NATIONAL PARKS
DEVELOPMENT COMMITTEE

Bidding Documents for

Preventive Maintenance of Paco Park

NPDC-2024-ITB-010

2024

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 contract, 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

Invitation to Bid for
Preventive Maintenance of Paco Park

NPDC-2024-ITB-010

1. The **National Parks Development Committee** through the **General Appropriations Act of FY 2024** intends to apply the sum of **Six Million Seven Hundred Nine Thousand Six Hundred Sixty-Three and 08/100 Pesos (PhP 6,709,663.08)**. being the Approved Budget for the Contract (ABC) to payments under the contract for **Preventive Maintenance of Paco Park / NPDC-2024-ITB-010**. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **National Parks Development Committee** now invites bids for the above Procurement Project. Completion of the Works is required **One Hundred Twenty-(120) 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 Parks Development Committee** and inspect the Bidding Documents at the address given below from **8:00 AM to 5:00 PM.**

5. A complete set of Bidding Documents may be acquired by interested bidders on **09 August 2024** from given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Ten Thousand Pesos (PhP 10,000.00).** The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person

6. The **National Parks Development Committee** will hold a Pre-Bid Conference on **Monday, 19 August 2024, 1:00 PM** at **The Gallery, Rizal Park Luneta, Ermita, Manila** which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **Monday, 02 September 2024, 1:00 PM at the Lobby, NPDC Office at the Old Planetarium, Padre Burgos Ave., Ermita, Manila**. 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 **Monday, 02 September 2024,2:00 PM** at the **The Gallery, Rizal Park Luneta, Ermita, Manila**. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. Bids shall be prepared in one (1) original and four (4) copies using the appropriate Bid forms provided in Section VIII of the Bidding Documents furnished in strict compliance to the requirements of RA 9184. Any erasure, correction, or changes shall be initialed by the bidder or his authorized representative. All pages must be signed on the space provided for. Any unsigned page of the bidder's tender shall be a ground for disqualification.

11. The **National Parks Development Committee** 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:

BEO RAVEN V. BENSURTO
Head, NPDC-BAC Secretariat
National Parks Development Committee
NPDC Office, Padre Burgos St., Ermita, Manila
(02) 8880-4895
bac@npdc.gov.ph/bvbensurto@npdc.gov.ph

13. You may visit the following websites for downloading of Bidding Documents: ***www.npdc.gov.ph*** / ***https://www.philgeps.gov.ph***

08 August 2024

(SGD.)
FLORIZZA P. BUCLATIN
NPDC-BAC Chairman

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, **National Parks Development Committee** invites Bids for the **Preventive Maintenance of Paco Park** with Project Identification Number **NPDC-2024-ITB-010**.

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 **2024** in the amount of **Six Million Seven Hundred Nine Thousand Six Hundred Sixty-Three and 08/100 Pesos (PhP 6,709,663.08)**.

2.2. The source of funding is:

a. Republic Act (RA) No. 11975, The General Appropriations Act FY 2024.

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.

a. Subcontracting is not allowed.

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

were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and 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:*

a. Philippine Pesos.

15. Bid Security

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

15.2. The Bid and bid security shall be valid until **One Hundred Twenty (120) calendar days**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

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

18. Opening and Preliminary Examination of Bids

18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 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

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: a. Restoration Works of Built Heritage Structures Completed within ten (10) years upon submission of the bid.
7.1	Not allowed.
10.3	PCAB Contractors License Small B, Category B and C
10.4	The key personnel must meet the required minimum years of experience set below: Key Personnel — General Experience — Relevant Experience Civil Engineer/Architect — Five (5) Years — Restoration Works
10.5	The minimum major equipment requirements are the following: Equipment — Capacity — Number of Units Truck — minimum of 4 cu.m — One (1) unit
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 **PhP 134,193.26**, 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 **PhP 335,483.15** if bid security is in Surety Bond.
19.2	N/A
20	1. If sole proprietorship, DTI Registration certified by DTI; If partnership, SEC Certification of Registration and Articles of Partnership, and List of Partners; If corporation, SEC Certification of Registration and Articles of Incorporation; If joint venture, copy of Joint Venture Agreement certified by SEC; and, if cooperative, Certificate of Registration with the Cooperative Development Authority and Copy of Articles of Cooperation;

	2. Copy of the Bidder's Current Business license and permit certified by the issuing office; 3. BIR Registration Certificate and valid BIR Tax Clearance;
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

