PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

PHILIPPINE BIDDING DOCUMENTS

Rehabilitation of National Museum of the Philippines – Kabayan Burial Cave Site Museum and Satellite Office in Kabayan, Benguet

(PhilGEPS No. 10580142)

Government of the Republic of the Philippines

Sixth Edition
July 2020

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the "Works") through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contracts, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv)the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.

b. Specific details, such as the "*name of the Procuring Entity*" and "*address for bid submission*," should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.

c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of
Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described,

detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;

b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;

c. The deadline for the submission and receipt of bids; and

d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.

PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

Invitation to Bid for Rehabilitation of National Museum of the Philippines – Kabayan Burial Cave Site Museum and Satellite Office in Kabayan, Benguet

1. The ***National Museum of the Philippines***, through the ***General Fund for F.Y. 2024*** intends to apply the sum of **Twenty-Five Million Pesos (PHP25,000,000.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for ***Rehabilitation of National Museum of the Philippines – Kabayan Burial Cave Site Museum and Satellite Office in Kabayan, Benguet*** with identification number ***NMPBAC-PB-2024-02-06***. 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 **three hundred sixty-five (365) calendar days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. Interested bidders may obtain further information from ***National Museum of the Philippines*** and inspect the Bidding Documents at the address given below from **Mondays to Fridays, from 9:30 a.m. to 3:30 p.m.**

5. A complete set of Bidding Documents may be acquired by interested bidders on **February 22, 2024** from given address and website/s below 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 **twenty-five thousand Pesos (PHP25,000.00*)***. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person or through electronic means.

6. The ***National Museum of the Philippines*** will hold a Pre-Bid Conference on **March 6, 2024, 9:30 A.M.** at Kuya, Poblacion, Kabayan, Benguet, 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 **March 25, 2024, 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 **March 25, 2024, at 9:30 A.M.** at the given address below Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. Schedule of Activities

Date	Procurement Activity
February 22, 2024	Posting / Advertisement
March 6, 2024	Pre-Bidding Conference
March 9, 2024	Deadline for Submission of Bidder's Written Queries
March 14, 2024	Issuance of Bid/Supplemental Bulletin
March 25, 2024	Submission and Opening of Bids
March 26-27, 2024	Bid Evaluation
April 1-5, 2024	Post-Qualification Evaluation
April 12, 2024	Issuance of Notice of Award

11. 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 the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

12. 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. 8298-1100 Local: 1014
Email Address: nationalmuseumbac@yahoo.com
bac@nationalmuseum.gov.ph

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

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, ***National Museum of the Philippines*** invites Bids for the ***Rehabilitation of National Museum of the Philippines – Kabayan Burial Cave Site Museum and Satellite Office in Kabayan, Benguet***, with Project Identification Number ***NMPBAC-PB-2024-02-06***.

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 **General Fund for F.Y. 2024** in the amount of **Twenty-Five Million Pesos (PHP 25,000,000.00).**

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 "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

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

5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

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

5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that **Subcontracting is not allowed.**

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address 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 special PCAB License in case of Joint Ventures, 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 *[indicate date].* Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

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

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

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

19. Detailed Evaluation and Comparison of Bids

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

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 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

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

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

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

a. Information that specifies and complements provisions of the ITB must be incorporated.

b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

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: **General Construction Works**
10.3	***The Contractor shall have PCAB License for General Building (GB-1) Category C & D.***
10.4	The key personnel must meet the required minimum years of experience set below: Key Personnel General Experience Relevant Experience **Note: Kindly refer to the Technical Specifications**
10.5	The minimum major equipment requirements are the following: Equipment Capacity Number of Units **Note: Kindly refer to the Technical Specifications**
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 **Five Hundred Thousand Pesos (PHP500,000.00)** *or* **two percent (2%) of 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 **One Million Two Hundred Fifty Thousand Pesos (PHP 1,250,000.00)** or **five percent (5%) of 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.
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the National Museum of the Philippines (NMP), such as 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, and 6. PERT/CPM

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special 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 R.A. 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

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

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

a. Information that complements provisions of the GCC must be incorporated.

b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	**No Sectional Completion**
4.1	The schedule of delivery of the possession of the site to the Contractor, in part, is **Seven (7) Calendar Days** after receipt of NTP by the Contractor.
6	**No Site Investigation Reports**
7.2	In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures: **Fifteen (15) years**.
10	Day works are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within **ten (10) Calendar Days** of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is **1% of the total contract price.**
13	The amount of the advance payment is **fifteen percent (15%) of the contract price, to be made in lump sum**.
14	Materials and equipment delivered on the site but not completely put in place shall not be included for payment
15.1	The operating and maintenance manuals **will not be required** since no equipment will be installed. The "as built" drawings **will not be required** since all structural parts of the building will not be altered.
15.2	**No amount to be withheld**

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

TITLE: Rehabilitation of National Museum of the Philippines – Kabayan Burial Cave Site Museum and Satellite Office in Kabayan, Benguet

LOCATION: Kabayan, Benguet

IMPLEMENTING UNIT: Facilities Management Division (FMD)

DESCRIPTION:

The National Museum of the Philippines - Kabayan was established in 1982, situated on a 580 sqm. donated lot. Its inception aimed to safeguard the culturally significant Kabayan mummy caves and the corresponding collections in Kabayan, Benguet. These caves serve as sacred burial sites for the Ifugao people, representing a rich tapestry of their heritage.

Over time, the museum has grappled with the challenges of deterioration and weathering, necessitating attention to repairs and maintenance. Furthermore, the growing collection demands an expansion of exhibit space or galleries to adequately showcase and preserve the increasing number of artifacts unearthed from the caves.

This project seeks to revitalize and strengthen the National Museum of the Philippines - Kabayan, ensuring the continued protection of the Kabayan mummy caves and the broader cultural heritage of the Ifugao people. The proposed enhancements include structural improvements to address wear and tear, as well as the creation of additional exhibit spaces to accommodate the growing repository of artifacts, providing visitors with a more comprehensive insight into the Ifugao culture and the historical significance of the mummy caves.

Furthermore, the National Museum of the Philippines (NMP) originally planned to rehabilitate the existing building of NMP – Kabayan Burial Cave Site Museum and Site Office located at Kuay, Poblacion, Kabayan, Benguet (referred to as "Site A"), amounting to P25 million. Upon the request of the NMP, the Municipal Government of Kabayan entered into an agreement with the NMP for the provision of a space located at the 2nd floor of the Municipal Recovery Facility (MRF) in Tabalan, Poblacion, Kabayan to serve as temporary office and galleries of NMP Kabayan should the construction commence. The location of the MRF is more strategic considering its accessibility to the public, closer to the people, and the location has an overlooking view of the Tinongchol Burial Rock and Timbac Mummy Rock Shelters, both declared as National Cultural Treasures.

However, in February 2023, the local chief executive of the Municipal Government of Kabayan offered a vacant lot to the NMP which is within the location of the MRF, and adjacent to the Regional Evacuation Center (referred to as "Site B") for the establishment of an area museum as part of the NMP – Kabayan Burial Cave Site Museums and Site Office considering its strategic location.

After series of discussions and consultations, a Deed of Usufruct was signed by the NMP and the Municipal Government of Kabayan on 17 November 2023, offering a lot to the NMP to enhance, expand and strengthen its presence and services and mandated operations in Kabayan. The said lot (Site B), now part of the NMP – Kabayan Burial Cave Site Museum and Site Office, shall be used for its new exhibitions and office while the existing dilapidated building (Site A) shall be rehabilitated to serve as its Museum Support Building.

With the proposed new location of the NMP Kabayan in Site B, it is expected that more museum visitors shall be served, museum public programs and services shall be made closer to the public, and its presence and operations shall be strengthened in pursuing its mandate to protect, conserve, and promote the natural and cultural heritage of the Filipino people, benefitting the locals, community and the Municipality of Kabayan.

Foregoing premises considered, it is thus deemed advantageous to the government to construct a new site for NMP Kabayan for its new exhibitions and office in Site B as part of the "Rehabilitation of the NMP – Kabayan Burial Cave Site Museum and Site Office in Kabayan, Benguet", which also includes the rehabilitation of Site A.

OBJECTIVE:

This project aims to enhance the National Museum of the Philippines' influence in Kabayan by strategically rehabilitating Site A and construction of building in Site B. The objectives include establishing a museum in Site B, strengthening operations to protect cultural heritage, improving visitor accessibility, rehabilitating Site A for expanded activities, fostering community engagement, and collaborating with the Municipality of Kabayan for cultural and economic development. Overall, the project seeks to create a more dynamic and comprehensive NMP presence for the benefit of the locals and the Kabayan community.

● **SCOPE OF WORK** *(for Infrastructure Projects)*

○ **TECHNICAL SPECIFICATIONS** *(for Goods/Services Projects)*

○ **TERMS OF REFERENCE** *(for Consulting Services Projects)*

Item No.	Description	Qty	Unit
I. GENERAL REQUIREMENTS			
1	Mobilization and demobilization	1.00	lot
2	Permits and Licenses	1.00	lot
	1.1. Building Permit	1.00	lot
	1.2. Excavation Permit	1.00	lot
	1.3. Occupancy Permit	1.00	lot
3	Temporary Facilities		
	3.1. Temporary Office	1.00	lot
	3.2. Temporary Warehouse and Workers Quarters	1.00	lot
	3.3. Temporary Fabrication Place	1.00	lot
	3.4. Power and Water Consumption	1.00	lot
4	Safety, security & housekeeping (Safety net and temp. canopy)	365	CD
5	Material and Soil Testing	1.00	lot
6	Land survey (topographic and boundary survey)-sign and sealed	2.00	lot
7	Structural design (sign and sealed)	1.00	lot
8	Submittals, Shop drawings and As-Built plans	1.00	lot
9	General cleaning hauling works	1.00	lot
10	Project Signage (8'x8')	2.00	set
11	Supervision (Architect, Engineer and Staff)	1.00	lot

12	Scaffoldings (Rental)	1.00	lot
13	Supply and Installation of 2.40m High Perimeter board-up	1.00	lot
II. REHABILITATION OF MUSEUM SUPPORT BUILDING (SITE A)			
1	Site works	1.00	lot
2	Dismantling Works	1.00	lot
3	Retrofitting and Repair Works	1.00	lot
4	Installation of perimeter fence and entrance gate	1.00	lot
5	Finishes	1.00	lot
6	Electrical Works	1.00	lot
III. CONSTRUCTRION OF NEW EXHIBITION & OFFICE BUILDING (SITE B)			
1	Site Works	1.00	lot
2	Application of water-based acrylic epoxy paint (2 coats)	1.00	lot
3	Roofing	1.00	lot
4	Masonry Works	1.00	lot
5	Waterproofing Works	1.00	lot
6	Metal Works	1.00	lot
7	Finishes	1.00	lot
8	Electrical Works	1.00	lot
9	Mechanical Works	1.00	lot
10	Plumbing Works	1.00	lot
11	Fire Protection Works	1.00	lot
12	Landscaping Works	1.00	lot

PROJECT DELIVERABLES: The following submittals and accomplished documents shall be duly completed and turned over by the **AWARDED CONTRACTOR** for the Project:

- Permits
- As-built plans [4 sets hardcopy and 1 softcopy]
- All necessary permits [Fees shall be included in the contract]
- Land Survey Plans
- Structural Plans
- Photo Documentation
- Test results
- Guarantees, warranties, and other certificates.
- Fire and Safety Compliance and Commissioning Report (FSCCR) and Fire and Safety Maintenance Report (FSMR)
- All other documents necessary in line with the constructions as may be required by NMP-FMD

RESPONSIBILITIES:

1. The Contractor shall ensure that personnel to be assigned at the NMP Buildings are well screened, technically and professionally trained, courteous, cooperative,

efficient, reliable, trustworthy, well-groomed, physically and mentally fit. No personnel shall be assigned who has not been approved by the FMD.

2. The Contractor and its personnel shall agree to abide by the safety and security requirements of the NMP. They must comply with the NMP's House Rules and Regulations, directives, instructions and other existing rules and regulations while inside the premises.
3. The Contractor's personnel shall subject themselves to security checks, but not limited to examination of the person and/or his/her personal belongings.
4. The Contractor shall ensure that its personnel wear their proper company working uniform equipped with appropriate Personal Protective Equipment (PPE) and identification cards during the course of the contract inside the NMP's premises. Loitering inside the NMP's premises is not allowed.
5. The Contractor shall provide/equip all its personnel with the tools during the course of the contract without any additional cost to the NMP.
6. The Contractor shall see to it that the area is clean and in its original condition after the course of the contract. Any damage/s caused by the Contractor's personnel shall be restored by the Contractor at no additional cost to the NMP.
7. All other items of work not specifically mentioned but are necessary to complete the works shall be provided by the Contractor at no additional cost to the NMP.
8. The Contractor be accountable for accidents that might occur during the execution of the Project and install warning signs and barriers in accordance with Department of Labor and Employment (DOLE) guidelines and construction safety procedures in the Bidding Documents for the safety of the general public and the avoidance of any accidents.
9. All other items of work not specifically mentioned but necessary to complete the works shall be provided by the Contractor at no additional cost to the NMP.

SOURCE OF FUND: Budget is available and shall be chargeable against General Appropriations Act through Capital Outlay Fiscal Year 2023.

APPROVED BUDGET FOR CONTRACT: Twenty-Five Million Pesos (25,000,000.00) Inclusive of all applicable taxes.

COMPLETION TIME: The project's actual construction is expected to be completed in **Three Hundred Sixty-Five (365) calendar days**

CONTRACTOR'S ELIGIBILITY:

The Contractor is required to submit at least One (1) similar contract/s (i.e., General Construction Works) awarded and completed from Y2019 up to present with an amount of at least Fifty Percent (50%) of the Approved Budget for the Contract (ABC).

The Contractor shall have PCAB License for General Building (GB-1) Category C&D.

PROCUREMENT PROCESS:

Procurement Activity for the project which includes bid evaluation and awarding shall be based on the "Guidelines for the procurement and implementation of contracts for design and build infrastructure projects". (Annex "G" of RA. 9184).

LIQUIDATED DAMAGES:

When the contractor fails to satisfactorily deliver goods under the contract within the specified delivery 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 every day of delay until such goods 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.

PRE-TERMINATION CLAUSE:

The contract is effective on the date indicated in the NTP and shall remain in full force for **Three Hundred Sixty-Five (365) Calendar Days** or until terminated by either party (NMP or Contractor) upon prior written notice by either party. Termination process shall follow the prescribed procedure under IRR-A R.A. 9184.

The NMP reserves the right to pre-terminate the contract by serving written notice on the Contractor. If the Contractor does not appeal or seek reconsideration of the decision to pre-terminate within Fifteen (15) calendar days from receipt of the notice, the contract is deemed terminated. The grounds for the termination of the contract by the NMP include but not limited to the following:

1. Violation(s) of any of the terms and conditions of the Contract; and
2. Any other act or omission by the Contractor which is detrimental or prejudicial to the interest of the NMP, its employee(s), or the public.

TERMS OF PAYMENT:

1. 15% advance payment for mobilization expenses
2. 85% progress billing

WARRANTY: The Contractor shall provide **One (1) year** warranty reckoned from the date of completion and acceptance. Form of warranty shall be as specified in Section 62.2.3.3 of the IRR of R.A. 9184, the Government Procurement Reform Act and its Implementing Rules and Regulations.

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

3.1Combined 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 over-loading 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 Civil/Structural Engineer
1 - Licensed Electrical Engineer
1 - Licensed Mechanical Engineer
1 - Licensed Plumbing and Sanitary Engineer
1 - Licensed Architect
1 - Interior Designer
1 - Materials/Quantity Engineer
1 - Safety Engineer (Certified)

Payment for the above key personnel is 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.

4.COMPLIANCE WITH CONTRACT REQUIREMENTS

4.1Control 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.

4.2 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.

4.3 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.

4.4 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.

4.5 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.

4.6 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 commence 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.

4.7 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 righthand corner, showing the date of exposure, project name, location and direction of view.

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

4.8 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.

4.9 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.

4.10 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.

4.11 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.

4.12 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.

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.

3. GEOTECHNICAL AND MATERIAL INVESTIGATION

The General Contractor shall be responsible for geotechnical and material investigation as necessary to assess the existing soils, its composition and existing materials for proper coordination of work.

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 03 SITE WORKS

PART I-GENERAL

The General Contractor shall control the grading in the vicinity of all excavated areas to prevent surface drainage running into excavations. Excavation and filling shall be performed in manner and sequence that will provide proper drainage at all times. Water which accumulates in excavated areas shall be removed by pumping before fill or concrete in placed therein. He shall perform excavation of every type of material encountered within the limits of project to the lines, grades and elevations indicated and as specified herein.

The General Contractor shall protect and maintain existing utility lines or notify authorities concerned for removal or discontinuance of said utilities in accordance with the instructions and requirements of notified parties in the event that it would interfere with the excavation.

Any excess material remaining after completion of the site works shall be disposed of by hauling and spreading in nearby spoil areas designated by the Procuring Entity. Excavated material deposited in spoil areas shall be graded to a uniform surface.

PART II- PRODUCT

1. SITE CLEARING AND GRUBBING

The work shall include the furnishing of all labor, materials, equipment and services necessary for complete clearing of trees not marked for preservation, snags, logs, brush, stump, rubbish and disposal to designated areas.

2. SITE MOVING

2.1 Common Fill – shall be approved site – excavated material free from roots stumps and other perishable or objectionable matter.

2.2 Select Fill – shall be placed where indicated and shall consist of crushed gravel, crushed rock, or a combination thereof. The materials shall be free from adobe vegetable matters and shall be thoroughly tamped after placing.

2.3 Equipment like vibratory compactors and other equipment necessary for complete and proper procedure.

3. EARTHWORK METHODS

3.1 Termite Control

Liquid Termite Concentrate

Liquid Termicide Ready-Mixed Solution

Powder Termicide

4. SHORING AND UNDERPINNING

Adequate bracing, shoring, underpinning, excavation and support shall be provided by the General Contractor. Design and configuration shall be approved by the Consulting Engineer.

PART III-EXECUTION

1. SITE CLEARING AND GRUBBING

The General Contractor shall consult with the Procuring Entity and Consultants prior to begin clearing, and a full understanding is to be reached as to procedure.

Site clearing, as shown in Plans, shall be undertaken to allow the succeeding phase of works to proceed with limited constraints for grading, trench excavation, and other utility preparation.

The work shall consist of clearing and grubbing within the boundary limits. Clearing and grubbing shall be done prior to pipe installations. Existing structure shall be protected against damage.

1.2 Selective Tree and Shrub Removal and Trimming

Trees to be left standing and uninjured shall be designated by special markings that are conducive to preventing injury to the tree. All trees not marked for preservation and all snags, logs, brush, stumps, shrubs, rubbish and similar materials shall be cleared from within the limits of the designated areas.

2. SITE MOVING

2.1 Excavation and Fill

2.1.1 Subgrade Preparation

Sub-grade shall be shaped to line, grade, and cross-section, and compacted as specified. This operation shall include plowing, disking, and any moistening or aerating required to obtain proper compaction. Soft or otherwise unsatisfactory excavated materials or other approved materials as directed in writing. Low areas resulting from removal of unsatisfactory materials or excavation of rock shall be brought up to required grade with satisfactory materials, and entire sub-grade shaped as specified. Elevation of finish sub-grade shall conform to elevation as shown.

Stake out accurately the lines of the building and of the other structures included in the contract, and establish grades therefore, after which secure approval by Consulting Architect and Engineer before any excavation work is commenced.

Erect basic batter boards and basic reference marks at such places where they will not be disturbed during the construction of the foundations.

Footings or foundations which may be affected by the excavation shall be underpinned adequately, or otherwise, protected against settlement and/or against lateral movement.

2.1.2 Excavation

During construction, any excavation shall be kept shaped and drained. Ditches and drains shall be maintained in such a manner as to drain effectively at times. Storage or stockpiling of materials on the sub-grade will not be permitted. Graded areas shall be protected against action of elements prior to acceptance of work. Settlement or washing that may have occurred shall be repaired and grades re-established to the required elevations and slopes immediately prior to installation of paving.

