



PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

BIDS AND AWARDS COMMITTEE

BIDDING DOCUMENTS

for the

REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE STORAGE AT THE 5F OF THE NATIONAL MUSEUM OF ANTHROPOLOGY

(Reference No. 7947287)

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Section I. Invitation to Bid



PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

Invitation to Bid
for

**REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI
ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE
STORAGE AT THE 5F OF THE NATIONAL MUSEUM OF
ANTHROPOLOGY**

1. The National Museum of the Philippines, through the **Gokongwei Brothers Foundation, Inc. (GBFI)** Donated Fund FY 2021 intends to apply the sum of **One Million Five Hundred Eighty Thousand Nine Hundred Sixty-Eight Pesos and Eighty-Two Centavos (PHP 1,580,968.82)**, being the Approved Budget for the Contract (ABC), to payments under the contract for the project **REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE STORAGE AT THE 5F OF THE NATIONAL MUSEUM OF ANTHROPOLOGY**. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **National Museum of the Philippines** now invites bids for the above Procurement Project. Completion of the Works is required within **Forty-Five (45) calendar days**. The Contractor must have a **PCAB license Category B (Size Range: Medium A)** Contractor's License and must have completed or implemented at least one (1) contract that is similar to the project to be bid, and whose value, adjusted to current prices using PSA consumer price indices, must be at least fifty percent (50%) of the ABC to be bid. Similar is defined as **"having completed or implemented a museum storage, resource center, laboratory, showroom or similar research or educational facility"**.
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "pass/fail" criterion as specified in 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from the **National Museum of the Philippines Bids and Awards Committee** and inspect the Bidding Documents at the address given below from **Mondays - Fridays at 9:30 A.M. to 2:30 P.M.**
5. A complete set of Bidding Documents may be acquired by interested bidders on **27 August 2021**, from the given address below and the website <http://nationalmuseum.gov.ph/> and upon payment of the applicable non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **One Thousand Pesos (PHP 1,000.00)**.

The Procuring Entity shall allow the bidder to present its proof of payment for the fees presented in person, or through electronic means.

6. **Pre-Bid Conference** shall be on **3 September 2021, 9:30 A.M.** at **Old Civil Service Building, National Museum of the Philippines, Padre Burgos Street, Manila**, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **17 September 2021, at 9:30 A.M. 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 **17 September 2021, at 9:30 A.M.** at **Old Civil Service Building, National Museum of the Philippines, Padre Burgos Street, Manila**. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The **National Museum 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 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:

Mr. Edwin J. dela Rosa
Head, BAC Secretariat
2nd Floor, BAC Room, North Annex of the
National Museum of Fine Arts Building (Motorpool)
Padre Burgos Street, Manila 1000
Website: www.nationalmuseum.gov.ph
Tel No. 298-1100 Local 1014
Email: nationalmuseumbac@yahoo.com
bac@nationalmuseum.gov.ph

(SGD)
ATTY. MA. ROSENNE M. FLORES-AVILA
Chairperson
Bids and Awards Committee

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, **National Museum of the Philippines**, invites Bids for **REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE STORAGE AT THE 5F OF THE NATIONAL MUSEUM OF ANTHROPOLOGY**, with Project Identification Number *NMPBAC-PB-2021-08-06*.

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 **Gokongwei Brothers Foundation, Inc. (GBFI) Donated Funds FY 2021** in the amount of **One Million Five Hundred Eighty Thousand Nine Hundred Sixty-Eight Pesos and Eighty-Two Centavos (Php 1,580,968.82)**.

2.2. The source of funding is: **NGA, the General Appropriations Act or Special Appropriations**.

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 “F” 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:

Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works.

- 7.1. If the bidder has already identified and has an existing contract with its subcontractor(s) during the procurement stage, it must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criteria stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof, or
- 7.2. The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and

comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

- 7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. 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 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 IX. 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 IX. 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 **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 One Hundred Twenty (120) calendar days. 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 6 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							
5.2	For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be “ have completed or implemented a museum storage, resource center, laboratory, showroom or similar research or educational facility ”.						
7.1	The contractor may subcontract any portion of works under the project, subject to the approval of proper authorities and the National Museum of the Philippines, so long as the works intended to be subcontracted is not significant and material. The subcontracted works shall not exceed fifty percent (50%) of the contracted Works.						
10.3	The Contractor must have a PCAB license Category B (Size Range: Medium A) . In case of a Joint Venture Agreement (JVA) between contractors, a Special Contractor’s License is required.						
10.4	The key personnel must meet the required minimum years of experience set below: <table><tr><td><u>Key Personnel</u></td><td><u>General Experience</u></td><td><u>Relevant Experience</u></td></tr><tr><td colspan="3">**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the qualifications of personnel.</i></td></tr></table>	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>	**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the qualifications of personnel.</i>		
<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>					
**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the qualifications of personnel.</i>							
10.5	The minimum major equipment requirements are the following: <table><tr><td><u>Equipment</u></td><td><u>Capacity</u></td><td><u>Number of Units</u></td></tr><tr><td colspan="3">**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the minimum equipment requirements.</i></td></tr></table>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the minimum equipment requirements.</i>		
<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>					
**Note: <i>Kindly refer to the Terms of Reference / Technical Specifications of the project for the minimum equipment requirements.</i>							
12	Not applicable.						
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 2% of the ABC, 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 5% of the ABC if bid security is in Surety Bond.						
19.2	Partial bids are not allowed. The project was for one (1) lot and not divided to sub-lots.						

20	If needed, Environmental Compliance Certificate, Certification that the project site is not within a geohazard zone, among others is required.
21	Additional contract documents to be submitted by the winning bidder relevant to the Project that are required by existing laws and/or the National Museum of the Philippines; 1. Construction schedule and S-curve 2. Manpower schedule 3. Construction methods 4. Equipment utilization schedule 5. Construction safety and health program approved by the DOLE, 6. PERT/CPM

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
4.1	The project starts after seven (7) days received of NTP by the Contractor
7.2	Fifteen (15) years.
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contract shall submit the Program of Work to the Procuring Entity's Representative within Ten (10) calendar days of delivery of the Notice of Award
13	The amount of the advance payment is 15% of ABC = Php 237,145.32
14	Materials and equipment delivered on the site but not completely put in place shall be included for payment.
15.1	The date by which operating and maintenance manuals are required is Fifteen (15) days from date of completion
	The date by which "as built" drawings are required is Fifteen (15) days from date of completion
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 1% of ABC = Php 35,000.00

*Section VI. Technical Specification, Terms of
Reference and Drawings*



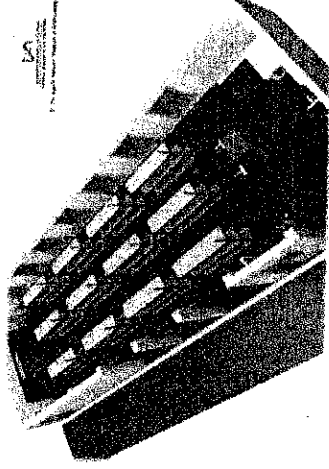
PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

Old Congress Building, P. Burgos St., Ermita, Manila

REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI ETHNOGRAPHIC
STONEWARE RESOURCE CENTER AND VISIBLE STORAGE AT THE 5F OF THE NATIONAL MUSEUM
OF ANTHROPOLOGY

T.F Valencia Circle, Rizal Park, Manila

TECHNICAL SPECIFICATION & GENERAL / SPECIAL CONDITIONS OF THE CONTRACT



Prepared by:

AR. ROY BENEDICT W. BAUTISTA
Administrative Officer V
Facilities and Management Division

Checked & Reviewed by:

JESSICA T. MARQUEZ
Senior Museum Researcher
Ethnology Division

Noted by:

MERITES R. TAURO
Museum Curator I
Ethnology Division

Recommending approval by:

ANA MARIA TERESA P. LACRADOR, PhD
Deputy Director-General for Museums

Approved by:

JEFFREY R. BARNES, CESO III
Director-General

TECHNICAL SPECIFICATIONS

DIVISION 01 GENERAL REQUIREMENTS

1. SCOPE OF WORK

This section shall include the mobilization and demobilization of Contractor's plant, equipment, materials and employee to the site; construction of Engineer's office and facilities; compliance with the contract requirements and maintaining the facilities for the Engineer.

This section shall include the furnishing of labor, materials, transportation, tools, supplies, plant, equipment and appurtenances to complete satisfactorily the construction of the proposed project.

2. MOBILIZATION AND DEMOBILIZATION

The Contractor upon receipt of the Notice-to-Proceed shall immediately mobilize and transport his plant, equipment, materials and employees to the site and demobilize or remove the same at the completion of project and level/ clear the site acceptable to the Engineer and the Owner.

Mobilization and Demobilization are incidental to other items of work and will not be measured for payment.

3. TEMPORARY FACILITIES

3.1 Combined Field office, Living Room/Kitchen, Quarter and Bathroom

During the performance of the contract, the Contractor shall provide and maintain one unit of field office with living room/kitchen, quarter and bathroom within the site of the work at designated location approved by the Procuring Entity's representative at which the Engineer shall be holding office at all times, while the work is in progress. The location, dimensions and layout of such combined field office/quarters shall be subject to the approval of the Engineer and local authorities having jurisdiction thereof. Construction shanties, sheds and temporary facilities provided as required for the Contractor's convenience shall be maintained in good condition and neat appearance including finishes as required by the Engineer.

3.2 Temporary Light and Power

The Contractor shall provide and maintain temporary electrical service including installation of temporary power and lighting within the construction site and facilities constructed thereat. The electrical services shall be adequate in capacity to supply power to construction tools and equipment without overloading the temporary facilities and shall be made available to supply power, lighting and construction operations of all trades. All temporary equipment and wiring for power and lighting shall be in

accordance with the applicable provisions of the local governing codes. At the completion of the construction work all temporary wiring, lighting, equipment and devices shall be removed.

3.3 Temporary Toilets

The Contractor shall provide and maintain in sanitary condition enclosed toilets for the use of all construction personnel located within the contract limits, complete with fixtures, water and sewer connections and all appurtenances. Installation shall be in accordance with all applicable codes and regulations of the local authorities having jurisdiction thereof. Upon completion of the work, temporary toilet and their appurtenances shall be removed.

3.4 Temporary Water Service

The Contractor shall provide and maintain temporary water supply service, complete with necessary connections and appurtenances. Installed water supply lines shall be used as a source of water for construction purposes subject to the approval of the Engineer. The Contractor shall pay the cost of operation, maintenance and restoration of the water system. All temporary water service including equipment and piping shall be removed upon completion of the work and all worn out and damaged parts of the permanent system shall be replaced and restored in first class condition equal to new.

3.5 Security

The Contractor shall provide sufficient security in the construction site to prevent illegal entry or work damaged during nights; holidays and other period when work is not executed; and during working hours. The Contractor shall take ample precautions against fire by keeping away flammable materials, and ensure that such materials are properly handled and stored. Fires shall not be allowed within the area of construction, except when permitted by the Engineer.

3.6 Disposal Area

The proposed location of disposal area shall be at the site designated by the Owner/Engineer. It is the responsibility of the Contractor to disposed off site all construction debris and be considered in the preparation of his proposal.

3.7 Contractor's Key Personnel and Maintenance Staff to be assigned to the Project

a) Key Personnel:

Project Manager (Licensed Civil Engineer)

1 - Licensed Electrical Engineer

1 - Licensed Mechanical Engineer

1 - Licensed Architect

1 - Materials/Quantity Engineer

1 - Safety Engineer (Certified)

Payment for the above key personnel are incidental to other items of work, hence, will not be measured and paid separately.

b) Maintenance Staff:

- 1 - Clerk Typist/Encoder
- 2 - Security Guards
- 1 - Utility Man

c) Personnel to be Assigned to Assist the Engineer

The Contractor shall at all times during the duration of the contract provide for the use of the Engineer all equipment, instruments and apparatus, all information and records and qualified chainmen and laborers required by the Engineer for inspecting and measuring the works. Such equipment, instruments and apparatus shall include those listed in this provision.

The Contractor shall at all times during the duration of the contract provide for the use of the Engineer all equipment, instruments and apparatus, all information and records and 3 qualified Civil Engineers, chainmen and laborers required by the Engineer for inspecting and measuring the works.

The Contractor shall pay all bills for water, electricity, and other services.

(1) The field office and quarter, furniture and fixtures, office equipment like air-con units and temporary power equipment etc., microcomputer system shall become the property of the Owner upon their payment.

(2) The Contractor shall be responsible for the maintenance and protection of all facilities (to include the facilities of the Engineer) to be provided during the Contract. He shall provide one (1) utilityman to maintain all the facilities keeping them in good condition. He shall provide minimum of two (2) security guards in 2 shifts, 1 guard per shift to safeguard and secure, day and night, the building, equipment, furnishings and the personal property of the occupants, all as directed and/or approved by the Engineer.

The Contractor, if requested by the Engineer, shall immediately replace assigned personnel for reasons arising from misconduct and/or unsatisfactory performance.

4.2 Vehicles for the Engineer

The Contractor shall provide within thirty (30) calendar days after notice to commence work, the vehicles listed in Schedule B for the exclusive use of the Engineer, payment of which shall be on a monthly basis.

The vehicles shall comply in all respects with all relevant Philippine national or local laws, statutes and regulations. All vehicles shall carry or be fitted with the accessories as may be prescribed by laws and have comprehensive insurance. The vehicles on delivery shall be in good running condition, of the latest model and shall be driven by a competent qualified and experienced driver who shall be under the direct order of the Engineer. The Contractor shall maintain the vehicles in first class condition and shall be supplied with appropriate fuel and lubricants at all times. Provide a minimum of 20 liters of fuel per day as well as 4 spare tires.

He shall provide equivalent substitute vehicles when taken out of service for maintenance, repair or any other reason. Unless otherwise specified, the vehicles shall at the end of the contract become the property of the Owner.

4.3 Photographs

The Contractor shall provide record progress photographs (120 photographs per month) taken as, when and where directed by the Engineer at intervals of not more than one month. The photographs shall be sufficient in number and location to record the exact progress of the works. The Contractor shall provide one proof print of each photograph taken, and the negative and three (3) copies, in 3R size and printed on glossy paper, of any of the photographs selected as progress photographs by the Engineer. The photographs retained by the Engineer will become the property of the Owner and the Contractor shall supply approved albums to accommodate them. Two copies are to be signed by the Contractor, one of which will be signed by the Engineer and returned to the Contractor.

4.4 Signboards

The Contractor shall furnish, erect and maintain 2 project identification signs, for as shown on the Drawings. All signs shall be placed at strategic location designated by the Engineer. Upon completion of the work, all signs installed shall be removed from the site.

4.5 General Operation and Maintenance Manual

The Contractor shall produce and supply to the Engineer two bound hard copies and two disk copies (Microsoft Word and Microsoft Excel) of an operation and maintenance manual on the target completion date for the contract.

No separate payment for the Operation and Maintenance Manual as this is deemed to be included as incidental to other items of work.

4.6 As-Built Drawings

The Contractor shall produce and supply to the Engineer two good hard copies of a full set of "As-Built" drawings at A1 size. The Engineer may allow up to 30 days after target completion date for delivery of some of these drawings, but otherwise they shall be due on the completion date. These shall include

correctly amended version of all Contract Drawings to freely and accurately describe the As-built condition of all elements of the project within the Contractor's scope of work, to the approval of the Engineer. All drawings shall be clearly marked "AS BUILT".

No separate payment for the As-built Drawings as this is deemed to be included as incidental to other items of work.

6. COMPLIANCE WITH CONTRACT REQUIREMENTS

6.1 Control of on Site Construction

Prior to the start of any definable feature of the work, the Contractor must perform the necessary inspection to include as follows:

- a) Review of Contract Documents to make sure that materials, equipment and products have been tested, submitted and approved.
- b) Physical examination of materials and equipment to assure its conformity to the specifications, plans, shop drawings and other data.
- c) As soon as the work has been started the Contractor shall conduct initial inspection to check and review the workmanship in compliance with the contract requirements for a particular item of work.
- d) The Contractor shall perform these inspections on a regular basis to assure continuing compliance with the contract requirements until completion of a particular type of work.

6.2 Preconstruction Meetings

Prior to the start of construction, Contractor's material men or vendors whose presence are required, must attend preconstruction meetings as directed for the purpose of discussing the execution of work.

6.3 Progress Meetings

Progress meetings shall be called upon by the following for the purpose of discussing the implementation of the work:

- a) When called upon by the Engineer or the Owner or his representative for the purpose of discussing the execution of work. Contractor's material men or vendors whose presence is necessary or requested must attend progress meetings. Each of such meeting shall be held at the time and place designated by the Engineer or his representative. Decisions and instructions agreed on these meetings shall be binding and conclusive on the contract. Minutes

of this meeting shall be recorded and reasonable number of copies shall be furnished to the Contractor for distribution to various materials men and vendors involved.

- b) The Contractor may also call for a progress meeting for the purpose of coordinating, expediting and scheduling the work. In such meeting Contractor's material men or vendors, whose presence is necessary or requested are required to attend.