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

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

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

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

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

8. Liability of the Contractor

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

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

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

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

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

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

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the

Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

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

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
2	Sectional completion is *not applicable*.
4.1	Upon the effectivity of the contract, the site can be accessed by the winning contractor for preliminary works.
6	The site investigation reports are: *Not applicable*.
7.2	One (1) year.
10	No dayworks are applicable to the contract.
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	*Not applicable*
13	The amount of the advance payment is equivalent to 15% of the contract amount awarded to the winning contractor.
14	*Not allowed*
15.1	The date by which "as built" drawings are required is ten (10) calendar days after the completion of the project.
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is equivalent to 1/10 of 1% of the contract amount per day of delay after the lapse of 10 calendar days.

Section VI. Specifications

Specifications of the Project are attached as Annex 1

Section VII. Drawings

Please refer to the attached drawings/plans (Annex 2) of the Project

Section VIII. Bill of Quantities

Please refer to the attached Annex (Annex 3) of the Project

Section IX. Checklist of Technical and Financial Documents

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

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

ANNEX 1

SPECIFICATIONS OF PROCEDURES

FOR THE PREVENTIVE MAINTENANCE OF

PACO PARK WALLS

CLEANING

WATER CLEANING METHOD: WATER WASHING WITH DETERGENTS

- Preparation
    - Install rolled up sack or other easily removable water protection to depth equal to ½ joint width in open joints, fractures or any areas in which there are voids
    - Dry brush any areas with loose dirt or soiling, or extreme dirt build-up as much as possible prior to wet cleaning
    - Ensure that effluent is captured away from building and is handled safely without harming to environment
    - Protect area with sheeting so as to mitigate wind and solar radiation.
        - Sheets will also prevent damage to sensitive adjacent surfaces and prevent evaporation or waste of water during the process.
- Procedure
    - Start at the bottom and work towards the top.
        - Make sure that parts cleaned are still moist during application of this method. This ensures that all detergents are removed during the cleaning process.
    - Pre-wet surface with low pressure water.
        - Not to exceed 200 p.s.i..
        - Make sure that the surface is not allowed to dry.

        - Spray should have an angle of 45 degrees.
        - Minimum flow rate of about 5 gallons/minute.
    - Take pH reading prior to application of detergents or similar cleaning products.
    - Apply coating of detergent on the surface using natural or synthetic brushes.
    - Allow dwell time, agitating with brushes.
    - Rinse the surface with water at a low pressure.
        - Lower pressures will prevent detergents from being driven into the substrate.
        - Start from bottom and proceed to top.
        - Then again from top to bottom.
    - After rinsing, test pH.
        - pH should match pre-wetting readings.
    - Repeat the procedure if needed.
    - Allow surfaces to fully dry.
    - Control effluent away from building and capture so it can be disposed of properly that is in line with environmental protection measures.
    - Monitor effects of cleaning.
        - Frequent macroscopic inspection during the conservation intervention to ensure that method has been completed successfully.
        - Regular macroscopic inspection after completion of water washing can be included in regular cyclical maintenance of structure.

METHODS OF REMOVAL OF BIOLOGICAL GROWTH

Removal of Algae, Fungi, Microorganisms, Mosses: Dry/Wet Cleaning

- Procedure
    - Lightly brush surface or scrape surface (non-ferrous brushes) without water.
    - Gently wash the treated surface with low pressure water.
    - Work from bottom to top to avoid staining treated masonry.

Removal of Algae, Fungi, Microorganisms, Mosses: Chemical Cleaning

- Procedure
    - Use non-VOC (non-volatile organic compound) herbicides that are tested pH neutral and do not deposit salts/solvents within masonry (suggested types: quaternary ammonium compounds, amines, chlorophenols, or phenoxides.)
    - Start at the bottom and work towards the top.
        - Make sure that parts cleaned are still moist during application of this method. This ensures that all detergents are removed during the cleaning process.
    - Pre-wet surface with low pressure water.
        - Not to exceed 200 p.s.i..
        - Make sure that the surface is not allowed to dry.
        - Spray should have an angle of 45 degrees.
        - Minimum flow rate of about 5 gallons/minute.
    - Take pH reading prior to application of chemicals.
    - Apply coating of herbicide on the surface using natural or synthetic brushes.
    - Allow dwell time, agitating with brushes.
    - Rinse the surface with water at a low pressure.
        - Lower pressures will prevent herbicides from being driven into the substrate.
        - Start from bottom and proceed to top.
        - Then again from top to bottom.
        - NB: Lower pressures in rinsing will prevent detergents from being driven into the substrate
    - After rinsing, test pH.