Excavation carried below indicated depths will not be permitted except to remove unsatisfactory material. Unauthorized materials removed below depths indicated shall be replaced at no additional cost to the Procuring Entity.

Excavations shall be to the depths indicated bearing values. Excavations for footings and foundations carried below required depths shall be filled with concrete and bottom of such shall be level. All structural excavations shall extend to sufficient distance from the walls and footings to allow for proper erection and dismantling of forms for installation of service and for inspection. All excavations shall be inspected and approved before pouring any concrete laying underground services or placing select fill materials.

2.1.3 Trenching

Trenches shall be of necessary width for proper laying of pipe, while concrete lining, duct, or cable, and banks shall be nearly vertical as practicable. Trench excavation shall be coordinated to avoid open trenches for prolonged periods. Bottoms of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of pipe sections where it is necessary to excavate for bell holes and for proper making of pipe joints.

Pile materials suitable for backfilling a sufficient distance from banks or trenches to prevent slides or cave-ins. Excavated materials shall be piled to one side only of trenches and in such a manner as to permit ready access to and use of existing utilities system. Sheathing and shoring shall be done as necessary for protection of work and for safety of personnel.

Backfilling shall be coordinated with testing of utilities. Trenches shall be carefully backfilled with satisfactory materials, free of large clod of earth or stones not over 25mm in size and deposited 0.20m max. layer, loose depth. Care shall be taken not to damage pipe. Trenches and excavation pits improperly backfilled, or where settlement occurs, shall be reopened to depth required for proper compaction, then refilled and compacted, with the surface restored to required grade and compaction.

2.1.4 Rock Removal

Hard material shall be defined as solid ledge rock, any boulder, masonry or concrete except pavements exceeding ½ cubic meter in volume, firmly cemented unstratified mass or conglomerate deposits possessing the characteristics of solid rock shall be removed through

systematic drilling and blasting as directed or approved by the Engineer and at the General Contractor's expense.

2.1.5 Dewatering

Excavate in such manner that immediate surrounding will be continually drained. Water shall not be allowed to accumulate in excavations. Keep all excavations dry and protected from the weather. Drained water shall be connected to the nearest storm drainage system.

2.1.6 Backfill

Backfilling can only begin with the construction below finish grade approved, forms removed, underground utilities had been inspected, tested and approved, excavation cleaned of trash and debris. Backfill material shall be free of roots, other organic matters, trash, debris and stones larger than 75 centimeter in any dimension. Place backfill in 0.20 cm. maximum layers loose depth, each layer being thoroughly compacted and rammed by wetting, tamping or rolling.

Satisfactory excavated material required for fill and backfill shall be separately stockpiled as directed. Unsatisfactory and surplus excavated materials not required for fill and backfill shall be disposed of in a designated waste area. Stockpiles of excavated material shall be graded and sloped for proper drainage.

Before placing fill material, the surface upon which it will be placed shall be cleared of all brush roots, vegetable matter and debris, scarified and thoroughly wetted to ensure good bonding between the ground.

2.1.7 Compaction

Compaction shall be by rolling with approved tamping rollers or other approved equipment well –suited to the particular soil being compacted. Materials shall be moistened or aerated as necessary to provide moisture content that will facilitate obtaining the specified compaction with the equipment utilized. Each layer shall be compacted to not less than 95% maximum dry density.

2.2 Grading

Cutting, filling and grading will be done to bring all areas of respective surfacing as fixed by the finished grade. Site grading shall conform to the lines and grades indicated by the finish contours on the Plans. Where topsoil, pavement, aggregate surfacing and other items are shown, rough grade shall be finished to such depth below finish grade as necessary to accommodate these items. All areas where structures are to be built on fill, shall be stripped to such depth as necessary to remove turf, roots, organic matter and other objectionable materials.

3. EARTHWORK METHODS

3.1 Soil Treatment

3.1.1 Termite Control

The General Contractor shall termite-proof the project in applicable termite controls as approved by the Consulting Architect/Engineer. Termite control chemicals or toxicants shall be able to immediately exterminate termites or create barriers to discourage entry of subterranean termites into the building areas. The General Contractor shall give in Service guarantee covering the treatment of termite infestation without extra cost to the Procuring Entity if any infestation of recurrence of infestation occurs during the guarantee period of one year.

At the time soil poisoning is to be applied, the soil to be treated shall be in friable condition with low moisture content so as to allow uniform distribution of the toxicant agents.

Treatment of the soil on the exterior sides of the foundation walls, grade beams and similar structures shall be done prior to final grading and planting or landscaping work to avoid disturbance of the toxicant barriers by such operations.

Areas to be covered by concrete slab shall be treated before placement of granular fill after it has been compacted and set to required elevation. Additional treatment shall be applied in critical areas such as utility openings for pipes, conduits and ducts, along the exterior perimeter of the slab and under expansion joint.

Prior to landscaping of the lawn, saturate the building perimeter of about 3.0m wide with soil poison working solution. Earth fill shall be treated thoroughly with poison working solution as soon as fill is packed and levelled. Every square area shall be drenched with solution

3.1.2 Rodent Control Traps

Enclosed hollow spaces between ceiling and double sidings or partitions shall be rat proof in accordance with DOH requirements.

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

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

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

4. SHORING AND UNDERPINNING

Shoring and underpinning of all excavations are necessary to protect workers, side banks, adjacent paving, structures and utilities. Shoring, bracing and sheathing shall be removed as excavations are backfilled in a manner to prevent caving or uneven ground settlements

The bracing and shoring systems required to provide temporary support of a structure shall be designed to support the dead, live, soil, earthquake and wind loads that maybe imposed on the structure during construction with standards and engineering principles.

END OF SECTION

DIVISION 04 CONCRETE

PART I-GENERAL

1. CONCRETE FORMWORKS

Design, erect, support, brace, and maintain form work so it will produce correctly aligned concrete and safety support vertical and lateral loads which might be applied until such loads can be supported safety by the concrete structure.

Construct forms to the exact sizes, shapes, lines and dimensions as required to obtain accurate alignment, location, grades, and level and plumb work in the finish structure.

2. CONCRETE REINFORCEMENTS

Steel reinforcement shall be stored above the surface of the ground upon platforms, skid or other supports and shall be protected as far as practicable from mechanical injury and surface deterioration caused by exposure to conditions producing rust. When placed in the worked, reinforcement shall be free from dirt, detrimental rust, loose scale, paint, grease, oil, or other foreign materials. Reinforcement shall be free from injurious defects such as cracks and laminations. Rust, surface seams, surface irregularities or mill scale will not be cause for rejection, provided the minimum dimension, and cross sectional area and tensile properties of the material meets the physical requirements for the size and grade of steel specified.

3. CAST-IN-PLACE AND PRE-CAST CONCRETE

All cements shall be stored, immediately upon delivery at the Site, in weatherproof building, which will protect the cement from dampness. The floor shall be raised from the ground. The buildings shall be placed in locations approved by the Supervising/Consulting Engineer. Provisions for storage shall be ample, and the shipments of cement as received shall be separately stored in such a manner as to allow the earliest deliveries to be used first and to provide easy access for identification and inspection of each shipment. Storage buildings shall have capacity for storage of a sufficient quantity of cement to allow sampling at least twelve days before the cement is to be used. Bulk cement, if used, shall be transferred to elevated

air tight and weatherproof bins. Stored cement shall meet the test requirements at any time after shortage when wrested is ordered by the Supervising/Consulting Engineer. At the time of use, all cements shall be free of lumps.

The handling and storing of concrete aggregates shall be such as to prevent segregation or the inclusion of foreign materials. The Supervising/Consulting Engineer may require that aggregates be stored on separate platforms at satisfactory locations.

In order to secure greater uniformity of concrete mix, the Supervising/Consulting Engineer may require that the coarse aggregate be separated into two or more sizes. Different sizes of aggregates shall be stored in separate bins or in separate stockpiles sufficiently remote from each other to prevent the material at the edges of the piles from becoming intermixed**.**

PART II- PRODUCTS

1. CONCRETE FORMWORKS

Use plywood, metal, phenolic, or surfaced lumber form for all exposed concrete work, 1/4" thick minimum. Forms for surfaces exposed or unexposed to view and requires a standard finish shall be plywood or metal. For surfaces requiring special finishes, phenolic or plywood not less than 12mm shall be used. Surfaces of steel forms shall be free from irregularities.

2. CONCRETE REINFORCEMENTS

2.1 Reinforcing Steel

The reinforcing steel bars shall be as shown in Plans. The sizes shall be but not limited to the following: 10 mm Ø, 12 mm Ø, 16 mm Ø, 25 mm Ø, 28 mm Ø. Verify Plans for Reinforcing Steel Bar schedule.

2.2 Tie Wires

Tie wires to be used for steel reinforcements shall be Ga 16 Galvanized Iron conforming to ASTM A 641. Spacing and length shall be as shown in Plans

3. CAST-IN-PLACE CONCRETE

3.1 Portland Cement

All materials and workmanship shall conform to the latest building code of American Concrete Institute (ACI-318).

Cement shall conform to the requirements of the following cited Specifications for the specified or permitted.

Table 1: Types of Cement

Type	Specifications
Portland Cement	AASHTO M 85 (ASTM C 150)
Blended Hydraulic Cement	AASHTO M 240 (ASTM C 595)
Masonry Cement	AASHTO M 150-74 (ASTM C 91)

When Types IV and V (AASHTO M 85), P and PA (AASHTO M 150) cements are used, proper recognition shall be given to the effects of slower strength gain on concrete proportioning and construction practices. Types S and SA cements will be permitted only when blended with Portland Cement in proportions approved by the Supervising/Consulting Engineer.

Unless otherwise permitted by the Supervising/Consulting Engineer, the product of only one mill of any one brand and type of Portland Cement shall be used on the project.

The General Contractor shall provide suitable means of storing and protecting the cement against dampness. Cement which, for any reason, has become partially set or which contains lumps of caked cement will be rejected. Cement salvaged from discarded or used bags shall not be used.

3.2 Fine Aggregates

It shall consist of natural sand, stone screenings or other inert materials with similar characteristic, or combinations thereof, having hard, strong and durable particles approved by the Engineer. Fine aggregate from different sources of supply shall not be mixed or stored in the same pile nor used alternately in the same class of concrete without the approval of the Engineer.

It shall not contain more than three mass percent of material passing the 0.075 mm (No. 200 sieve) by washing nor more than one mass percent each of clay lumps or shale. The use of beach sand will not be allowed without the approval of the Supervising/Consulting Engineer.

If the fine aggregate is subjected to five cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 10 mass percent.

The fine aggregate shall be free from injurious amounts of organic impurities and if a color darker than the standard is produced, it shall be rejected. However, when tested for the effect of organic impurities of strength of mortar by AASHTO T 71, the fine aggregate may be used if the relative strength at 7 and 28 days is not less than 95 mass percent.

The fine aggregates shall be well graded from coarse to fine and shall conform to Table 2.

Table 2.Grading Requirements for Fine Aggregates

Sieve Designation	Mass Percent Passing
9.5 mm (3/8 in)	100
4.75 mm (No. 4)	95 – 100
1.18 mm (No. 16)	45 - 80
0.300 mm (No. 50)	5-30
0.150 mm (No. 100)	0 - 10

3.3 Coarse Aggregates

It shall consist of crushed stone, gravel, blast furnace slag, or other approved inert materials of similar characteristics, or combinations thereof, having hard, strong, durable pieces and free from any adherent coatings.

It shall contain no more than one mass percent of material passing the 0.075mm (No. 200) sieve, not more than 0.25 mass percent of clay lumps, nor more than 3.5 mass percent of soft fragments. If the coarse aggregate is subjected to five cycles of the sodium sulfate soundness test, the weighted loss shall not exceed 12 mass percent.

It shall have a mass percent of wear not exceeding 40 when tested by AASHTO T 96.

If slag is used, its density shall not be less than 1120kg/m3 (70 lbs/cu ft.) The gradation of the coarse aggregate shall conform to Table 3. Only one grading specification shall be used from any source.

Table 3. Grading Requirements for Coarse Aggregates

Standard (mm)	Alternate US Standard	Class A	Class B	Class C	Class D	Class Seal
63	2 – ½"					

50	2”	100	100			
37.5	1 – ½”	95 - 100	-			100
25	1”	-	35 - 70	-	100	95 – 100
19.0	¾”	35 - 70	-	100	-	25 – 60
12.5	½”	-	10 - 30	90 - 100	-	25 – 60
9.5	3/8”	10 - 30	-	40 - 70	20 - 55	-
4.75	No. 4	0 - 5	0 - 5	0 - 15	0 - 10	0 - 10

“The measured cement content shall be within plus (+) or minus (-) 2 mass percent of the design cement content.

3.4 Water

Water used in mixing, curing, or other designated applications shall be reasonably clean and free of oil, salt, acid, alkali, grass or other substances injurious to the finished product. Water will be tested in accordance with and shall meet the requirements of Item 714, Water. Water which is drinkable may be used without test. Where the source of water is shallow, the intake shall be so enclosed as to exclude silt, mud, grass, or other foreign materials.

4. PRE-CAST CONCRETE

4.1 Structural Pre- stressed Concrete

4.1 Concrete Joists

Concrete joists shall be of two types:

3/8 mm diameter 7-wire strand grade 270 ksi

4.2 Portland Cement

Portland cement shall comply with ASTM C150, type I

4.3 Reinforcement

Reinforcements shall be 10mm welded wire mesh matting spaced at 0.25 m x 6m and Ga. 16 GI Tie wires. Provide 10mm diameter dowel bars (L/4) spaced at 0.60m

4.4 Aggregates

Provide clean, sharp, well graded aggregate free from injurious amounts of dust, lumps shale, alkali, surface coatings and organic matter and complying with ASTM C144.

4.5 Water

Provide water, free from deleterious amounts of acids, alkalis, and organic materials.

PART III-EXECUTION

1. CONCRETE FORMWORKS

Concrete forms shall be mortar-tight, true to the dimensions, lines and grades of the structure and with sufficient strength, rigidity, shape and surface smoothness as to leave the finished works true to the dimension shown on the Plans or required by the Engineer and the surface finish as specified. The General Contractor shall be responsible for the adequacy of forms and form support. Wire ties shall not be used where concrete surface will be exposed to weathering and where discoloration will be exposed. All form work shall be provided with adequate clean-out openings to permit inspection and easy cleaning.

The inside surfaces of form shall be cleaned of all dirt, mortar and foreign material. Forms which will later be removed shall be thoroughly coated with non-staining type mineral form oil prior to use. The form oil shall be of commercial quality form oil or other approved coating which will permit the ready release of the forms and will not discolor the concrete.

Concrete shall not be deposited in the forms until all work in connection with constructing the forms has been completed, all inspected and approved said forms and materials. Such work shall include the removal of all dirt, chips, sawdust and other foreign material from the forms.

The rate of depositing concrete in forms shall be such to prevent bulging of the forms or form panels in excess of the deflections permitted by this Specifications. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position

Forms and falsework shall not be removed without the consent of the Supervising/Consulting Engineer. The Engineer's consent shall not relieve the General Contractor of responsibility for the safety of the work. Blocks and bracing shall be removed at the time the forms are removed and in no case shall any portion of the wood forms be left in the concrete.

Falsework removal for continuous or cantilevered structures shall be as directed by the Supervising/Consulting Engineer or shall be such that the structure is gradually subjected to its working stress.

When concrete strength tests are used for removal of forms and supports, such removal should not begin until the concrete has attained the percentage of the specified design strength shown in the table below:

Table 4. Requirements for Removal of Forms

Element	Minimum Time
Foundation	24 Hrs.
Suspended slab except when additional loads are imposed	8 Days
Walls	18 Hrs.
Beams	14 Days

Forms and falsework shall not be released from under concrete without first determining if the concrete has gained adequate strength without regard to the time element. In the absence of strength determination, the forms and falsework are to remain in place until removal is permitted by the Engineer.

1.1 Tolerances and variations

The General Contractor shall set and maintain concrete forms to ensure that after removal of forms and prior to patching and finishing, no portion of concrete work will exceed any of the tolerances specified. Variations in floor levels shall be measured before removal of supporting shore. The General Contractor shall be responsible for variations due to deflection. The specified variation for one element of the structure will not be applicable when it will permit another element of the structure to exceed its variations**.**

1.2 Architectural Cast-in Place Concrete Forming

To facilitate finishing, forms used on ornamental work, railing, parapets and exposed vertical surfaces shall be removed in not less than 12 or more than 48 hours, depending upon the weather condition of concrete in columns, forms shall always be removed from them before the removal of shoring from beneath beams and girders.

2. CONCRETE REINFORCEMENTS

2.1 Reinforcing Steel

Reinforcing steel shall meet the requirements of Item 710, Reinforcing Steel and Wire Rope, and conform to ASTM 615 Grade 33 for diameter 10 and larger bars.

In general, the latest edition of ACI-315, manual of Standard Practice Detailing of Reinforced Concrete Structures shall be adhered to unless otherwise shown or noted.

2.1.1 Order List

Before materials are ordered, all order lists and bending diagrams shall be furnished by the General Contractor, for approval of the Consulting Engineer. The approved of order lists and

bending diagrams by the Engineer shall in no way relieve the Contractor of responsibility for the correctness of such lists and diagrams. Any expense incident to the revisions of materials furnished in accordance with such lists and diagrams to make them comply with the Plans shall be borne by the Contractor.

2.1.3 Placing and Fastening

Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacers, supports and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose, flaky rust and scale, oil grease, clay, and other coating and foreign substances that would reduce or destroy its bond with concrete. Reinforcement shall be placed accurately and secured in place by use of metal or concrete supports, spacers and ties. Such supports shall be of sufficient strength to maintain the reinforcement in place throughout the concreting operations. The supports shall be used in such manner that they will not be exposed or contribute in any way to the discoloration or deterioration of the concrete.

All steel reinforcement shall be accurately placed in the position shown on the Plans and firmly held there during the placing and setting of the concrete. Bars shall be tied at all intersections except where spacing is less than 300 mm in each direction, in which case, alternate intersections shall be tied. Ties shall be fastened on the inside.

Distance from the forms shall be maintained by means of stays, blocks, ties, hangers, or other approved supports, so that it does not vary from the position indicated on the Plans by more than 6 mm. Blocks for holding reinforcement from contact with the forms shall be precast mortar blocks of approved shapes and dimensions. Layers of bars shall be separated by precast mortar blocks or by other equally suitable devices. The use of pebbles, pieces of broken stone or brick, metal pipe and wooden blocks shall not be permitted. The minimum distance between bars shall be 40 mm. Reinforcement of any member shall be placed, inspected and approved by the Consulting Engineer before the concrete begins. Concrete placed in violation of this provision may be rejected and removal may be required.

The reinforcement shall be placed and secured by concrete or metal chair spacers. The clear distance between parallel bars shall be minimum of 1 ½ times the diameter of the bar. In no case shall the clear distance between the bars except in the columns and between multiple layers of bars in beams be less than 2.5 centimeters nor less than 1 1/3 times the maximum size of the coarse aggregates. Where bars are used in two or more layers, the bars in the upper layers shall be placed directly above those in the lower layers at a minimum clear distance of 2.5 centimeters. The clear distance between longitudinal bars in columns shall not be less than 1 ½ times the bar diameter, or 1 ½ times the maximum size of the coarse aggregate.

Vertical staples 10 millimeters in diameter spaced not more than 1.5 meters both ways shall connect top and bottom bars of all slab reinforcement.

Bends for stirrups and ties shall be made around a pin having a diameter of not less than six times the diameter of the bar, except that for bars larger than 20 millimeters, the pin shall not be less than eight times the diameter of the bar, all bars shall be bent cold.

All bars at the free end of a cantilever must be hooked.

All free ends of cantilever floor slabs shall have two longitudinal bars placed one above the other and spaced as far apart as possible to serve as a longitudinal stiffener to ensure a truly straight horizontal line.

All openings in slabs and concrete walls shall have diagonal reinforcements at the corners with sizes and lengths as shown in Plans.

