
		7.4. Masonry/Plastering		
	pcs	CHB 4"		
	bags	Cement (Portland)		
	cu.m	Sand		
	pcs	10mm dia. X 6.0 mts def. bar (Intermediate grade)		
	kls	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
		7.4. Cover		

	pcs	1 1/2" x 1 1/2" x 1/4" thk. Angular Bar		
	pcs	1 1/2" x 1/4" thk. Flat Bar		
	kls	Welding Rod		
	gals	Epoxy Primer		
	pcs	Paint Brush2"		
	gals	Paint Thinner		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
		8. Downspouts		
	pcs	3" dia. X 3.0 mts PVC (Orange)		
	pcs	3" dia. Elbow PVC		
	pcs	3" dia. Brass Dome Type		
	cans	PVC Solvent (200cc)		
			Materials	
			Labor	
			Sub Total	
		9. Side Walk		
	cu.m	9.1. Gravel Base		
			Materials	
			Labor	
			Sub Total	
		9.2. Formwork		
	bd.ft	2" x 4" coco		
	kls	Assorted C.W Nail 4",3" & 2 1/2"		
			Materials	
			Labor	
			Sub Total	
	cu.m	9.3. Concreting		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
			Materials	
			Labor	
			Sub Total	
		10. Provision of Septic Tank (3.0m x 1.50m x 1.50m)		
	cu.m	10.1. Excavation		
			Labor	

			Sub Total	
		10.2. Concrete/Masonry/Accessories		
	pcs	CHB 6"		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
	pcs	16mm dia. X 6.0 mts. Def Bar (Intermediate grade)		
	pcs	10mm dia. X 6.0 mts. Def. Bar (Intermediate grade)		
	kls	Tie Wire # 16		
	pcs	3" dia. X 3.0 mts. PVC Pipe		
	pcs	3" dia. PVC Tee		
	pc	3" dia. Clean Out		
	cans	PVC Solvent (200CC)		
	pcs	3/4" thk. X 4' x 8' phenolic boards		
	bd.ft	2" x 3" coco lumber		
	kls	Assorted C.W Nail 4", 3" & 2 1/2"		
			Materials	
			Labor	
			Sub Total	
	10.3	**CONCRETE WORKS (Footings/Wall-Footings/Columns Beams/ Parapet/Slab Roof Deck/Parapet/Slab On Fill)**		
		1. Scaffoldings		
	bd.ft	2" x 4"/2" x 3"/2" x 2" coco lumber		
	kls	Assorted C.W Nail 4", 3" & 2 1/2"		
			Materials	
			Labor	
			Sub Total	
		2. Formworks (Columns/Beams/Parapet/Slab)		
	pcs	3/4" thk. X 4' x 8' phenolic boards		
	bd.ft	2" x 4"/2" x 3"/2" x 2" coco lumber		
	kls	Assorted C.W Nail 4", 3" & 2 1/2"		
			Materials	
			Labor	
			Sub Total	
		3. Reinforcing Bars (Footings/W-Footings/Tie Beams/		
		Columns/Beams/Roof Deck Slab/Slab On Fill		
		3.1. Footings		
	pcs	16mm dia. X 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		

			Materials	
			Labor	
			Sub Total	
		3.2. Footing-Tie Beams		
	pcs	20mm dia. x 7.5 mts. Def. bar (Intermediate grade)		
	pcs	20mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.3. Wall- Footing		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kg	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.4. Columns		
	pcs	20mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.5. Beams		
	pcs	20mm dia. x 10.5 mts. Def. bar (Intermediate grade)		
	pcs	20mm dia. x 9.0 mts. Def. bar (Intermediate grade)		
	pcs	20mm dia. x 7.5 mts. Def. bar (Intermediate grade)		
	pcs	20mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.6. Beams on Parapet		
	pcs	16mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	