        - pH should match pre-wetting readings.
    - Repeat the procedure if needed.
    - Allow surfaces to fully dry.
    - Control effluent away from building and captured so it can be disposed of properly that is in line with environmental protection measures.
    - Monitor effects of cleaning.
        - Frequent macroscopic inspection during the conservation intervention to ensure that method has been completed successfully.
        - Regular macroscopic inspection after completion of herbicide application can be included in regular cyclical maintenance of structure.

Removal of Small Plants

- Procedure:
    - Cut growth above masonry.
    - Avoid pulling out small plants to avoid possible removal of mortar and stone.
    - Remove the root system only after it has desiccated.

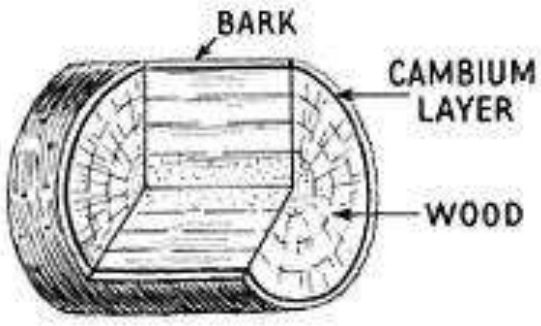
Removal of Woody Plants

Removing woody plants involve the use of commercially available herbicides with *glyphosate as isopropylamine salt* as the active ingredient. Handling, safety, and first aid procedures are to be observed as prescribed by the product's manufacturer.

Figure 5: Injection of herbicide on Woody Plant

- Procedure:
    - Preparation of Woody Plant
        - Remove loose or dead wood
    - Remove surrounding masonry/mortar joints to expose 6 inches of clean woody stem.
    - Cut back the bark around the sawn stem using a corrugated knife or bolo.
    - Drill one or more holes through the center of the stem.
    - Form a cup around exposed cambium with polyethylene bags and elastic bands.
    - Injection:
        - Inject liquid herbicide into a cup with a syringe.
        - Seal polyethylene bags around the stem with elastic bands.
        - Make sure that herbicide will soak in:
            - Protect against solar radiation which may cause evaporation of liquid.
            - Ensure that there is no runoff that may affect surrounding masonry.
        - herbicides that are liquidy (able to flow) may need to be thickened with an inert substance such as glycerin.
    - Monitoring
        - Slow-acting process that may be 3-6 days before effects can be observed.
        - Wait until the woody plant has decayed and desiccated.

- Remove cup and liquid.
- Dispose of liquid and containers according to MSDS literature.



- Remove woody plants.

Figure 5: Layers of Woody Plants

Removal of Woody Plants: Masonry Disassembly Process

Figure 6: Disassembly of Stones

- Procedure:

    - Avoid directly pulling out woody plants.
        - Roots most likely are embedded deep into/around masonry units.
        - Risks that pulling will involve:
            - Displacement of masonry
            - Breakage or cracks in mortar bedding
            - Hazards of falling masonry
    - Document stones surrounding affected masonry.
        - Photo-documentation
        - Temporarily number the face of masonry units using chalk.
        - Record placement of stones and thickness of mortar joints.
    - Dismantle stones around woody plant.
    - Number dismantled stones at the rear of the masonry unit with latex paint.
    - Store removed stone off scaffolding.
        - Lower by pulley system to avoid trip/fall hazards.
        - Place in a warehouse/shed away from solar radiation or moisture and not directly on ground. Document and tag. Support with non-reactive materials.
        - Or, if biological growth removal is done in a matter of days, then stones can be stored nearby but kept dry and supported by non-reactive materials.
    - Remove woody plant.
- Reassemble dismantled masonry units in original position, following numbering system
    - Ensure that placement of masonry units and joint profile and thickness follow the established pattern.
- If stones that were removed are established to be in poor condition to be reinstated, replacement stones to be used should be similar. It is understood that available adobe stones may vary from existing stones found at the site but replacement stones should be of similar compressive strength and color.