2.1.4 Embedded Items

Do not embed piping, other than electrical conduit, in structural concrete unless reflected in Plans or approved by the Consulting Engineer. Provide necessary support and reinforcements as shown on Plans.

Locate conduit as shown in Plans to maintain maximum strength of the concrete.

Increase the thickness of the concrete if the outside diameter of the conduit exceeds 30% of the thickness of the concrete.

All required flashing, reglets, seals, masonry ties, anchors, bolts, inserts, wood locks, nailing strips, ground, wire hangers, sleeves, drains, guard angles, inserts for elevator guides, provisions for floor hinges and other required items in the concrete, accurately secured so they will not be displaced, and in the precise locations needed. All sub-contractors whose work is related to the concrete supported by it shall be given ample notice and opportunity to introduce or furnish embedded item before concrete is placed. All ferrous metal sleeves, inserts, anchors and other embedded ferrous items exposed to weather or where rust would impair the appearance of finish or structure shall be galvanized.

2.1.5 Splicing

All reinforcement shall be furnished in the full lengths indicated on the Plans. Splicing of bars, except where shown on the Plans will not be permitted without the written approval of the Consulting Engineer. Splices shall be securely wired together & shall lap in accordance with table. Splices shall be staggered as far as possible and with a minimum separation of not less than 40 bar diameters. Not more than one-third of the bars may be spliced in the same cross-section, except where shown on the Plans.

Table 7: Splices

For Tension

TABLE OF LAP SPLICE (FC' = 4000PSI) GR. 60

BAR Ø	TYPE A	TYPE B	ANCHORAGE LENGTH
16 MM	0.61 M	0.80 M	0.35 M (Hook)
20 MM	0.76 M	1.00 M	0.40 M (Hook)
25 MM	1.20 M	1.52 M	0.50 M (Hook)

28 MM1.35 M 1.70 M 0.55 M (Hook)

32 MM1.55 M 1.95 M 0.60 M (Hook)

TABLE OF LAP SPLICE (FC' = 2500PSI) GR. 33

BAR Ø TYPE A TYPE B ANCHORAGE LENGTH

10 MM 0.30 M 0.40 M 0.24 M (Hook)

12 MM0.32 M 0.41 M 0.30 M (Hook)

For Compression

TABLE OF LAP SPLICE (FC' = 4000PSI) GR. 60

BAR Ø TYPE A TYPE B ANCHORAGE LENGTH

16 MM 0.50 M 0.60 M 0.35 M (Hook)

20 MM0.60 M 0.75 M 0.40 M (Hook)

25 MM0.75 M 0.95 M 0.50 M (Hook)

28 MM0.85 M 1.05 M 0.55 M (Hook)

32 MM0.95 M 1.20 M 0.65 M (Hook)

TABLE OF LAP SPLICE (FC' = 2500PSI) GR. 33

BAR Ø TYPE A TYPE B ANCHORAGE LENGTH

10 MM 0.25 M 0.30 M 0.15 M (Hook)

12 MM0.26 M 0.33 M 0.20 M (Hook)

In tapped splices, the bars shall be placed in contact and wired together. Lapped splices will not be permitted at locations where the concrete section is insufficient to provide minimum clear distance of one and one-third (1 1/3) the maximum size of coarse aggregate between the splice and the nearest adjacent bar. Welding of reinforcing steel shall be done only if detailed on the Plans or if authorized by the Consulting Engineer in writing. Spiral reinforcement shall be spliced by lapping at least one and a half turns or by butt welding unless otherwise shown on the Plans.

2.2 Tie wires

Clean all reinforcement by removing mud, oil or other materials before tying.

3. CAST-IN-PLACE CONCRETE

3.1 Structural Concrete

3.1.1 Strength

All concrete shall develop a min. compressive strength at the end of twenty-eight (28) days w/ corresponding maximum aggregate and slumps as follows:

Table 8: Maximum Aggregate and Slump

Location	28 days Strength	Max.aggregate	Max. slump
All others including suspended slabs	3000 psi	¾ in. (19mm)	4 in. (100 mm)
Columns, R.C. walls	3000 psi	¾ in. (19mm)	4 in. (100 mm)
Beams, Girders	3000 psi	¾ in. (19mm)	4 in. (100 mm)
Lintel Beams/Stiffener Columns	3000 psi	¾ in. (19mm)	4 in. (100 mm)

3.1.2 Usage

Five classes of concrete are provided for in this item, namely: A, B, C, P and Seal. Each class shall be used in that part of the structure as called for on the Plans. The classes of concrete will generally be used as follows:

Class A – All superstructures and heavily reinforced substructures. The important parts of the structure included are slabs, beams, girders, columns, arch ribs, box culverts, reinforced abutments, retaining walls, and reinforced footings.

Class B – Footings, pedestals, massive pier shafts, pipe bedding, and gravity walls, unreinforced or with only a small amount of reinforcement.

Class C – Thin reinforced sections, precast R.C. piles and cribbing and for filler in steel grid floors.

Class P – Pre-stressed concrete structures and members.

Seal – Concrete deposited in water.

3.1.3 Sampling and Testing of Structural Concrete

As work progresses, at least one (1) sample consisting of three (3) concrete cylinder test specimens, 150mm x 300mm (6 “x12”) shall be taken from each seventy-five (75) cubic meter of each class of concrete or fraction thereof placed each day.

Compliance with the requirements of this section shall be determined in accordance with the following standard methods of AASHTO:

Table 9.AASHTO Standard Methods

Sampling of fresh concrete	T 141
Weight per cubic meter and air content (gravimetric) of concrete	T 121

Sieve analysis of fine and coarse aggregates	T 27
Slump of Portland Cement Concrete	T 119
Specific gravity and absorption of fine aggregate	T 84
Test for strength shall be made in accordance with the following:	
Making and curing concrete compressive and flexural test	
Specimens in the field	T 23
Compressive strength of molded concrete cylinders	T 22

3.1.4 Proportioning and Strength of Structural Concrete

The concrete materials shall be proportioned in accordance with the requirements for each class of concrete, using the absolute method as outlined in the American Concrete Institute (ACI) Standard 211.1. "Recommended Practice for Selecting proportions for Normal and Heavyweight Concrete". Other methods of proportioning may be employed in the mix design with prior approval of the Engineer. The mix shall either be designed or approved by the Consulting Engineer. A change in the source of materials during the progress of work may necessitate a new mix design. The strength requirements for each class of concrete shall be as specified in Table 10.

3.1.5 Consistency

Concrete shall have a consistency such that it will be workable in the required position. It shall be of such a consistency that it will flow around reinforcing steel but individual particles of the coarse aggregate when isolated shall show a coating of mortar containing its proportionate amount of sand. The consistency of concrete shall be gauged by the ability of the equipment to properly place it and not by difficulty in mixing and transporting. The quantity of mixing water shall be determined by the Consulting Engineer and shall not be varied without his consent. Concrete as dry as it is practical to place with the equipment specified shall be used.

3.1.6 Mixing and Delivery

Concrete may be mixed at the site of the construction, at a central point or by a combination of central point and truck mixing or by a combination of central point mixing and truck agitating. Mixing and delivery of concrete shall be in accordance with the appropriate requirement of AASHTO M 157 except as modified in the following paragraphs of this section, for truck mixing or a combination of central point and truck mixing or truck agitating. Delivery of concrete shall be regulated so that placing is at a continuous rate unless delayed by placing operations. The intervals between delivery of batches shall not be so long as to allow the concrete in place to harden partially, and in no case shall such an interval exceed 30 minutes.

In exceptional cases and when volumetric measurements are authorized, for small project requiring less than 75 cubic meters per day of pouring, the weight proportions shall be

converted to equivalent volumetric proportions. In such cases, suitable allowance shall be made for variations in the moisture condition of the aggregates, including the bulking effect in the fine aggregate. Batching and mixing shall be in accordance with ASTM C 685, Section 6 through 9.

3.1.7 Mixing Concrete: General

Concrete shall be thoroughly mixed in a mixer of an approved size and type that will ensure a uniform distribution of the materials throughout the mass.

All concrete shall be mixed in mechanically operated mixers. Mixing plant and equipment for transporting and placing concrete shall be arranged with an ample auxiliary installation to provide minimum supply of concrete in case of breakdown of machinery or in case the normal supply of concrete is disrupted. The auxiliary supply of concrete shall be sufficient to complete the casting of a section up to a construction joint that will meet the approval of the Consulting Engineer.

Concrete mixers may be of the revolving drum or the revolving blade type and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. The pick-up and throw-over blades of mixers shall be restored or replaced when any part or section is worn 20mm or more below the original height of the manufacturer's design. The first batch of concrete materials placed in the mixer shall contain a sufficient excess of cement, sand and water to coat inside the drum without reducing the required mortar content of the mix.

When the aggregate contains more water than the quantity necessary to produce a saturated surface dry condition, representative samples shall be taken and the moisture content determined for each kind of aggregate.

The batch shall be so charged into the mixer that some water will enter in advance of cement and aggregate. All water shall be in the drum by the end of the first quarter of the specified mixing time. Cement shall be batched and charged into the mixer so that it will not result in loss of cement due to the effect of wind, hoppers, or other conditions which reduce or vary the required quantity of cement in the concrete mixture.

The entire content of a batch mixer shall be removed from the drum before materials for a succeeding batch are placed therein. The materials composting a batch except water shall be deposited simultaneously into the mixer.

All concrete shall be mixed for a period of not less than 1 – ½ minutes after all materials, including water, are in the mixer. During the period of mixing, the mixer shall operate at the speed for which it has been designed. When mixing is to cease for a period of one hour or more, the mixer shall be thoroughly cleaned. Mixers and agitators which have an accumulation of hard concrete or mortar shall not be used.

3.1.8 Conveying

Perform concrete placing at such a rate that concrete which is being integrated with fresh concrete is still plastic.

Deposit concrete in its final position without segregation, re handling, or flowing. Place concrete with buggies, buckets or wheelbarrows. No chutes shall be allowed except to transfer concrete from the mixer to the buggies and shall not exceed six meters in total length.

Do not place concrete with a free fall of more than 1-½ meters, except when approved sheet metal conduits, pipes or elephant trunks are employed. These conveyers, when used, shall be kept full of concrete and the ends kept buried in the newly placed concrete as pouring progresses.

Do not use concrete which becomes non- plastic or unworkable, or does not meet required quality control limits, or has been contaminated with foreign materials remove rejected concrete from the job site.

3.1.9 Placing Concrete

Deposit concrete in horizontal layers not deeper than 60 centimeters, and avoid inclined construction joints.

Deposit concrete in its final position within three hours from the time of mixing, after which it will be rejected.

Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, unit the placing of a panel or a section is completed.

Bring slab surfaces to the correct level with a straightedge, and then strike off.

Use bull floats to smooth the surface, leaving the surface free from bumps and hollows.

Do not sprinkle water on the plastic surface. Do not disturb the slab surface prior to start of finishing operations.

3.1.10 Consolidation

Consolidate each layer of concrete immediately after placing; by use of concrete vibrators supplemented by hand spading, rodding, or tamping.

Do not allow pouring without the use of vibrators. Avoid segregation due to over vibration. Do not use vibrators to transport or spread concrete inside the forms.

Stop vibration when mixture ceases to decrease in volume. When possible, concreting shall be continuous until the section is complete.

3.1.11 Construction Joints

Construction joints shall be made only were shown on the Plans or called for in the pouring schedule, unless otherwise approved by the Supervising/Consulting Engineer. Shear keys or reinforcement shall be used, unless otherwise specified, to transmit shear or to bond the two sections together.

Before depositing new concrete on or against concrete which has hardened, the forms shall be retightened. The surface of the hardened concrete shall be roughened as required by the Engineer, in a manner that will not leave loose particles of aggregate or damage concrete at the surface.

The placing of concrete shall be carried continuously from joint to joint. The face edges of all joints which are exposed to view shall be carefully finished true to line and elevation.

3.2 Architectural Concrete

Mouldings, Trims, shoes and other architectural concrete shown in Plans shall have the same concrete mix design as structural concrete. Design, configuration and reinforcements shall be as shown in Plans.

3.3 Finishing Concrete

3.3.1 Ordinary Finish

Immediately following the removal of forms, all formwork and irregular protection shall be removed from all surfaces except from those which are not to be exposed or are not to be waterproofed. Complete repair on concrete imperfections within 24 hours after removal of forms. Neatly remove pins from exposed surfaces. On all surfaces the cavities produced by form ties and all other holes, honeycomb spots, broken corners or edges and other defects shall be thoroughly cleaned, and having been kept saturated with water and made true with a mortar and fine aggregate mixed in the proportions used in the grade of concrete being finished. Concrete that is damaged or honeycombed must be removed to reach concrete and replaced with the dry-pack mortar, or concrete as hereinafter specified. Where large bulges and abrupt irregularities protrude, the protrusions shall be removed by grinding. Use dry-pack filling for holes whose width is less than its depth, for holes left by removal of fasteners from the ends of form tie-rods, for grout and pipe recesses, and for narrow slots cut for repairing of cracks. Do not use dry pack for filling behind reinforcements or for filling holes that extend completely through the concrete.

Use motor filling placed under pressure by a motor gun for holes too wide for dry-pack filling and too shallow for concrete filling and not deeper than the far side of the reinforcement nearest to the surface.

Use concrete filling for holes extending entirely through the concrete, for holes greater in area than 1,000 square centimeters and deeper than 10 centimeters, and for holes, which extend beyond the reinforcements.

Mortar to be used shall not be more than one (1) hour old. All construction and expansion joints in the completed work shall be left carefully tooled and free of all mortar and concrete. The joint filler shall be left exposed for its full length, with clean and true edges.

All concrete shall be given Class 1, Ordinary Finish and additionally any further finish as specified. The resulting surfaces shall be true and uniform. All repaired surfaces, the appearance of which is not satisfactory to the Engineer, shall be “rubbed” as specified below.

3.3.2 Rubbed Finish

After removal of forms, the rubbing of concrete shall be started as soon as its condition will permit. Immediately before starting this work, the concrete shall be kept thoroughly saturated with water for a minimum period of three hours. Sufficient time shall have elapsed before the wetting down to allow the mortar used to thoroughly set. The mortar shall be composed of cement and fine sand mixed in the proportions used in the grade of concrete being finished. Rubbing shall be continued until all form marks, protections and irregularities have been removed, all voids have been filled, and a uniform surface has been obtained.

Unless otherwise specified, the following surfaces shall be given a Class 2, Rubbed Finish.

The exposed faces of piers, abutments, wingwalls and retaining walls.

The outside faces of girders, T-beams, slabs, columns, brackets, curbs, headwalls, railings, arch rings, spandrel walls and parapets.

3.4 Specialty Placed Concrete

Ready mixed concrete defined in this specification as concrete poured regularly by a commercial establishment and delivered to the purchaser in a plastic state. Subject to approval of the Supervising/Consulting Engineer, ready mixed concrete maybe used provided that:

The plant has sufficient capacity and transportation equipment to deliver the concrete at rate desired,

The plant meets the requirements specified herein before for equipment, measurement of materials, and mixing, except as modified herein. The cement, aggregates, water and admixtures shall conform to all applicable requirements of this specification.

Ready mixed concrete not specified otherwise hereinafter shall be mixed and delivered by means of truck mixing, combination central plant and truck mixing or central plant mixing as directed and approved by the Engineer.

3.5 Water Concrete Curing

All concrete shall be kept moist for a minimum of seven consecutive days immediately after pouring by the use of wet burlap, fog spraying, curing compounds or other approved methods.

Waterproof kraft paper or polyethylene-coated waterproof paper for concrete curing shall be of commercial quality.

Burlap, plain or polyethylene coated burlap shall be of commercial quality

4. PRE-CAST CONCRETE

4.1 Structural Pre-stressed Concrete

4.1.1 Installation

Installation for floor system shall be as recommended by the Contractor or Manufacturer and as specified herein.

4.1.2 Shoring

Shoring shall be provided by the Contractor. Concrete joist shall rest firmly before pouring of concrete topping. Shoring members shall be capable of supporting the dead weight of concrete joist and concrete topping. For c-joist more than 5m span, quarter spacing of shoring is required. For concrete joist 3.00-5.00 m span, mid span shoring is required. For concrete joist less than 3.00 m span, no shoring is required.

4.1.3 Steel forms

Removable steel forms, steel stiffeners and other wood forms as required shall be removed as recommended by the Engineer after pouring of concrete topping. However, shoring of the concrete joist must remain in place for not less than seven (7) days.

4.1.4 Pointing and Cleaning

After removal of forms, all damaged portions shall be pointed and repaired. Excess mortar shall be removed and care shall be taken to prevent damage while on the curing period.

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 deliver 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/DAMPPROOFING

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

Provide membrane waterproofing were 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 / DAMPPROOFING

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 are 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^{o} 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 14 PLUMBING

PART I-GENERAL

1. PLUMBING WORKS

All plumbing works herein shall be executed in accordance with the requirements of the National Plumbing Code, and the rules and regulations of the province.

The General Contractor shall verify all existing utilities at site and coordinate the works with Phase 1 plumbing works connecting point.

Coordinate the drawings with other related drawings and specifications. The Consulting Master Plumber shall be notified immediately of any discrepancy in the Plans.

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

All pipes shall be installed as indicated. Piping above the ground shall be run parallel with the lines of the building unless otherwise indicated on the Plans. Any relocation required for the proper execution of other trades shall be with prior approval of the Consulting Master Plumber.

Sanitary and Drainage lines shall have a minimum slope of 1%.

All service pipes, valves and fittings shall be kept at sufficient distance from other work to permit finished covering not less than 12.5 mm. from such work or from finished covering on the different service.

All pipes shall be cut accurately to measurements and shall be worked into place without springing or forcing. Care shall be taken so as not to weaken the structural portions of the building.

Thoroughly clean items before installation. Cap pipe openings to exclude dirt until fixtures are installed and final connections have been made.

Cut pipe accurately, and work into place without springing or forcing, properly cleaning windows, doors, and other openings. Excessive cutting or other weakening of the building will not be required.

Show no tool marks or threads on exposed plated, polished, or enameled connections from fixtures. Tape all finished surfaces to prevent damage during construction.

Support piping independently at pumps and similar locations, so that weight of pipe will not be supported by the equipment.

Pipe the drains from pump glands, drip pans, relief valves, air vents, and similar locations, to spill over an open sight drain, or other acceptable discharge point, and terminate with a plain end unthreaded pipe 6” above the drain.

Install piping equipment, and accessories to permit access for maintenance. Relocate items as necessary to provide such access, and without additional cost to the Procuring Entity.

Provide access doors where valves, motors or equipment requiring access for maintenance are located on walls or chases or above ceilings. Coordinate location of access doors with other trades as required.

2. THREADED PIPE JOINTS

All pipes shall be reamed before threading. All screw joints shall be made with graphite and oil or with an approved graphite compound applied to make threads only. Threads shall be full cut and not more than three threads on the pipe shall remain exposed.

3. EXPANSION AND CONTRACTION OF PIPES

Accessible contraction-expansion joints shall be made whenever necessary. Horizontal run of pipe over 15 m. length shall be anchored to the wall to the supporting structure about midway on the run to force expansion and contraction equally toward the ends or as shown on the Plans.

4. VALVES AND HOSE BIBS

Valves shall be provided on all supplied fixtures as herein specified

Provide union and shut off valves suitably locked to facilitate maintenance and removal of equipment and apparatus.

Valve shall not be installed with its stem below the horizontal. All valves shall be gate valves unless otherwise indicated on the Plans.

Valves up to and including 50 mm. diameter shall be threaded ends, rough bodies and finished trimmings, except those on chromium plated brass pipe.

Valves 63 mm. in diameter and larger shall have iron bodies, brass mounted and shall have either screws or flange ends.

Hose bibs shall be made of brass with 12.5 mm inlet threads, hexagon shoulders and 19 mm. male.

5. INSPECTION, WARRANTY TEST AND DISINFECTION

All pipes, fittings, traps, fixtures, appurtenances and equipment of the plumbing and drainage system shall be inspected and approved by the Consulting Engineer to ensure compliance with all requirements of all Codes and Regulations referred to in this Specification.