			Labor	
			Sub Total	
		3.7. Parapet Wall		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.8. Roof Deck Slab		
		3.8.1. RS-1		
	pcs	10mm dia. x 6.0 mts. Def. bar (Inter. grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.8.2. RS-2		
	pcs	10mm dia. x 6.0 mts. Def. bar (Inter. grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.9. Slab on Fill		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
		3.10. Lintel Beams for Doors/Windows		
	pcs	10mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kgs	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
	cu.m	4. Concrete Works (Footings/Tie Beams/Columns/		
		Beams/Cantilever Beam/Parapet/Slab on Fill/		
		Roof Deck Slab)		
	bags	Cement (Portland)		
	cu.m	Sand		

	cu.m	Gravel (3/4")		
	pcs	PVC Pail		
			Materials	
			Labor	
			Sub Total	
	10.4	**MASONRY WORKS**		
		1. CHB Walls		
	pcs	CHB 6"		
	pcs	CHB 4"		
	bags	Cement (Portland)		
	cu.m	Sand		
	pcs	12 mm dia. X 6.0 mts. Def. bar		
	kgs	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
		2. Plastering (Exterior/Interior Wall/A=612.00 sq/m)		
	bags	Cement (Portland)		
	cu.m	Sand		
			Materials	
			Labor	
			Sub Total	
		3. 2" thk. Concrete Topping (Flooring/A=190.00sq.m)		
	bags	Cement (Portland)		
	cu.m	Sand		
			Materials	
			Labor	
			Sub Total	
	10.5	**STRUCTURAL WORKS**		
		1. Structural I-Beam		
	pcs	W 12 x 45 x 20'		
	pcs	(0.30)(0.30m) x 1" Plates with 16mm dia. 4 Holes		
	pcs	16 mm dia. X 7" Long Anchors Bolts w/ nut & washer		
	sht	16 mm thk. X 4' x 8' M.S Plates		
	pcs	(0.30)(0.60m) x 1" Plates with 16mm dia. 6 Holes		
	pcs	16 mm dia. X 3" Long Anchors Bolts w/ nut & washer		
	kls	Welding Rod		
	pcs	Chackstone		
	gal	Epoxy Primer		
	gal	Epoxy Paint		

	gal	Epoxy Reducer		
	pcs	Paint Brush 4"		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
		2. Steel Ladder		
	pcs	<2" x 2" x 1/4" angle bar		
	pcs	16mm dia. X 6.0 mts plain round bar		
	kl	Welding Rod		
	ltrs	Epoxy Primer		
	ltrs	Epoxy Paint		
	pc	Paint Brush 2"		
	bots	Paint Thinner		
	kl	Rugs		
	bags	Cement (Portland)		
	sacks	Sand		
	sacks	Gravel		
	pcs	10 mm dia. X 6.0 mts. Def. bar		
	kl	Tie Wire # 16		
			Materials	
			Labor	
			Sub Total	
	10.6	**DOORS/WINDOWS**		
		1. Doors		
	set	D-1-(2.10M)(2.10m) Roll-up Galvalume (Manual)		
	units	D-2 (0.90m)(2.10m) Steel Flush Door		
	units	D-3 (0.80m)(2.10m) Panel Door		
	unit	D-4 (0.60m)(2.10m) PVC Flush Door with PVC Jamb/Lockset		
	units	Lockset (Heavy Duty for Steel Door)		
	units	Door Closer (Heavy Duty for Steel)		
	units	Lockset (Panel Door)		
	sets	Door Closer (Panel Door)		
	pairs	3 1/2" x 3 1/2" Loose Pin Hinges		
	units	2" x 6" (0.80m)(2.10m) Yakal or Guijo		
	ltrs	Coal Tar		
	pc	Paint Brush 2"		
	kls	C.W Nail 4"		
			Materials	
			Labor	
			Sub Total	