REMOVAL OF CONCRETE PLASTER

Figure 2: Manual Removal of Concrete Plaster

- Procedure:
    - Restoration architects or project managers familiar with this process must decide where to start and where to end, being present during the entire process to supervise removal. Usually removal is from top to bottom.
    - Use metal chisels of varying size and point profile and mallets to remove concrete attached to substrate; removal should be done with the gentlest means possible to minimize further damage to the adobe stone.
    - Where there are documented or observed voids beneath the concrete plaster, shore up sections that are unstable to allow removal of plaster and to protect workers and public from falling masonry units.
    - Starting at existing cracks or fissures, insert the chisel and use an upward motion so removal is at a downward angle.
    - If no cracks or fissures are present, start with creating an incision or hole where the chisel can be inserted.
    - In some cases where a large area of concrete is present, incisions may be made using a mechanical grinder to allow access for chisels to remove concrete.
        - Caution: Use of a mechanical grinder to encourage development of cracks on concrete plaster must be done with an experienced operator whose sensitivity to the concrete and substrate has been well demonstrated. Caution should be observed as vibrations can affect removal. An incorrect application of the grinder is where the grinder has allowed it to penetrate the substrate causing deep grooves.
        - NB: As mentioned above, some concrete cannot be removed easily without completely compromising the surface. At times, it is better to leave the concrete in place and find ways to mitigate its presence on the substrate.
    - In some cases, significant architectural detail is expressed on concrete.

        - Perform proper documentation (photo documentation with color bars, measurements and location) and attempt to remove the item as intact as possible. It may be possible to replicate these features in lime plaster.
        - Store architectural details away from solar radiation and moisture on site, preferably in a covered shed. Document and tag. Do not lay directly on the ground but place non-reactive supports underneath i.e., plastic supports or wood members.
    - In cases where there are finishes or where architectural detail is revealed on the substrate after concrete removal, stop work and notify the Architect of the condition.
        - Mostly likely the removal of concrete plaster will reveal conditions that may not have been seen initially.
        - In these instances, smaller tools and more skilled workers may be needed to remove concrete and not damage the detail or finish.
    - Remove all concrete plaster down to a sound substrate, where the stone is stable and not disaggregating.
    - Collect liberated concrete often from scaffolding to avoid overloading.
        - Use of a pulley system to lower down the concrete may be the safest way to remove debris from scaffolding as it lessens the chance of trip hazards, falling debris or overloading of scaffolding.
    - Dispose of debris according to local laws and environmental regulations.
    - After chipping of concrete plaster is completed, a cleaning campaign, if not already executed, may be needed; however, make sure that all voids are filled or protected, to avoid water infiltration.

METHOD OF INFILLING LOST VOLUMES

Infilling of lost volumes may be necessary after other interventions were executed particularly removal of cement-based plaster, removal of woody plants with

advanced growth and even cleaning where fragmentation and significant spalling may be revealed that may require reinstate of lost volumes that are intended to provide stability to adjacent materials and/or restore lost forms and details.

Figure 2: Infill of Lost Volumes

- Procedure:
    - Manual Chipping

      Manual chipping may be necessary to remove softened and loose materials that are determined to be detrimental to the rest of the walls if retained.

        - Use chisels of varying size and point profiles with mallets to remove deteriorated stone.
        - Chip down to sound substrate.
        - Measure volume of void achieved.
        - Determine quantities of materials needed.
    - For infilling voids
        - Use Lime Formula 1:5:2/15 (lime, aggregate, brick dust)
        - Build layer by layer and ensure proper setting before adding more materials.
            - If performed during the wet season, water does not need to be introduced and will avoid shrinkage.
            - Make sure that the work area is covered from direct sunlight and is well-ventilated.

        - Achieve a finished surface that is plane with adjacent masonry.
            - Do not feather lime onto adjacent masonry.
    - Monitor effects:
        - Frequent macroscopic inspection during the conservation intervention to ensure that method has been completed successfully.
        - Regular macroscopic inspection after completion of herbicide application can be included in regular cyclical maintenance of structure.