6. DEFECTIVE WORK

All defective materials replaced and tested will be repeated until satisfactory performance is attained.

Any material replaced for the satisfactory performance of the system made shall be at the expense of the Contractor.

Caulking of screwed joints or holes will be permitted

PART II- PRODUCTS

1.WATER DISTRIBUTION SYSTEM

All piping materials, fixtures and appliances fitting accessories whether specifically mentioned or not but necessary to complete this Item shall be furnished and installed.

Pipes and fitting for sanitary and potable water lines as approved shall be Polypropylene Random Pipes and Fittings (PPR) PN 20. Hot water line shall be XLPE (RED color) and shall be tested at 150 psi for the period of two hours before covering.

Pipes and fittings shall be made of virgin materials. Fittings shall be molded type and designed for solvent cement joint connection for water lines and rubber O-ring seal joint for sanitary lines.

Sizes of water supply pipes to fixtures shall be as shown in Plans and in accordance with manufacturer's instructions.

2. STORM DRAINAGE SYSTEM

Pipes for storm drainage shall be Unplasticized Polyvinyl Chloride (uPVC) series 1000 (High Impact)

5. PLUMBING FIXTURES, FITTINGS AND ACCESSORIES

All fitting, trimmings and fixtures shall be as approved by the Consulting Architect/Engineer. Exposed traps and supply pipes for fixtures shall be connected to the roughing-in, piping system at the wall unless otherwise indicated on the Plans. Built –in fixtures shall be watertight with provision of water supply and drainage outlet, fittings and trap seal.

Water closets shall be floor mounted, close coupled and made of vitreous china complete with fittings.

Urinals shall be wall hung, made of vitreous china complete with fittings.

Lavatory shall be countertop, made of vitreous china complete with fittings.

Grab bars shall be made of tubular stainless-steel pipe provided with safety grip and mounting flange.

Floor drain shall be made of stainless-steel beehive type measuring 100 mm. x 100 mm., and provided with detachable stainless strainer expanded metal lath type.

Faucet(s) shall be made of stainless steel for internal use.

Tissue paper holders, soap dispensers and hand dryers shall be approved by the Consulting Architect

Hose-bib(s) shall be made of bronze cast finish.

Sink for pantry shall be stainless steel, design to be approved by the Consulting Architect.

6. VALVES

Gate Valve - 50mm & larger, shall be rising stem iron body with bronze trim, flanged connection, min., of 150 psig working pressure. 50mm & smaller, shall be non-rising stem, all bronze, female threaded, min. of 150 psig working pressure.

Check Valve - 50mm &larger shall be iron body with bronze trim, flanged connection, min. of 150 psig working pressure. 50mm & smaller same except female threaded connection.

Float Valve - shall be the float & lower type globe valve, single seated-tight closing, bronze or iron material, flanged connection, with float.

PART III-EXECUTION

The Contractor before any installation work is started shall carefully examine the Plans and shall investigate actual structural and finishing work condition affecting all his work. Where actual condition necessitates a rearrangement of the approved pipe lay-out, the Contractor shall prepare Plan(s) of the proposed pipe lay-out for approval by the Supervising/Consulting Engineer.

1. WATER DISTRIBUTION SYSTEM

The water piping shall be extended to all fixtures, outlets, and equipment from the gate valves installed in the branch near the riser.

No water piping shall be buried in floors, unless specifically indicated on the Plans and approved by the Consulting Engineer.

Provide valves in water system. Locate for easy accessibility and maintenance and arrange so as to give complete regulation of apparatus, equipment, and fixtures.

Provide valves in at least the following locations: In branches and/ or headers of water piping serving group fixtures, for shutoff risers and branch mains, where shown on the Drawings.

The cold-water system shall be installed with a fall towards a main shutoff valve and drain. Ends of pipes and outlets shall be capped or plugged and left ready for future connections.

The cold-water connections to the domestic hot water heater shall be provided with gate valves and the return circulation connection shall have gate and a check valve.

All connection to domestic hot water heaters shall be equipped with unions between valve and tanks.

1.1 Pressure Tests for Water Lines

After the pipe have been installed, the joints completed and with joints exposed for examination, all newly installed pipe or any valve section therefore, shall be subjected to hydrostatic pressure 1½ the designed working pressure of the system or as specified by the Consulting Architect.

1.2 Leakage Tests for Water Lines

Leakage test shall be conducted after satisfactory completion of the pressure and shall consist of an examination of all exposed joints for leakage as well as on overall leakage test completed pipelines.

2. STORM DRAINAGE SYSTEM

Horizontal lines shall be supported by well secured length heavy strap hangers. Vertical lines not embedded shall be secured strongly by hooks to the building frame and a suitable brackets or chairs shall be provided at the floor from which they start.

Overhead horizontal runs of pipes shall be hung with adjustable wrought iron pipe hanger spaced not over 3.0 meters apart.

Run horizontal sanitary and storm drainage piping at a uniform grade of ¼ “per ft., unless otherwise noted. Run horizontal water piping with an adequate pitch upwards in direction of flow to complete drainage.

Provide sufficient swing joint, ball joints, expansion loops, and devices necessary for a flexible piping system, whether or not shown on the Plans.

All changes in pipe sizes on drain lines shall be made with reducing fittings or recessed reducers. All changes in directions shall be made by appropriate use of 45 degrees wyes, half wyes, long sweep quarter bends or elbows may be used in drain lines where the change in direction of flow is from the horizontal to the vertical and on the discharge from waste closets. Where it becomes necessary to use short radius fittings in other locations the approval of the Supervising/Consulting Engineer shall be obtained prior to installation of the same.

Cleanouts at the bottom of each interior downspout and where else indicated shall be the same size as the pipe up to and including 102 mm., 152 mm., for larger pipes.

Secure the Consulting Architect/Engineer’s approval of locations for cleanouts in finished areas prior to installation.

Provide cleanouts of same nominal size as the pipes they serve: except where cleanouts are required in pipes 4” and larger provide 4 “cleanouts.

Vent pipe shall be flashed and made watertight at the roof with roof cement or approved equivalent. Flashing shall be turned down into pipes.

2.1 Drainage System Test

The entire drainage and venting system shall have all necessary openings which can be plugged to permit entire system to be filled with water to the level of the highest stack vent above the roof.

The system shall hold this water for a full 30 minutes during which time there shall be no drop greater than 102 mm.

Where only the portion of the system is to be tested, the test shall be conducted in the same manner as described for the entire system except that a vertical stack 3.0-meter highest horizontal line to be tested may be installed and filled with water to maintain sufficient pressure or water pump may be used to supply the required pressure.

If and when the Consulting Engineer decides that an additional test is needed, such as air to smoke test on the drainage system, the Contractor shall perform such test without any additional cost.

4. DRAINAGE CANAL

The drainage canal shall be constructed in such as watertight as possible.

5. PLUMBING FIXTURES, FITTINGS AND ACCESSORIES

Each fixture and place of equipment requiring connection to the drainage system except fixtures with continuous waste shall be equipped with a trap. Each trap shall be placed as near to the fixture as possible. Traps installed on threaded pipe shall be recessed drainage pattern.

Protect plumbing fixtures, faucets with hose connections, and other equipment having plumbing connection, against possible back-siphonage.

All fixtures and equipment shall be supported and fastened in a safe and satisfactory workmanship as practiced.

All fixtures, where required to be wall mounted on concrete or concrete hollow block wall, fasten with brass expansion bolts. Expansion bolts shall be 6 mm. diameter with 20 mm. threads to 25 mm. into solid concrete, fitted with loose tubing or sleeves of proper length to acquire extreme rigidity.

Insert shall be securely anchored and properly flushed into the walls. Insert shall be concealed and rigid.

Bolts and nuts shall be horizontal and exposed. It shall be provided with washers and chromium plate finish

4.1 Installation

Set fixtures level and in proper alignment with respect to walls and floors, and with fixtures equally spaced.

Provide supplies in proper alignment with fixtures and with each other.

Provide flush valves in alignment with the fixture, without vertical or horizontal offsets.

4.2 Protection and Cleaning

During installation of fixtures and accessories and until final inspection and turn over, protect items with strippable plastic or other approved means to maintain fixtures in perfect conditions.

All exposed metal surfaces shall be polished clean and rigid of grease, dirt or other foreign materials upon completion.

Upon completion, thoroughly clean all fixtures and accessories to leave the work in polished condition.

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 govern 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, equipment and workmanship. Upon the receipt of noticed from the architect of the failure of any part or parts of this installation or equipment 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 equipment surrounding each outlet so that the outlets are symmetrically located according to room layout. Boxes shall be installed in concealed location, weatherproofed outlets cover 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 mm^2 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 breakers 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 circuits. 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 equipment 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, red 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 contract 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 equipment 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

Section VII. Drawings

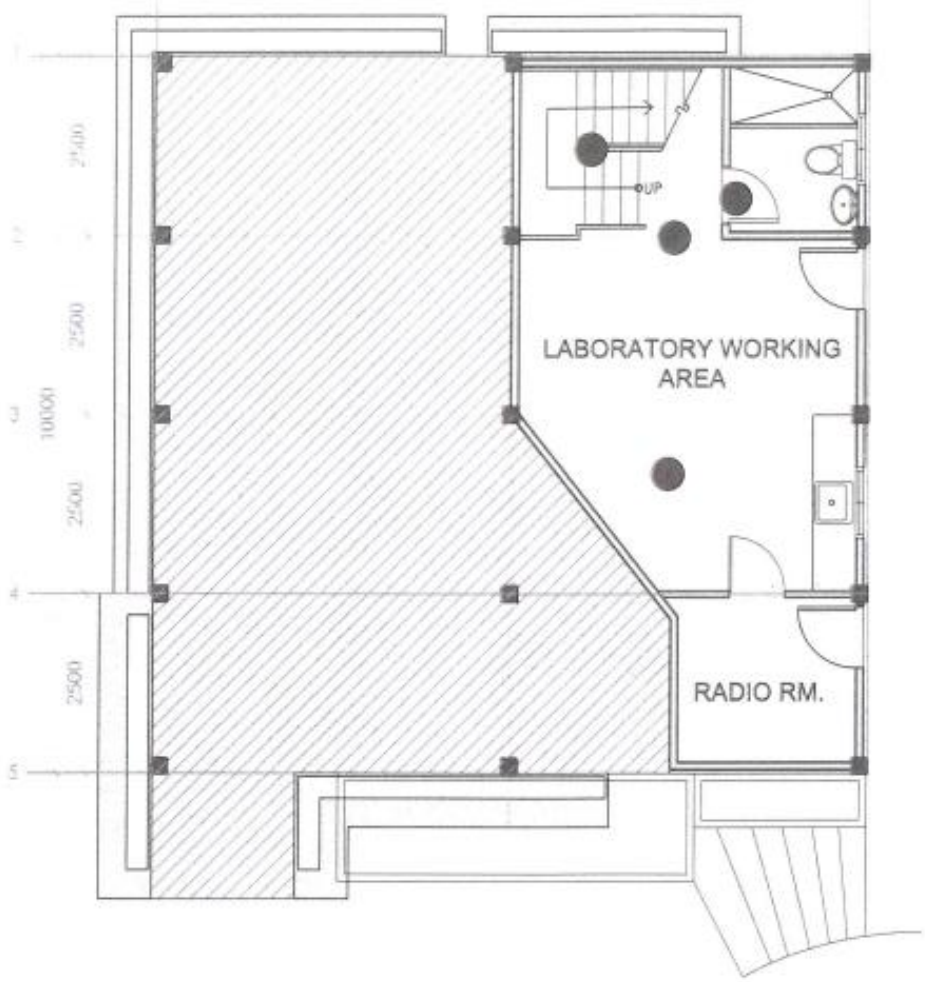
NMP KABAYAN - SITE A
SITE A AND B LOCATION
SCALE: NTS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN REGIONAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, FMD	REVIEWED AND CHECKED BY: AR. NELSON L. ALEJANDRO ARCHITECT IV, O.I.C (FMD)	RECOMMENDING APPROVAL: ATTY. MA. ROSEMARIE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS G.C.S.O.III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. A-00 1 1
DATE:	PROJECT NO.	LOCATION: KABAYAN, BENGUET						

NMP KABAYAN - SITE A
MUSEUM SUPPORT BUILDING
SCALE: NTS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE, BENGUET	PREPARED BY: MR. ROLDAN C. LAUREL ARCHITECT III, PMS	REVIEWED AND CHECKED BY: MR. NELSON L. AQUINO ARCHITECT III, CHIEF, PMD	RECOMMENDING APPROVAL: ATTY. MA. ROSEANNE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: MLJEL CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. A-01 1 4
DATE:	PROJECT NO:	LOCATION: KABAYAN, BENGUET						

NMP KABAYAN - MUSEUM SUPPORT BUILDING
UPPER GROUND FLOOR PLAN
SCALE: 1:75 MTRS.



NMP KABAYAN - MUSEUM SUPPORT BUILDING
LOWER GROUND FLOOR PLAN
SCALE: 1:75 MTRS.

NATIONAL MUSEUM OF THE PHILIPPINES
FACILITIES MANAGEMENT DIVISION
P. BURGOS DRIVE, MANILA, 1000

PROJECT TITLE:
REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET

DATE:
PROJECT NO:
LOCATION: KABAYAN, BENGUET

PREPARED BY:
AR. ROLDAN C. LADRIL
ARCHITECT III, FMD

REVIEWED AND CHECKED BY:
AR. ROLDAN V. AQUINO
ARCHITECT IV, OIC - FMD

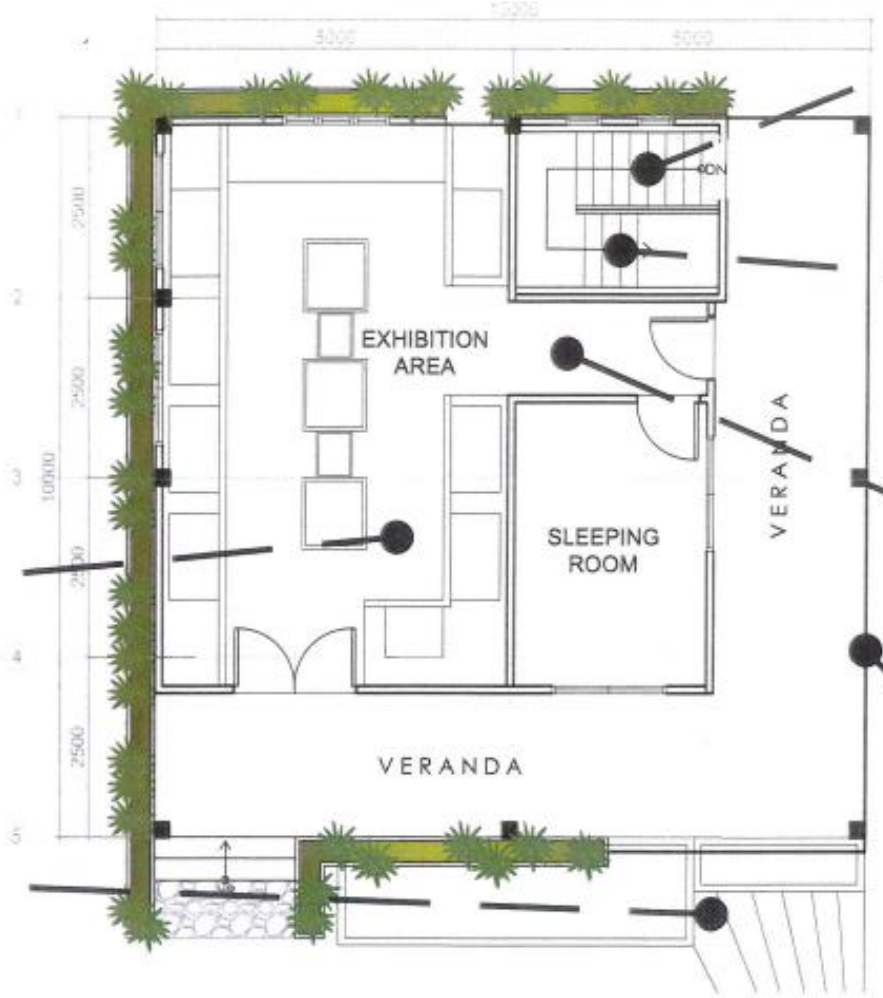
RECOMMENDING APPROVAL:
ATTY. MA. ROSEMARIE M. FLORES-AVILA
DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION

APPROVED BY:
JEREMY BARNS, CESO III
DIRECTOR - GENERAL

REVISIONS:
DRAWN BY: AA JEL
CHECKED BY:
DATE:

SHEET CONTENT:
AS SHOWN ABOVE

SHEET NO.
A-02
2 | 4

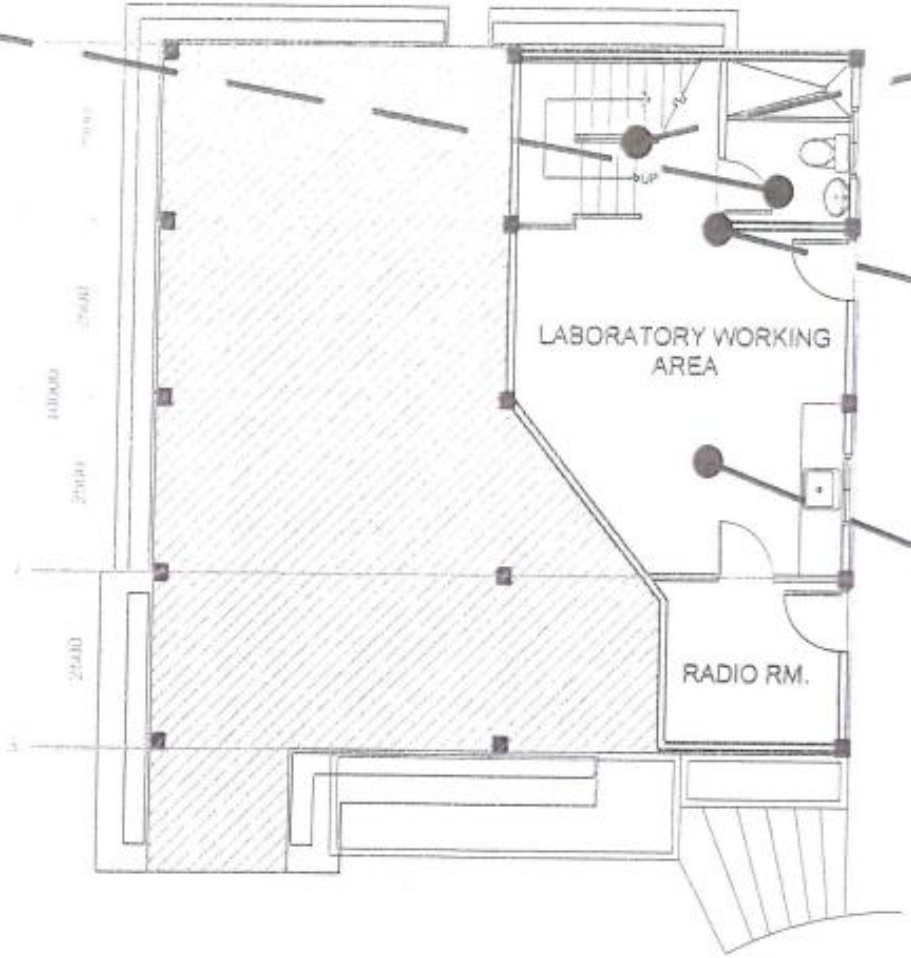


NMP KABAYAN MUSEUM SUPPORT BUILDING

UPPER GROUND FLOOR PLAN

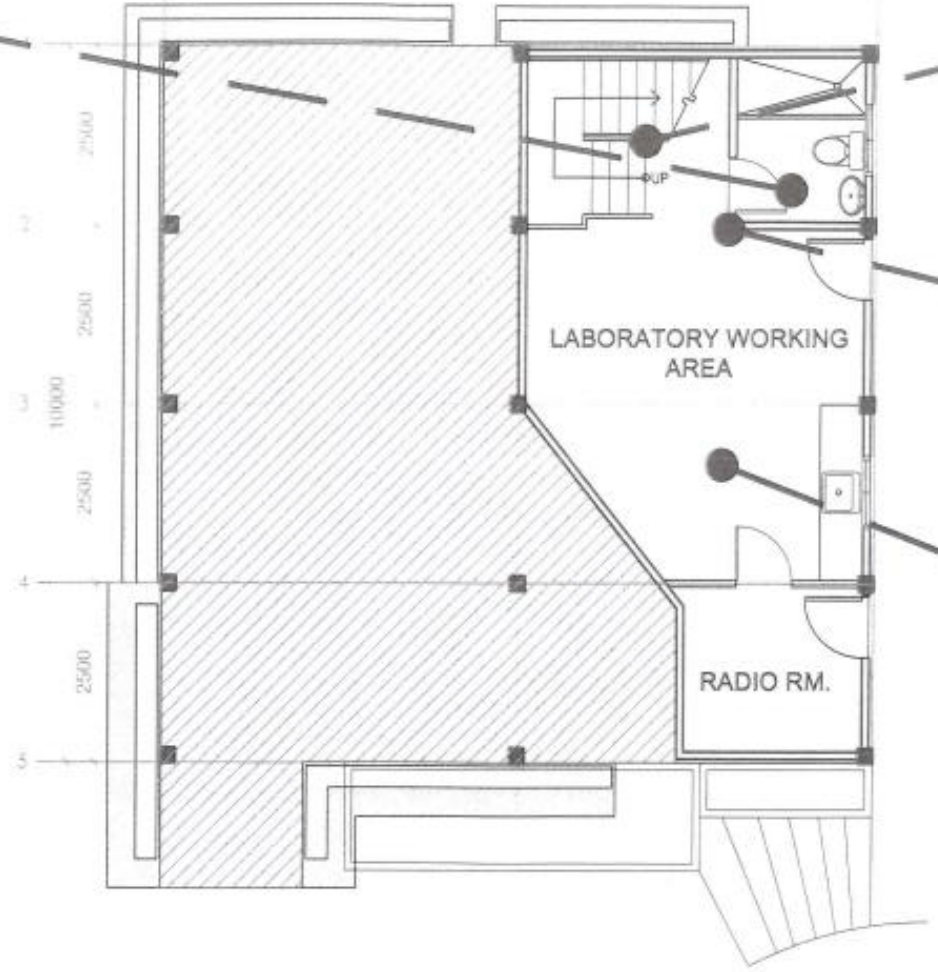
SCALE: 1:75 MTRS.