		2. Windows		
	units	W-1 (1.20m)(2.40m) Analok Aluminum (Fixed/Sliding)		
	units	W-2 (0.40m)(2.40m) Analok Aluminum Awning		
	unit	W-3 (0.40m)(1.80m) Analok Aluminum Awning		
	unit	W-4 (0.80m)(0.90m) Analok Aluminum Sliding		
	sets	W-5 (2.10m)(2.10m) Analok Aluminum Louvers		
	set	W-6 (2.40m) (1.20m) Analok Aluminum Frame w/ 6mm thk.		
		clear glass		
	set	W-7 (0.40m)(0.50m) Analok Aluminum Awning		
			Materials	
			Labor	
			Sub Total	
	10.7	**ACOUSTIC CEILING/ACCESSORIES**		
	sq.m	2' x 2' PVC Laminated Acoustic Ceiling Boards with		
	sq.m	1" x 1" Powder Coated T-runner including hangers		
			Materials	
			Labor	
			Sub Total	
	10.8	**PROVISION OF ROLL-UP AND ROLL-DOWN FABRIC**		
	sq.ft	ON WINDOWS		
			Materials	
			Labor	
			Sub Total	
	10.9	**FINISHES**		
	sq.m	1. Granite Tiles on Flooring (PPIC Office/ANS Quarters/		
		Kitchen/Hallway)		
	pcs	24" x 24" Ceramic Tiles		
	sacks	ABC Tile Adhesive (20KGS)		
	bags	Tile Bonding Adhesive		
	L.F	1 1/2" x 1.0 mts Bronze Nozing		
			Materials	
			Labor	
			Sub Total	
		2. Ceramic Tiles on Flooring/Walling (Comfort Room)		
	pcs	12" x 12" Floor Tiles		
	pcs	12" x 24" Wall Tiles		
	pcs	Tile Trim x 8'		
	sacks	ABC Tile Adhesive (20KGS)		

	bags	Tile Bonding Adhesive		
	packs	ABC Grout (2KGS)		
	L.F	1 1/2" Bronze Nozing		
			Materials	
			Labor	
			Sub Total	
		3. Kitchen Counter		
	pcs	24" x 24" Granite Tiles		
	pcs	12" x 24" Wall Tiles		
	pcs	Tile Trim x 8'		
	sacks	ABC Tile Adhesive (20KGS)		
	bag	Tile Bonding Adhesive		
	set	Analok Aluminum Sliding Cover		
			Materials	
			Labor	
			Sub Total	
		4. Painting		
	sq.m	4. 1. Flooring (CCR Room/Genset Room)		
	gals	Epoxy Paint (Rubberized)		
	gal	Epoxy Reducer		
	pcs	Plastic Tray		
	pcs	Paint Brush 4"		
	pcs	Paint Roller 7" with handle and tray		
	kl	Rugs		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.2. Concrete Exterior Eaves Ceiling		
	kls	Patching Compound		
	gals	Latex Paint		
	gals	Elastomeric Paint		
	pcs	Plastic Tray		
	pcs	Assorted Sand Paper		
	pcs	Paint Roller 7"		
	pcs	Paint Brush 2"		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.3. Concrete Wall (Interior/Exterior)		

	kls	Patching Compound		
	gals	Acrytex Primer (Exterior Wall)		
	gals	Elastomeric Paint		
	pcs	Plastic Tray		
	pcs	Assorted Sand Paper		
	pcs	Paint Roller 7"		
	pcs	Paint Brush 2"		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.4. Concrete Ceiling (Interior)		
	kls	Patching Compound		
	gals	Latex Paint		
	gals	Elastomeric Paint		
	pcs	Assorted Sand Paper		
	pcs	Paint Roller 7"		
	pcs	Paint Brush 2"		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.5. Concrete Parapet Wall (Interior/Exterior)		
	kls	Patching Compound		
	gals	Latex Paint		
	gals	Elastomeric Paint		
	pcs	Assorted Sand Paper		
	pcs	Paint Roller 7"		
	pcs	Paint Brush 2"		
	kls	Rugs		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.6. Flush Doors/Wooden Jambs		
		4.6.1. Roll-up/Steel Door/Steel Cover		
	gals	Quick Dry Enamel		
	gal	Paint Thinner		
	cans	Tinting Color (1/4" ltr)		
	pcs	Assorted Sand Paper		
	pcs	Baby Roller with plastic tray		
	kls	Rugs		

	rolls	Masking Tape		
	kls	Newspaper		
			Materials	
			Labor	
			Sub Total	
	sq.m	4.6.2. Varnish		
	cans	Wood Filler (500g)		
	gals	Wood Stain		
	gals	Clear Gloss		
	gals	Valspar		
	gal	Lacquer Thinner		
	pcs	Paint Brush 2"		
	kg	Rugs		
	pcs	Assorted Sand Paper		
			Materials	
			Labor	
			Sub Total	
	10.10	**WATERPROOFING/MOISTURE PROTECTION**		
	sq.m	1. Soil Poisoning		
			Materials	
			Labor	
			Sub Total	
	sq.m	2. Vapor Barrier for Floor Slab		
			Materials	
			Labor	
			Sub Total	
		3. 2" Concrete Topping		
	bags	Cement (Portland)		
	cu.m	Sand		
			Materials	
			Labor	
			Sub Total	
	sq.m	4. Waterproofing at roof deck		
		Hot process		
			Materials	
	sq.m	Labor		
			Labor	
			Sub Total	

