

# **PHILIPPINE BIDDING DOCUMENTS**

# **Procurement of INFRASTRUCTURE PROJECTS**

Government of the Republic of the Philippines

**PROPOSED UPGRADING OF PLUMBING SYSTEM AND  
REHABILITATION OF COMFORT ROOMS AT SAN  
ANTONIO ELEMENTARY SCHOOL IN BARANGAY  
KATIPUNAN**

**Project number:  
23-00198**

**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 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.

# TABLE OF CONTENTS

<b>Glossary of Terms, Abbreviations, and Acronyms.....</b>	<b>5</b>
<b>Section I. Invitation to Bid .....</b>	<b>8</b>
<b>Section II. Instructions to Bidders.....</b>	<b>9</b>
1. Scope of Bid .....	10
2. Funding Information .....	10
3. Bidding Requirements.....	10
4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices .....	10
5. Eligible Bidders.....	11
6. Origin of Associated Goods .....	11
7. Subcontracts .....	11
8. Pre-Bid Conference.....	12
9. Clarification and Amendment of Bidding Documents.....	12
10. Documents Comprising the Bid: Eligibility and Technical Components .....	12
11. Documents Comprising the Bid: Financial Component .....	13
12. Alternative Bids .....	13
13. Bid Prices .....	13
14. Bid and Payment Currencies.....	13
15. Bid Security.....	14
16. Sealing and Marking of Bids.....	14
17. Deadline for Submission of Bids .....	14
18. Opening and Preliminary Examination of Bids .....	14
19. Detailed Evaluation and Comparison of Bids .....	14
20. Post Qualification.....	15
21. Signing of the Contract .....	15
<b>Section III. Bid Data Sheet.....</b>	<b>16</b>
<b>Section IV. General Conditions of Contract .....</b>	<b>19</b>
1. Scope of Contract.....	20
2. Sectional Completion of Works .....	20
3. Possession of Site.....	20
4. The Contractor's Obligations.....	20
5. Performance Security .....	20
6. Site Investigation Reports .....	21

7.	Warranty.....	21
8.	Liability of the Contractor.....	21
9.	Termination for Other Causes .....	21
10.	Dayworks .....	21
11.	Program of Work.....	22
12.	Instructions, Inspections and Audits .....	22
13.	Advance Payment.....	22
14.	Progress Payments .....	22
15.	Operating and Maintenance Manuals.....	22
<b>Section V. Special Conditions of Contract.....</b>		<b>24</b>
<b>Section VI. Specifications .....</b>		<b>26</b>
<b>Section VII. Drawings.....</b>		<b>28</b>
<b>Section VIII. Bill of Quantities .....</b>		<b>29</b>
<b>Section IX. Checklist of Technical and Financial Documents.....</b>		<b>31</b>

# ***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.



REPUBLIC OF THE PHILIPPINES  
QUEZON CITY GOVERNMENT  
BIDS AND AWARDS COMMITTEE FOR INFRASTRUCTURE & CONSULTANCY  
2<sup>nd</sup> floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City