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. GUEVARA DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, PMD	REVIEWED AND CHECKED BY: AR. [illegible] ARCHITECT III, (I/C - PMD)	RECOMMENDING APPROVAL: ATTY. MA. ROSENNIE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: MLJB CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. A-03 3 4
DATE:	PROJECT NO:	LOCATION: KABAYAN, BENGUET						



NMP KABAYAN MUSEUM SUPPORT BUILDING
LOWER GROUND FLOOR PLAN
SCALE 1:75 METRIC

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION T. BURGOS ST., MAKATI CITY	PROJECT TITLE REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE KABAYAN, BENGUET	PREPARED BY AR. ROLDAN T. LAUREL ARCHITECT III, FMD	REVIEWED AND CHECKED BY AR. NELSON L. AQUINO ARCHITECT III, FMD	RECOMMENDING APPROVAL ATTY. MA. ROSEMIE V. FLORES-AVILA DEPUTY DIRECTOR GENERAL FOR ADMINISTRATION	APPROVED BY JEREMY BARNS CERO III DIRECTOR - GENERAL	REVISIONS SIGNATURE PRINTED BY DATE	SHEET CONTENT LOWER FLOOR PLAN	SHEET NO. A-04 4 4
DATE	PROJECT NO.	LOCATION KABAYAN, BENGUET						



NMP KABAYAN MUSEUM SUPPORT BUILDING

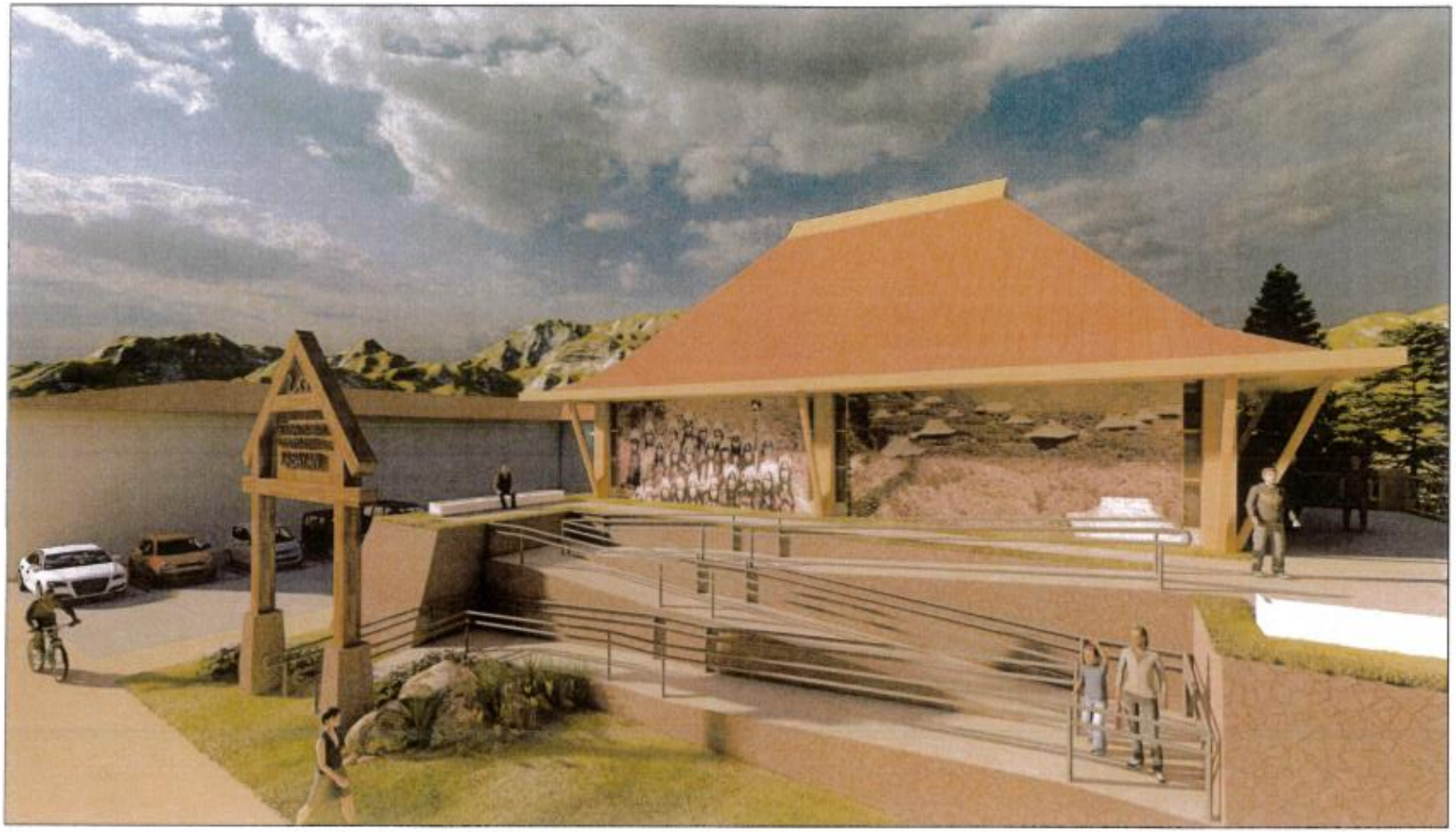
LOWER GROUND FLOOR PLAN

SCALE: 1:75 MTRS.

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN O. LAUREL ARCHITECT II, PMS	REVIEWED AND CHECKED BY: AR. [illegible] ARCHITECT III, O.I.C. - AMD	RECOMMENDING APPROVAL: ATTY. MA. ROSENNIE D. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS DRAWN BY: AR./JBL CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. A-05 5 5
DATE:	PROJECT NO.	LOCATION: KABAYAN, BENGUET						

NMP KABAYAN - SITE B
SITE A AND B LOCATION
SCALE: NTS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BARA, SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, PhD	REVIEWED AND CHECKED BY: AR. NELSON L. AQUINO ARCHITECT III, C.O.O. - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSELYNE M. FLORES-AVILA DEPUTY DIRECTOR GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: AR.JE. CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO.: A-000 1 1
DATE:	PROJECT NO.:	LOCATION: KABAYAN, BENGUET						



PERSPECTIVE

SCALE: NTS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, Manila, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BUNGA, STELE AND BATELLE'S OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, FMD	REVIEWED AND CHECKED BY: AR. NELSON L. [illegible] ARCHITECT IV, O.I.C. - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSEMARIE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: AR./ATS CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO.: A-001 1 6
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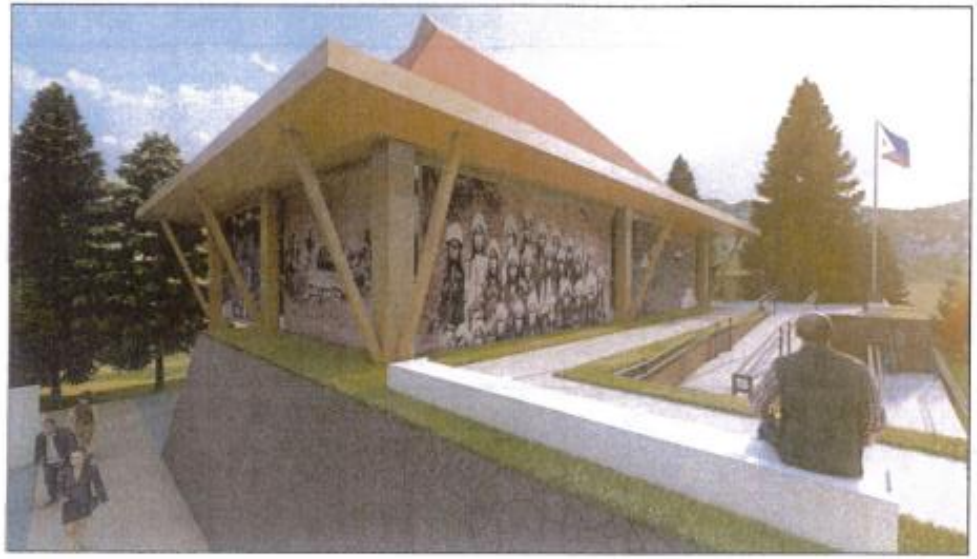

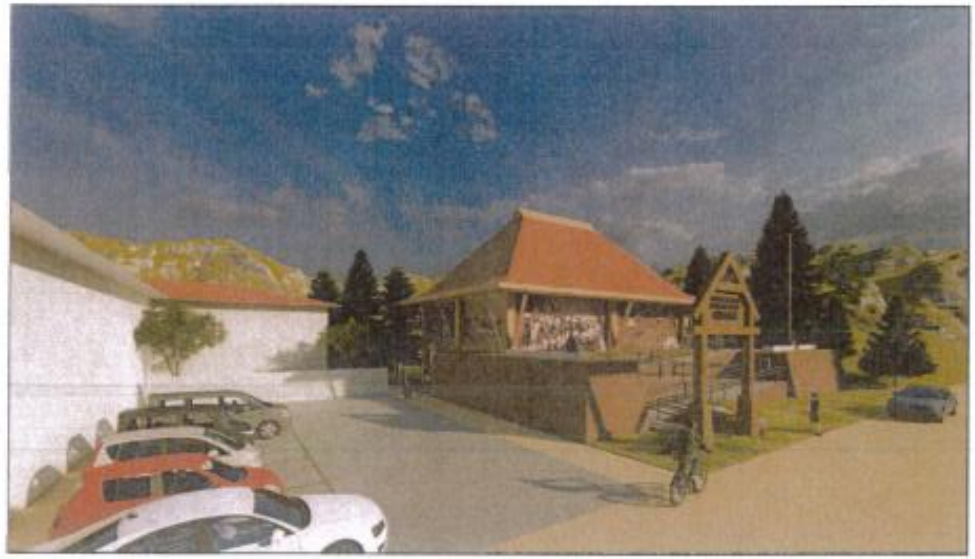

PERSPECTIVE

SCALE: NTS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, PRC	REVIEWED AND CHECKED BY: AR. NELSON L. NOLIDO ARCHITECT IV, OIC-CMD	RECOMMENDING APPROVAL: ATTY. MA. ROSENHEIM. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, DESC III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: KS./ETS CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO.: A-002 2 6
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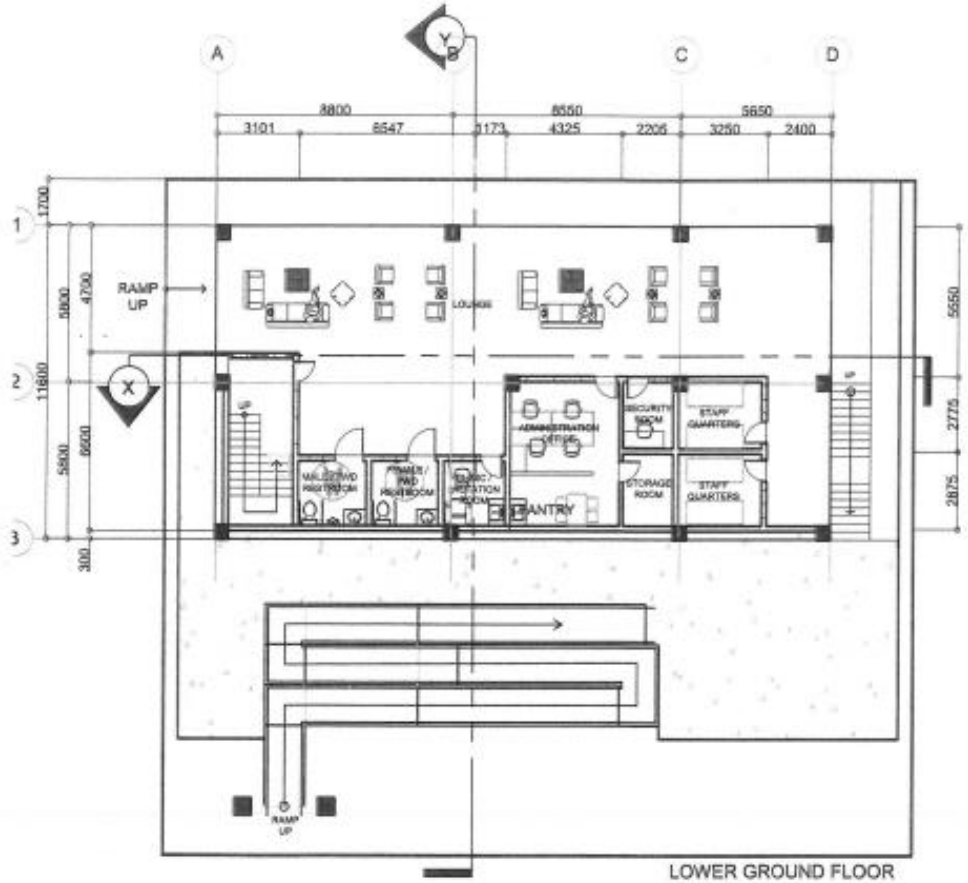
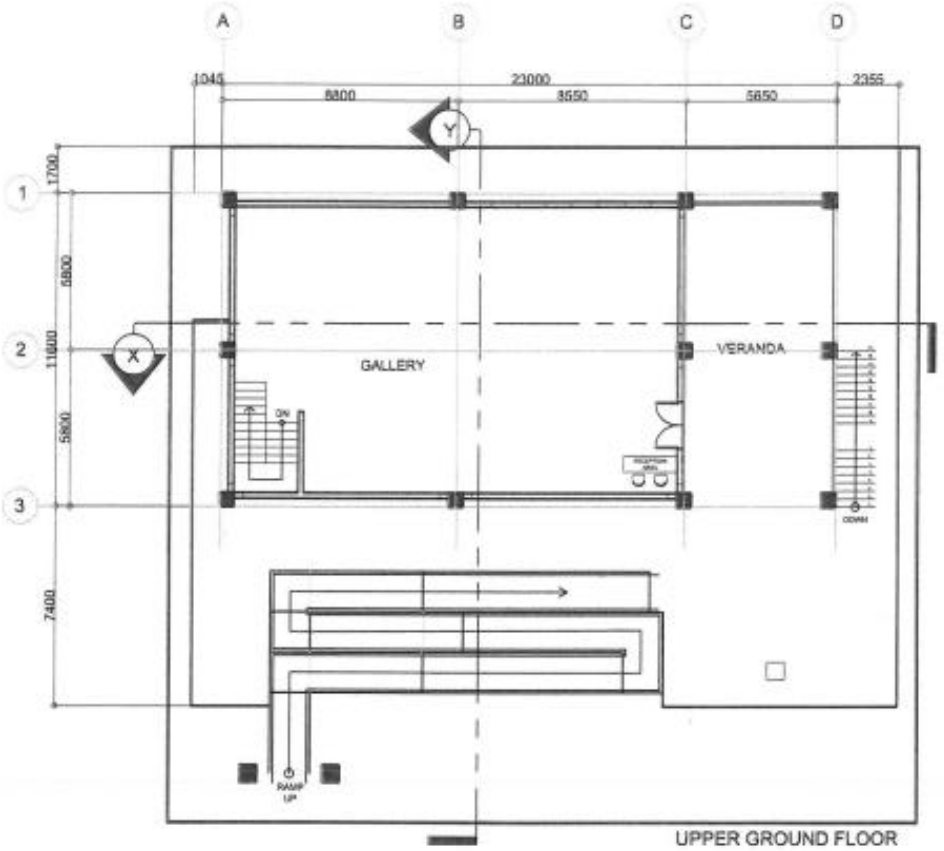


LOWER GROUND FLOOR

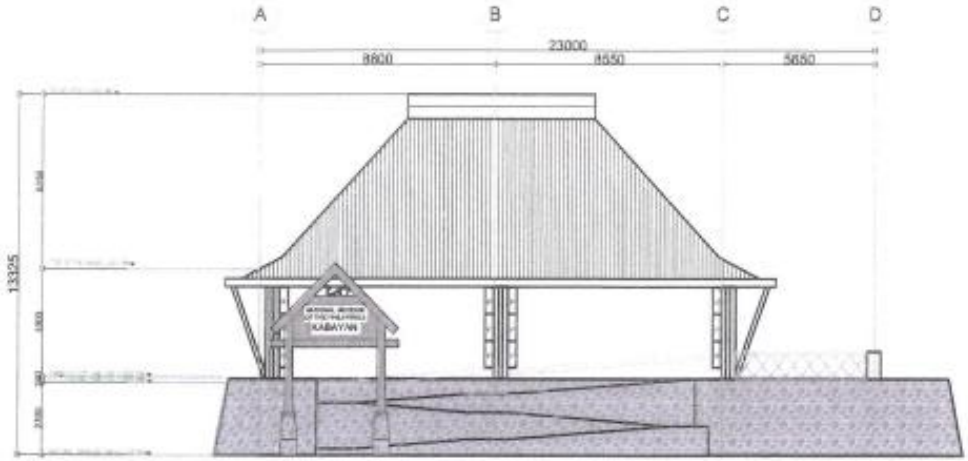


UPPER GROUND FLOOR

NMP KABAYAN SITE B- NEW EXHIBITION AND OFFICE BUILDING
LOWER GROUND FLOOR PLAN

NMP KABAYAN SITE B- NEW EXHIBITION AND OFFICE BUILDING
UPPER GROUND FLOOR PLAN

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, FMD	REVIEWED AND CHECKED BY: AR. NELSON L. AGUINO ARCHITECT III, OIC - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSSENIE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, OESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: MI, MTS CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. A-101 3 6
DATE:	PROJECT NO:	LOCATION: KABAYAN, BENGUET						