	10.11	**PLUMBING WORKS**		
		1. Sanitary Line		
	pcs	4" dia. x 3.0 mts PVC Pipe (orange) S=1000		
	pcs	3" dia. x 3.0 mts PVC Pipe (orange) S=1000		
	pcs	2" dia. x 3.0 mts PVC Pipe (orange) S=1000		
	pc	4" dia. Clean-out		
	pc	3" dia. Clean-out		
	pc	4" dia. X 3" dia. wye		
	pc	3" dia. x 2" dia. wye		
	pc	3" dia. x 2" dia. Tee		
	pcs	3" dia. Elbow		
	pcs	2" dia. Elbow		
	pcs	2" dia. Tee		
	cans	PVC Solvent (200cc)		
			Materials	
			Labor	
			Sub Total	
		2. Water Line		
	pcs	3/4" dia. x 4.0 mts. PPR Pipe (PN 20)		
	pcs	1/2" dia. x 4.0 mts. PPR Pipe (PN 20)		
	pc	3/4" dia. x 1/2" dia. Tee PPR		
	pcs	3/4" dia. Elbow PPR		
	pcs	1/2" dia. Female Tee PPR		
	pcs	1/2" dia. Tee PPR		
	pcs	1/2" dia. Elbow PPR		
	pcs	1/2" dia. Female Elbow PPR		
	pc	3/4" dia. Gate Valve		
	pc	1/2" dia. Gate Valve		
	lot	Miscellaneous		
			Materials	
			Labor	
			Sub Total	
		3. Fixtures		
	set	Water Closet (Complete Fittings)		
	set	Lavatory (Complete Fittings)		
	set	Urinal complete with fittings		
	set	Kitchen Sink (Double) with faucet		
	pcs	P-Trap		
	pc	Soap Holder		
	pc	Tissue Holder		
	set	Telephone Shower with Faucet		
	sets	Supply Pipe x 12" Long		

	set	Angle Valve (3-way)		
	set	Angle Valve (2-way)		
	set	Lavatory Faucet		
	set	Bidet		
	pc	Towel Holder		
	pcs	5" x 5" Floor Drain		
	unit	2' x 3' Face Mirror		
			Materials	
			Labor	
			Sub Total	
	10.12	**MECHANICAL WORKS**		
		Purchase/Delivery of eleven (11) units of fire		
		extinguisher		
	units	- Portable type, Red, 10 lbs		
			Materials	
			Labor	
			Sub Total	
	10.13	**ELECTRICAL WORKS**		
		ELECTRICAL WORKS		
		LIGHTING AND POWER PANEL BOARD		
	assy	LPP, NEMA 3R Enclosure, Flush Type, 12-branch, bolt-on type CB compatible, 3-Phase, 230v, 60Hz, 3-phase		
	pcs	60AT/100AF, 3- Pole, 230V, 60Hz, Bolt-on Type Circuit Breaker *(Main Circuit Protection)*		
	pcs	15AT/100AF, 2-Pole, 230V, 60Hz, Bolt-on Type Circuit Breaker		
	pcs	20AT/100AF, 2-Pole, 230V, 60Hz, Bolt-on Type Circuit Breaker		
	pcs	30AT/100AF, 2-Pole, 230V, 60Hz, Bolt-on Type Circuit Breaker		
		WIRES AND CABLES		
	boxes	2.0 mm² Stranded THHN Copper Wire, 600v		
	boxes	3.5 mm² Stranded THHN Copper Wire, 600v		
	mts	5.5 mm² Stranded THHN Copper Wire, 600v		
	mts	14 mm² Stranded THHN Copper Wire, 600v		
	boxes	2.0 mm² Stranded TW Copper Wire (Green)		
	mts	5.5 mm² Stranded TW Copper Wire (Green)		
		CONDUITS AND FITTINGS		
	pcs	1/2" Ø Electrical Metalic Tubing		
	pcs	3/4" Ø Electrical Metalic Tubing		
	pcs	1 1/2" Ø Rigid Metalic Tubing		
	pc	1 1/2" Ø Service Entrance Cap		
	pcs	15mmØ Electrical Metalic Tubing Coupling, Set Screw Type		
	pcs	20mmØ Electrical Metalic Tubing Coupling, Set Screw Type		
	pcs	32mmØ Electrical Metalic Tubing Coupling, Set Screw Type		
	pcs	15mmØ Electrical Metalic Tubing Adapter, Set Screw Type		
	pcs	20mmØ Electrical Metalic Tubing Adapter, Set Screw Type		