6.4 Progress Reports

The Contractor shall faithfully prepare and submit progress reports to the Engineer every 30 days after the start of the project up to its completion, showing the work completed, work remaining to be done, the status of construction equipment and materials at the site.

6.5 Survey Data

The Contractor shall layout his work from established based lines and bench mark indicated in the drawing and shall be responsible for all measurement in connection therewith. The Contractor shall furnish, at his own expense, all stakes, templates, platforms, equipment, tools, materials and labor as may be required in laying out any part of the work, out of established base lines and bench mark. It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks until he is authorized to remove them. If such marks are destroyed by the Contractor through his negligence prior to the authorized removal, they shall be replaced at the expense of the Contractor.

6.6 Shop Drawings

The Contractor shall submit and furnish shop drawings and samples accompanied with transmittal forms in accordance with the provision of the Conditions of Contract. The term "Shop Drawings" as used herein shall be understood to include detailed design calculations, construction drawings, lists, graphs, and others.

- a) Transmittal forms shall be filled out in type-written or ink with no alterations or interlineations unless initialed and dated before submittal. Shop drawings shall be submitted the same size as the contract drawings when practicable, but in no case it shall exceed dimension of the contract drawings. The Contractor shall make preliminary check of all shop drawings for compliance with the contract documents and he shall stamp each print with statement of compliance with the requirements. The Contractor may authorize his supplier to deal directly with the Engineer with regard to shop drawings, however, ultimate responsibility for accuracy and completeness in the submittal shall remain with the Contractor.

- b) The said shop drawing and transmittal shall be submitted at a time sufficiently early, to allow review of the same by the Engineer and to accommodate the rate of construction progress required under the contract. The contractor shall submit print copies of shop drawings

with transmittal forms, and copies of brochures with transmittal forms, as required by the Engineer.

c) Any shop drawings and samples, submitted not accompanied by transmittal forms or where all applicable items on the forms are not completed will be returned for re-submittal. The Engineer who will check and evaluate mentioned shop drawings will retain print copy for his file and return the rest to the Contractor with notation. Returned shop drawings marked "No Exceptions Taken" or "Make Corrections Noted", means formal revision of said drawings will not be required. If it is marked "Amend-Resubmit" or "Rejected-Resubmit", the Contractor shall revise said drawing and shall submit revised drawing to the Engineer.

d) The Engineer shall process the submission and indicate the appropriate action on the shop drawings and transmittal forms. Construction of an item shall not commenced before the Engineer has reviewed the pertinent shop drawing and returned it to the Contractor, marked as mentioned above. Revisions indicated on shop drawing shall be considered as changes necessary to meet the requirements of the contract drawings and specifications, and shall not be taken as the basis of claims for extra work. The Contractor shall have no claim for damages or extension of time due to any delay, resulting from having Contractors make the required revisions, unless reviewed by the Engineer was delayed beyond reasonable period of time and unless the Contractor can establish that such delay in revision resulted in delay of the project.

Re-submittal procedure shall follow the same procedure as the initial submittal.

6.7 Construction Photographs

The Contractor shall take photographs during the progress of the work once a month, all taken where directed by the Engineer. At the completion of the project final photographs shall be taken by the Contractor as directed by the Engineer. Two prints of each photograph shall be sent to the Owner and one print to the Engineer. The photographs shall be neatly labeled, dated, and identified in a little box in the lower right hand corner, showing the date of exposure, project name, location and direction of view.

All negatives shall be retained by the Contractor until completion of the work at which time they shall become the property of the Owner.

6.8 Cleaning-up

The Contractor shall at all times keep the construction area including storage area used by him free from accumulations of waste material or rubbish. Upon completion of construction, the Contractor shall leave the work and premises in a clean, neat and workmanlike conditions satisfactory to the Owner.

6.9 Documents to be Submitted

The following documents shall be submitted by the Contractor to the Engineer and the Owner prior to final payment and before issuance of final certificate of payment in accordance with the provisions of the conditions of contract.

- a) The guarantee required by the Conditions of Contract and any other extended guarantees stated in the technical sections of the specifications.
- b) A set of As-Built drawings shall be submitted showing accurate record of changes or deviations from the contract documents and the shop drawings indicating the work as actually installed. Records shall be arranged in order, in accordance with the various sections of the specifications and properly indexed with certifications of endorsement thereof, that each of the revised print of the drawings and specifications are complete and accurate. Prior to the application for final payment, and as a condition to its approval by the Engineer and the Procuring Entity, the Contractor shall deliver the records, drawings, and specifications arranged in proper order, indexed and endorsed as herein specified.

END OF SECTION

DIVISION 02 EXISTING CONDITIONS

PART I-GENERAL

1. SITE ASSESSMENT AND SITE SURVEY

General Contractor involved in site assessment and survey must have a thorough review of its scope to be able to delineate the boundary of development. The Supervising Engineer must be familiar with the provision of the latest edition of the National Building Code and the regulations of the local authority concerned in the enforcement of the laws and ordinances.

Coordinate as necessary with other trades concerned to assure proper knowledge of scope of works.

Site assessment and survey shall be conducted using appropriate technologies including the use of standard and agreed —upon procedures.

2. SELECTIVE DEMOLITION

Existing concrete pavements at the line of development and to be affected by foundation works as per Plan shall be demolished as approved by the Supervising/Consulting Engineer.

No other portions which are not included in the scope of works shall be altered, moved or demolished unless with written approval of Consulting Architect/Engineer.

Haul routes shall be designated by the Procuring Entity and Consulting Architect/Engineer.

PART II-PRODUCTS

The work shall include the furnishing of all labor, materials, equipment like portable jack hammers, concrete cutters and services necessary for complete assessment, survey, testing, investigation and selective demolition as per Plan. In case of conflict between Plans and these Specifications, the Consulting Architect shall be notified.

PART III-EXECUTION

The work throughout will be executed in quality and most thorough manner known to the satisfaction of Consulting Architect/Engineer.

END OF SECTION

DIVISION 08 THERMAL AND MOISTURE PROTECTION

PART I-GENERAL

Materials shall be delivered in original sealed containers, clearly marked with brand name and type of materials.

Materials shall be stored at temperature specified with normal handling to prevent damage to container. Do not store for long periods in direct sunlight.

Manufactured coating materials shall delivered to the site in the original sealed containers or package bearing the manufacturer's name and brand designation.

To have a bond between the membrane waterproofing and the slab, concrete topping shall be placed as the membrane dries after 48 hours of application.

If a bond is not required, the membrane shall be protected with asphalt asbestos board or asphalt felt paper until such time as topping and concrete covering is applied.

Prior to topping or placing concrete cover, inspect the membrane for any damage and repair work as required.

PART II-PRODUCTS

1. WATERPROOFING/DAMP-PROOFING

1.1 Waterproofing for Concrete Roof Decks, Toilets, Canopies, Concrete gutters

Provide membrane waterproofing where shown on the Plans, as specified herein, and as needed for a complete and proper installation.

1.1.1 Integral waterproofing

Integral waterproofing compound shall be cementitious powder pre-mix admixture or water base surface coat conforming with the standard Specifications set by the Bureau of Product Standards, Department of Trade and Industry.

1.1.2 Membrane Waterproofing

Membrane waterproofing shall be osmo-seal powder, liquid elastomeric or epoxy solvent less waterproofing compound formulated for extra flexibility and resiliency to give lasting waterproof effect.

2. THERMAL INSULATION

2.1 Ceilings

Mat or blanket insulation shall be 50mm thick with aluminum foil membrane facing and with edges suitable for fastening insulation to supporting members. Insulation including affixed vapor barrier, shall have a flame spread rating not greater than 25 and a smoke developed rating not greater than 50 when tested in accordance with ASTM e84.

Fasteners and adhesives shall be approved standard product of insulation manufacturer.

PART III-EXECUTION

1. WATERPROOFING / DAMPROOFING

1.1 Field Quality Control

Waterproofed areas shall be given 24-hour flood test upon completion of the waterproofing. Allow system to cure 48 hours prior to flood test or until dry enough to support foot traffic and test.

Waterproofing works shall be done in a skillful manner, completely watertight, and free from loose applications. The Contractor shall submit a guarantee certificate against water leaks for a period of five years. In case of failure within the guarantee period, the General Contractor shall repair the defective work free of charge to the Procuring Entity.

1.2 Application

1.2.1 Integral Waterproofing

Mixture shall be applied by notched trowel, squeegee, roller, paint brush or airless spray and shall remain tight under condition of expansion.

Concrete mixture for roof decks, toilet, gutters, parapets and other areas indicated on the Plans to be integrally waterproofed shall be blended with integral waterproofing compound.

Only a minimum quantity of clean water shall be used in the concrete mixture to be sufficiently plastic and to obtain enough workability in placing concrete.

Top barrier or coating shall be a mixture of high early strength Portland cement with fine silica sand and water-white elastomer chemicals to provide a cementitious water barrier for concrete. Application of cementitious barrier or coating shall be 90 mils thick.

Concrete slab shall be properly graded to drain rainwater. A minimum pitch of one percent (1%) is satisfactory to drain water freely into the drain lines.

Drainage connection and weep-holes shall be set up to permit the free flow of water.

Any expansion and contraction joints shall be cleaned, primed, fitted with a backing rod and caulked with sealant.

Prepared surfaces shall be cured and kept wet by sprinkling water at regular intervals for a period of atleast three days when smooth surface finish is actually set.

Allow cured surfaces to dry and remove all dust, dirt, debris and oil.

All loose areas shall be refitted and well secured. Repair cracks, breaks and open seams. Where required or as directed in the membrane waterproofing product instruction manual, prepared surface shall be prime coated.

1.2.2 Membrane Waterproofing

Prior to application, concrete surfaces shall be sound and cured without the use of curing compound.

Apply a coat of neutralizer to remove oil, dirt, and other contaminants

Apply a coat of concrete primer on surfaces to be installed with membrane self-sealing type when required or as directed in the product instruction manual.

Stir thoroughly each container of membrane waterproofing before use.

Apply a coat of membrane waterproofing by manufacturer standard through brush, airless spray, notched trowel, squeegee or roller, with approval of the Supervising/Consulting Engineer.

Three applications is recommended and each coat is allowed a minimum of 24 hours curing time between each coat or as recommended in the product manufacturer's instruction manual.

Application of membrane waterproofing coat should not commence unless ambient temperature is 4.44° C or higher and shall not proceed during inclement weather condition.

The waterproofing compound is combustible. Extra care shall be observed by persons having skin sensitiveness to wear protective gloves while applying.

All surfaces on which coating is to be applied shall be steel trowelled finish, dry, clean, smooth and free from oil or grease and from projections that might puncture the coatings. Floor surfaces shall be kept dry prior to and during installation.

Concrete surfaces like basement, deck, plant boxes, etc., are free of ridges or sharp projections.

Concrete must be cured for a minimum of 14 days.

Concrete shall be finished by a power or hand steel trowel followed by soft hair broom to obtain light texture or light sidewalk finish.

Method of application shall be as per manufacturer's specifications to attain the thickness specified hereinbefore.

At all integral flashing, apply 120-mil thick of cementitious coating to the surface to be flashed extending 150mm unto the floor slab and up the vertical wall.

2. THERMAL INSULATION

All surfaces on which insulation and vapor barriers are to be applied shall be clean, smooth, dry, and free from any projections which might puncture the vapor barriers. The condition of the surfaces shall be inspected and approved by the Construction Architect/Engineer immediately before the work is started.

Each space between framing members shall be insulated completely with blanket insulation. Continuous strips of blanket shall be cut to required length for attachment at top and bottom. Blankets shall be butted snugly. Affixed facing shall be installed facing toward the interior side of the construction. Insulation shall be secured in place by use of nailing strips, or an approved adhesive standard of manufacturer. The insulation shall be installed after all electric wiring, plumbing, and other concealed work are in place; areas around electrical outlets, pipes, and all protruding objects shall be snugly fitted. When water pipes occur in ceiling construction, insulation shall be applied between the ceiling and the pipe. Large pipes may require compression or removal of some of the insulation, retaining the vapor-barrier facing. The insulation shall be cut to fit, angles, corners, or irregular spaces, always forming a flange of the affixed facing where insulation is to be fastened to the forming. All joints or breaks shall be sealed in a manner that will assure a continuous vapor barrier capable of effectively controlling condensation.

END OF SECTION

DIVISION 09 OPENINGS

PART I-GENERAL

Stockpile items sufficiently in advance to assure their availability, and make necessary deliveries in a timely manner to assure orderly progress of the total work.

Coordinate as necessary with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.

Upon completion of the work, and as a condition of its acceptance, provide the inspection, adjustment, and report.

Materials list of items proposed to be provided under this Section.

Manufacturer's specifications and other data needed to prove compliance with the specified requirements
Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades.

Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

Provide quality grade wooden doorframes in the types and designs indicated on the Plans and properly reinforced for the finish hardware required.

All parts shall be protected adequately to ensure against damage during transit and construction operations.

1. DOORS, FRAMES AND PARTITIONS

1.1 Repair of Existing Steel Grille Doors and Windows

Work includes:

Doors:

Cutting of excess grilles along designated cutting lines to adopt to new finish floor line

Chipping of concrete jambs to remove bottom hinges of door grilles

Joining (Re-welding) of steel grille door bottom frame to existing door

Re-installation of bottom hinges to concrete walls / re-welding to installed bottom frame

Restoration of chipped-off concrete on door jambs

Windows:

Chipping of concrete to remove defective window grilles or as necessary

Cutting of defective grilles/ grilles not conforming to design

Fabrication of window grilles according to design and configuration

Joining (Re-welding) of window grilles as necessary

Re-installation of new/restored window grilles

1.2 Wooden Panel Doors

Panel doors shall be protected against damage and dampness. Doors shall be stored under cover in a well ventilated building where they will not be exposed to extreme changes in humidity. They shall not be brought into the structure until plastering has been completed and is thoroughly dry.

1.3 Customized Metal Door Backing

Provide metal fabrications, miscellaneous metal, and related accessory items, galvanized and prime painted, complete, as shown on Plans and specified.

1.4 Glass Entrances and Partitions, including Customized Glass Door Backing at Existing Steel Grille Doors

All steel, stainless steel and aluminum parts shall be protected adequately to ensure against damage during transit and construction phase.

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

Aluminum frames and stainless steel finishing hardware shall be thoroughly cleaned with kerosene or gasoline, diluted with water and then wipe surface using clean cloth rags. No abrasive cleaning materials shall be permitted in cleaning surface.

Upon completion of the building, cracked, broken or imperfect glass, or glass which has been set improperly shall be replaced. Glass surfaces shall be thoroughly cleaned, with labels; paint spots, putty, and other defacements removed, and shall be clean at the time the work is accepted.

2. CURTAIN WALL ASSEMBLY

A qualified independent testing agency to test glazed curtain-wall systems for compliance with specified requirements for performance and test methods should be employed. Provide test specimens and assemblies representative of proposed materials and construction.

Select sizes and configurations of assemblies to adequately demonstrate capability of glazed curtain-wall systems to comply with performance requirements

Conduct meeting at Project site to review methods and procedures related to glazed curtain-wall systems including, but not limited to, the following:

Review structural load limitations.

Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

Review required testing, inspecting, and certifying procedures.

Notify Consulting Architect seven days in advance of the dates and times when assemblies will be constructed.

2.1 Special Assembly Warranty

Contractor's standard form in which Contractor agrees to repair or replace components of glazed curtain-wall systems that do not comply with requirements or that deteriorate as defined in this Section within specified warranty period as agreed upon by the Procuring Entity and Consultants from date of Substantial Completion.

Failures include, but are not limited to, the following:

Structural failures including, but not limited to, excessive deflection.

Noise or vibration caused by thermal movements.

Deterioration of metals (metal finishes), and other materials beyond normal weathering.

Water leakage.

Failure of operating components to function normally

3. WINDOWS

3.1 Customized Aluminum Framed Glass Windows on Existing Steel Window Grilles

Fabricate custom windows as shown in Plans. Verify window openings by field measurements before fabrication and indicate measurements on Shop Drawings.

5. DOOR HARDWARE

With the delivery of permanent keys, deliver to the Owner one complete set of adjustment tools and one set of maintenance manuals for lockets, latch, sets, closets, and panic devices.

After hardware has been properly fitted, all exposed items such as knob platers, pulls, locks., etc. shall be removed until final coat of painter's finish has been approved, and then hardware installed.

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 cover shall be removed.

The Contractor shall place his order for all hardware early in order to avoid delay in the job. No request for extension of time shall be entertained by the Procuring Entity due to this delay and no substitution of hardware shall be allowed due to negligence of contractor on this matter.

6. GLAZING

Clean all glass on 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.

Glass shall be provided with caution stickers to call attention. Wherever needed, glazed glasses shall be protected using protective materials.

Work instruction on glass fitting and installation should strictly follow a standard precautionary measure to avoid damage or breakage on glass and secure total work safety. Glazing and fitting methods shall depend on the type of frame and glass to be used. Glazing on conventional frame section such as aluminum shall be glazing bead, glazing channel or sealant as caulking materials while glazing on concrete or metal channel support shall be sealant or glazing gaskets.