REPOINTING

Proposal of Methods of Conservation: Specifications

INGREDIENTS: COMPOSITION OF LIME MORTARS

Lime Putty

The origin of lime is from limestone, an inorganic material that is composed of calcium carbonate and that is widely used as a building material. Limestone varies greatly in its composition, can contain calcium, clays, silica, sedimentary rock: large clasts with smaller particles of calcite or quartz and dolomite. Lime can also be derived from sea shells, coral, and other forms of calcium carbonate

Manufacture of lime begins the lime cycle when the lime is heated (or calcinated) at 900 - 1,200 degrees C. Carbon dioxide is released (or driven off) and produces quicklime (calcium oxide - CaO). To prepare the lime for use, water is added and produces slaked lime (calcium hydroxide $Ca(OH_2)$. With the addition of more water, then lime becomes lime putty whose consistency is soft and creamy. It can remain workable and soft indefinitely if stored in a sealed container. Lime putty changes little in volume during temperature fluctuations. When exposed to the environment, carbon dioxide reacts with the lime (a process called carbonation) returning it back to its original composition, calcium carbonate.

Lime to be used should be in a form of putty. A lime putty is achieved by mixing lime with water and leaving the lime-water mixture submerged in water for at least three (3) months.

Aggregates

Sand is the most frequently used aggregate and is available readily in the Philippines. However, not all sands are alike. Selection of sand will affect the performance of the mortar so having well-graded aggregates is highly important. Make sure that the aggregates are coarse and sharp, without too many fines or dust particles (as lime will provide the fines), and will allow air to enter into the mix encouraging carbonation. Aggregate selection can also contribute to the final color of the mortar - the fines of the aggregate can have the greatest influence. Pit and river sands are the best for aggregates as long as they are angular and sharp in grit and they have undergone washing to remove impurities. Sea sand is not advisable because of the amount of soluble salts.

Other aggregates such as crushed shells are sometimes used as a primary aggregate or in addition to sand aggregates. Small particles of shell which are composed of calcium carbonate act as a catalyst by providing a surface where lime reacts with carbon dioxide, a process called 'seeding.'

Aggregate grading and particle shape create air spaces or voids; the lime binder's purpose is to fill the voids of the aggregate, creating optimal workability and mix. It is the 33% void ratio of many commercially available graded aggregates that makes the ratio of 1:3 (lime:sand). Poorly graded sand with a void ratio above 33%

increases the use of binder, creating a costly mix as binder tends to be more expensive than aggregate.

Additives

Brick dust or pozzolans are probably the most common additives to a traditional lime-sand mortar mix in that these materials cause hydraulic action; that is, the mortar will set quickly under highly moist conditions. Additionally, brick dust tends to impart a reddish to pinkish color to the mortar. These types of additives must be carefully monitored as an excessive amount may cause cracking and shrinkage.

Pigments added to lime mortar were sometimes fashionable and added a contrast between the courses of masonry units and the pointing or matched the masonry units to create a monolithic appearance to the structure. Natural pigments are not always compatible with the alkalinity of lime as they dissipate. Traditional pigments such as brick dust as mentioned above were common. However, color derived from the aggregates themselves is the most stable.

Water

Clean, potable tap water is recommended.

PERFORMANCE: PROPERTIES OF LIME MORTAR

Repointing mortars are not higher in compressive strength than the masonry units and not harder or more permeable than the original, historic mortar. Stresses that occur in masonry assemblies by dynamic movements need to be relieved. Mortars with less strength than the masonry units will be able to absorb dynamic energy.

Lime mortars that have greater plastic flow or creep and will impart some flexibility to the masonry assembly, allowing dynamic stress.

Permeability of repointing mortars permits moisture to migrate in and out of the masonry assembly and reduces the risk of moisture retention and of salt crystallization cycles.

Workability is crucial for mortar as it is the ease at which the mortar moves under the trowel. Aggregate particles are lubricated by the lime binder, so the mortar should spread easily and should adhere readily to the masonry surfaces.

Bond strength and extent of bond strength are extremely important in mortar's hardened state. Variables that affect bond strength include texture and suction of stone, air content and water retention of mortar, pressure applied to the joint while repointing, mortar proportions and curing.