FRONT ELEVATION
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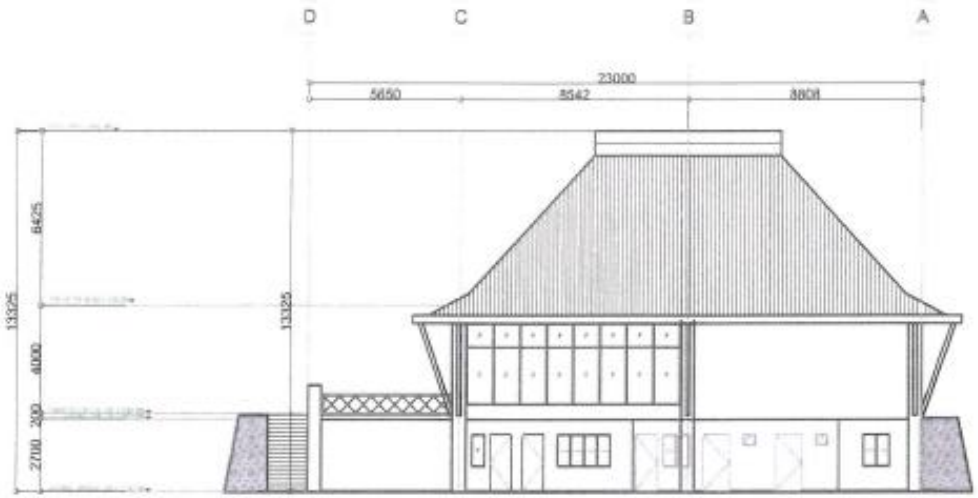

REAR ELEVATION
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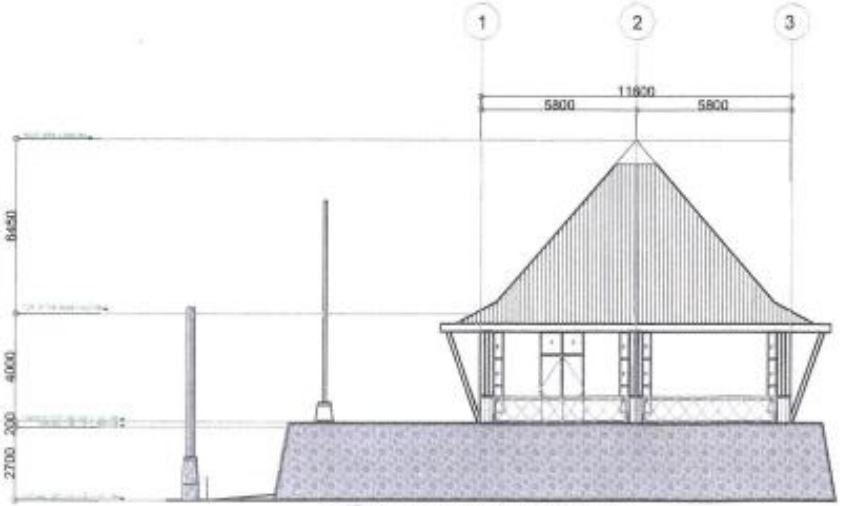

RIGHT SIDE ELEVATION
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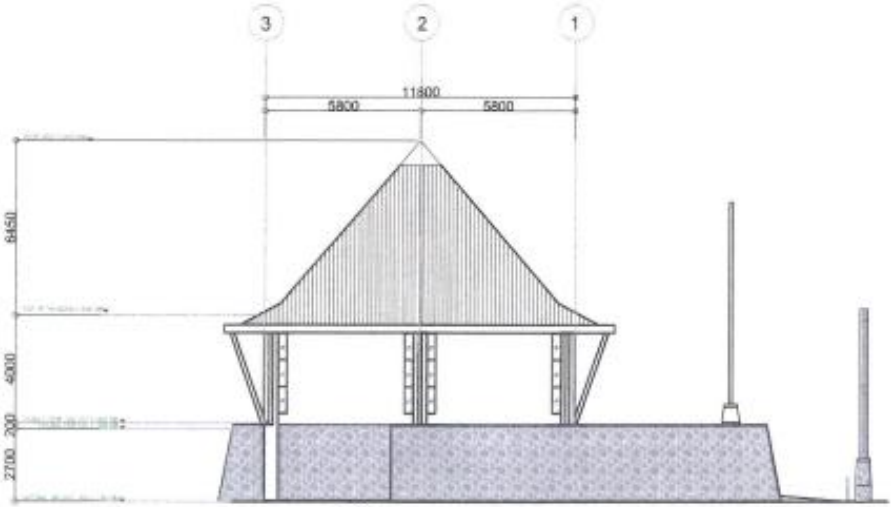

LEFT SIDE ELEVATION
SCALE: 1:100 MTRS.

NATIONAL MUSEUM OF THE PHILIPPINES
FACILITIES MANAGEMENT DIVISION

PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET

DATE: | PROJECT NO: | LOCATION: KABAYAN BENGUET

PREPARED BY: AR. ROLDAN C. LAUMEL, ARCHITECT III, FMD

REVIEWED AND CHECKED BY: [illegible], ARCHITECT V, O.I.C. - FMD

RECOMMENDING APPROVAL: ATTY. MA. ROSEMARIE M. FLORES-AVILA, DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION

APPROVED BY: JEREMY BARNS, CESO III, DIRECTOR - GENERAL

REVISIONS | DRAWN BY: MJMTE | CHECKED BY: | DATE:

SHEET CONTENT: AS SHOWN ABOVE

SHEET NO.: A-201

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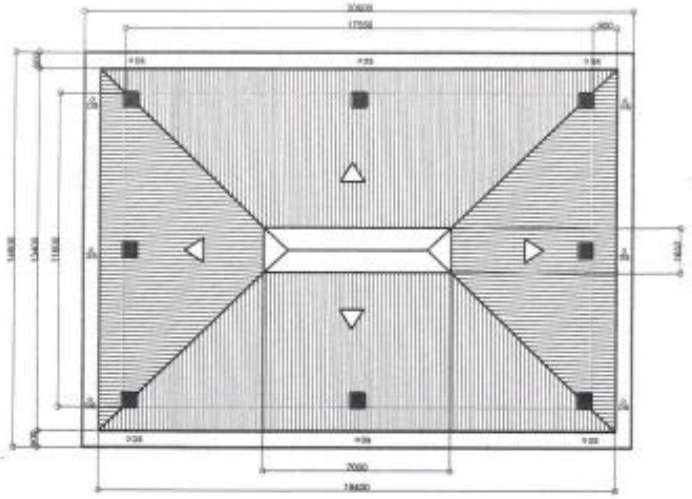
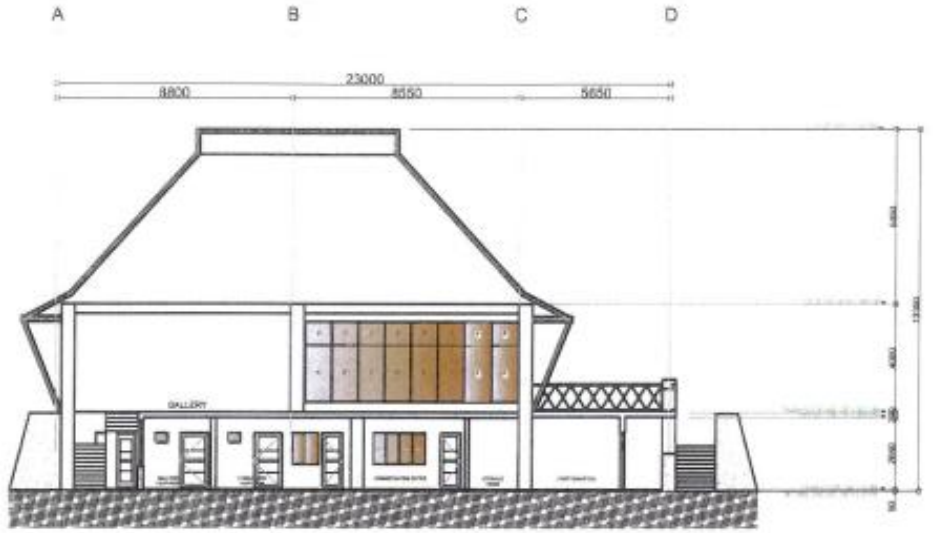
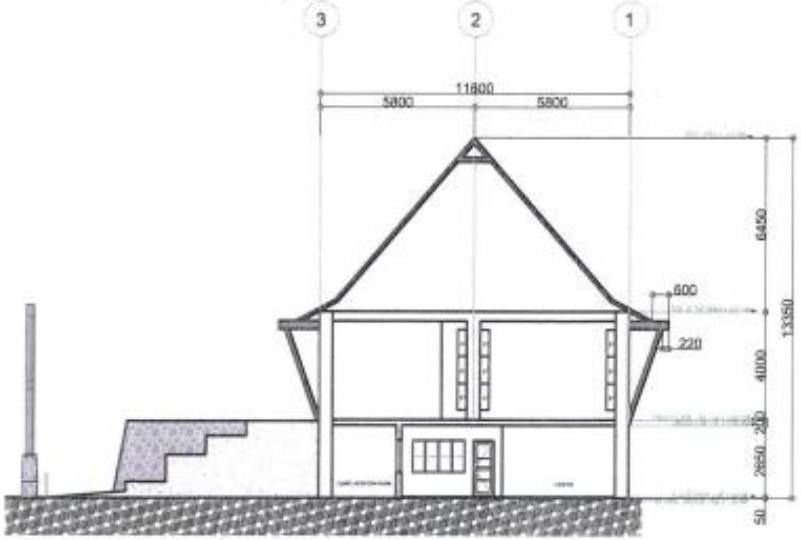


NMP KABAYAN SITE B
ROOF PLAN
SCALE: 1:200 MTRS

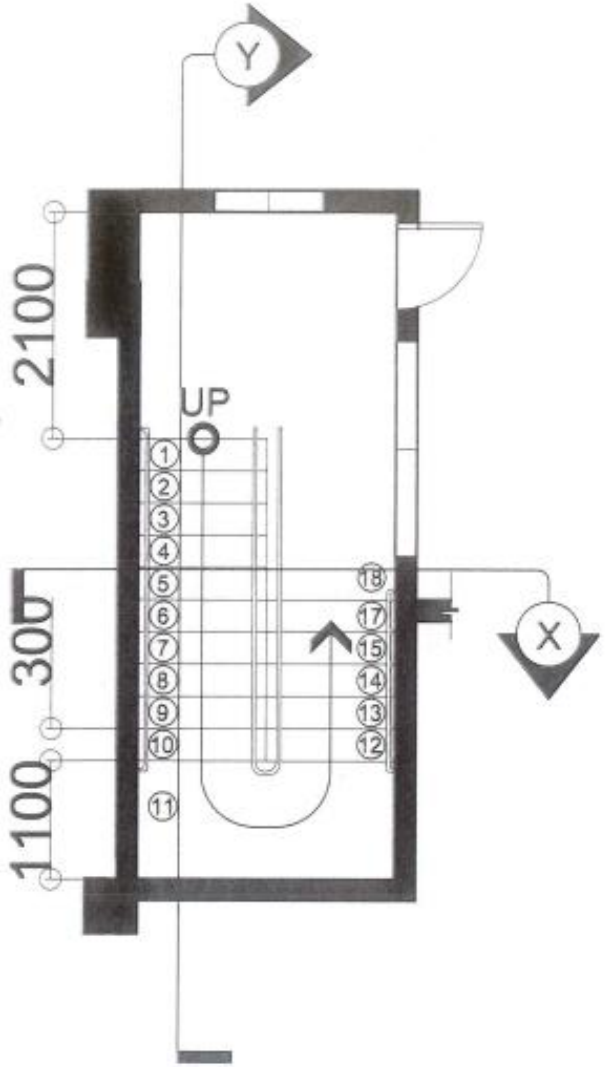


NMP KABAYAN SITE B
SECTION X
SCALE: 1:200 MTRS



NMP KABAYAN SITE B
SECTION Y
SCALE: 1:200 MTRS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: ARCHITECT III, PMO	REVIEWED AND CHECKED BY: ARCHITECT III, D.I.C., PMO	RECOMMENDING APPROVAL: ATTY. MA. ROSENNIE M. FLORES-AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: ARJMTS CHECKED BY: DATE:	SHEET CONTENT:	SHEET NO. A-301 5 6
DATE:	PROJECT NO:	LOCATION: KABAYAN,BENGUET						



STAIR PLAN

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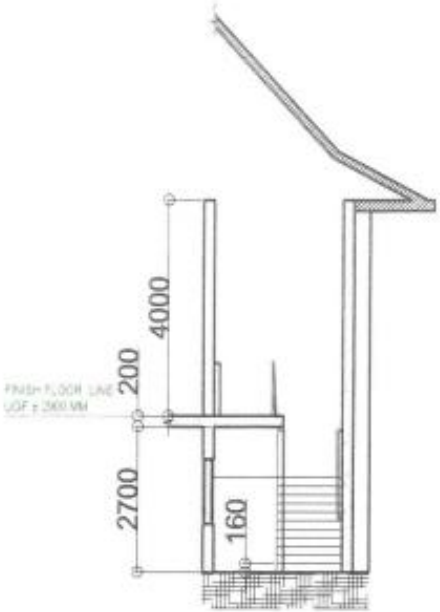
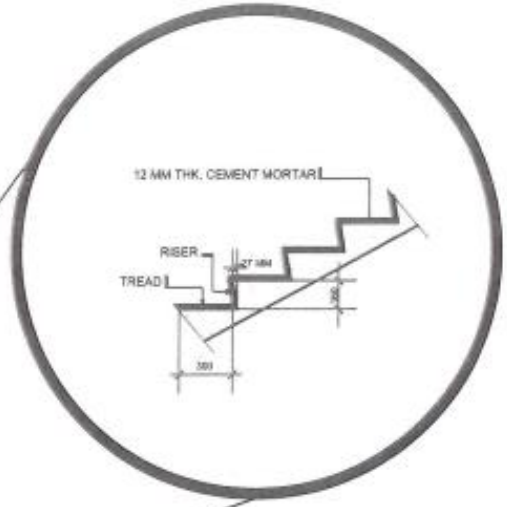


SECTION THRU X

SCALE 1:100 MTRS.

SECTION THRU Y

SCALE 1:100 MTRS.



STAIRCASE STEP DETAIL

SCALE NTS

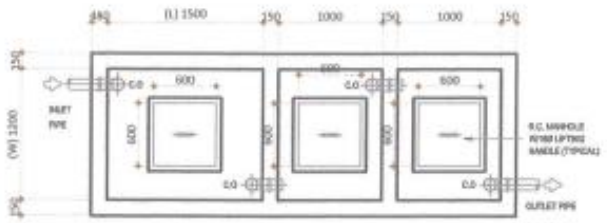
NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL CAVE SITE, MUSEUM AND SATELLITE OFFICE	PREPARED BY: AR. ROLDAN C. LAUREL ARCHITECT III, PME	REVIEWED AND CHECKED BY: AR. [illegible] ARCHITECT IV, O.I.C. - PME	RECOMMENDING APPROVAL: ATTY. MA. ROSENIE M. FLORES-AYULA DEPUTY DIRECTOR GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, OESO III DIRECTOR - GENERAL	REVISIONS: DRAWN BY: AR.MTS CHECKED BY: DATE:	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO: A-401 6 6
DATE:	PROJECT NO:	LOCATION: KABAYAN, BENGUET						

LEGENDS & ABBREVIATIONS

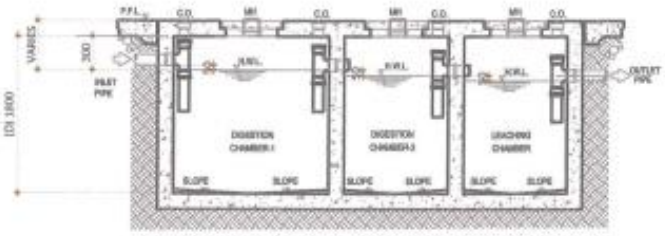
SYMBOL	ABBREVIATIONS	DESCRIPTION
	SP / WP	SOIL PIPE / WASTE PIPE
	CWL	COLD WATER LINE
	DP	DRAIN PIPE
	GV	GATE VALVE
	CV	CHECK VALVE
	M	WATER METER
	SVTR	STACK VENT THRU ROOF
	CWR	COLD WATER RISER
	FD	FLOOR DRAIN
	CO	CLEANOUT
	WC	WATER CLOSET
	LAV	LAVATORY
	SH	SHOWER
	KS	KITCHEN SINK
	AD / CB	AREA DRAIN / CATCH BASIN

MATERIAL SPECIFICATIONS:

1. Cold Water Line - PN20 PPR PIPES AND FITTINGS
2. Soil & Waste Pipes - SERIES-1000 PVC PIPES AND FITTINGS
3. Ventilation Pipes - SERIES-1000 PVC PIPES AND FITTINGS
4. Drainage Pipes - SERIES-1000 PVC PIPES AND FITTINGS
5. Downspouts - SERIES-1000 PVC PIPES AND FITTINGS
6. Gate, Check Valves - PN20 PPR FITTINGS
7. Floor Drains - STAINLESS STEEL



PLAN



SECTION

PROPOSED SPETIC TANK

SCALE: 1:75 MTRS.

GENERAL NOTES:

1. All Plumbing Works include herein shall be executed according to the provisions of the NATIONAL PLUMBING CODE of the PHILIPPINES, the NATIONAL BUILDING CODE of the PHILIPPINES, and its implementing rules and regulations.
2. Coordinate the Drawing with other related drawings and specifications. The Architect and/or the Engineer shall be notified immediately of any discrepancy found therein. His/Her decision shall be final.
3. All pipes shall be installed as indicated. Any relocation required for proper execution of other trades shall be with prior approval of the Architect and/or Engineer.
4. Proposed plumbing utilities shall conform to the actual location, depth and invert elevation of existing pipes and structures as verified by the Contractor.
5. The Plumbing Contractor shall be duly Registered and Licensed Master Plumber under Republic Act 1378, known as Plumbing Law.
6. All slopes for horizontal drainage shall maintain 1% as minimum, unless otherwise noted.
7. Size of water supply pipes to fixtures shall be in accordance with the manufacturer's instructions.
8. All fixtures shall be vented, unless otherwise noted.
9. The work throughout shall be executed in the best and most thorough manner known to the trade and to the satisfaction of the Architect and/or the Engineer.
10. The Contractor shall verify all existing utilities at site and coordinate the works with the sewer effluent disposal and waterline service connecting point.
11. Refer to technical specification for detailed material and equipment specifications.