The sizes to provide for the required edge clearances shall be determined by measuring the actual opening to receive the glass. The labels shall be left in place until installation is approved. Movable items shall be securely fixed, or in a closed and locked position until glazing compound has thoroughly set. Beads or stops which are furnished with the items to be glazed shall be used to secure the glass in place.

Items to be glazed shall be shop or field glazed, using the glass of the quantity and thickness specified or indicated, shall be in conformance with the detail and general conditions governing glazing manuals.

Clearances shall be as specified herein or as specified by glass manufacturer as approved. The minimum edge clearance shall not be less than the thickness of the glass. The face clearance of glass from rabbets or stops shall not be less than 3mm.

Sufficient glazing compound shall be applied to the entire perimeter

All glass and glazing materials 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.

PART II- PRODUCTS

1. DOORS, FRAMES AND PARTITIONS

1.1 Repair of Existing Steel Grille Doors and Windows

The Contractor shall refer to Plans for the design for the existing steel grille doors and window grilles to be adopted.

1.2 Wooden Panel Door

Panel doors shall be customized, quality and clear lumber. Select lumber for similarity of grain and color, and arrange for optimum match between adjacent pieces. Design shall be as shown on Plans. Type and finish shall be approved by the Consulting Architect before installation.

3. WINDOWS

3.1 Customized Aluminum Framed Glass Windows on Existing Steel Window Grilles

3.1.1 Glazing

Plate glass shall be clear 6mm thick for customized windows on existing steel grilles. They shall be clear, except where indicated on the Plans as tinted, frosted, diffused or opaque.

3.1.2 Frames and Accessories

Frames for windows shall be fabricated from extruded aluminum section true to details with clean, straight, sharply defined profiles and free from defects impairing strength or durability. Extruded aluminum section shall conform to the specification requirements defined in ASTM B 211.

3.1 Glazing

4.5mm solid sheet structural polycarbonate

3.2 Frames and Accessories

Anchor profile cap to connecting profile

Aluminum connecting cap profile

Aluminum connecting profile

Aluminum base profile

2 ½ Sheet anchoring screw

Bell seal

Rubber sealing profile/gasket

5. DOOR HARDWARE

5.1 Wooden Panel Doors

5.1.1 Heavy Duty Hinges

Butt hinges shall be provided 4 pieces for each door. Butt hinges shall be heavy duty, non-rising loose pin type, 75mm x 75mm, and wrought bronze or brass finish, button tips and mounting screws of the same material

5.1.2 Lockset/Handle set

Lockset shall be finish and type as recommended by the manufacturer on their specific use and as approved by the Consulting Architect. Other factors being equal, preference will be given to the lockset offering the larger number of non-ferrous components, of the types specified hereinafter. Knobs shall be located so that the center line of the strike is 97 cm nominal above floor line.

All lockset shall be installed in a neat, professional manner, following manufacturer's instructions. Except as indicated or specified otherwise, fasteners furnished with the lockset shall be used to fasten hardware in place. After installation, protect hardware from paint, stains, blemishes and other damages until acceptance of the work. All lockset shall be adjusted properly and checked in the presence of the Consulting Architect/Engineer, and all hinges, locks, bolts, pulls, closers and other items shall operate properly. After lockset is checked, keys shall be tagged, identified, and delivered to the Owner. All errors in cutting and fitting, and all damage to adjoining work shall be corrected, repaired and finished as directed.

Security lockset shall be delivered to the jobsite in their original individual containers with the necessary appurtenances; including screws, and instructions. Each individual container shall be marked with manufacturer's name and catalog number.

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

5.1.3 Door stopper

Door stop shall be heavy-duty, wall-mounted as indicated

5.1.4 Door pulls/handles, Door knobs

Door pulls, handles and door knobs shall be same finish as locksets or handle sets, sizes and configuration in accordance with the Plans.

5.2 Customized Metal Door Backing

Hardware such as locks and hinges shall be as shown in Plans and to be approved by the Consulting Architect/Engineer.

5.3 Glass Entrances and Partitions, including Customized Glass Door Backing at Existing Steel Grille Doors

5.3.1 Hinges/Locks

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

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

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

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

5.3.2 Lockset/Handle set

Lockset shall stainless steel type for frameless glass doors as recommended by the manufacturer on their specific use and as approved by the Consulting Architect. Other factors being equal, preference will be given to the lockset offering the larger number of non-ferrous components, of the types specified hereinafter. Knobs shall be located so that the center line of the strike is 97 cm nominal above floor line.

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

5.3.3 Door stopper

Door stop shall be heavy-duty, wall-mounted as indicated.

5.3.4 Door pulls/handles, Door knobs

Door pulls, handles and door knobs shall be stainless steel finish, sizes and configuration in accordance with the Plans.

5.3.5 Frames

Frames for interior partitions shall be fabricated from extruded aluminum section true to details with clean, straight, sharply defined profiles and free from defects impairing strength or durability. Extruded aluminum section shall conform to the specification requirements defined in ASTM B 211.

6.2 Mirrors

All comfort rooms whether shown or not, the General Contractor shall provide and fit securely in place at the most convenient height above each lavatory 1 mirror, made from local glazing quality polished plate

glass 6 mm. thick with beveled edges and brass chromium plated frame 3 mm. thick waterproof tangle marine plywood backing, all in accordance with full size details.

PART III-EXECUTION

1. DOORS, FRAMES AND PARTITIONS

1.1 Repair of Existing Steel Grille Doors and Windows

1.1.1 Examination

Examine the substrate and conditions in which the work is to be installed. Correct unsatisfactory substrate and conditions prior to start of installation.

1.1.2 Preparation

Furnish setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, anchor bolts, and miscellaneous items having integral anchor, which are to be embedded in concrete construction. Coordinate delivery of such items to project site.

Coordinate metalwork with adjoining work. Do cutting, shearing, drilling, punching, threading, tapping, etc., required for metal work and for attachment of adjacent work. Drill or punch holes; do not use cutting torch. Shearing and punching shall leave true lines and surfaces.

Obtain Consulting Architect/Engineer's review prior to site cutting or making adjustments to structural members not indicated to be cut or adjusted.

Clean and strip primed steel items to bare metal where site welding is to be done.

Make provision for erection loads with temporary bracing. Keep work in alignment.

1.1.3 Installation

Provide anchorage devices and fasteners for securing metal work to in-place construction, including threaded fasteners for concrete inserts, through bolts, lag bolts, screws, and other connectors as required.

Conceal fastenings where practical. Thickness of metal and details of assembly and supports shall give ample strength and stiffness. Form joints exposed to weather to exclude water.

Perform cutting, drilling, and fitting required for installation of metal work. Set work accurately in location, alignment, and elevation, plumb, level, true, and free of rack, measured from established lines and levels. Provide temporary bracing anchors in formwork for items which are to be built into concrete or similar construction.

Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch up shop paint coat. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

1.2 Wooden Panel Doors

Panel doors shall be decorative or carving type, from tanguile or Narra configuration and sizes as shown on Plans.

Frames shall be of the design, size and thickness as indicated. This shall be set plumb and true, and well-braced to prevent distortion. Frames in masonry or concrete walls shall be secured as indicated.

Provide panel wood door, design, and thickness shown on the door schedule in the Plans, labeled or non-labeled as indicated and required, and in solid core as shown on the Door schedule.

Grade: Except as may be shown otherwise on the Plans.

Fabricate the work of this Section to "custom grade" standards of the referenced organization. .

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

1.1.1 Placing Frames

Except where specifically otherwise directed by the Supervising/Consulting Engineer/Architect, or not practicable because of construction conditions, place frames prior to construction of enclosing walls and ceilings. Set frames accurately into position, plumb, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

1.1.2 Installation Procedure

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.

Door panel shall be accurately joined at corners assembled and fixed rigidly to ensure weather tightness.

Panel doors and frames shall conform to best commercial standard. Doors and frames shall have wood preservative treatment.

Panel doors shall be levelled, hung plumbed, and fitted accurately allowing 2mm clearance at the jambs and heads. Lock stiles of doors, 45mm thick or thicker, shall be beveled 3mm in 50mm. Knob locks and latches shall be installed 1mm from finished floors to center knobs. Apply hardware with fastenings to size, quality, quantity and finish to provide workable door system.

1.1.3 Touch-up

Upon completion of the installation, visually check all exposed surfaces of the work of this Section and touch-up all scratches and abrasions to be completely invisible to the unaided eye from a distance of one and a half meters.

1.4 Glass Entrances and Partitions, including Customized Glass Door Backing at Existing Steel Grille Doors

1.3.1 Construction Requirements

For all assembly and fabrication works the cut end shall be true and accurate, free of burrs and rough edges. Cut-outs recesses, mortising and grinding operation for hardware shall be accurately made and properly reinforced.

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

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.

Weather strip shall be furnished on edges at the meeting stiles

3. WINDOWS

3.1 Installation

Examine openings, substrates, structural support, anchorage, and conditions, with Consulting Architect present, for compliance with requirements for installation tolerances, rough opening dimensions, levelness, coordination with wall flashings, and other built-in components; operational clearances and other conditions affecting performance of work.

Fabricate aluminum windows, in sizes indicated, that for performance class and performance grade indicated. Include a complete system for assembling components and anchoring windows. Fabricate aluminum windows that are reglazable without dismantling sash.

Provide operable sash with a double row of sliding weather stripping in horizontal rails and single- or double-row weather stripping in meeting or jamb stiles, as required to meet specified performance requirements. Provide weather stripping where applicable.

Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.

Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components; Drawings; and Shop Drawings.

Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.

Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.

Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.

Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials

Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.

3.2 Protection and Cleaning

Protect window surfaces from contact with contaminating substances resulting from construction operations. In addition, monitor window surfaces adjacent to and below exterior concrete and masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written recommendations.

Clean aluminum surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.

Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels and clean surfaces. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

Exposed Aluminum surfaces shall be Powder Coated Hard coats (White).

5. DOOR HARDWARE

5.1 Keying

Factory key, masterkey, and grand-masterkey locks and cylinders as directed by the Architect.

Furnish three keys for each lock, twelve masterkeys for each set, and three grand-masterkeys.

Furnish a construction masterkey system with 15 keys for locks & cylinders.

Use only the construction keys during construction.

Upon substantial completion of the work, as that Date is established by the Architect, void the construction key system and, in the presence of the Architect, demonstrate that the specified keying system is operating properly.

5.2 Surface Conditions

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

All lockset shall be installed in a neat, professional manner, following manufacturer's instructions. Except as indicated or specified otherwise, fasteners furnished with the lockset shall be used to fasten hardware in place. After installation, protect hardware from paint, stains, blemishes and other damages until acceptance of the work. All lockset shall be adjusted properly and checked in the presence of the Architect/Engineer, and all hinges, locks, bolts, pulls, closers and other items shall operate properly. After lockset is checked, keys shall be tagged, identified, and delivered to the Owner. All errors in cutting and fitting, and all damage to adjoining work shall be corrected, repaired and finished as directed.

5.3 Fasteners

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 to concrete or masonry.

Furnish necessary screws, bolts, and other fasteners suitable size and type to anchor the hardware, in position of long life under use.

Where necessary, furnish fasteners with toggle bolts, expansion shields, bolts, and other anchors approved by the Consulting Architect, according to the material to which the hardware is to be applied and according to the recommendations of the hardware manufacturer.

Provide fasteners which harmonize with the hardware as to finish and material.

Where butts are required to swing 180 degrees, furnish butts of sufficient throw to clear the trim.

Furnish silencers for door frames at the rate of three for each single door and two for each door or pair of doors; except weather-stripped doors and doors with light seals or sound seals.

6. GLAZING

6.1 Installation

Install the work of this Section in strict accordance with the manufacturer's recommendations as approved by the Architect, and as required by governmental agencies having jurisdiction, anchoring all components firmly into position for long life under hard use.

Leave labels on glass until inspection and approved by the Consulting Architect, and then clean in accordance with provisions.

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 beads are required. Apply putty in uniformly straight lines, with accurately formed bevels and clean-cut corners; remove excess putty from glass.

Set glass in frames of interior partitions in felt channel insets or bedded in putty to prevent any rattle; secure glass in wood doors and wooden frames with glazing stops; secure stops on doors with screws.

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

Improperly set glass which does not fully meet requirements of its grade shall not be accepted and shall be replaced without extra cost.

The Contractor shall provide and install complete set ready for use, mirrors in all comfort rooms and elsewhere shown on the Plans. Size and location for each mirror shall be as indicated on the Plans.

6.2 Workmanship

Examine areas to receive glazing. Notify Consulting Architect/Engineer of conditions that would adversely affect installation. Do not proceed with installation until unsatisfactory conditions are corrected.

All glass shall be accurately cut to fit opening and set with equal bearing on the entire width of pane.

Putty shall be neatly run in straight lines as parallel with inside of glazing rebate; corners shall be carefully made; all excess putty shall be removed and surfaces left clean.

Apply a thin layer of putty to rebate and set glass or putty, pressing until an even bed is secured; place spring wire or angle glazing clips and run face putty; remove excess putty from other side flush with edge of rebate.

6.3 Fittings and Accessories

Verify dimensions, tolerances, and method of attachment with other work.

Install in accordance with Manufacturer's/Contractor's Instructions, approved Shop Drawings, and Engineering calculations.

Point support fittings to be mounted to structural post and beams.

Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

Provide alignment attachments and shims to permanently fasten system to building structure.

Align assembly plumb and level, free of twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

END OF SECTION

DIVISION 10 FINISHES

PART I-GENERAL

1. PORTLAND CEMENT PLASTERING

Cement and lime shall be stored off the ground under watertight cover, and away from damp walls and surfaces until ready for use. Damaged or deteriorated materials shall be removed from the premises immediately. Manufactured materials shall be delivered in the original unbroken packages or containers that are labeled plainly with the manufacturer's names and brand. Container for tiles shall be grade-sealed. Materials shall be handled in a manner that will prevent the intrusion of deleterious materials that will affect its quality and appearance.

2. TILEWORKS

Slabs/Tiles found damaged, which in the opinion of the Consulting Architect/Engineer, may affect the appearance or aesthetic of the floor system, shall not be used in the work.

3. PAINTING AND COATING

All material to be used under this item shall be stored in a single place and such place shall be kept neat and clean at all time. Necessary precaution to avoid fire must be observed by removing oily rags, waste, etc. at the end of the daily work.

All cloths and cotton waste which constitute fire hazards shall be placed in metal containers or destroyed at the end of daily works. Upon completion of daily work, all staging, scaffolding and paint containers shall be removed. Paint drips, oil, or stains on adjacent surfaces shall be removed and the entire job left clean and acceptable to the Consulting Architect.

3.1 Paint Schedule

Table 8. Paint Schedule

Exterior Finishes

a) Plain cement plastered finish to be painted paint	3	coats	Acrylic base masonry
b) Concrete exposed aggregate and/or tool repellent			1 coat water
finish			
c) Ferrous metal enamel paint			1 coat primer and 2 coats

- d) Galvanized metal paint 1 coat zinc chromate primer and 2 coats Portland cement paint
- e) Wood painted finish 3 coats oil based paint
- f) Wood varnished finish repellent Varnish water

Interior Finishes

- a) Plain cement plastered finish to be painted paint 3 coats Acrylic base masonry
- b) Concrete exposed aggregate and/or tool Surface Clean
- c) Ferrous metal enamel paint 1 coat primer and 2 coats
- d) Woodwork sea-mist lacquer 3 coats of 3 parts thinner 1 part
- e) Wood varnish sealer to one 1st coat, of one part sanding
- f) Wood painted finish part solvent 2nd coat of 2/3 sanding sealer
- g) Ceiling boards textured finish to dry then to 1/3 solvent
3 coats of oil base paint
1 coat oil based paint allow
- patch surfaces unevenness and
apply textured paint coat

3.2 Application

Paints and coatings shall be applied to:

All Existing and Proposed Exterior and Interior Walls

All Existing Concrete Mouldings, Logo, Seals, Corbels, Decorative Columns

All Existing soffit and Proposed Fiber Cement Board Ceiling

All Existing Steel Grille Doors and Windows

All Exposed plumbing, electrical, mechanical items as necessary

All Wooden Panel doors, Cabinets, Jambs, Baseboards, Casings, mouldings and other exposed wood works
Fences, Gates and Columns

All Exposed Surfaces as necessary

PART II- PRODUCTS

1. PORTLAND CEMENT PLASTERING

Portland cement

Portland cement shall conform with comply with ASTM C150, type I

Fine Aggregates

Fine aggregates shall be clean, washed sharp, river sand and free from dirt, clay, organic matter or other deleterious substances. Sand derived from crushed gravel or stone may be used with the Consulting Engineer's approval but in no case shall such sand be derived from stone unsuitable for use as coarse aggregates.

2. TILEWORKS

2.1 Ceramic/Porcelain Tiling

It shall be of the standard good quality grade, gloss smooth or rough finish, color, texture and size code should be strictly adhered as shown in the Plans and approved by the Consulting Architect.

Floor Tiles

Tiles shall be standard grade, rustic tiles, ceramic/porcelain, and 6 mm thick. Sizes shall be 0.60x0.60m and 0.30x0.30m.