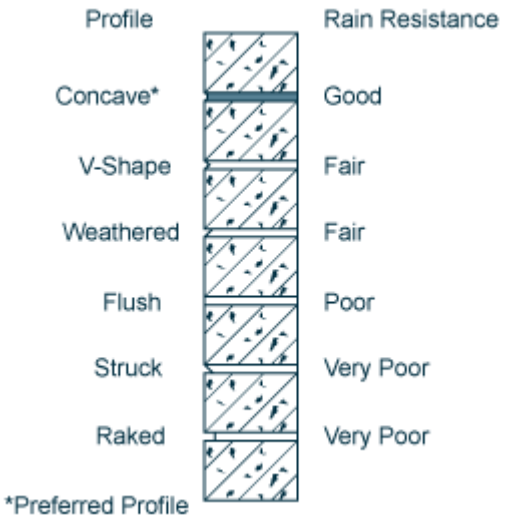
SELECTING AN APPROPRIATE MORTAR MATCH

Appropriate repointing mortar needs research to determine if the proposed mortar repointing work is compatible with the construction and the appearance of the structure. Finding unweathered portions of pointing mortar is crucial so that new pointing mortar is in-kind, thus it will not damage the masonry by being too strong or too permeable.

Joint Profile

The new repointing should match existing pointing in profile. This will ensure a continuity of appearance for the masonry assembly especially if the historic joint profile works to mitigate water or moisture infiltration, then it would be necessary to replicate it. One joint profile in particular performs well under frequently rainy conditions. It is a concave joint.

Here are some profiles and their performance from good to very poor:



METHOD OF REPOINTING

Figure 3: Repointing in Process

- Procedure:
    - Prepare joints
        - N.B. Extraction of old mortars will be destructive; this is unavoidable, but with careful execution, damage can be limited.
        - Tools:
            - Use hand chisels of varying sizes and point profiles and mash hammers
            - If using power tools, then
                - Employ a skilled technician that can determine which type of power tools need to be used, considering the joint width
                    - Power saws or grinders
                    - Thin diamond bladed grinders

        - Masonry saws
        - Caulking cutters
    - Remove old mortar
        - Remove to a depth of 2 to 2 ½ times the width of the joint .
            - If using mechanical tools, only use on horizontal joints as use on vertical joints cannot be controlled easily and can irreparably damage masonry units.
        - Increase depth if disintegrated mortar is discovered.
        - Removal must be clean, leaving square corners at the back of the cut.
            - If irregular, make the best estimation for repointing materials.
        - Dry clean using non-reactive, synthetic brushes, remove all debris.
        - Use low pressure water to clean out deep areas that can't be reached with brushes.
        - Wet area with low pressure water to prepare for the application of replacement mortar.
    - Prepare mortar
        - Mortar proportions must be measured carefully and mixed as to assure uniformity of final visual and physical characteristics.
            - Use a bucket based on cubic meters for measurements.
            - Mortar with lime putty and sand should be measured by volume
        - Proportion aggregates.
        - Proportion lime putty.
        - Creating a ring of sand, add lime putty.
        - Gradually drawn into the ring and thoroughly mix with lime putty.
        - Thoroughly mix components to ensure that aggregates and binders have contact; using the following method can significantly improve workability and performance:
            - Draw, chop and turn over with hoe.
        - Use mortar within 30 minute of preparation.
        - For larger projects, prepared mortar can be stored indefinitely

            - Store in air-tight containers, protected from air, with wet cloth on top.
            - Can be combined again months later into a plastic state.
    - Fill joint
        - Beginning with deeper recesses first, compact ¼ inch of mortar well into the back corners.
        - Check for thumb-print hardness before applying the next layer of mortar, measuring the same thickness as the previous application as this eliminates the possibility of shrinkage.
    - Match historic joint profile
        - If masonry units are rounded or damaged
            - Recess the final joint from the face of the masonry.
            - Do not fill to the edge of the masonry unit as this will visually change the character of the masonry assembly.
            - Also the edges called “feather edging” may attract more water causing spalling.
    - Cure
        - Avoid rapid drying of mortar as it may cause poor durability and poor adhesion, especially in high temperatures. Using water moisture will retard the curing process.
            - Keep it moist
                - Perform occasional misting of the surface area.
                - Tenting a polyethylene sheet that does not come in contact with the surface may also keep the surface moist and protect against sunlight.
                - Cleaning the new mortar may be needed but not if the repointing has been properly performed.
                - If needed, a soft bristle brush can be used to remove excess mortar before the pointing has set. If already hardened, hard plastic, wooden tools, or lastly but cautiously, a chisel can be employed.
                - Cleaning with low pressure water also may be used but ensure that the lower masonry units are moist as to prevent lime streaking.

        - If after a few months, efflorescence appears; this will dissipate with weathering. If it does not disappear, a campaign of water washing.
    - Monitor effects:
        - Frequent macroscopic inspection during the conservation intervention to ensure that method has been completed successfully.
        - Regular macroscopic inspection after completion of herbicide application can be included in regular cyclical maintenance of structure.