FIXTURE CONNECTION SIZE SCHEDULE

SYMBOL	FIXTURE	MIN. PIPE CONN., DIAMETER, IN mm.					REMARKS
		WASTE PIPE	VENT	STORM	COLD WATER	HOT WATER	
WC	WATER CLOSET	75	50	---	20	---	BUILT IT P-TRAP
LAV	LAVATORY	50	50	---	12.5	---	W/ P-TRAP
SK	SINK	50	50	---	12.5	---	W/ P-TRAP
FD	FLOOR DRAIN	50	50	---	---	---	W/ P-TRAP
SD	STORM DRAINAGE	---	---	100	---	---	---
DS	DOWNSPOUT	---	---	50	---	---	---
CB	CATCH BASIN	---	---	100	---	---	---

NATIONAL MUSEUM OF THE PHILIPPINES
FACILITIES MANAGEMENT DIVISION

PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN BENGUET

PREPARED BY: ENGR. JENNY ANN B. TAYO, RMP
REVIEWED AND CHECKED BY: AR. NELSON L. ROJUNO
RECOMMENDING APPROVAL: ATTY. MA. ROSENIE M. FLORES - AVILA
APPROVED BY: JEREMY BARNS, CESO III

DATE:
PROJECT NO:
LOCATION: CLARK, PAMPANGA

REVISIONS:
SHEET CONTENT:
SHEET NO.: P-01
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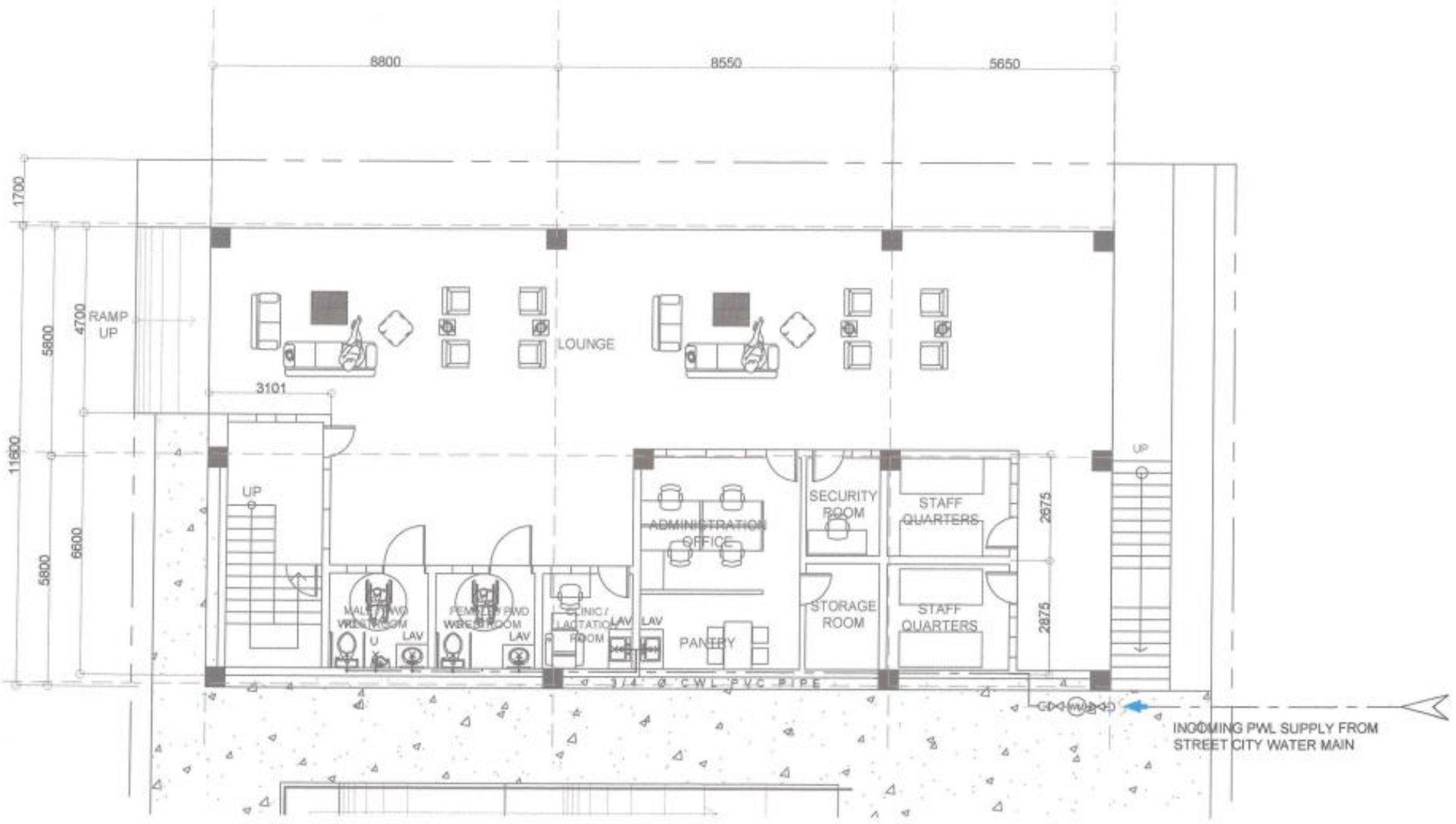

WATER LINE LAYOUT

SCALE: 1:50 METRE

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: ENGR. JENNY [illegible] PAYO, RMP [illegible]	REVIEWED AND CHECKED BY: AR. NELSON L. AVENIDO ARCHITECT III, O.I.C - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSE[illegible]E M. FLORES - AVILA DEPUTY DIRECTOR GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR GENERAL	REVISIONS: DRAWN BY: AR.PIL CHECKED BY: DATE: 11/07/2023	SHEET CONTENT: AS SHOWN HERE	SHEET NO. P-01 2 4
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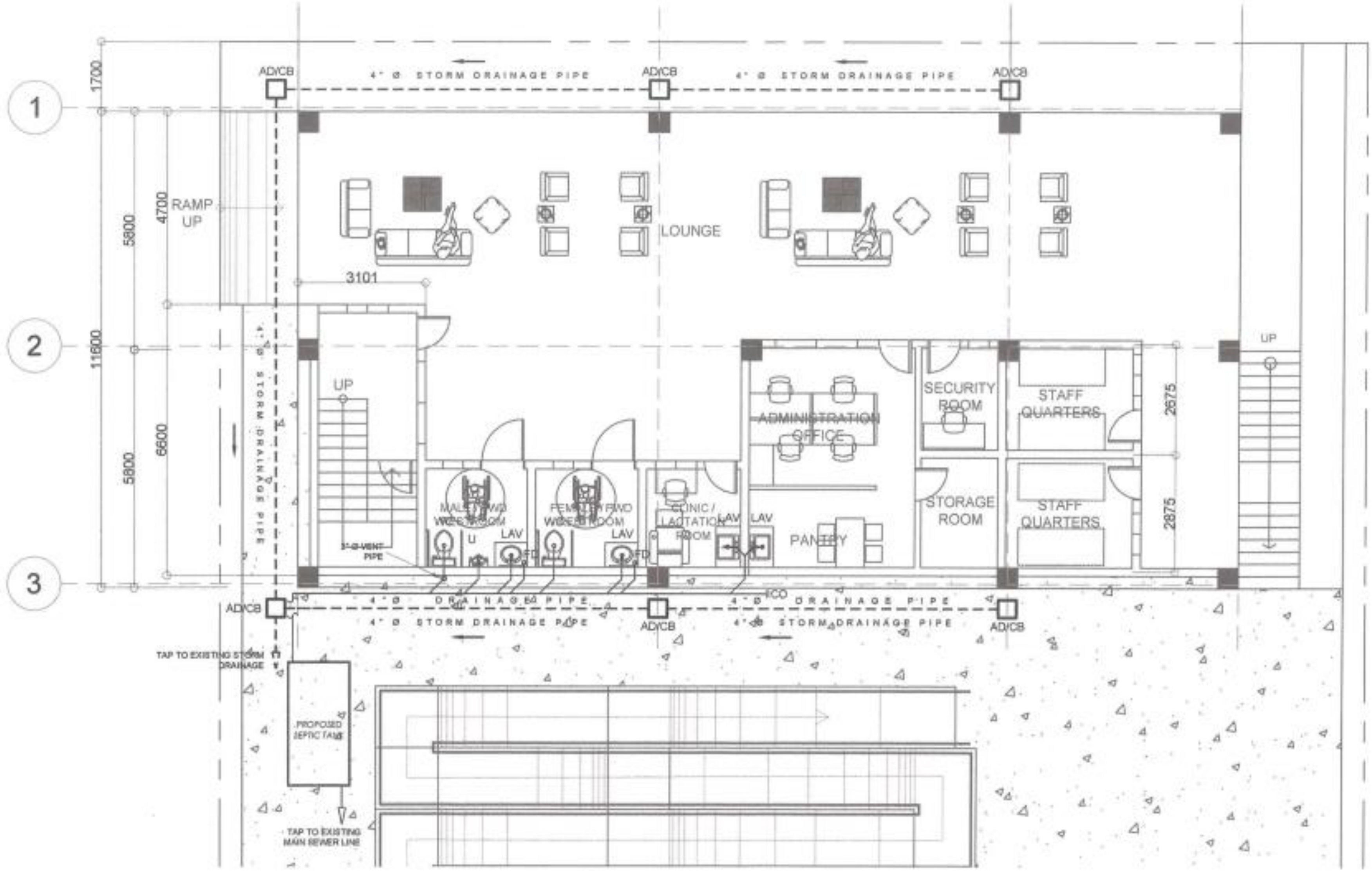

SEWER LINE LAYOUT

SCALE: 1:150 MTRS.

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN BENGUET	PREPARED BY: ENGR. JENNYVIE DUYO, RMP ENGINEER, FMD	REVIEWED AND CHECKED BY: AR. NELSON E. AQUINO ARCHITECT IV, FMD - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSEMAR M. FLORES - AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR-GENERAL	REVISIONS: DRAWN BY: AR.FRL CHECKED BY: DATE: 11/11/2022	SHEET CONTENT: AS SHOWN ABOVE
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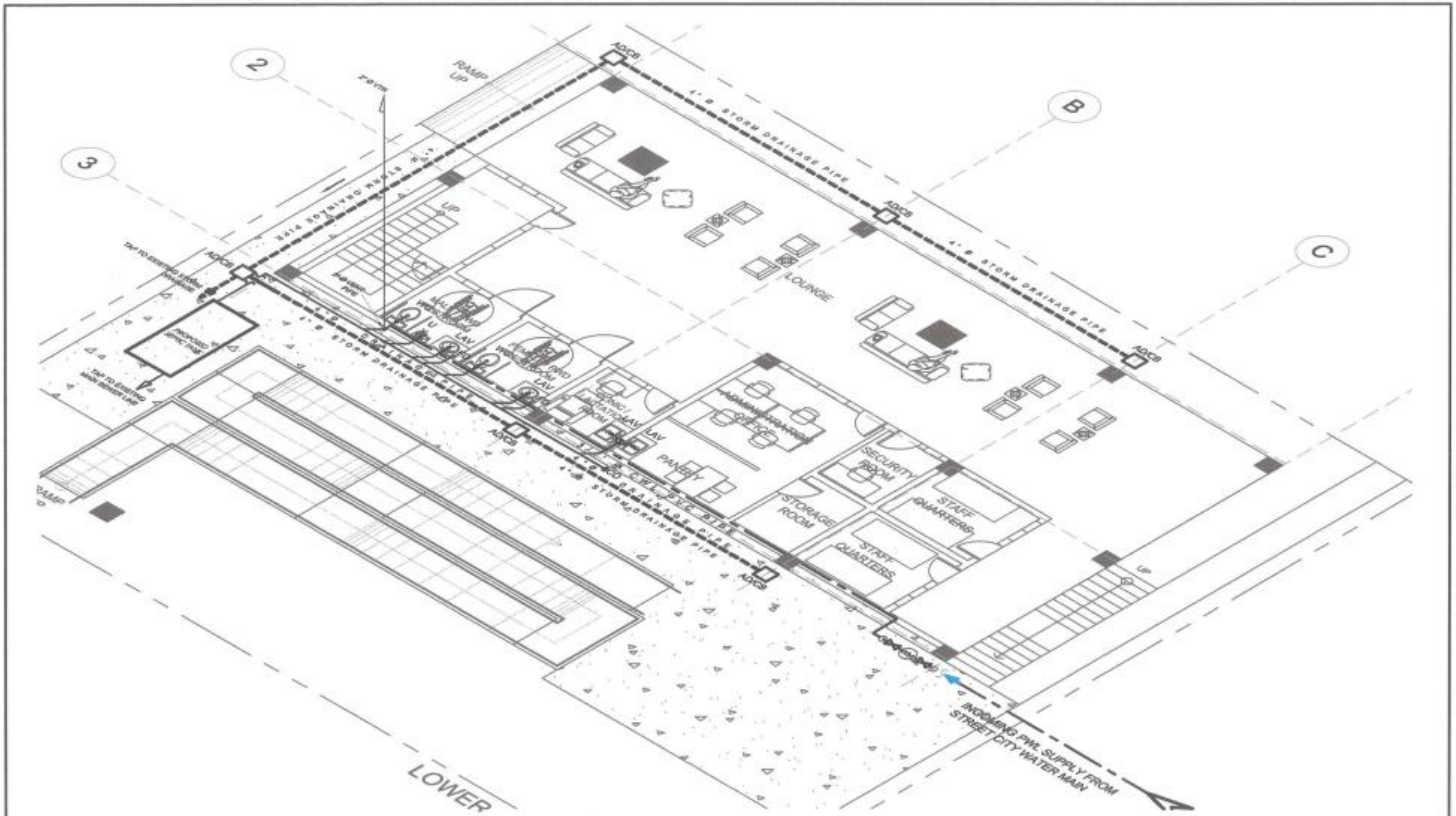


SEWER LINE LAYOUT

SCALE 1:150 MTRS

NATIONAL MUSEUM OF THE PHILIPPINES FACILITIES MANAGEMENT DIVISION P. BURGOS DRIVE, MANILA, 1000	PROJECT TITLE: REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL SITES AND SATELLITE OFFICE IN KABAYAN, BENGUET	PREPARED BY: ENGR. JENNY [illegible] TAYO, RMP ENGINEER II, FMD	REVIEWED AND CHECKED BY: AR. NELSON L. [illegible] ARCHITECT III, O.I.C - FMD	RECOMMENDING APPROVAL: ATTY. MA. ROSEMINE M. FLORES - AVILA DEPUTY DIRECTOR-GENERAL FOR ADMINISTRATION	APPROVED BY: JEREMY BARNS, CESO III DIRECTOR-GENERAL	REVISIONS: DRAWN BY: [illegible] CHECKED BY: DATE: [illegible]	SHEET CONTENT: AS SHOWN ABOVE	SHEET NO. P-01 4 4
DATE:	PROJECT NO:	LOCATION: CLARK, PAMPANGA						

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and

b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

Daywork Schedule

A Daywork Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Entity of the realism of rates quoted by the Bidders, the Daywork Schedule should normally comprise the following:

a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.

b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the

Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's Representative's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix his signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of his bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

PAMBANSANG MUSEO NG PILIPINAS
NATIONAL MUSEUM OF THE PHILIPPINES

Project : **REHABILITATION OF NATIONAL MUSEUM OF THE PHILIPPINES - KABAYAN BURIAL CAVE SITE MUSEUM AND SATELLITE OFFICE**
Location : Kabayan, Benguet
Duration : 365 CD

Project No. CA-05-2023
Date Prepared: November 17, 2023

	APPROVED BUDGET FOR THE CONTRACT												
				Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
	Scope of Work	Qty	Unit	Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
Items				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
I.	**GENERAL REQUIREMENTS**											
1	Mobilization/ demobilization	1.00	lot									
2	Permits and Licenses	1.00	lot									
	2.1. Building Permit	1.00	lot									
	2.3. Excavation Permit	1.00	lot									
	2.4. Occupancy Permit	1.00	lot									
3	Temporary Facilities	1.00	lot									
	3.1. Temporary Office	1.00	lot									
	3.2. Temporary Warehouse and Workers Quarters	1.00	lot									
	3.3. Temporary Fabrication Place	1.00	lot									
	3.4. Power and Water Consumption	1.00	lot									
	3.5. Office supplies, laptop, printer, etc.	1.00	lot									
4	Safety, security & housekeeping (Safety net and temp. canopy)	365.00	CD									
5	Material and Soil Testing	1.00	lot									
6	Land survey(topographic and boundary survey)-sign and sealed	2.00	lot									
7	Structural design (sign and sealed)	1.00	lot									
8	Submittals, Shopdrawings and As-built plans	1.00	lot									
9	General cleaning & hauling works	1.00	lot									
10	Project Signage (8' x8")	2.00	set									
11	Supervision (Architect, Engineer and Staff)	1.00	lot									
12	Scaffoldings (Rental)	1.00	lot									
13	Supply and Installation of 2.40m High Perimeter board-up	250.00	sq.m									
									Subtotal - I. General Requirements			-
II.	**REHABILITATION OF MUSEUM SUPPORT BUILDING (SITE A)**											
1	**Site works**											
	1.1. Clearing and layout	1.00	lot									

	APPROVED BUDGET FOR THE CONTRACT											
	Scope of Work			Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
		Qty	Unit	Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
Items				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
	1.2. Excavation works	50.00	cu.m									
	1.3. Backfilling and Compaction	35.00	cu.m									
	1.4. Gravelfill and Compaction	10.00	cu.m									
									Subtotal - II-1 Site Works			-
2	**Dismantling Works**											
	2.1. Dismantling of all interior walls and ceiling	1.00	lot									
	2.2. Dismantling of dilapidated wood floor joist	100.00	sq.m									
	2.3. Dismantling of existing wall and floor tiles at GF Restroom	14.00	sq.m									
	2.4. Dismantling of lavatory, watercloset and other plumbing fixtures	1.00	lot									
	2.5. Dismantling of existing cyclone/barb wire fence	1.00	lot									
									Subtotal - II-2 Dismantling Works			-
3	**Retrofitting and Repair Works**											
	3.1. Retrofitting of existing concrete beams and columns											
	3.1.1. Application of primer and two component epoxy based laminating resin.	50.00	sq.m									
	3.1.2. Installation of (1) layer CFRP 600C on beams and columns	20.00	sq.m									
	3.2. Repair of existing flooring at lower ground floor (Existing office area)											
	3.2.1. Chipping works	50.00	sq.m									
	3.2.2. Rebar Works	500.00	kg									
	3.2.3. Formworks	20.00	sq.m									
	3.2.4. Concreting Works	15.00	cu.m									
	3.3. Installation of additional metal trusses roofing support	1.00	lot									
	3.4. Repair of dilapidated suspended wooden floor joist											
	3.4.1. Replacement of damaged floor joist	1.00	lot									
	3.4.2. Application of termite treatment	5.00	gals									
	3.5. Repair and Improvement of LGF Restroom											
	3.5.1. Repiping works for water supply and drainage system including all fittings	1.00	lot									
	3.5.2. Supply and installation of 60x60cm ceramic non-slip matte floor tiles and application of cementitious waterproofing											
	3.5.2.1. Concrete topping and waterproofing	4.00	sq.m									
	3.5.2.2. 60x60cm Non-skid matte floor tiles	12.00	pcs									
	3.5.2.3. Tile adhesive x 25kg	2.00	bag									
	3.5.2.4. Tile cross and leveler	14.00	sq.m									
	3.5.2.5. Antibacterial tile grout x 2kg	14.00	sq.m									
	3.5.3. Supply and installation of 60x30cm porcelain wall tiles											

	APPROVED BUDGET FOR THE CONTRACT											
Items	Scope of Work	Qty	Unit	Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
				Material		Labor		Sub Total (L & M)	OCMP 20%	Sub Total	Tax/VAT 5%	
				Unit Cost	Total Cost	Unit Cost	Total Cost					
	3.5.3.1. 30x60cm matte wall tiles	50.00	pcs									
	3.5.3.2. Tile adhesive x 25kg	5.00	bag									
	3.5.3.3. Tile cross and leveler	20.00	sq.m									
	3.5.3.4 Antibacterial tile grout x 2kg	20.00	sq.m									
	3.5.4. Supply and installation of plumbing fixtures and other accessories											
	3.5.4.1. One-piece watercloset with flush	1.00	pc									
	3.5.4.2. Bidet spray with hose	1.00	pc									
	3.5.4.3. Countertop wash basin	1.00	pc									
	3.5.4.4. Wash basin faucet	1.00	pc									
	3.5.4.5. Wall mounted frameless mirror with backing	1.00	pc									
	3.5.4.6. 4x4" Brass floor drain	1.00	pc									
	3.5.4.7. 4x4" Brass cleanout plug	1.00	pc									
	3.5.4.8. Stainless steel tissue holder	1.00	pc									
	3.5.4.9. Stainless steel grab bar	1.00	pc									
	3.5.4.10. Hand dryer	1.00	pc									
	3.5.5. Installation of PVC door and jamb including door knob	1.00	lot									
	3.6. Replacement of missing floor and ceiling wood planks	1.00	lot									
									Subtotal - II-3 Retrofitting and Repair Works			-
4	**Installation of perimeter fence and entrance gate**											
	4.1. Rebar Works	2,850.00	kg									
	4.2. Formworks	160.00	sq.m									
	4.3. Concreting Works	38.00	cu.m									
	4.4. 2"x4" Tubular	4.00	pcs									
	4.5. 1"x6"x1.7m Wood Planks	18.00	pcs									
	4.6. 0.4x3.4m Carved Wooden Plate Plaque	1.00	lot									
	4.7. 3"x3"2.0m Reinforced concrete precast panel (42 bays)	252.00	pcs									
	4.8. CHB Laying 150mm thk	1,050.00	pcs									
	4.9. Plastering works	980.00	sq.m									
									Subtotal - II-4 Installation of perimeter fence and gate			-
5	**Finishes**											
	5.1. Installation of drywall partition wall and cladding											
	5.1.1. Fiber cement board 1/2" thk	60.00	pcs									
	5.1.2. Metal studs 35mm x 64mm x 0.50mm thk	60.00	pcs									
	5.1.3. Ficem Screw 1" (500 pcs)	3.00	boxes									
	5.1.4. Metal drill bit	5.00	pcs									
	5.2. Installation of gypsum board ceiling in metal supports											