The surface, color, type and pattern shall be as specified in the Plans or as approved by the Consulting Architect.

Wall Tiles

Tiles shall be standard grade, polished, ceramic/porcelain, and 6 mm thick. Sizes shall be 0.60x0.60m and 0.30x0.30m.

The surface, color, type and pattern shall be as specified in the Plans or as approved by the Consulting Architect.

2.2 Granite Tiling

Provide granite cut size tile 25 mm, 0.60 m width, length to verify at site for slab on counter at toilets and pantry, with all tiles of uniform grain and pattern.

2.3 Tile Adhesive

Tile adhesive (tile bonding agent) shall be used as the dry set mortar to install tiles on walls and floors employing the thin-set method conforming to ANSI A108.1b.

2.4 Mortar Bed

2.4.1 Portland cement

Portland cement shall conform with ASTM C150, type I

2.4.2 Fine Aggregates

Fine aggregates shall be clean, washed sharp, river sand and free from dirt, clay, organic matter or other deleterious substances. Sand derived from crushed gravel or stone may be used with the Engineer's approval but in no case shall such sand be derived from stone unsuitable for use as coarse aggregates.

3. PAINTING AND COATING

3.1 Glazing Putty

Putty shall be an alkyl type product for filling minor surface unevenness.

3.2 Concrete Neutralizer

Concrete neutralizer shall be first grade quality concentrate diluted with clean water and applied as surface conditioner of new interior and exterior walls thus improving paint adhesion and durability.

3.3 Silicone Water Repellant

Silicone water repellant shall be transparent water shield especially formulated to repel rain and moisture on exterior masonry surfaces.

3.4 Patching Compound

Patching compound shall be fine powder type material like calciumine that can be mixed into putty consistency, with oil base primers and paints to fill minor surface dents and imperfections.

3.5 Tinting Colors

Tinting color shall be first grade quality, pigment ground in alkyl resin that disperses and mixes easily with paint to produce the color desired. Use the same brand of paint and tinting color to effect good paint body.

3.6 Wood filler

Wood paste filler shall be quality filler ready mixed in can for filling and sealing open grains of interior wood. It shall produce a level finish for succeeding coats of paint, varnish, or lacquer and other related products.

3.7 Wood Stain

Wood stain shall contain colored pigments and oil which penetrate the wood and provide a rich and lasting protective stain.

3.8 Wood Putty

Putty shall be oil based type for alkyd enamel top coating and two-component type for polyurethane top coating

3.9 Sanding sealer

Sanding sealer shall be quality sealer for wood surfaces that provides a non-absorbent base for color treatment which are applied on it. It shall exhibit good hold out and sealing properties, fast drying and easy to smooth by sandpaper.

3.10 Varnish

Varnish shall be homogeneous solution of resin, drying oil, drier and solvent. It shall be extremely durable clear coating highly resistant to wear and tear without cracking, peeling, whitening, spotting, etc. with minimum loss of gloss for a maximum period of time.

3.11 Lacquer

Lacquer shall be any type of organic coating that dries rapidly and solely by evaporation of the solvent. Typical solvent are acetates, alcohols and ketones. Although lacquers were generally based on intre cellulose, manufacturers currently use, vinyl resins, plasticizers and reacted drying oils to improve adhesion and elasticity.

3.12 Clear polyurethane

Coating shall be two component thermosetting type.

3.13 Sandpaper

Shall be waterproof type

PART III-EXECUTION

1. PORTLAND CEMENT PLASTERING

1.1 Mixture

Mortar mixture for brown coat shall be freshly prepared and uniformly mixed in the proportion by volume of one (1) part Portland Cement, three (3) parts sand and one fourth (1/4) part hydrated lime.

Finish coat shall be pure Portland cement properly graded conforming to the requirements of Item 700, Hydraulic Cement and mixed with water to approved consistency and plasticity.

1.2 Surface Preparation

After removal of formworks reinforced concrete surfaces shall be roughened to improve adhesion of cement plaster.

Surfaces to receive cement plaster shall be cleaned of all projections, dust, loose particles, grease and bond breakers. Before any application of brown coat is commenced all surfaces that are to be plastered shall be wetted thoroughly with clean water to produce a uniformly moist condition.

1.3 Application

Brown coat mortar mix shall be applied with sufficient pressure starting from the lower portion of the surface to fill the grooved and to prevent air pockets in the reinforced concrete/ masonry work and avoid mortar mix drooping. The brown coat shall be lightly broomed/ or scratch before surface had properly set and allowed to cure.

Finish coat shall not be applied until after the brown coat has seasoned for seven days and corrective measures had been done by the General Contractor on surfaces that are defective. Just before the application of the finish coat, the brown coat surface shall be evenly moistened with potable water. Finish coat shall be floated first to a true and even surface, then trowel in a manner that will force the mixture to penetrate into the brown coat. Surfaces applied with finish coat shall then be smooth with paper in a circular motion to remove trowel marks, checks and blemishes. All cement plaster finish shall be 10 mm. thick minimum, on vertical concrete and/ or masonry walls.

Cement plaster shall not be applied directly to:

Concrete or masonry surface that had been coated with bituminous compound and,

Surfaces that had been painted or previously plastered.

1.4 Workmanship

Cement plaster finish shall be true to details and plumb. Finish surface shall have no visible junction marks where one (1) day's work adjoins the other. Where directed by the Supervising/Consulting Engineer or shown on the Plans vertical and horizontal groove joints shall be 25 mm wide and 10 mm deep.

2. TILEWORKS

2.1 Ceramic/Porcelain Tiling

The work consist of furnishing all materials, labor and performing all operations in connection with tile finishing of floors and walls, complete including mortar beds for the tile. Tile work shall not be started until roughing-ins for plumbing and electrical work has been completed and tested. The work of all other trades in the area where the work is to be done shall be protected from damage in a workmanship manner as directed by the Engineer.

2.1.1 Mortar for Tiles

A scratch coat for wall tile shall be approved tile adhesive. Scratch coat shall have a minimum thickness of 9 mm. The buttering mortar for setting wall tiles and mortar setting bed for floor tiles shall have the same material as that of scratch coat.

2.1.2 Floor Tiling

2.1.2.1 Preparation of Surfaces

Before tile is applied with a dry-set mortar bed, the structural floor shall be tested for levelness or uniformity of slope by flooding it with water. Areas with water ponds shall be filled, leveled and retested before the setting bed is applied. The slab shall be soaked thoroughly with clean water on the day before the setting bed is applied. Immediately preceding the application of the setting bed, the slab shall again be wetted thoroughly but no free water shall be permitted to remain on the surface. A skim coat of tile adhesive shall then be applied not more than 1.5 mm thick. The mortar shall be spread until its surface is true and even, and thoroughly compacted, either level or sloped uniformly for drainage, where required. A setting bed, as far as can be covered with the tile before the mortar shall have reached its initial set, must be placed in one(1) operation, but in the event that more setting mortar has been placed than can be covered, the unfinished portion shall be removed and cut back to a clean leveled edge.

2.1.3 Installation

2.1.3.1 Floor Tile

Determine and mark lay-out 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.

2.1.3.1.1 Limits of tile

Extend tile into recess and under equipment and fixtures to form a complete covering without interruptions.

Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment.

2.1.3.1.2 Joining pattern

Lay tile in grid pattern unless otherwise indicated on the Plans or directed by the Consulting Architect.

Align joints when adjoining tiles on floor, base, trim, and walls are the same size.

All tiles shall be soaked in clean water to a minimum of one (1) hour before they are installed. Absorptive mounted tile shall be damped by placing tile on a wetted cloth in a shallow pan before installing. Before the initial set has taken place in the setting bed, a skim of tile adhesive .75 mm to 1.5 mm thick, shall be trowelled or brushed over the setting. The tiles shall then be pressed firmly upon the setting bed, and carefully tapped into the mortar until true and even with the place of the finished floor base. Tapping and leveling shall be completed within one (1) hour after placing tiles. Borders and defined lines shall be laid before the field or body of the floor. Where floor drain is provided, the floor shall be sloped properly to the drains. Cutting of tiles, where necessary, shall be done along the outer edges of tile against trim, base, thresholds, pipes, built-in fixtures, and similar surfaces and shall be geared and joined carefully. Tiles shall be secured firmly in place, and loose tiles or tiles sounding hollow shall be removed and replaced to the satisfaction of the Consulting Architect. All lines shall be kept straight, parallel and true and all finished surface brought to true and even planes.

2.1.3.2 Wall Tile and Baseboards

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

Determine and mark lay-out of ceramic tiles as to joint location, position of trims and fixtures so as to minimize cutting by less than one half the size of the tile.

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

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

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

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

Intersections and returns shall be formed accurately using the appropriate trim

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

2.1.3.2.1 Jointing

Joints shall be parallel and uniform in width, plumb, level and in alignment. End joints in broken-joint shall be made, as far as practicable, on the center line of the adjoining tiles. Joint widths shall be uniform and measured to accommodate the tiles in the given spaces with a minimum cutting.

2.1.4 Grouting

Grouting shall be done as soon as the mortar beds have sufficiently set. All cement shall be Portland cement, colored or white, as required. Where light colored mortar is required in joints, a mixture of white cement and nonfading mineral oxide shall be used to produce the desired colors. The quantity of mineral oxides shall not exceed 10% of the volume of cement in any case.

2.1.5 Cleaning

Upon completion of grouting, the tile shall be thoroughly cleaned and maintained in this condition until completion of the contract.

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.

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

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

Do not let the protective paper get torn or removed

2.2 Granite Tiling

2.2.1 Setting Materials

Provide a mortar system of Portland cement, sand and water.

2.2.2 Others Materials

Provide other materials, not specifically described, but required for a complete and proper installation, as selected by the Contractor, subject to the approval of the Consulting Architect.

2.2.3 Surface Conditions

Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

2.2.4 Installation

2.2.4.1 Floor Tiles and Counter Slabs

Measure mortar materials in approved containers. Mix all materials in proportions by volume. Water and aggregates shall be introduced and mixed gradually to ensure a uniform distribution. Set mortar beds in a volume proportion of one part Portland cement, four parts dry sand and $\frac{1}{2}$ part lime.

Mortar setting beds shall be a minimum thickness of 25 millimeters.

Apply a coat of tile adhesive, one to two millimeters thick over the setting bed. Press tiles and slab firmly on the bed, keeping lines straight, parallel and true.

2.2.4.2 Pointing

Pointing material shall be polyurethane or polyester resin of best quality standard.

2.2.4.3 Sanding

Flooring shall be sanded with an approved equipment intended to provide smooth, even, uniform finish without burns. Final finished flooring shall be applied with heavy duty abrasion resistant wax to provide a lasting mirror like finish

2.2.4.4 Cleaning

Clean surrounding areas of slabs, tiles, and debris.

3. PAINTING AND COATING

The Contractor prior to commencement of the painting, varnishing and related work shall examine the surfaces to be applied in order not to jeopardize the quality and appearances of the painting varnishing and related works.

3.1 Surface Preparation

All surfaces shall be in proper condition to receive the finish. Woodworks shall be hand-sanded smooth and dusted clean. All knot-holes pitch pockets or sappy portions shall be sealed with natural wood filler. Nail holes, cracks or defects shall be carefully puttied after the first coat, matching the color of paint.

Interior woodworks shall be sandpapered between coats. Cracks holes of imperfections in plaster shall be filled with patching compound and smoothed off to match adjoining surfaces.

Concrete and masonry surfaces shall be coated with concrete neutralizer and allowed to dry before any painting primer coat is applied. When surface is dried apply first coating. Hairline cracks and unevenness

shall be patched and sealed with approved putty or patching compound. After all defects are corrected apply the finish coats as specified on the Plans. Color samples to be approved by the Consulting Architect.

Metal shall be clean, dry and free from mill scale and rust. Remove all grease and oils from surfaces. Wash unprimed galvanized metal with etching solution and allow it to dry. Where required to prime coat surface with red lead primer same shall be approved by the Engineer.

In addition the General Contractor shall undertake the following:

Void, cracks, nick etc. will be repaired with proper patching material and finished flushed with surrounding surfaces.

Marred or damaged shop coats on metal shall be spot primed with appropriate metal primer.

Painting and varnishing works shall not be commenced when it is too hot or cold.

Allow appropriate ventilation during application and drying period.

All hardware will be fitted and removed or protected prior to painting and varnishing works.

3.2 Mixing and Thinning

At the time of application paint shall show no sign of deterioration. Paint shall be thoroughly stirred, strained and kept at a uniform consistency during application. Paints of different manufacture shall not be mixed together. When thinning is necessary, this may be done immediately prior to application in accordance with the manufacturer's directions, but not in excess of 1 pint of suitable thinner per gallon of the paint.

3.3 Workmanship in General

All paints shall be evenly applied. Coats shall be of proper consistency and well brushed out so as to show a minimum of brush marks.

All coats shall be thoroughly dry before the succeeding coat is applied.

Where surfaces are not fully covered or cannot be satisfactorily finished in the number of coats specified such preparatory coats and subsequent coats as may be required shall be applied to attain the desired evenness of surface without extra cost to the Procuring Entity.

Where surface is not in proper condition to receive the coat the Consulting Architect shall be notified immediately. Work on the questioned portion(s) shall not start until clearance be proceed is ordered by the Consulting Architect.

Hardware, lighting fixture and other similar items shall be removed or protected during the painting varnishing and related work operations and re-installed after completion of the work.

3.4 Application

3.4.1 Brush application

Paints when applied by brush shall become non-fluid, thick enough to lay down as adequate film of wet paint. Brush marks shall flawed out after application of paint.

Brush out and work the brush coats onto the surface in an even film.

Cloudiness, spotting, holidays, laps, brush, marks, runs, sags, ropiness, and other surface imperfections will not be acceptable.

3.4.2 Spray application

Paints made for application by roller must be similar to brushing paint. It must be non-sticky when thinned to spraying viscosity so that it will break up easily droplets.

Paint is atomized by high pressure pumping rather than broken up by the large volume of air mixed with it. This procedure changes the required properties of the paint.

Except as specifically otherwise approved by the Consulting Architect, confine spray application to metal framework and similar surfaces where hand brushwork would be inferior.

Where spray application is used, apply each coat to provide the hiding equivalent of brush coats.

Do not double back with spray equipment to build up thickness of two coats in one pass.

For complete work, match the approved samples as to texture, color, and coverage, Remove, refinish, or repaint work not in compliance with the specified requirements.

3.5 Touch-up and Finishing

Touch up shop-applied prime coats which have been damaged, and touchup bare areas prior to start or finish coats application.

Slightly vary the color of succeeding coats.

Do not apply additional coats until the completed coat has been inspected and approved.

Only the inspected and approved coats of paint will be considered in determining the number coats applied.

Sand and dust between coats to remove defects visible to the unaided eye from a distance of five feet.

On removable panels and hinged panels, paint the backsides to match the exposed sides.

3.6 Drying

Allow sufficient drying time coats, modifying the period as recommended by the material manufacturer to suit adverse weather conditions.

Consider oil-base and oleo-resinous solvent type paint as dry for re-coating when the paint feels, firm, does not deform or feel sticky under moderate pressure of the thumb, and when the application of another coat of paint does not cause lifting or less of adhesion of the undercoat.

3.7 Miscellaneous surfaces and procedures

3.7.1 Exposed mechanical items

Finish electric panels, access, conduits, pipes, ducts, grilles, registers, vents, and items of similar nature to match the adjacent wall and ceiling surfaces, or as directed.

3.7.2 Hardware

Paint prime coated hardware to match adjacent surfaces;

Paint metal portions of head seals, jamb seals, and astragal seals to match the color of the doorframe unless otherwise directed by the Architect.

3.7.3 Wet areas

In toilet rooms and contiguous areas, add an approved fungicide to paints.

For oil based paints, use 1-% phenol mercuric or 4% pentachlorophenol.

For water emulsion and glue size surfaces, use 4% sodium pentachlorophenol.

Exposed vents: Apply two coats of heat resistant paint approved by the Architect.

4. SUSPENDED CEILING ASSEMBLY

All materials and workmanship shall be the best of their respective kinds, fabricated to true, plumb and straight lines. All ferrous metals shall have a rust-inhibitive finish of approved paint.

When fastening to in-place construction, provide anchorage devices and fittings to properly secure ceiling assembly to in-place construction. Examples of such devices include threaded fittings (for concrete inserts), toggle bolts and through-bolts.

END OF SECTION

DIVISION 11 SPECIALTIES

PART I-GENERAL

Do not deliver toilet compartments to site until building is enclosed and HVAC systems are in operation. Deliver toilet compartments in manufacturer's original packaging and store in an upright condition.

PART II-PRODUCTS

1. INTERIOR SPECIALTIES

1.1 Plastic Laminate Toilet Compartments

1.1.1 Board

Toilet compartments shall be 6 mm thick phenolic board. Compartments shall be floor and or wall anchored.

1.1.2 Hinges

Hinges shall be self-closing surface mounted, through bolted, with gravity cams, adjustable to hold doors open at any angle up to 90 degrees, with emergency access by lifting door.

1.1.3 Brackets

Brackets shall be stainless steel and according to manufacturer's manual.