	pcs	32mmØ Electrical Metalic Tubing Adapter, Set Screw Type		
	pcs	15mmØ Electrical Metalic Tubing Pull Elbow, Set Screw Type		
	pcs	20mmØ Electrical Metalic Tubing Pull Elbow, Set Screw Type		
	pcs	32mmØ Electrical Metalic Tubing Pull Elbow, Set Screw Type		
	pcs	15mmØ Metal Clamp		
	pcs	20mmØ Metal Clamp		
	pcs	32mmØ Metal Clamp		
		ELECTRICAL BOXES		
	pcs	Metallic Junction Box		
	pcs	Metallic Utility Box		
		SWITCHES		
	sets	1-gang, SPST Switch, Flush Type, Wide Series with LED set		
	sets	2-gang, SPST Switch, Flush Type, Wide Series with LED set		
	sets	2-gang, 3-way Switch, Flush Type, Wide Series		
		OUTLETS		
	sets	2-gang, Universal Outlet with Shutter and Ground		
	sets	2-gang, Universal Outlet with Shutter and Ground (Weather Proof)		
	sets	ACU Outlet		
	set	Range Outlet		
		LIGHTING FIXTURES		
	set	6" Pinlights, Flush Type with Diffuser with 11watts, Daylight LED Lamps, 230v		
	set	Surface Mounted Lamp Receptacle with 11watts LED Lamp, Daylight, 230v		
	set	12"x48" Louver Housing Recessed Mount with Mirrorized Reflector with 2-20W, Daylight, 120cm, T8 LED Tube		
	set	12"x48" Flush Mount with Mirrorized Reflector with 2-20W, Daylight, 120cm, T8 LED Tube		
		GROUNDING SYSTEM		
	pc	Grounding Plate		
1	lot	Exothermic Weld and Moulding		
		MISCELLANEOUS		
	pcs	Electrical Tape		
	pcs	Self Fusing Rubber Tape		
	kg	#16 Tie Wire		
	mts	Flexible Duct Hose including Fittings (size is dependent on the specification of the 10" Ceiling Type Exhaust Fan)		
1	pc	Exhaust Duct Outside Wall Caps(size is dependent on the specification of the 10" Ceiling Type Exhaust Fan)		
		EQUIPMENT		
2	lot	2.0Hp Inverter, Split Type Air Conditioning Unit		
1	lot	1.5Hp Inverter, Split Type Air Conditioning Unit		
1	set	16" Wall Type Exhaust Fan with Shutter, Flush Mount (at least 1155 CFM)		
1	set	10" Ceiling Type Exhaust Fan, Flush Mount (at least 110 CFM)		

2	sets	16" Industrial, Wall Type Exhaust Fan with Shutter, Flush Mount (at least 2730 CFM)		
			Materials	
			Labor	
			Sub Total	
	10.14	**GENSET FOUNDATION (2-UNITS)**		
	cu.m	1. Excavation		
			Labor	
			Sub Total	
	cu.m	2. Gravel Base		
			Materials	
			Labor	
			Sub Total	
	cu.m	3. Lean Concrete 2"		
	bags	Cement (Portland)		
	cu.m	Sand		
			Materials	
			Labor	
			Sub Total	
		3. Rebars		
	pcs	12mm dia. X 7.5 mts. Def. Bar (Intermediate grade)		
	pcs	12mm dia. X 6.0 mts. Def. Bar (Intermediate grade)		
	kls	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
	cu.m	4. Concreting		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
			Materials	
			Labor	
			Sub Total	
		5. Formworks		
	pcs	3/4" thk. X 4' x 8' Phenolic Boards		
	bd.ft	2" x 3" coco lumber		
	kl	Assorted C.W Nail		
			Materials	
			Labor	