	APPROVED BUDGET FOR THE CONTRACT												
	Scope of Work			Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
		Qty	Unit	Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
Items				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
	5.2.1. Supply and installation of new 12mm thk gypsum board including metal supports.	150.00	sq.m									
	5.2.2. Supply and installation of 50x50cm heavy duty power coated metal closed type ceiling access manhole in white color.	4.00	pcs									
	5.2.3. Supply and installation of PVC shadow line 10mmx12mmx2.5m	130.00	lm									
	5.3. Supply and installation of 60x60cm ceramic floor tiles											
	5.3.1. 60x60cm Non-skid matte floor tiles	12.00	pcs									
	3.3.2. Tile adhesive x 25kg	2.00	bag									
	3.3.3. Tile cross and leveler	150.00	sq.m									
	5.3.4. Antibacterial tile grout x 2kg	14.00	sq.m									
	5.4. Repainting of exterior walls and outdoor veranda ceiling including railings											
	5.4.1. Sandpaper #100	0.50	roll									
	5.4.2. Flat latex paint (16L) - 1 coat	1.00	tin									
	5.4.3. Elastomeric paint (16L) - 2 coats	1.00	tin									
	5.4.4. Timber coat-non yellowing urethane coating (3.5L) - 2 coats	14.00	tin									
	5.4.5. Rags	5.00	kl									
	5.4.6. Paint thinner	1.00	gal									
	5.4.7. Paint brush 2"	3.00	pcs									
	5.4.8. Paint brush 1"	3.00	pcs									
	5.4.9. Masking tape 1"	5.00	pcs									
	5.4.10. Roller 7" (fabric)	1.00	pc									
	5.4.11. Baby Roller (fabric)	2.00	pcs									
	5.4.12. Wood putty	2.00	gal									
	5.4.13. Paint palette (1pair/set)	2.00	sets									
	5.4.14. Skimcoat	3.00	bags									
	5.5. Repainting of interior walls, ceiling and flooring											
	5.5.1. Sandpaper #100	0.50	roll									
	5.5.2. Flat latex paint (16L) - 1 coat	2.00	tin									
	5.5.3. Semi gloss-latex paint (16L) - 2 coats	4.00	tin									
	5.5.4. Timber coat-non yellowing urethane coating (3.5L) - 2 coats	28.00	tin									
	5.5.5. Rags	5.00	kl									
	5.5.6. Paint thinner	1.00	gal									
	5.5.7. Paint brush 2"	3.00	pcs									
	5.5.8. Paint brush 1"	3.00	pcs									
	5.5.9. Masking tape 1"	5.00	pcs									
	5.5.10. Roller 7" (fabric)	1.00	pc									
	5.5.11. Baby Roller (fabric)	2.00	pcs									
	5.5.12. Wood putty	2.00	gal									
	5.5.13. Paint palette (1pair/set)	2.00	sets									

	APPROVED BUDGET FOR THE CONTRACT											
Items	Scope of Work	Qty	Unit	Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
				Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
	5.5.14. Skimcoat	3.00	bags									
	5.6. Repainting and resealing of roof - 3 coats											
	5.6.1. Steel brush	1.00	pc									
	5.6.2. Epoxy Primer with Catalyst	5.00	gal/set									
	5.6.3. Epoxy reducer	1.00	lit									
	5.6.4. Acqua epoxy with catalyst	12.00	gal/set									
	5.6.5. Rags	1.00	kl									
	5.6.6. Paint thinner	1.00	gal									
	5.6.7. Paint brush 2"	3.00	pcs									
	5.6.8. Roller 7" (fabric)	1.00	pc									
	5.6.9. Baby Roller (fabric)	2.00	pcs									
	5.6.10. Marine epoxy A&B putty	1.00	gal									
	5.7. Painting of perimeter fence and entrance gate											
	5.7.1. Sandpaper #100	1.00	roll									
	5.7.2. Flat latex paint (16L) - 1 coat	5.00	tin									
	5.7.3. Elastomeric paint (16L) - 2 coats	15.00	tin									
	5.7.4. Rags	5.00	kl									
	5.7.5. Paint brush 2"	5.00	pcs									
	5.7.6. Paint brush 1"	5.00	pcs									
	5.7.7. Masking tape 1"	5.00	pcs									
	5.7.8. Roller 7" (fabric)	1.00	pc									
	5.7.9. Baby Roller (fabric)	10.00	pcs									
	5.7.10. Paint palette (1pair/set)	5.00	sets									
	5.7.11. Skimcoat	15.00	bags									
	5.8. Repainting of doors and door jamb and window frames											
	5.8.1. Sandpaper #100	0.50	roll									
	5.8.2. Timber coat-non yellowing urethane coating (3.5L) - 2 coats	7.00	tin									
	5.8.3. Rags	2.00	kl									
	5.8.4. Paint thinner	1.00	gal									
	5.8.5. Paint brush 2"	2.00	pcs									
	5.8.6. Paint brush 1"	2.00	pcs									
	5.8.7. Masking tape 1"	5.00	pcs									
	5.8.8. Baby Roller (fabric)	2.00	pcs									
	5.8.9. Wood putty	2.00	gal									
	5.8.10. Paint palette (1pair/set)	2.00	sets									
									Subtotal - II-5 Finishes			-
6	**Electrical Works**											
	Supply and Installation of Electrical fixture, wires and necessary accessories (lighting fixtures, convenience outlet, cctv, emergency lights, panel boards, breakers, generator set, etc)	150.00	sq.m									
									Subtotal - II-6 Electrical Works			-

Items	Scope of Work	Qty	Unit	Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
				Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
									Subtotal - II REHABILITATION OF MUSEUM SUPPORT BUILDING (SITE A)			-
III.	CONSTRUCTION OF NEW EXHIBITION AND OFFICE BUILDING (SITE B)											
1	Site Works											
	1.1 Support Equipment (Backhoe and excavator)	1.00	lot									
	1.2. Clearing and layout	700.00	sq.m									
	1.3. Excavation works (machine)	1,000.00	cu.m									
	1.4. Backfilling and Compaction	16.00	cu.m									
	1.5. Gravelfill and Compaction	27.00	cu.m									
	1.6. Chemical Soil Treatment	700.00	sq.m									
	1.7. Sheet Pilling Works (verify on site) - Soil Protection	1.00	lot									
	1.8. Others:											
	1.8.1. Hauling of Debris (Soil Disposal)	1.00	lot									
	1.8.2. Soil Trimming	1.00	lot									
	1.8.3. Layout and staking	1.00	lot									
	1.8.4. Waterstop and dewatering	1.00	lot									
	1.8.5. Stub-out	1.00	lot									
									Subtotal - III-1 Site Works			-
2	Structural works											
	2.1. Construction of foundation, RC wall, beams, columns, stairs and septic tank											
	2.1.1. Rebar Works	3,650.00	kg									
	2.1.2. Formworks	505.00	sq.m									
	2.1.3. Concreting Works	85.00	cu.m									
	2.2. Supply and installation of roof metal supports and bracing	2,870.00	kg									
									Subtotal - III-2 Structural Works			-
3	Roofing											
	3.1. Long span colored roof panels	400.00	sq.m									
	3.2. Bended Accessories	400.00	sq.m									
	3.3. Hardware Accessories	400.00	sq.m									
									Subtotal - III-3 Roofing Works			-
4	Masonry Works											
	4.1. CHB laying	456.00	sq.m									
	4.2. Interior plastering	685.00	sq.m									
	4.3. Exterior plastering	335.00	sq.m									
									Subtotal - III-4 Masonry Works			-
5	Waterproofing Works											
	5.1. Surface preparation/cleaning by removing dust, dirt and other contaminants	580.00	sq.m									

	APPROVED BUDGET FOR THE CONTRACT											
	Scope of Work			Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
		Qty	Unit	Material		Labor		Sub Total	OCMP	Sub Total	Tax/VAT	
Items				Unit Cost	Total Cost	Unit Cost	Total Cost	(L & M)	20%		5%	
	5.2. Application of 1 coat primer and installation of single layer torch applied membrane waterproofing, 4.5kgs/sq.m	580.00	sq.m									
	5.3. Flood testing and dewatering (24 hrs minimum)	1.00	lot									
	5.4. Concrete topping	580.00	sq.m									
	5.5. Application of cementitious waterproofing on RC wall	154.00	sq.m									
									Subtotal - III-5 Waterproofing Works			-
6	**Metal Works**											
	6.1. Deck metal railing	18.00	lm									
	6.2. Stainless steel ramp railing	28.00	lm									
	6.3. Stainless steel stairs railing	60.00	lm									
	6.4 Flag pole	8.00	lm									
	6.5 Supply & installation of metal doors and door jamb (EE and Genset room)	2.00	sets									
									Subtotal - III-6 Metal Works			-
7	**Finishes**											
	7.1. Flooring											
	7.1.1. Supply and installation of homogeneous tiles inclusive of adhesive and grout	550.00	sq.m									
	7.1.1. Concreting-straight to finish concrete flooring	580.00	sq.m									
	7.2. Doors and windows											
	7.2.1. Supply & installation of glass wall panels in aluminum framing and windows	1.00	lot									
	7.2.2. Supply & installation of wooden doors	10.00	sets									
	7.3. Ceiling											
	7.3.1. Supply and installation of 10mm thk gypsum board in metal furring supports	280.00	sq.m									
	7.3.2. Supply and installation of 50x50cm heavy duty power coated metal closed type ceiling access manhole in white color	10.00	sets									
	7.4. Cabinets, partition and countertop											
	7.4.1. Supply and installation of detachable office partition wall	1.00	set									
	7.4.2. Supply and installation of fixed cabinet for quarters, administrative office and pantry	1.00	lot									
	countertop	1.00	lot									
	7.5. Supply and installation of manufactured stone cladding	280.00	sq.m									

Items	Scope of Work	Qty	Unit	Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
				Material		Labor		Sub Total (L & M)	OCMP	Sub Total	Tax/VAT	
				Unit Cost	Total Cost	Unit Cost	Total Cost		20%		5%	
	7.5. Painting works											
	7.5.1. Interior walls, slab soffit and RC wall	1,700.00	sq.m									
	7.5.2. Exterior walls	264.00	sq.m									
	7.5.3. Ceiling	280.00	sq.m									
	7.5.4. Deck metal railing	18.00	lm									
	7.5.5. Deck metal railing	19.00	lm									
	7.4. Supply and installation of wooden signage (carved design)	1.00	lot									
									Subtotal - III-7 Finishes			-
8	**Electrical Works**											
	Supply and Installation of Electrical fixture, wires and necessary accessories (track lights, convenience outlet, emergency lights and generator set)	700.00	sq.m									
									Subtotal - III-8 Electrical Works			-
9	**Mechanical Works**											
	9.1. Supply, Delivery and Installation of Two (2) 3TR Floor Mounted Inverter Air-conditioning Unit dry run mode dehumidifier with remote	2.00	sets									
	9.2. Supply, Delivery and Installation of Four (4) 1 HP Wall Mounted Inverter Air-conditioning Unit dry run mode dehumidifier with remote	4.00	sets									
	9.3. Supply, delivery and installation of necessary copper pipes, conduit PVC pipes, feeder lines, breakers, insulation foam and tapes, refrigerant and fittings (20ft. Length per set)	5.00	sets									
									Subtotal - III-9 Mechanical Works			-
10	**Plumbing Works**											
	10. 1 Supply and Installation of Sanitary and Drainage System	700.00	sq.m									
	10.2. Supply and Installation of Sanitary and Drainage System											
	10.2.1. One-piece watercloset with flush	2.00	pcs									
	10.2.2. Urinal with flush valve	3.00	pcs									
	10.2.3. Bidet spray with hose	2.00	pcs									
	10.2.4. Countertop wash basin	2.00	pcs									
	10.2.5. Wash basin faucet	2.00	pcs									
	10.2.6. Wall mounted frameless mirror with backing	2.00	pcs									
	10.2.7. 4x4" Brass floor drain	2.00	pcs									
	10.2.8. 4x4" Brass cleanout plug	2.00	pcs									
	10.2.9. Stainless steel tissue holder	2.00	pcs									
	10.2.10. Stainless steel grab bar	2.00	pcs									
	10.2.11. Hand dryer	2.00	pcs									

	APPROVED BUDGET FOR THE CONTRACT											
Items	Scope of Work	Qty	Unit	Direct Cost (DC)					Indirect Cost (IC)			Total (DC + IC)
				Material		Labor		Sub Total (L & M)	OCMP	Sub Total	Tax/VAT	
				Unit Cost	Total Cost	Unit Cost	Total Cost		20%		5%	
									Subtotal - III-10 Plumbing Works			-
11	**Fire Protection Works**											
	Supply and Installation of smoke detector, fire alarm and fire extinguisher	700.00	sq.m									
									Subtotal - III-11 Fire Protection Works			-
12	**Landscaping Works**											
	Supply & Installation of Softscaping & Hardscaping Works	1.00	lot									
									Subtotal - III-12 Landscaping Works			-
									Subtotal - III CONSTRUCTION OF NEW EXHIBITION AND OFFICE BUILDING (SITE B)			-
									TOTAL COST OF THE PROJECT			-

Item	SUMMARY		AMOUNT
I	GENERAL REQUIREMENTS	*SUBTOTAL I*	-
II	REHABILITATION OF MUSEUM SUPPORT BUILDING (SITE A)		
1	Site works		-
2	Dismantling Works		-
3	Retrofitting and Repair Works		-
4	Installation of perimeter fence and entrance gate		-
5	Finishes		-
6	Electrical Works		-
		SUBTOTAL II	-
III	CONSTRUCTION OF NEW EXHIBITION AND OFFICE BUILDING (SITE B)		
1	Site Works		-
2	Structural works		-
3	Roofing		-
4	Masonry Works		-
5	Waterproofing Works		-
6	Metal Works		-
7	Finishes		-
8	Electrical Works		-
9	Mechanical Works		-
10	Plumbing Works		-
11	Fire Protection Works		-
12	Landscaping Works		-
		SUBTOTAL III	-
		TOTAL COST	-

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or

b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary "pass/fail" criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR;

Technical Documents

☐ (b) 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**

☐ (c) 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**

☐ (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**

☐ (e) 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**

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

☐ a. Organizational chart for the contract to be bid;

☐ b. 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;

☐ c. 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**

☐ (g) 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.

Financial Documents

☐ (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

☐ (j) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (l) 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**

☐ (m) Cash Flow by Quarter.

Note: Please submit the following requirements in separate envelope:

1. *E-copy of all eligibility, Technical and Financial components save in any storage device;*
2. *Bid Bulletin, if any;*
3. *Photocopy of the Official Receipt of the Bidding Documents;*
4. *SEC or DTI Certificate (Certified True Copy);*
5. *Mayor's/Business Permit (Certified True Copy);*
6. *Tax Clearance Certificate (Certified True Copy);*
7. *PCAB License (Certified True Copy);*
8. *Income Tax Return Latest (Certified True Copy);*
9. *Audited Financial Statement (Certified True Copy), and;*
10. *BIR/TIN Certificate (Certified True Copy).*

ANNEX “A”
Packaging and Labeling Instructions

PACKAGING AND LABELING 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**.

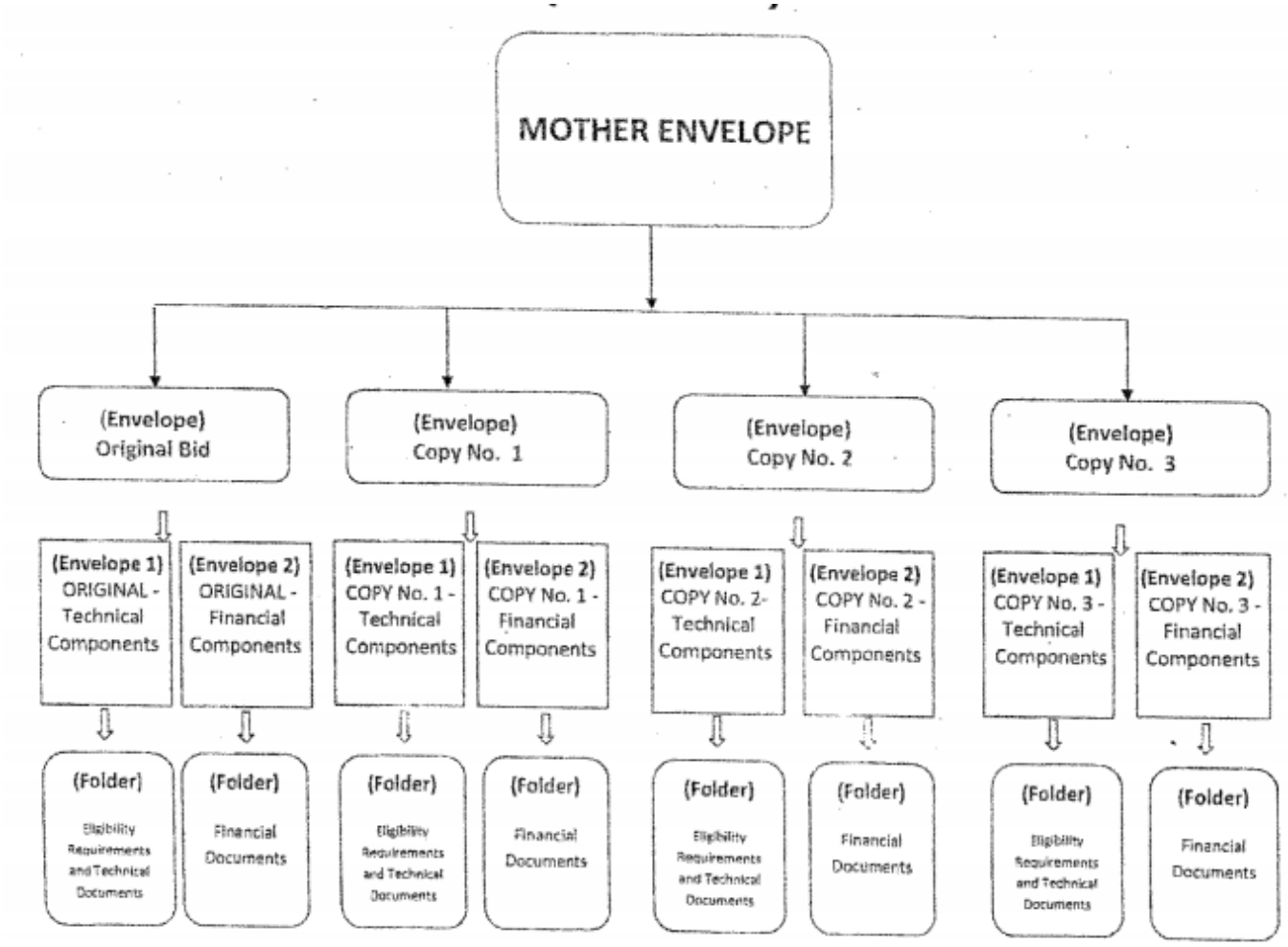
4. All documents must be marked with **Ear tabs**. There must be a Table of Contents indicating all the documents to be submitted per folder.

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 Forms

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 Procuring Entity]	*[Insert Name of Supplier]*

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 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 the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines[1] for this purpose;

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[1] currently based on GPPB Resolution No. 09-2020

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: _____