1.1.4 Latch and Keeper

Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, with provision for emergency access, meeting requirements for accessibility at accessible compartments.

1.1.5 Coat Hook

Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswinging doors.

1.1.6 Door Pull

Standard unit on outside of inswing doors. Provide pulls on both sides of outswinging doors.

1.2 Room and Directional Signages

Room and Directional Signages shall be in vinyl sticker attached to 4.5 mm thick Aluminum Composite Panel. Hangers and hooks shall be 304L. Designs and configuration shall be as shown in Plans.

PART II-EXECUTION

1. INTERIOR SPECIALTIES

1.1 Plastic Laminate Toilet Compartments

1.1.1 Fabrication

Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

Door Size and Swings shall be as shown on Plans.

Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.

Proceed with installation once conditions meet manufacturer's requirements.

1.1.2 Installation

Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

Install toilet partitions and screens in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.

Install with clearances indicated on Plans.

Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls

Remove packaging and construction debris and legally dispose of off-site.

Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

1.2 Room and Directional Signages

All Room and Directional Signages shall be in place as indicated on the Plans or where directed by the Consulting Architect. Signs shall be secured by hooks and hangers as approved and of sizes required to assure rigid attachment. Designs and color samples shall be as shown in plans and approved by the Consulting Architect.

All exposed surfaces shall be protected until final acceptance of the work in a manner sufficient to prevent damage or discoloration. Any work damaged or discoloured in any way before final acceptance of work shall be replaced without additional cost to the Procuring Entity

END OF SECTION

DIVISION 13 FIRE SUPPRESSION

PART I-GENERAL

The Contractor for the installation of the fire protection system shall be a qualified contractor and installer, regularly engaged in the installation and must have at least one year experience on the trade. All installer for working should be certified welder by TESDA.

The work shall include the furnishing of all labor, materials, equipment and services necessary the complete installation, testing and commissioning of the system as per Plan. In case of conflict between plans and this specification, the Consulting Engineer shall be notified.

All pipe shall conformed to ASTM standard.

Fire Pump / Jockey Pump and all ACC for sprinkler system should be UL / FM Standard.

Pressure test at 180 PSI at 24 hours testing to maintain at 120 PSI working pressure.

Fire protection piping shall be hydrostatically tested to at least 0.6 Mpa.

Fire protection piping shall be painted with two coats of epoxy primer and finish with two coats of red enamel paints or as per require by code.

PART II- PRODUCTS

1. FIRE SUPPRESSION WATER SERVICE PIPING

Yard Hydrant where shown on the Plans shall match the integrated Fire Department requirements. Outlet shall be single 63 mm. diameter gate valves with chain connected caps. Water service piping shall conform to wet type sprinkler system configuration.

2. FIRE SUPPRESSION STANDPIPES

Fire stand pipe system shall consist of risers and hose valves. Pipe shall be extra strong black iron. Valves to be high grade cast bronze mounted with standing 79.40 kg. working pressure as indicated on the Plans.

Fire hose cabinets shall be locally available consisting of 38 mm. diameter valve hose rack with nipple 30 mm. rubber lined hose cable with standing 4268 kg/cm square, nozzle 38 mm. diameter brass, chromium plated.

3. FIRE SUPPRESSION SPRINKLER SYSTEMS

Fire sprinkler systems shall be Wet type.

3.1 Sprinkler heads

Sprinkler heads shall be upright for areas without ceiling and pendent for with ceilings.

3.2 Piping

25, 40, 65, 100 mm Ø pipes

3.3 Fittings

25mm x 15mm Coupling Reducer

25mm x 50mm, 40mm x 50mm, 25mm x 65mm, 50mm x 50mm Tee reducers

65mm Tees

25mm, 40mm, 65mm, 75mm Elbows

25mm x 75mm Threaded nipple

Gate valves, 1 ½ " and 2 ½" angle valves, sight glass, union patente

Consumable materials such as Welding rod, Oxy/Accy, Red Primer, Paint brush, etc.

4. FIRE EXTINGUISHER SYSTEMS

Fire extinguisher shall be portable, suitable for Class A, B, C fires mounted inside cabinet. Cabinet shall be full flush mounting door with aluminum trim for glass plate, frame and box shall be made of Gauge 14 galvanized iron sheet with white interior and red exterior baked enamel finish over primer paint. Cabinet to be wall mounted and size to be able to accommodate the defined components.

PART III-EXECUTION

1. FIRE SUPPRESSION WATER SERVICE PIPING

Comply with excavating, trenching, and backfilling requirements in Division 3 Siteworks.

Water-Main Connection: Arrange with water utility company for tap of size and in location indicated in water main.

Water-Main Connection: Tap water main according to requirements of water utility company and of size and in location indicated.

2. FIRE SUPPRESSION STANDPIPES

Examine roughing-in for hose connections and stations to verify actual locations of piping connections before installation.

Examine walls and partitions for suitable thickness, fire- and smoke-rated construction, framing for hose-station cabinets, and other conditions where hose connections and stations are to be installed. Proceed with installation only after unsatisfactory conditions have been corrected.

3. FIRE SUPPRESSION SPRINKLER SYSTEMS

Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated, as far as practical.

Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans. Connect sprinkler piping to water-service piping for service entrance to building. Install shutoff valve, pressure gage, drain, and other accessories indicated at connection to water-service piping

Install shutoff valve, check valve, pressure gage, and drain at connection to water service.

4. FIRE EXTINGUISHER SYSTEMS

Furnish and install at all points marked F.E.C. on drawings, recessed fire extinguisher cabinets from a reputable manufacturer. Door shall have protruding curved clear Plexiglas window.

END OF SECTION

DIVISION 15 MECHANICAL

PART I-GENERAL

The contractor for the installation of the air conditioning and ventilation system shall be a qualified contractor and installer, regularly engaged in the installation and must have at least one year experience on the trade.

This item shall consist of furnishing and installation of air conditioning, refrigeration and ventilation systems, inclusive of necessary electrical connections, ductworks, grilles, pipes and condensate drains and all other necessary accessories, ready for service in accordance with the Plans and Specifications.

All permits and fees, private or government shall be secured by owner prior to the start of work.

Furnish and install split type air-conditioning units, ventilation and the fire protection system as per plan. System shall include piping installation, brackets and supports, circuit breaker wires, refrigerant piping and other to complete installation.

Do all necessary civil works in the installation of outdoor and indoor unit window type and fire hose cabinet.

All mechanical installation should be supervised by RME / PME according to RA 8495 known as ME Law.

Mechanical plans should bear certified signs and seals by Professional Mechanical Engineer.

Revision of Plan will be consulted to the Consulting Engineer.

Design standard will be ASHRAE.

All materials for installation will be approved by the manufacturing standard.

All exposed refrigerant pipes will be covered with aluminum cladding. Refrigerant pipings after pressure testing shall be evacuated using triple evacuation prior to the charging. Leak testing of all refrigerant pipes will be 24 hours at 0.5 above working pressure. All refrigerant pipes will be embedded to the wall.

All aircon drainage pipe should be properly installed and insulated.

All system will be flushed with nitrogen prior to charging of refrigerant. Pressure purging of nitrogen will be in strict compliance during soldering of all tubings. Pressure test for nitrogen 0.5 above working pressure 24 hours to all system.

All drain pipes will be in separate connection to all service pipes and will be tested 24 hours.

ACCU should be installed atleast 3.0m away from the building for noise compliance.

Hangers and supports and brackets shall be pre-painted with two coats of epoxy primer finish with two coats of aluminum or silver paint. All piping shall be bracketed, supported, and hang at least every 3m on BI pipe.

BI pipe installed shall be painted with two coats and epoxy primer and finish with two coat of red enamel paint.

All units shall be provided with vibration insulator as per manufacturer specification.

GUARANTEE AND SERVICE

All equipment, materials and workmanship shall be guaranteed for a period of one (1) year from the date of completion at anytime within the period of guarantee and upon notification the Contractor shall repair and rectify the deficiencies, including replacement of parts or entire units.

PART II- PRODUCTS

The types, sizes, capacities, quantities and power characteristics of the compressor, evaporator, condenser chilled water pump and condenser water pump shall be as specified or as shown on the Plans.

1. REFRIGERANT PIPES

Refrigerant pipes shall be $\frac{3}{4}$ " , 1 $\frac{5}{8}$ " , 3/8" , 7/8" copper tubing, type L or K complete with fittings as shown in Plans.

Fittings for copper tubing shall be cast bronze fitting designed expressly for brazing.

2. CONDENSATE DRAIN SYSTEM

Condensate drain pipe shall be PVC pipe 1mm Ø x 3 m length complete with fittings.

3. PIPE INSULATIONS

Refrigerant piping shall be insulated with 3/8" x $\frac{3}{4}$ " , $\frac{1}{4}$ " x $\frac{3}{4}$ " , 7/8" x $\frac{3}{4}$ " and 1 5/8" x $\frac{3}{4}$ " rubber insulations.

Drain pipe shall be insulated 1 1/8" x 3/8" rubber insulation.

4.4 Diffusers

The type, shape, capacity size and location shall be as shown in the Plans. Diffusers shall be complete with frame and gasket, equalizing deflector and volume control as indicated or specified and shall have factory applied prime coat of paint.

Samples of supply and return air diffusers shall be submitted for approval before mass fabrication and installation.

5. ELECTRICAL WORKS

Power supply shall be provided by the Contractor at the pull installed inside the machine room and shall furnish and install the circuit breaker, starter and panel boards with suitable ratings and capacities, conduits, wirings, fittings, devices and all other equipment and electrical connections needed to complete the electrical installation of the system. All electrical works shall comply with the latest edition of the Philippine Electrical Code with the applicable ordinance of the local government and all the rules and requirements of the local power company.

PART III-EXECUTION

1. OPERATION

The air conditioning system shall be entirely automatic in operation and shall not require the presence of an attendant except for period inspection for lubrication. All equipment and materials shall be inspected upon the delivery and shall be tested after installation. Piping shall not be buried, concealed, or insulated until it has been inspected, tested and approved. Walls, floors and other parts of the building and equipment damaged by Contractor in the execution of the work shall be replaced as shown as the Plans.

2. OPERATING TESTS

Refrigerating equipment shall be tested for 8-hours per day for three (3) consecutive days as longer when so directed, under the supervisions of manufacturer's qualified and authorized representative who will make necessary adjustments and instruct designated plant operating personnel for each operation and maintenance of refrigerating equipment and controls.

Operating test of complete air conditioning system shall be 6-hours minimum for each system. Tests of air flow, temperature and humidity shall be made to demonstrate that each complies with the requirements of the plans and specification.

3. MISCELLANEOUS

All standard tools and equipment shall be furnished for proper and regular maintenance of installed equipment.

END OF SECTION

DIVISION 16 ELECTRICAL

PART I-GENERAL

This item shall consist of the furnishing and installation of the complete conduit work consisting of electrical conduits; conduit boxes such as junction boxes, utility boxes, octagonal and square boxes; conduit fittings such as couplings, locknuts and bushing and other electrical materials needed to complete the conduit roughing-in works. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

All works shall comply with the provision of the latest edition of the Philippine Electrical Code, the regulations of the local authority concerned in the enforcement of the electrical laws and ordinances and with the rules and regulations of the utility company.

Coordinate as necessary with other trades to assure proper adequate provision in the work of those trades for interface of the work of this section.

Coordinate the installation of electrical items with the schedule for work of other trades to prevent unnecessary delays in the total work.

Where lighting fixtures and other electrical items are shown in conflict with locations of structural members or other equipment, provide required support and wiring to clear the encroachment.

Data indicated on the Plans and in these Specifications are exact as could be secured, but their absolute accuracy is not warranted. The exact locations, distances, levels, and other conditions will governed by actual construction and the Drawings and Specifications should be used only for guidance in such regard.

Where outlets are not specifically located on the Drawings, locate as determined in the field by the Architect. Where outlets are installed without such specific direction, relocate as directed by the Architect and at no additional cost to the Owner.

Verify all measurements at the building. No extra compensation will be allowed because of differences between work shown on the Plans and actual measurements at the site of construction.

Branch circuit wiring and arrangement of home runs have been designed for maximum economy consistent with adequate sizing for voltage drops and other considerations. Install the wiring with circuits arranges exactly as shown on the Drawings, except as otherwise approved in advance by the Architect.

The Electrical Drawings are Diagrammatic, but are required to be followed as closely as actual construction and work of other trades will permit. Deviations shall be without additional cost to the Procuring Entity.

1. IDENTIFICATION

Identify all panel boards, cabinets, safety switches, and other apparatus used for operation and control of circuits, appliances, and equipment.

Provide plastic laminate nameplates, black face with white core letters, showing proper and completion identification.

2. TEST AND GUARANTEE

All installation shall be completed on or before final acceptance of the project including the tests and commissioning. Equipment shall be demonstrated to operate in accordance with the requirements of this specification. The Contractor shall furnish all instruments, tools and personnel required for the tests. As an exception to requirements that may be stated elsewhere in the contract agreement, the Engineer shall be given five (5) working days notice prior to each test. All defects disclosed as a result of such test that are due to the Contractor and shall be remedied to the satisfaction of the Engineer.

Upon completion of the electrical construction work, the Contractor shall provide all test equipment and personnel and to submit written copies of all test results. The Contractor shall guarantee the electrical installation are done and in accordance with the approved Plans and Specifications. The Contractor shall guarantee that the electrical system are free from all grounds from all defective workmanship and materials and will remain so for a period of one year from date and acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

Upon completion of the work of this Section, thoroughly clean all exposed portions of the electrical installation, removing all trades of soil, labels, grease, oil, and other foreign material, and using only the type cleaner recommended by the manufacturer of the item being cleaned.

After the installation is completed, the contractor shall conduct test as required and an operating test for approval. Equipment shall be demonstrated to operate in accordance with the requirement of this specification. Test shall be performed in the presence of the owner or their authorize representatives. The contractor shall furnish all instruments required for the test and shall furnish the owners/ representative all catalogs/ manuals of equipment tested. All defects disclosed as result such test shall be remedied by and at the expense of the contractor.

Make written notice to the Consulting Architect adequately in advance of each of the following stages of construction:

In the underground condition prior to placing concrete floor slab when all associate electrical work is in place.

When all rough-in is complete, but not covered;

At completion of the work of this section.

When material and/or workmanship is found to not comply with the specified requirements, within three days after receipt of notice such non-compliance remove the non complying items from the job site and replace them with items complying with the specified requirements, all at no additional cost to the owner.

In the Architect's presence:

Test all parts off the electrical system proves that all such items provided under this section function electrically in the required manner.

Immediately submit to the Consulting Architect a report of maximum and minimum voltages and a copy the recording voltmeter chart.

Also measure voltages between phases and between phase wires and neutrals, and report these voltages to the Architect.

The electrical system installation furnished under this contract shall be guaranteed for a period of one year from date of acceptance thereof against defective materials, equipments and workmanship. Upon the receipt of noticed from the architect of the failure of any part or parts of this installation or equipments parts shall be replaced promptly with new parts at the expense of the contractor and in a manner satisfactory to the owner.

2.1 Devices Subject to Manual Operation

Each device subject to manual operation shall be tested five (5) times demonstrating satisfactory operation each time.

2.2 Test On 600 Volts Wiring

Test of all 600 volts wiring to verify that no circuits or accidental grounds exist. Perform insulation resistance test on all wiring using an instrument which apply a voltage of approximately 500 volts to provide a direct reading of resistance; minimum resistance shall be 250,000 ohms that the resistance to ground is not excessive. Test each ground rod for resistance to ground before making any connections to the rod, then tie entire grounding system together and test for resistance to ground. Make resistance measurements in normally dry weather condition, not less than 48 hours after rainfall. Submit written results of each test to the Engineer and indicate the locations of the rod as well as the resistance and soil conditions at the time of the measurements were made.

2.3 Standards

The materials to be furnished under these specifications shall be the "STANDARD". Products or manufacturers regularly engaged in the production of such equipment, materials, devices, and shall be the manufacturers latest standard design that complies with the standard approving authority such as; JIS-JAPAN ELECTRICAL STANDARD, UL- AMERICAN STANDARD, IEC-EUROPEAN ELECTRICAL STANDARD and PS-PHILIPPINE STANDARD.

PART II- PRODUCTS

All materials shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. The electrical materials to be used shall be of the standard products of the manufacturers regularly engaged in the production of equipment and materials required for this project and shall be the manufacturer's latest standard design that complies with the specification requirements. The Contractor shall submit for approval a complete description of all materials and equipment to be used before commencing the work. The descriptions shall include catalogue numbers, illustrations, diagrams, dimensional data, etc., as required to describe fully the materials.

1. CONDUITS

Rigid Steel Conduit shall be electrical metal tubing (EMT) conduit, hot dip galvanized, conforming to ANSI Standard C80.1, or "American Standard Specifications for Steel Conduit, zinc coated" unless shown otherwise in the Plans. The conduit fittings and covers shall be galvanized, threaded, or cadmium plated, grey iron or malleable iron castings. Composite rubber gasket shall be provided in all openings requiring covers. Outlets and pull boxes shall be of the sizes and types shown in the Plan.