			Sub Total	
	10.15	**CABLE TRENCH**		
	cu.m	1. Excavation		
			Labor	
			Sub Total	
		2. Rebars		
	pcs	10mm dia. X 6.0 mts. Def. Bar (Intermediate grade)		
	kls	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
	cu.m	4. Concreting		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
			Materials	
			Labor	
			Sub Total	
		5. Formworks		
	pcs	3/4" thk. X 4' x 8' Phenolic Boards		
	pcs	2" x 3" coco lumber		
	kls	Assorted C.W Nail		
			Materials	
			Labor	
			Sub Total	
		6. Cover		
	pcs	1/4" thk. x 4' x 8' checkered Plate		
	pcs	<1 1/2" x 1 1/2" x 1/4" thk. angle bar		
	kls	Welding Rod		
	gals	Epoxy Primer		
	lot	Miscellaneous (Paint/Brush/etc)		
			Materials	
			Labor	
			Sub Total	
	10.16	**FUEL TANK (8,000 LITERS)**		
	cu.m	1. Excavation		
			Labor	
			Sub Total	

	cu.m	2. Gravel Base		
			Materials	
			Labor	
			Sub Total	
		3. Rebars		
	pcs	16mm dia. x 7.5 mts. Def. bar (Intermediate grade)		
	pcs	16mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	pcs	12mm dia. x 6.0 mts. Def. bar (Intermediate grade)		
	kls	# 16 Tie Wire		
			Materials	
			Labor	
			Sub Total	
		4. Lean Concrete (2"thk.)		
	bags	Cement (Portland)		
	cu.m	Sand		
			Materials	
			Labor	
			Sub Total	
	cu.m	5. Concreting		
	bags	Cement (Portland)		
	cu.m	Sand		
	cu.m	Gravel		
			Materials	
			Labor	
			Sub Total	
		6. Formworks		
	pcs	3/4" thk. X 4' x 8' Phenolic Boards		
	bd.ft	2" x 3" coco lumber		
	kls	Assorted C.W Nail 4", 3" & 2 1/2"		
			Materials	
			Labor	
			Sub Total	
		7. Fuel Tank		
1	unit	8,000 liters Tank		
	pcs	3/4" dia. X 6.0 mts B.I pipe S=40		
	pcs	1/2" dia. X 6.0 mts B.I pipe S=40		
	lot	Miscellaneous (Fittings/Gate Valve/Accessories/etc.)		
			Materials	
			Labor	
			Sub Total	

	10.17	**OFFICE EQUIPMENT/FURNITURES**		
2	units	1. Purchase of two (2) units supervisor's Table		
		(140w x 70d x 75h cm)		
2	units	2. Purchase of two (2) units executive chairs, gas		
		strut height adjustment with original stand tube,		
		ergonomically design		
4	units	3. Purchase of four (4) units visitor's chairs		
1	unit	4. Purchase of one (1) unit Conference Table good		
		for twelve (12) persons		
2	units	5. Purchase of two (2) units steel double deck bed		
		with 4" thk. foam with complete with cushion,		
		blanket and pillow		
1	set	6. Purchase of 0ne (1) unit Desktop Computer with		
		Table, Rack, UPS and Printer for ANS		
2	units	7. Purchase of two (2) units G.A # 20 steel filing		
		cabinet vertical four (4) layer		
12	units	8. Purchase of twelve (12) units conference chairs, gas		
		strut height adjustment with original stand tube,		
		ergonomically design	**Materials**	
			Sub Total	
ITEM No. 11		**EQUIPMENT RENTALS**		
	days	Welding Machine		
	days	Bagger Mixer		
	days	Vibrator		
	days	Compactor		
	days	Bar Cutter		
	days	Fusion Machine		
	lot	DC 500V Insulation Resistance Tester, hydraulic Crimping Tool		
		Chain Block 5 Ton, Materials Handling Equipment		
			Sub Total	
			Total Materials:	
			Total Labor:	
			General Requirement:	
			ESTIMATED DIRECT COST:	