APPLICATION OF LIME PLASTER

THREE-PART SYSTEM

There are three parts to every lime plaster.

- Scratch coat "pondo"
    - 1:5:2/15 - lime:aggregate:brick powder
    - Aggregate is washed, coarse and measures 3mm
- Brown coat "rebocada"
    - 1:5:2/15 - lime:aggregate:brick powder
    - Aggregate is washed, coarse aggregate and measures 3mm
- Finish coat
    - 1:5 - lime:aggregate (possible to add brick powder)
    - Aggregate is fine sand
    - Pigmentation: Maximum of 10%

The first two coats are same in composition (lime, sand and additives) and in depth (¼" to ⅜"), not to exceed ⅝" with the final coat ¼". If there is extant historic plaster, it may be necessary to adjust the depth of the lime plaster to call attention to the difference between the new plaster and the historic plaster.

- Procedure:
    - Hairline cracks
        - Fill with a fine slurry of finish coat ingredients.
        - Keep damp at 90% humidity and sheltered from solar radiation until cured.
    - Patching of deteriorated plaster: for small areas of repair
        - Use a chisel and mash hammer to square off the area.
        - Make sure that edges are diagonally angled to help secure the bond between old plaster and new plaster.
            - Alternative: irregular shaped deteriorated areas may not need to be squared off if finished repair is inconspicuous
        - Remove all deteriorated plaster from the surface using chisels of varying profiles and sizes.
            - Ensure the surface is clear from all soiling or other contaminants using soft bristle brushes.
            - Wash any remaining debris out with potable tap water.

        - Mix only as much plaster as can be applied within two hours.
            - Do not overmix, especially if using tints as they may separate from lime.
        - Before first coat application, make sure that area is thoroughly pre-wetted with potable tap water.
        - Apply the first coat “pondo” using a trowel, build up thickness.
            - Allow to cure and leave rough.
                - Should hairline cracks appear during curing, compact the first coat with a wooden float, running the float over the plaster in a circular motion with equal and steady pressure.
        - Apply the second coat “rebocada” using a trowel, build up thickness.
            - Allow to cure and leave rough.
                - Should hairline cracks appear during curing, compact first coat with wooden float, running the float over the plaster in a circular motion with equal and steady pressure
        - Apply finish coat using a trowel, building up thickness according to existing plaster
            - Do not overlap finish coat over existing plaster
        - Depending on finish of surface:
            - Smooth Surface: Compact first finish coat with wooden float, running the float over the plaster in a circular motion with equal and steady pressure.
            - Tinted Surface: If tinted plaster does not meet desired effect, it may be necessary to paint the entire elevation to conceal discoloration.
            - Painted Surface: Color should match original and repair should be visually undetectable.
                - Recommended paint: lime-based or acrylic
                - Must be compatible with existing
        - Keep damp at 90% humidity and sheltered from solar radiation until cured
    - Reapplication of lime plaster
        - Mix only as much plaster as can be applied within two hours.

        - Do not overmix, especially if using pigment as they may separate from lime and cause different hues of pigment.
        - Ratio is well-established so consistency is ensured
- Before first coat “pondo” application, make sure that area is thoroughly pre-wetted with clean tap water with hose or other equipment.
- Pondo: Apply first coat using a trowel, building up thickness from ¼” to ⅜”
    - Allow to cure and leave rough.
    - If needed, when thumbprint hard, score cross-hatches onto pondo for additional roughness and surface area for proper adhesion.
- Rebocada: Apply the second coat using a trowel, building up thickness from 1/4 “ to ⅜”. First and second coats should not exceed ⅝” in depth
    - Allow to cure and leave rough.
        - Should hairline cracks appear during curing, compact first coat with wooden float, running the float over the plaster in a circular motion with equal and steady pressure
    - If needed, when thumbprint hard, score cross-hatches onto pondo for additional roughness and surface area for proper adhesion.
- Depending on finish of surface
    - Smooth Surface: Compact first finish coat with wooden float, running the float over the plaster in a circular motion with equal and steady pressure
    - Tinted Surface: If tinted plaster does not meet desired effect, it may be necessary to paint entire elevation
    - Painted Surface: Color should match original, if existing
        - Recommended paint: lime-based or acrylic
        - Must be compatible with existing finishes, if extant.