Rigid uPVC Conduit shall be NEMA TC2, type EPC-PVC and shall be schedule 40. Enamel coated steel conduits and conduits with rough inner surfaces are not acceptable.

2. CONDUIT BOXES AND FITTINGS

All conduit boxes and fittings shall be Code gauge steel and galvanized. Outlet boxes and fittings shall be galvanized pressed steel of standard make. In general, outlet boxes shall be at least 100 mm. square or octagonal, 53 mm. deep and 16 mm. minimum gauge.

Pull boxes shall be of 4"x 4" uPVC for 20mm diameter and 25mm diameter conduit if required. Larger sizes than 4"x4" boxes shall be made galvanized metal box gauge 18 minimum fitted with screws and metal cover. The feeders/ wires passing through this pull shall be tagged to indicate circuit, panel numbers, or other necessary electrical characteristics/ designations.

3. LIGHTING FIXTURES

All lighting fixtures and lamps of type and sizes as specified and listed on the Lighting Fixture Schedule and shall be furnished and installed complete. Color characteristics shall be approved by Consulting Architect/Engineer.

All Fluorescent lamps shall be 25 watts, T8 medium bi pin dust proof recessed type, cool white color characteristics.

Cove lighting shall be 2.4 watts/meter high power rope light.

LED downlights shall be 4 watts recessed type with 6" square frosted glass cover/case and 8" x 8" 20 watts square. Location shall be as shown on Plans.

LED spotlight 5 Watts Retractable.

Emergency lighting shall be 6 watts LED light, maintenance free, long life, pure lead acid battery with complete automatic battery charger. Provide 90 minutes of emergency operation.

Lighting for Stairs shall be 2.4 watts/meter high power rope light.

Provide units having an attached pull box, and with UL label. Provide local label in addition if so required by governmental agencies having jurisdiction.

Fixtures are designated by letters and illustrations shall be indicative of the general type desired and shall not restrict selection to fixtures of any particular manufacturer. Fixtures of similar design and equivalent light distribution and brightness characteristics having equal finish and quality may be acceptable but subject to the approval of the Consulting Engineer/Architect.

4. GROUNDING SYSTEM

All materials to be used shall conform to the Bureau of Product Standards (BPS) specifications.

5. WIRES AND WIRING DEVICES.

Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the PSA mark unless specified or indicated otherwise, all power and lighting conductor shall be insulated for 600 Volts. All wires shall be copper, soft drawn and annealed, smooth and cylindrical form and shall be centrally located inside the insulation. All wiring devices shall be standard product of reputable electrical manufacturers. Wall switches shall be rated at least 10A, 250 Volts and shall be spring operated, flush, tumbler type. Duplex convenience receptacles shall be rated at least 15A, 250 Volts, flush, parallel slot single heavy duty receptacles shall be rated at least 20 A, 250 Volts, wire, flush, polarize type.

Conductors in conduits shall be moisture and heat-resistant rubber or thermoplastic insulated. In dry locations, wires and cables shall be type THW for sizes 8 mm. and smaller and type THW or THHN for sizes 14 sq. mm. and larger. In damp or wet locations as defined by the Philippine Electric Code, wires and cables

shall be type THW. All conductors shall have 600 volts insulation unless otherwise specified in the drawings. Wire shall be stranded copper for 5.5 mm. diameter and larger sizes. Wires for the telephone and signaling systems shall be twisted telephone wires, thermoplastic insulated. The number and sizes shall be as specified in the Plans.

Each outlet in the wirings shall be provided with an outlet box suit the conditions encountered. Boxes shall be of UPVC; shall have a sufficient volume to accommodate the number of conductors entering the box in accordance with the requirements of the Philippine Electrical Code. Location of outlets shown on the drawing is approximate; the contractor shall study the building plans in relation to the spaces and equipments surrounding each outlet so that the outlets are symmetrically located according to room layout. Boxes shall be installed in concealed location, weatherproofed outlets covers shall be installed for outdoor locations. Convenience outlet shall be duplex type 1- 20 A, 220V 2 wires. Special purpose outlets shall be 1- 30 A, 380V and 1 - 40A 380V 3 wires configuration. For hallways, lobby and offices referred to detail drawings.

Proposed lighting circuit homeruns shall be 3.5 mm² THHN stranded and laid from panel to load as indicated in the plan. This is a spare load for future used (flood lighting and landscaping lighting).

6. POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS

This item shall consist of the furnishing and installation of the power load center unit substation or low voltage switchgear and distribution panel boards at the location shown or the approved Plans complete with transformer, circuit breakers, cabinets and all accessories, completely wired and ready for service.

All materials shall be brand new and shall be of the approved type. It shall conform with the requirements of the Philippine Electrical Code and shall bear the Philippine Standard Agency (PSA) mark.

The service entrance shall be installed in concrete encasement, these includes power, communication and television. There is no definite location layout of the building service entrance on the plan. The contractor shall coordinate with the owner representative for the actual location.

6.1 Power Load Center Unit Substation

The Contractor shall furnish and install as indoor-type Power Load center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts:

6.2 High Voltage primary Section

High voltage primary incoming line section consisting of the following parts and related accessories:

One (1) Air-filled interrupter Switch, 2-position (open-close) installed in a suitable air filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.

Three (3) power fuses mounted in separate compartments within the switch housing and accessible by a hinged door.

One (1) set of high voltage potheads or 3-conductor cables or three single conductor cables.

Lighting arresters shall be installed at the high voltage cubicle if required. Items (a) and (b) above could be substituted with a power circuit breaker with the correct rating and capacity.

6.3 Transformer Section

The transformer section shall consist of a power transformer with ratings and capacities as shown on the Plans. It shall be oil liquid-filled non-flammable type and designed in accordance with the latest applicable standards.

The transformers shall be provided with four (4) approximately 2 ½ % rated KVA taps on the primary windings in most cases one (1) above and three (3) below rated primary voltage and shall be changed by means of externally gang-operated manual tap changer only when the transformer is deenergized. Tap changing under load is acceptable if transformer has been so designed. The following accessories shall be provided with the transformer, namely: drain pad, top filter press connection, lifting lugs, diagrammatic nameplate, relief valve, thermometer and other necessary related accessories.

The high voltage and low voltage bushings and transition flange shall be properly coordinated for field connection to the incoming line section and low voltage switchboard section, respectively.

6.4 Low-Voltage Switchboard Section

The low-voltage switchboard shall be standard modular-unitized units, metal-built, dead front, safety type construction and shall consist of the following:

6.5 Switchboard Housing

The housing shall be heavy gauge steel sheet, dead front type, gray enamel finish, complete with frame supports, steel bracings, steel sheet panelboard, removable rear plates, copper busbars, and all other necessary accessories to ensure sufficient mechanical strength and safety. It shall be provided with grounding bolts and clamps.

6.6 Secondary Metering Section

The secondary metering section shall consist of one (1) ammeter, AC, Indicating type; one voltmeter, AC, Indicating Type, one (1) ammeter transfer switch for 3-phase; one (1) voltmeter transfer switch for 3-phase; and current transformers of suitable rating and capacity.

The abovementioned instruments shall be installed in one compartment above the main breaker and shall be complete with all necessary accessories completely wired, ready for use.

6.7 Main Circuit Breaker

The main circuit breaker shall be draw-out type, manually or electrically operated, manual trip bottom, magnetic tripping devices, adjustable time over current protection and instantaneous short circuit trip and all necessary accessories to ensure safe and efficient operation.

6.8 Feeder Circuit Breakers

There shall be as many feeder breakers as are shown on the single line diagram or schematic riser diagram and schedule of loads and computations on the Plans. The circuit breaker shall be drawn out or molded case as required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to insure safe and efficient operation. The number, ratings, capacities of the feeder branch circuit breakers shall be shown on the approved Plans.

Circuit breakers shall each be of the indicating type, providing "ON" – "OFF" and "TRIP" positions of the operating handles and shall each be provided with nameplate for branch circuit designation. The circuit breaker shall be so designed that an overload or short on one pole automatically causes all poles to open.

6.9 Low-Voltage Switchgear (For projects requiring low-voltage Switchgear only)

The Contractor shall furnish and install a low-voltage switchgear at the location shown on the Plans. It shall be metal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable Root Mean Square (RMS) symmetrical short circuit stresses, and all necessary accessories.

The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit breakers and all necessary accessories, completely wired, ready for service.

6.10 Grounding System

All non-current carrying metallic parts like conduits, cabinets and equipment frames shall be properly grounded in accordance with the Philippine Electrical Code, latest edition.

The size of the ground rods and ground wires shall be as shown on the approved Plans. The ground resistance shall not be more than 5 ohms.

6.11 Panelboards and cabinets

Panelboards shall conform to the schedule of panelboards as shown on the approved Plans with respect to supply characteristics, rating of main lugs or main circuit breaker, number and ratings and capabilities of branch circuit breakers.

Panelboards shall consist of a factory completed dead front assembly mounted in an inclosing flush type cabinet consisting of code gauge 14 (2.0 mm thick) galvanized sheet steel box with trim and door. Each door shall be provided with catch lock and two (2) keys. Panelboards shall be provided with directories and shall be printed to indicate load served by each circuit.

Panelboard cabinets and trims shall be suitable for the type of mounting shown on the approved Plans. The inside and outside of panelboard cabinets and trims shall be factory painted with one rust-proofing primer coat and two finish shop coats of pearl gray enamel paint.

Main and branch circuit breakers for panelboards shall have the rating, capacity and number of poles as shown on the approved Plans. Breakers shall be thermal magnetic type. Multiple breaker shall be of the common trip type having a single operating handle. For 50-ampere breaker or less, it may consist of single-pole breaker permanently assembled at the factory into a multi-pole unit.

Panel boards shall be of the dead front safety type components to UL and provided with size and number of circuit. As indicated (panel directory) MDPI and MDP2 panelboard shall be free standing type. Other power panel shall be installed flush on walls. Panelboards main breaker shall be molded case, center main. All branch breakers shall be of bolt-on type. A ground terminal bus shall be installed at bottom of every panel with branch terminal screw equivalent to the number of branch circuit. A cable trench under the free standing panel shall be provided. The trench dimension shall be of suitable clearance for cable bends.

7. MOTORS

Motors shall have enclosed frames, class B insulation and continues duty classification based on 40 C ambient temperature referenced. Each motor have its owned equivalent motor controller as shown in the plans.

7.1 Motor Controllers and Control Devices

Motor controllers and control devices shall be suitable for performing the functions specified. Motor control equipments shall conform to NEMA standards specifications. Each motor controller shall be provided with thermal overload protection.

8. PUMP CONTROL CONDUIT

Pump control conduit, a continuous run conduit with 6 – 2mm sq. THWN stranded wire installed from water pump controller to limit or level switch installed at roof water tank. This is for pump automatic control operation.

9. SNAP SWITCHES

Snap switches shall be flush mounted. Rating should be 15A, 220V.

10. SAFETY SWITCHES

Provide safety switches of heavy-duty type, horsepower rated, quick-make and quick-break design, externally operated with provision for padlocking fusible and non-fusible as shown on the Drawings.

PART III-EXECUTION

All works throughout shall be executed in the best practice in a workmanlike manner by qualified and experienced electricians under the immediate supervision of a duly licensed Electrical Engineer.

1. CONDUITS

Conduits should be cut square with hacksaw and ends reamed. Running or non-tapered threads shall not be used. Each run of conduit between boxes or equipment shall be electrically continuous. Threads shall conform to the American Standard for tapered pipe threads. In making bends only conduit bending apparatus will be used. The use of a pipe tee or vise for bending conduits shall not be permitted. Conduits entering slip holes in boxes shall be secured with a locknut on each side of the box wall and terminated with a bushing.

All joints between lengths of conduits and threaded connections to boxes, fittings and equipment enclosures shall be made watertight. Conduits shall be sloped towards drain points. Conduits shall be rigidly supported and braced to avoid shifting during placement of concrete. Conduits extending out of floors, walls, or beams shall be at right angles to the surfaces.

Spacing of conduits shall be such as to permit the flow of concrete between them. A minimum spacing of not less than 5 cm. shall be maintained, except where conduits enter boxes. Where conduits are placed in two or more layers or rows, the conduits in the upper or inner layers shall be placed directly over or behind the lower or outer layers, respectively.

Conduits terminating at the face of concrete for initial or future extensions as exposed runs shall be terminated with plugged couplings set flush with the floor, ceilings or wall. Galvanized iron plugs shall be provided for conduits, which are to be extended in the future. Where it is not practical to employ flush couplings, the conduit ends shall be suitably boxed or otherwise protected and plugged.

Conduits running in floors and terminating at motors or other equipment mounted on concrete bases shall be brought up to the equipment within the concrete base wherever possible. Conduit boxes shall be flush with the finished wall with covers and openings easily accessible. The Contractor shall remove and reset all boxes not properly installed or shifted out of line during concreting to the satisfaction of the Engineer.

2. CONDUIT BOXES & FITTINGS

Each outlet in the drawing or raceway system shall be provided with an outlet box to suit the conditions encountered. Boxes for exposed work or in wet locations shall be of the cast metal type having threaded hubs. Boxes for concealed work shall be the cadmium-plated or zinc-coated sheet metal type. Each box shall have sufficient volume to accommodate the number of conductors entering the box. Boxes shall not be less than 50 mm deep unless shallower boxes are required by structural conditions that are specifically approved by the Engineer. Ceiling and bracket outlet boxes shall not be less than 100 mm octagonal except that smaller boxes may be used where required by the particular fixtures to be installed. Switch and receptacle boxes shall be approximately 100 mm x 50 mm x 50 mm. Telephone outlets shall be 100 mm square except that 100 mm x 54 mm x 40 mm boxes may be used where only one raceway enter the outlet. Boxes installed in concealed locations shall be set flush with the finished surfaces and shall be provided with the proper extension rings or plaster covers where required. Boxes shall be installed in a rigid and satisfactory manner and shall be supported by bar hangers in frame construction, or shall be fastened directly with wood screws on wood. Location of outlets shown on the drawings are approximates; the Contractor shall study the building plans in relation to the spaces and equipment surrounding each outlet so that the lighting fixtures are symmetrically located according to the room layout. When necessary, with the approval of the Consultant, outlets shall be relocated to avoid interference with mechanical equipment or structural features.

Provide conduit boxes for pulling and splicing wires and outlet boxes for installation of wiring devices. As a rule, provide junction boxes or pull boxes in all runs greater than 30 meters in length, for horizontal runs. For other lengths, provide boxes as required for splices or pulling. Pull boxes shall be installed in conspicuous but accessible locations.

Support boxes independently of conduits entering by means of bolts, rod hangers or other suitable means.

Conduit boxes shall be installed plumb and securely fastened. They shall be set flush with the surface of the structure in which they are installed where conduits are run concealed.

All convenience and wall switch outlet boxes for concealed conduit work shall be deep, rectangular flush type boxes. Four inch octagonal flush type boxes shall be used for all ceiling light outlets and shall be of the deep type where three or more conduits connect to a single box. Floor mounted outlet boxes required shall be waterproof type with flush brass floor plate and brass bell nozzle.

All boxes shall be painted with anti-rust red lead paint after installation. All conduits shall be fitted with approved standard galvanized bushing and locknuts where they enter cabinets and conduit boxes.

Junction and pull boxes of code gauge steel shall be provided as indicated or as required to facilitate the pulling of wires and cables.

3. LIGHTING FIXTURES

4. GROUNDING SYSTEM

All grounding system installation shall be executed in accordance with the approved plans. Grounding system shall include building perimeter ground wires, ground rods, clamps, connectors, ground wells and ground wire taps as shown in the approved design.

5. WIRES AND WIRING DEVICES

This item shall consist of the furnishing and installation of all wires and wiring devices consisting of electrical wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in this Specification.

All wiring installation herein shall be done under the direct supervision of a licensed Electrical Engineer at the expense of the Contractor. The Contractor shall submit the request for the Clearance to Proceed duly approved by the owner's representative.

Conductors of wires shall not be drawn in conduit until after the cement plaster is dry and the conduits are thoroughly cleaned and free from dirt and moisture. In drawing wires into conduits, sufficient slack shall be allowed to permit easy connection for fixtures, switches, receptacles and other wiring devices without the use of additional splice:

All conductors of convenience outlets and lighting branch circuit home runs shall be wired with a minimum of 3.5 mm. in size. Circuit homeruns to panel boards shall not be smaller than 3.5 mm. but a homerun to panel board more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm. in size.

All wires of 14 mm. and larger in size shall be connected to panel and apparatus by means of approved type lugs or connectors of the solderless type, sufficiently large enough to enclose all strands of the conductors and securely fasten. They shall not loosen under vibration of normal strain.

All joints, taps and splices on wires larger than 14 mm. shall be made of suitable solderless connectors of the approved type and size. They shall be taped with rubber and PVC tapes providing insulation no less than that of the conductors.

No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes (pull boxes). All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices taped with rubber and PVC tapes in a manner which will make their insulation as that of the conductor.

All wall switches and receptacle shall be fitted with standard bakelite face plate covers. Device plate for flush mounting shall be installed with all four edges in continuous contact finished wall surfaces without the use of coiled wire or similar devices. Plaster fillings will not be permitted. Plate installed in wet locations shall be gasketed.