December 06, 2023

Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Duration Cal. Days	Office	Source Fund
<b><u>Buildings – Small A</u></b>							
1	23-0144B	Proposed Rehabilitation of Plumbing and Sanitary System at West Fairview High School	Fairview	759,392.35	30	Engineering Department	Special Education Fund
<b><u>Buildings – Small B</u></b>							
2	23-00182	Quezon City Hall Solar PV Rehabilitation and Restoration in Civic Center Building E	Central	1,366,103.61	30	Engineering Department	Green Fund
3	23-00183	Proposed Installation of Fire Exits and Rehabilitation of Roof Eaves / Canopy at Tandang Sora Elementary School	Tandang Sora	1,907,681.16	60	Engineering Department	Special Education Fund
4	23-00184	Proposed Construction of Perimeter Fence at Bago Bantay Elementary School	Ramon Magsaysay	2,457,519.94	60	Engineering Department	Special Education Fund
5	23-00185	Quezon City Hall Solar PV Rehabilitation and Restoration in Main Building and Legislative Building	Central	2,729,857.96	60	Engineering Department	Green Fund
6	23-00186	Proposed Upgrading of Electrical System at Balingasa Elementary School	Balingasa	3,885,013.26	60	Engineering Department	Special Education Fund
7	23-00187	Proposed Replacement of Doors and Windows at Damong Maliit Elementary School	Nagkaisang Nayon	4,304,801.11	60	Engineering Department	Special Education Fund
8	23-00188	Proposed Rehabilitation of Water Supply System and Comfort Rooms at Ernesto Rondon High School	Project 6	4,422,445.41	60	Engineering Department	Special Education Fund
9	23-00189	Proposed Upgrading of Electrical System at San Diego Elementary School	Batasan Hills	4,973,139.87	60	Engineering Department	Special Education Fund
10	23-00190	Quezon City Hall Solar PV Rehabilitation and Restoration in Treasury Building South	Central	5,120,598.15	90	Engineering Department	Green Fund
11	23-00191	Proposed Upgrading of Electrical System at Manuel Luis Quezon Elementary School	Commonwealth	6,362,598.21	30	Engineering Department	Special Education Fund
12	23-00192	Proposed Construction of Connecting Bridge and Rehabilitation of Flora Ylagan High School	Pinyahan	9,737,822.47	150	Engineering Department	Special Education Fund

13	23-00193	Proposed Rehabilitation of Drainage System at Ramon Magsaysay Cubao High School	Pinagkaisahan	10,743,676.64	60	Engineering Department	Special Education Fund
14	23-00194	Proposed Rehabilitation of Comfort Rooms at GSIS Village Elementary School	Sangandaan	11,223,072.07	150	Engineering Department	Special Education Fund
15	23-00195	Proposed Upgrading of Electrical System at Placido Del Mundo Elementary School	Talipapa	11,543,755.95	150	Engineering Department	Special Education Fund
16	23-00196	Proposed Rehabilitation of Electrical System at Judge Feliciano Belmonte Sr. High School	Holy Spirit	16,792,451.40	150	Engineering Department	Special Education Fund
17	23-00197	Proposed Installation of Street Lights at Various Street	Batasan Hills	18,179,005.62	60	Engineering Department	20% CDF – Continuing Appropriation
18	23-00198	Proposed Upgrading of Plumbing System and Rehabilitation of Comfort Rooms at San Antonio Elementary School	Katipunan	20,971,311.15	150	Engineering Department	Special Education Fund
<b><u>Buildings – Medium A</u></b>							
19	23-00199	Proposed Installation of Street Lights at Various Street	Holy Spirit	45,445,874.36	150	Engineering Department	20% CDF – Continuing Appropriation
20	23-00200	Proposed Installation of Street Lights on Various Barangays of Quezon City	District IV	53,845,231.88	120	Engineering Department	20% CDF – Continuing Appropriation
21	23-00201	Proposed Mechanical Retrofitting of Treasury Building Including Rehabilitation of Façade	Central	34,424,453.96	180	Engineering Department	Engineering-Continuing Appropriation

1. The **QUEZON CITY LOCAL GOVERNMENT**, through *funding source of various years* intends to apply the sum stated above being the Approved Budget for the Contract (ABC) to payments under the contract *for the above stated Projects*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for the above Procurement Project. Completion of the Works is required *as stated above*. 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 **QUEZON CITY LOCAL GOVERNMENT – BAC Secretariat** and inspect the Bidding Documents at the address given below *weekdays from 8:00 am. – 5:00 p.m.*
5. A complete set of Bidding Documents may be acquired by interested bidders on **December 07, 2023 (Thursday)** from given address and website/s below *and upon payment of a non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the*

*GPPB. The Procuring Entity shall allow the bidder to present its proof of payment for the fees presented in person.*

**STANDARD RATES:**

<b>Approved Budget for the Contract</b>	<b>Maximum Cost of Bidding Documents (in Philippine Peso)</b>
500,000 and below	500.00
More than 500,000 up to 1 Million	1,000.00
More than 1 Million up to 5 Million	5,000.00
More than 5 Million up to 10 Million	10,000.00
More than 10 Million up to 50 Million	25,000.00
More than 50 Million up to 500 Million	50,000.00
More than 500 Million	75,000.00