		Overhead (9% of EDC)	
		Contingencies (2% of EDC)	
		Miscellaneous (1% of EDC)	
		Contractor's Profit (8% of EDC)	
		VAT 5%(EDC+OCM+CP)	
		TOTAL INDIRECT COST:	
		TOTAL ESTIMATED PROJECT COST:	
		SAY:	

{ATTACH COMPANY LETTERHEAD/LOGO}

CAAP-BAC-SF Annex "C" Form 2

SUMMARY OF BID PROPOSAL

PROJECT:
LOCATION:

ITEM NO.	DESCRIPTION OF WORK	QTY	UNIT	ESTIMATED DIRECT COST	MARK-UPS IN PERCENT		TOTAL MARK-UP		V.A.T.	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9] [5] x [8]	[10] 5%{[5] +[9]}	[11] [9] +[10]	[12] [5] + [11]	[13] [12] / [3]

SUBMITTED BY:

Signature: _____
Printed Name: _____
Position: _____
Name Company: _____
Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

BILL OF MATERIALS & COST ESTIMATES					
NAME OF PROJECT :					
DESCRIPTION :					
LOCATION :				QUANTITY	UNIT
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	AMOUNT
A	TOTAL MATERIAL COST				
B	TOTAL LABOR COST				
C	TOTAL EQUIPMENT COST				
D	TOTAL DIRECT COST				
INDIRECT COSTS					
1. OCM (0% of TDC)					
2. CONTRACTOR's PROFIT (0% of TDC)					
E. TOTAL OCM & CONTRACTOR's PROFIT					
F. VALUE ADDED TAX, (VAT)	5.0%				
G. TOTAL ESTIMATED INDIRECT COST (E + F), P					
H. TOTAL ESTIMATED UNIT INDIRECT COST (G / Quantity), P/Unit					
TOTAL ESTIMATED COST (D + G), P					
TOTAL ESTIMATED UNIT COST (Total Estimated Cost / Quantity), P/Unit					

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

SUMMARY FOR UNIT PRICES OF MATERIALS

PROJECT: _____

LOCATION: _____

DESCRIPTION	UNIT PRICE	UNIT

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

SUMMARY FOR UNIT PRICES OF LABOR

PROJECT: _____

LOCATION: _____

DESCRIPTION	UNIT PRICE	UNIT

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

SUMMARY FOR UNIT PRICES OF EQUIPMENT

PROJECT: _____

LOCATION: _____

DESCRIPTION	UNIT PRICE	UNIT

SUBMITTED BY:

Signature: _____

Printed Name: _____

Position: _____

Name Company: _____

Date: _____

{ATTACH COMPANY LETTERHEAD/LOGO}

Name of Project : _____

Location of Project : _____

CASH FLOW BY QUARTER AND PAYMENY SCHEDULE

PARTICULAR	% W	1ST QUARTER	2ND QUARTER	3RD QUARTER	4TH QUARTER
ACCOMPLISHMENT					
CASH FLOW					
CUMULATIVE ACCOMPLISHMENT					
CUMULATIVE CASH FLOW					

Submitted by:

_____
Name of the Representative of the Bidder

_____
Position

_____
Name of the Company

_____
Date

Bidding Forms

(ANNEX "D")

Annex "D" Form 1 ……. Authority of Signatory (Secretary's Certificate)

AUTHORITY OF SIGNATORY
(SECRETARY'S CERTIFICATE)

I,, a duly elected and qualified Corporate Secretary of (Name of the Bidder), a corporation duly organized and existing under and by virtue of the law of the, DO HEREBY CERTIFY, that:

I am familiar with the facts herein certified and duly authorized to certify the same;

At the regular meeting of the Board of Directors of the said Corporation duly convened and held on at which meeting a quorum was present and acting throughout, the following resolutions were approve, and the same have been annulled, revoked and amended in any way whatever and are in full force and effect on the date hereof:

RESOLVED, that*(Name of Bidder)*be, as it hereby is, authorized to participate in the bidding of*(Name of the Project)*by the*(Name of the Procuring Entity)*; and in that if awarded the project shall enter into a contract with the*(Name of the Procuring Entity)*and in connection therewith hereby appoints*(Name of Representative)*, acting as duly authorized and designated representatives of*(Name of the Bidder)*, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent*(Name of the Bidder)*in the bidding as fully and effectively as the*(Name of the Bidder)*might do if personally present with full power of substitution and revocation and hereby satisfying and confirming all that my said representative shall lawfully do or cause to be done by virtue hereof;

RESOLVED FERTHER THAT, the Board hereby authorized its President to:

a. execute a waiver of jurisdiction whereby the*(Name of the Bidder)*hereby submits itself to the jurisdiction of the Philippine government and hereby waives its right to question the jurisdiction of the Philippine court;
b. execute a waiver that the *(Name of the Bidder)* shall not seek and obtain writ of injunctions or prohibition or restraining order against the CAAP or any other agency in connection with this Project to prevent and restrain the bidding procedures related thereto, the negotiating and award of a contract to a successful bidder, and the carrying out of the awarded project.

WITNESS the signature of the undersigned as such officer of the said this.

(Corporate Secretary)

SUBSCRIBED AND SWORN to before me this day of, 20affiant exhibited to me his/her Community Tax Certificate No. _____ issued on_____ _____at, Philippines.

Notary Public

Until 31 December 20_____

PRT No.: _____

Issued at: _____

Issued on: _____

TIN No.: _____

Doc. No. _____

Page No.: _____

Book No.: _____

Series of _____

Section X. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);
or

☐ (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;
and

☐ (c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;
and

☐ (d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR); **and**

Technical Documents

☐ (e) Statement of the prospective bidder 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. *(Annex "A" Form 1)*; **and**

☐ (f) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules. *(Annex "A" Form 2)*; **and**

☐ (g) 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 to be bid;
and Joint Resolution *(Annex "A" Form 3)*; **and**

☐ (h) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration *(Annex "B" Form 2)*;
and

(i) Project Requirements, which shall include the following:

☐ 1. Organizational chart for the contract to be bid *(Annex "B" Form 3)*; **and**

2. List of contractor's key 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 *(Annex "B" Form 4, 5a, 5b & 5c)*; **and**

3. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be *(Annex "B" Form 6)*; **and**

(j) Original duly signed Omnibus Sworn Statement (OSS) *(Annex "B" Form 7)*; **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder; **and**

This shall include all of the following documents as attachment to the Omnibus Sworn Statement:

1. Certification, under oath, attesting that they have no pending case(s) against the Government, in addition to the eligibility requirements as prescribe under the 2016 Revise Implementing Rules and Regulation (R-IRR) of RA No. 9184; **and**

2. Legal Clearance to be issued by the CAAP Enforcement and Legal Service with respect to the non-pending cases of the prospective bidders against this Authority; **and**

3. Bid Bulletins (if applicable); **and**

(k) **Certificate of Site Inspection** *(Annex "B" Form 1)* duly signed by **Mr. Carmelito A. Escuadra , Airport Manager of Calbayog Airport** or his duly authorized representative; **and**

This shall include all of the following documents as attachment to the Certificate of Site Inspection:

1. Copy of company ID of the person who conducted the site inspection; **and**

2. Copy of the airport/facility visitor's logbook; **and**

3. Picture of the proposed site including the personnel who conducted the site inspection together with the Airport Manager/Officer in Charge or his duly authorized representative: **and**

Financial Documents

- (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**

- (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

- (n) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence;
or
duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

- (o) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

- (p) Original of duly signed Bid Prices in the Bill of Quantities *(Annex "C" Form 1)*; **and**

- (q) Summary of Bid Proposal *(Annex "C" Form 2)*; **and**

- (r) Bill of Materials & Cost Estimates *(Annex "C" Form 3)*; **and**

- (s) Summary Sheet indicating the Unit Prices of Construction Materials, Labor Rates, and Equipment Rentals used in coming up with the Bid *(Annex "C" Form 4, 5 & 6)*; **and**

- (t) Cash Flow by Quarter and Payment Schedule *(Annex "C" Form 7)*.


Republic of the Philippines
gppb
Government Procurement Policy Board