When more than one switch or device is indicated in a single location gang plate shall be used.

6. POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS

The Contractor shall install the Power Load center Unit Substation or Low-Voltage Switchgear and panel boards at the locations shown on the approved Plans.

Standard panels and cabinets shall be used and assembled on the job. All panels shall be of dead front construction furnished with trims for flush or surface mounting as required.

Unless indicated or specified otherwise herein, all materials and workmanship shall conform to specification, and to the applicable standards, codes. Regulations and specification listed therein. Workmanship shall be or the "HIGHEST GRADE". Electrical materials shall be new and approved "STANDARD". Defective equipment or equipments damaged shall be replaced or repaired. The contract drawings indicate the extent and several arrangements of conduit and wiring systems. For any departures from the contract drawings are deemed necessary by the contractor, details of such departures and the reasons therefore shall be submitted as soon as practicable to the owners. All panel boards, lighting fixture, convenience outlet and switches shall be presented to the principal architect and to the electrical designer for approval before installation.

7. MOTORS

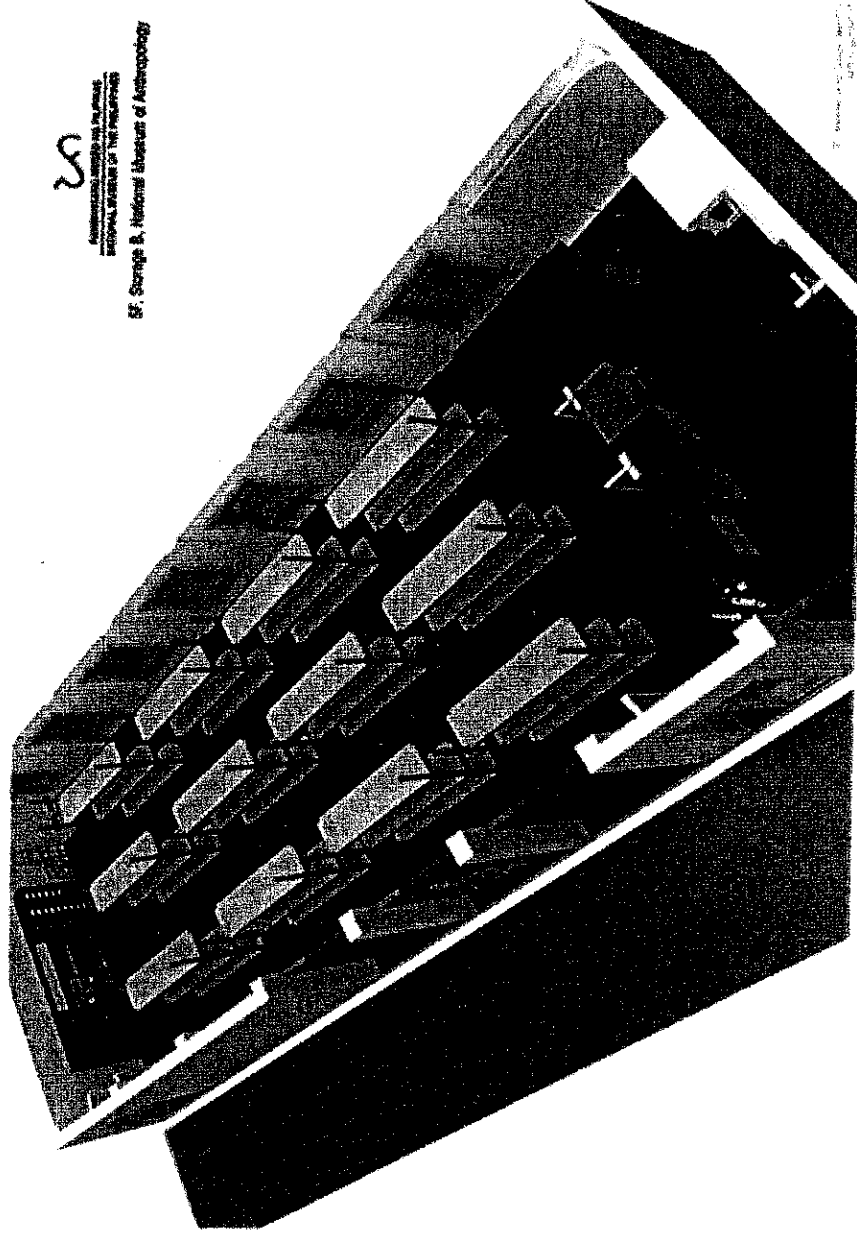
Motors furnished and installed shall be of sufficient size, and shall not exceed their full rated load when driven equipment is operating at specified capacity under the most severe condition likely to be encountered.

END OF SECTION

TERMS OF REFERENCE

PROJECT TITLE AND LOCATION

REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI
ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE STORAGE
AT THE 5F OF THE NATIONAL MUSEUM OF ANTHROPOLOGY
T.F Valencia Circle, Rizal Park, Manila



I. PROJECT BACKGROUND

The National Museum of the Philippines (NMP) and the Gokongwei Brothers Foundation, Inc., (GBFI) signed a Memorandum of Agreement on April 2021 for the development of Elizabeth Y. Gokongwei Ethnographic Stoneware Resource Center and Visible Storage at the 5F, East Wing of the National Museum of Anthropology. The GBFI will provide the funding for the proposed project which will be implemented by the NMP through proper coordination with GBFI.

The Gokongwei Brothers Foundation, Inc. is a non-stock, non-profit corporation committed to help uplift the socio-economic condition of Filipinos through funding educational projects. This collaborative project between the NMP (FMD and Ethnology Division) and the GBFI aims to provide better access to the ethnographic stoneware collection of the NMP, as well as reference materials for educators, students, researchers and the general public.

The visible storage and resource center will house the NMP's ethnographic stoneware collection, which proudly traces its roots from the different ethnolinguistic groups in the country, including Ilokano, Ibaloy, Bontok, Ifugao and Gaddang communities in northern Luzon; Pala'wan and Tagbanua communities in Palawan; and Maguindanao, Maranao, and Tausug communities in southwestern Mindanao. The visible storage will also include a designated space for documenting incoming and outgoing reference collections where they will be registered, assigned a number, examined, and photographed.

II. OBJECTIVE

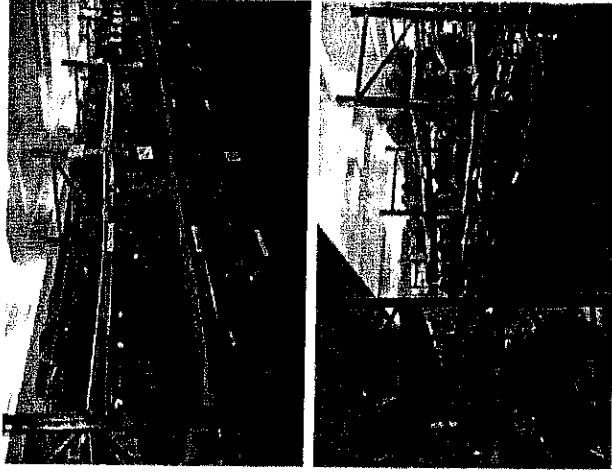
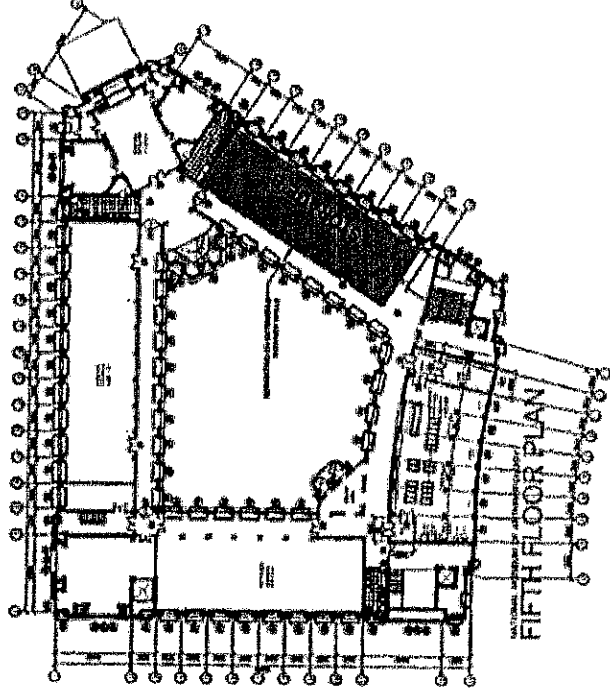
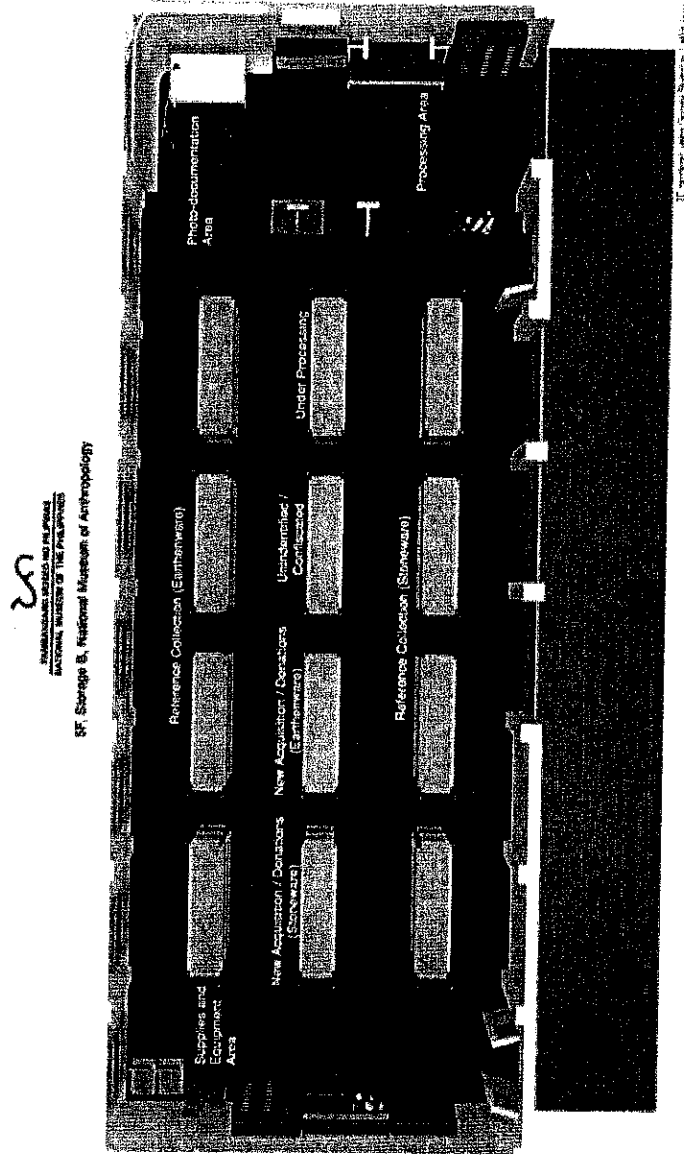
The National Museum of the Philippines has a legacy of enhancing universal access by all Filipinos to exhibits and displays that showcase our national patrimony and heritage. Likewise, the agency aims to reach and promote these heritage to the public by providing a conducive space for educational and research advancement.

Therefore, this project of providing necessary repair and maintenance works to one of National Museum's existing storage to be converted into a visible resource center will further enhance the public's museum experience in turn allows the agency to better achieve its goals and fulfill expectations to the benefit of the entire Filipino people and the wider world.

II. SCOPE OF WORKS

This shall pertain to necessary works needed to complete the proposed project and shall include but is not limited to the supply, fabrication and installation of all materials, labour and equipment; provision for specialized activities, technical knowledge and skills; together with the liaison and coordination of applicable works such as applications of permits, licenses and notices to statutory authorities.

This project shall cover the development of the physical storage and resource center located at the 5F, East Wing of the NM of Anthropology which includes the following scope of works for the project:



GENERAL WORKS:

1. The Contractor is expected to have conducted a site inspection prior to the actual mobilization, so as to acquaint and familiarize themselves with the location and condition of the project.
2. The Contractor shall safeguard the works and all building materials whether acquired or existing through proper warehousing and timely inventory. This shall

- include but is not limited to the installation of temporary facilities such as repository or warehouse, office and bunkhouse.
3. The Contractor is held responsible in ensuring the safety and protection of all persons engaged in the execution of the project. They shall also provide good general housekeeping practices.

I. GENERAL REQUIREMENTS				
1	Mobilization/ Demobilization	1.00	lot	
2	TEMFACIL (includes warehousing and utility consumption)	80.00	sq.m	
3	Safety, Security and Housing (PPE & Covid-19 Precautionary Measures)	45	C.D	
4	Project Signage (8' x 8')	1.00	set	
II. REDEVELOPMENT OF STORAGE B & HALLWAY				
1	Repainting of Ceiling - Storage B (verify color)	476.20	sq.m	
2	Repainting of Interior Wall - Storage B (verify color)	300.00	sq.m	
3	Injection of structural epoxy along cracks of walls - Storage B	38.40	ln.m	
4	Repair, fixing and sealing of Original Windows at the Storage B and Hallway including replacement of damaged glass panels with 5mm thick low-e tempered glass (29.80 sq.m)	8.00	panels (window)	
5	Installation of non-slippery/matte-finished Polyurethane Flooring - Storage B	423.00	sqm	
6	Supply and installation of rubber seal gaskets of existing 2-leaf panel metal door (Storage B)	2.00	sets	
7	Supply and installation of stainless-steel marker (56cm x 43cm)	1.00	lot	
8	Printing of matte finish stickers on 9mm thk Sintra board (includes copyright fee on images) - 120" W x 120" H	2.00	sets	
9	Printing of matte finish sticker on glass panel (includes copyright fee on images) - 120" W x 120" H	1.00	lot	
10	Repair of Existing Smoke Detectors	8.00	units	
11	Repair of Alcove Lighting - Storage B	48	units	
12	Improvement of Storage B Ventilation (Air Flow Outlet)	2	units	
TOTAL PROJECT COST (Php)			1,580,968.82	

NOTE: All works shall be read in conjunction with the working drawings, any discrepancy shall be timely coordinated with the National Museum of the Philippines - Facilities Management Division / Ethnology Division.

III. EXPECTED OUTPUT

1. The Contractor must provide confirmation of National Museum's building design requirements.
2. The Contractor shall provide all the materials, labor, equipment and services necessary for the construction of the project.
3. The Contractor shall secure the property, provide temporary utilities on site, manage their own personnel, dispose and recycle construction waste, monitor schedule and cash flows and maintain daily logbook of activities.
4. Submit for approvals plan that outlines the safety measures that will be implemented to the people not directly related to the construction of the project, the safety and protection of the museum's assets, workers during the construction, prevention and occurrence of fire.
5. Abide with the contract including the General Condition and Specification which form part of the contract.
6. The contractor shall see to it that all materials shall be delivered at the project site in good quality and in good condition and shall follow the below-stated specifications and the approved plans and drawings accordingly.

IV. APPROVED BUDGET OF THE CONTRACT

The proposed total budget for the project is **ONE MILLION FIVE HUNDRED EIGHTY THOUSAND NINE HUNDRED SIXTY-EIGHT PESOS AND EIGHTY-TWO CENTAVOS (Php 1,580,968.82)** to be charged against from the Gokongwei Brothers Foundation, Inc. (GBFI) fund for the Elizabeth Y. Gokongwei Ethnographic Stoneware Resource Center and Visible Storage. The said fund was donated to the NMP through a Memorandum of Agreement between GBFI and NMP (NM MOA 2021-014)

V. EXPECTED TIME FRAME

The Project's actual construction is expected to be completed in **Forty-Five (45) calendar days**.

VI. CONSTRUCTION SUPERVISION

The project will be implemented under the direct supervision of the National Museum of the Philippines - Facilities Management Division & Ethnology Division.

VII. WARRANTY

A one (1) year warranty from the completion of the project of the end-user to ensure the integrity of the project.

VII. QUALIFICATIONS OF BIDDER / CONTRACTOR

The National Museum of the Philippines requires the services of a legitimate building contractor with legal, technical and financial capability to implement the abovementioned project. They must be able to comply with the requirements, terms and conditions set by the NMP Bids and

Awards Committee as well as the following qualifications and requirements to bid with a valid PCAB license Category B (Size Range: Medium A) or higher.

The Contractor is required to submit at least one (1) similar contract/s awarded and completed from Y2016 up to present with an amount of at least Fifty Percent (50%) of the Approved Budget for the Contract (ABC) comprising preferably of museum, storage facility, resource center, laboratory, showroom or similar research or educational facility.

VIII. PROCUREMENT PROCESS

Procurement of services of a building contractor for the abovementioned project shall be in accordance with the provisions of the Government Procurement Reform Act (R.A 9184) and its Revised Implementing Rules and Regulations.

IX. TERMS OF PAYMENT

This contract shall be paid in **Progress Billing**.

X. LIQUIDATED DAMAGES

When the contractor fails to satisfactorily deliver their service under this contract within the specified schedule, inclusive of duly granted time extensions, if any, the contractor shall be liable for damages for the delay and shall pay the procuring entity liquidated damages, not by way of penalty, an amount equal to 1/10 of 1% of the cost of the delayed contract scheduled for completion for every day of delay until such contract are finally delivered and accepted by the procuring entity concerned.

In no case shall the sum of the liquidated damages exceed 10% of the total contract price, in which the procuring entity concerned may rescind the contract and impose appropriate sanctions over and above the liquidated damages.

XI. PRE-TERMINATION CLAUSE

The contract is effective on the date indicated in the NTP and shall remain in full force for 90 Calendar Days or until terminated by either party (National Museum or Contractor) upon prior written notice by either party. Termination process shall follow the prescribed procedure under IRR-A R.A. 9184.

The National Museum reserves the right to pre-terminate the contract after Fifteen (15) calendar days via written notice to the Contractor, if in National Museum's opinion, after due verification of facts, the Contractor is not providing satisfactory services or is not complying with the Terms and Conditions of the Contract. The grounds for the termination of the Contractor by the National Museum include but not limited to the following:

1. Violation(s) in any of the Terms and Conditions of the Contract; and
2. Any other act of omission by the Contractor or its service technicians which is detrimental or prejudicial to the interest of the National Museum, its employee(s), member(s) or public

Prepared by:


AR. ROY BENEDICT N. BAUTISTA
Administrative Officer V
Facilities and Management Division


JESSICA T. MARQUINEZ
Senior Museum Researcher
Ethnology Division

Noted by:


ENGR. JAINAB JAMIEE T. ALTILLERO
Chief Administrative Officer
Facilities and Management Division

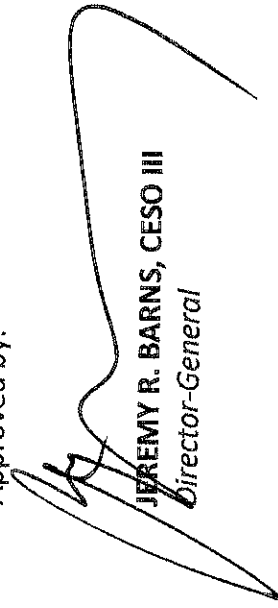

MARITES P. TAURO
Museum Curator I
Ethnology Division

Recommending approval by:


Atty. MA. ROSENNE FLORES AVILA
Deputy Director General for Administration


ANA MARIA THERESA P. LABRADOR, PhD
Deputy Director General for Museums

Approved by:


JEREMY R. BARNES, CESO III
Director-General

Section VII. Bill of Quantities

A Joint Project between: Facilities Management Division / Ethnology Division

Project : REPAIR AND UPGRADING OF THE ELIZABETH Y. GOKONGWEI ETHNOGRAPHIC STONEWARE RESOURCE CENTER AND VISIBLE STORAGE AT THE SF OF THE NATIONAL MUSEUM OF ANTHROPOLOGY
Location : 5th Floor - Ethnology Storage B - National Museum of Anthropology, Agrifina Circle, Rizal Park, Manila
Duration : 45 Calendar Days
Contact Cost : Php1,580,968.82

DETAILED APPROVED BUDGET FOR THE CONTRACT

Item No.	Description	Qty	Unit	Estimated Direct Cost (EDC)			Indirect Cost (IC)			TOTAL COST				
				MATERIAL		LABOR	Sub-Total	VAT	EDC + IC					
				Unit	Total									
				GENERAL REQUIREMENTS										
				Unit	Total	Unit	Total	TOTAL EDC	25%	OCMP	Sub-Total	VAT	5%	EDC + IC

1	Repainting of Ceiling - Storage B (verify color)			sq.m	476.20	0.00	-00	-00	-00	-00
	4L Paint Enamel	22.00	cans			0.00	-00	-00	-00	-00
	4L Paint Primer	18.00	cans			0.00	-00	-00	-00	-00
	4" Paint Brush	8.00	pcs			0.00	-00	-00	-00	-00
	2" Paint Brush	8.00	pcs			0.00	-00	-00	-00	-00
	Cut 100 Sanding Paper	30.00	pcs			0.00	-00	-00	-00	-00
	Roller brush, Refill, Extension pole and tray set.	35.00	sets			0.00	-00	-00	-00	-00
	Repainting of Interior Wall - Storage B (verify color)			sq.m	300.00	0.00	-00	-00	-00	-00
	4L Flat Latex paint	10.00	cans			0.00	-00	-00	-00	-00
	Paint Scrapers	7.00	pcs			-00	-00	-00	-00	-00
2	Injection of structural epoxy along cracks of walls - Storage B			lit.m	36.40	0.00	-00	-00	-00	-00
	Roller brush, Refill, Extension pole and tray set.	5.00	sets			0.00	-00	-00	-00	-00
	5kg Putty	9.00	packs			0.00	-00	-00	-00	-00
	Cut 100 Sanding Paper	18.00	pcs			0.00	-00	-00	-00	-00
	2" Paint Brush	8.00	pcs			0.00	-00	-00	-00	-00
	4" Paint Brush	8.00	pcs			0.00	-00	-00	-00	-00
	Paint Scrapers	7.00	pcs			-00	-00	-00	-00	-00
	4L Flat Latex paint	10.00	cans			0.00	-00	-00	-00	-00
	Application of Structural Epoxy			lit.m	36.40	0.00	-00	-00	-00	-00
	Repair, fixing and sealing of Original Windows at the Storage B and Hallway including replacement of damaged glass panels with low-e tempered glass (29.80 sq.m)	8.00	panels (window)				-00	-00	-00	-00
3	Sanding paper			roll	1.00	-	-00	-00	-00	-00
	Scrapers	5.00	pcs			-	-00	-00	-00	-00
	Paint remover	8.00	gals			-	-00	-00	-00	-00
	Red oxide	8.00	liters			-	-00	-00	-00	-00
	Quick drying enamel (QDE)	15.00	gals			-	-00	-00	-00	-00
	Sealant	20.00	packs			-	-00	-00	-00	-00
	2" paint brush	10.00	pcs			-	-00	-00	-00	-00
	Welding rod (for spot welding only)	2.00	kg			-	-00	-00	-00	-00
	Low-e tempered glass panels (At least 5mm thick)			sq.m	4.00	-	-00	-00	-00	-00
							-00	-00	-00	-00

DETAILED APPROVED BUDGET FOR THE CONTRACT

Item No.	Description	Qty	Unit	Estimated Direct Cost (EDC)				Indirect Cost (IC)				TOTAL COST	
				MATERIAL		LABOR		TOTAL EDC	OCMP	Sub-Total	VAT		
				Unit	Total	Unit	Total						
5	Installation of non-slippony/matte-finished Polyurethane Flooring - Storage B	423.00	sqm										
	Surface Preparation	423.00	sqm	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
	Application of Non-slip Polyurethane Flooring (Verify color)	423.00	sqm	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
6	Supply and installation of rubber seal gaskets of existing 2-leaf panel metal door (Storage B)	2.00	sets	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
7	Supply and installation of stainless steel marker (58cm x 43cm)	1.00	lot	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
8	Printing of matte finish stickers on 9mm thick Sintra board (includes copyright fee on images) - 120" W x 120" H	2.00	sets	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
9	Printing of matte finish sticker on glass panel (includes copyright fee on images) - 120" W x 120" H (Verify design)	1.00	lot	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
10	Repair of Existing Smoke Detectors	8.00	units	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
11	Repair of Alcove Lighting - Storage B												-00
	Replacement of Fluorescent light bulbs - Alcove 1 & 2	48.00	units	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
	Expendables (Replacement of broken housing & parts - Alcove 1 & 2)	1.00	lot	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
12	Improvement of Storage B Ventilation (Air Flow Outlet)												-00
	Replacement of Window-Type Mechanical fans / blowers (Inlet)	2.00	units	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
	Repair of (2) window panel (where mechanical fans were originally installed)	2.00	window panels	-	-00	-00	-00	-00	-00	-00	-00	-00	-00
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*Section VIII. Checklist of Technical and
Financial Documents*

Components of Bid Proposal

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE (FIRST ENVELOPE)

Class “A” Documents

Legal Documents

- ☐ 1. Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); or
- ☐ 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
- ☐ 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
- ☐ Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Technical Documents

- ☐ 2. 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; and
- ☐ 3. Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; and
- ☐ 4. 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
- ☐ 5. 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; and

Project Requirements, which shall include the following:

- ☐ 6. Organizational chart for the contract to be bid; and
- ☐ 7. 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; and

- ☐ 8. 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; and
 - ☐ 12. Original duly signed Omnibus Sworn Statement (OSS); 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.
 - ☐ 13. Bid Bulletin, if any;
 - ☐ 14. Official Receipt of the Bidding Documents;
- Financial Documents
- ☐ 15. 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
 - ☐ 16. The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

- ☐ 17. 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 (SECOND ENVELOPE)

- ☐ 1. Original of duly signed and accomplished Financial Bid Form; and

Other documentary requirements under RA No. 9184

- ☐ 2. Original of duly signed Bid Prices in the Bill of Quantities; and
- ☐ 3. Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; and
- ☐ 4. Cash Flow by Quarter.

Note: Please provide us a e-copy of all Eligibility, Technical and Financial Components of the Bid Proposal save in a compact disc.

Annex A Packaging and Labeling Instructions

PACKAGING AND LABELLING INSTRUCTIONS

1. Two Envelope System

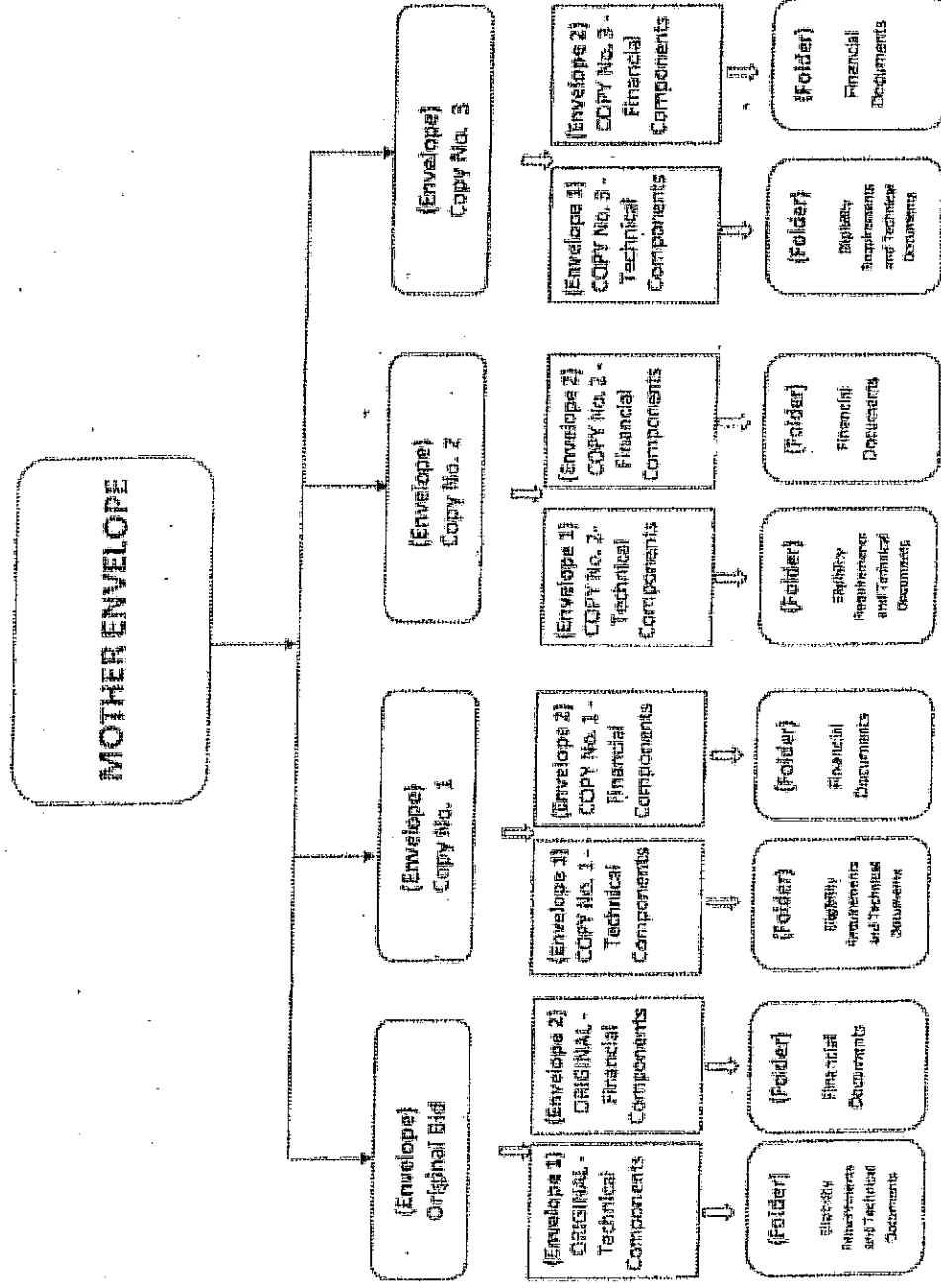
The ORIGINAL - TECHNICAL COMPONENTS requirements stated below shall be enclosed into a folder, same as with the ORIGINAL - FINANCIAL COMPONENTS requirements which will also be done in a separate folder. These two (2) folders shall be placed into separate envelope forming the **Two-Envelope System**.

Envelope 1 : Technical Components (see attached listing)
Envelope 2 : Financial Components (see attached listing)

2. The First Envelope, ORIGINAL - TECHNICAL COMPONENTS and the Second Envelope, ORIGINAL - FINANCIAL COMPONENTS should be sealed in an outer envelope marked as ORIGINAL BID. Each copy of the first and second envelopes shall be similarly sealed duly marking the inner envelopes as "COPY NO. ____ - TECHNICAL COMPONENT" and "COPY NO. ____ - FINANCIAL COMPONENT" and the outer envelope as "COPY NO. ____", respectively. The First and Second envelope should be produced into three (3) copies marked as Copy No. 1, Copy No. 2 and Copy No. 3.
3. All four (4) envelopes, Original, Copy No. 1, Copy No. 2 and Copy No. 3, shall be enclosed in a single envelope referred to as the **Mother Envelope**.
4. All documents must be marked with **Ear tabs**. There must be a Table of Contents indicating all the documents to be submitted per folder.
5. All envelopes should properly be **sealed, signed and labelled**. The folders should also be labelled properly.
6. All copies must be **Certified True Copy** and signed.

TO:	ATTY. MA. ROSENNE M. FLORES-AVILA Chairperson Bids and Awards Committee National Museum of the Philippines Padre Burgos Avenue, ermita Manila		
FROM:	Name of Company	Address & Telephone Number	
	Reference No.		
	Project Title Location		
Do not Open Before: date and time of the Submission and Opening of Bids			

PACKAGING AND LABELING INSTRUCTIONS (DIAGRAM)



Annex B Bidding Form

Contract Agreement Form for the

Procurement of Infrastructure Projects (Revised)

[not required to be submitted with the Bid, but it shall be submitted within ten (10) days after receiving the Notice of Award]

CONTRACT AGREEMENT

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - a. Philippine Bidding Documents (PBDs);
 - i. Drawings/Plans;
 - ii. Specifications;
 - iii. Bill of Quantities;
 - iv. General and Special Conditions of Contract;
 - v. Supplemental or Bid Bulletins, if any;
 - b. Winning bidder’s bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;

- c. Performance Security;

- d. Notice of Award of Contract and the Bidder's conforme thereto; and
 - e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.
3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.
4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Name of Supplier]

[Insert Procuring Entity]

Acknowledgment

[Format shall be based on the latest Rules on Notarial Practice]

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)

CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

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

1. *[Select one, delete the other:]*

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

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

2. *[Select one, delete the other:]*

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

[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], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, 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, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on**

Blacklisting:

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 responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

- a. Carefully examining all of the Bidding Documents;
- b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
- c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
- d. Inquiring or securing 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.

10. In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Performance Securing Declaration (Revised)

[if used as an alternative performance security but it is not required to be submitted with the Bid, as it shall be submitted within ten (10) days after receiving the Notice of Award]

REPUBLIC OF THE PHILIPPINES)

CITY OF _____) S.S.

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.
2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;
3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:
 - a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
 - i. Procuring Entity has no claims filed against the contract awardee;
 - ii. It has no claims for labor and materials filed against the contractor; and
 - iii. Other terms of the contract; or

- b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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 OR ITS
AUTHORIZED REPRESENTATIVE]*

[Insert signatory's legal capacity]

Affiant

[Jurat]

[Format shall be based on the latest Rules on Notarial Practice]

Bid Form for the Procurement of Infrastructure Projects

[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

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

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. 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, or a Performance Securing Declaration in lieu of the allowable forms of Performance Security, subject to the terms and conditions of

issued GPPB guidelines¹ for this purpose;

- h. 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;
- i. 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
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- k. 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]/.
- l. 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: _____

Legal Capacity: _____

Signature: _____

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

Date: _____

¹ currently based on GPPB Resolution No. 09-2020