The following are the requirements for purchase of Bidding Documents;

1. PhilGEPS Registration Certificate (Platinum – 3 Pages)
2. Document Request List (DRL)
3. Authorization to purchase bidding documents
  - 3.1 Secretary's Certificate (for corporation)
  - 3.2 Special Power of Attorney (for sole proprietorship)
4. Notarized Joint Venture Agreement (if applicable)
5. Letter of Intent

It must be duly received by the BAC Secretariat at 2<sup>nd</sup> Floor, Procurement Department, Finance Building, Quezon City Hall Compound.

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference<sup>1</sup> on **December 15, 2023 at 10:00 AM at 2<sup>nd</sup> Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

**Virtual Conference (ZOOM APP)**

**Meeting ID: 854 9489 0133**

**Password: 273320**

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **December 27, 2023 – 9:00 AM**. 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 **December 27, 2023 – 10:00 AM at 2<sup>nd</sup> Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or via Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

**Virtual Conference (ZOOM APP)**

**Meeting ID: 810 3646 5257**

**Password: 201522**

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

10. The **Quezon City Local Government** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

**ATTY. DOMINIC B. GARCIA**

OIC, Procurement Department  
2<sup>nd</sup> Floor, Procurement Department,  
Finance Building, Quezon City Hall Compound  
Elliptical Road, Barangay Central Diliman, Quezon City.  
Tel. No. (02)8988-4242 loc. 8506/8710  
Email Add: [bacinfra.procurement@quezoncity.gov.ph](mailto:bacinfra.procurement@quezoncity.gov.ph)  
Website: [www.quezoncity.gov.ph](http://www.quezoncity.gov.ph)

12. You may visit the following websites:

For downloading of Bidding Documents: <https://quezoncity.gov.ph/public-notices/procurement/>

By:



**ATTY. SHERRY R. GONZALVO**  
Vice Chairperson, BAC Infra and Consultancy

## ***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, **Quezon City Government** invites Bids for the **PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN**, with Project Identification Number **23-00198**.

*[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]*

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 **2023** in the amount of **Twenty Million Nine Hundred Seventy One Thousand Three Hundred Eleven Pesos and 15/100 Cts. (P 20,971,311.15)**.

2.2. The source of funding is:

a. LGUs, the Annual or Supplemental Budget, as approved by the Sanggunian.

## 3. Bidding Requirements

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

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

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

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

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or



through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

## **5. Eligible Bidders**

- 5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.
- 5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA’s CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

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

- 5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

## **6. Origin of Associated Goods**

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

## **7. Subcontracts**

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

The Procuring Entity has prescribed that:

### **a. Subcontracting is not allowed.**

- 7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.
- 7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the



implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

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

## **8. Pre-Bid Conference**

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address on **December 15, 2023, 10:00 A.M. at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP) Meeting ID: 854 9489 0133 Password: 273320**

## **9. Clarification and Amendment of Bidding Documents**

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

## **10. Documents Comprising the Bid: Eligibility and Technical Components**

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.
- 10.3. A valid PCAB License is required, and in case of joint ventures, a valid special PCAB License, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

- 10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.
- 10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

## **11. Documents Comprising the Bid: Financial Component**

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.
- 11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

## **12. Alternative Bids**

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

## **13. Bid Prices**

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

## **14. Bid and Payment Currencies**

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. *Payment of the contract price shall be made in:*
  - 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 **in no case shall exceed One Hundred Twenty (120) calendar days from the date of opening of bids, unless duly extended by the bidder upon the request of the Head of the Procuring Entity (HoPE) of the Quezon City Local Government**. 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 **5** 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, similar contracts shall refer to contracts which have the same major categories of work.																																
7.1	<b>Subcontracting is not allowed.</b>																																
10.3	<p><i>No additional contractor license or permit is required</i></p> <p><b><i>In addition, eligible bidders shall qualify or comply with the following:</i></b></p> <p>1. Bidders with valid Philippine Contractors Accreditation Board (PCAB)</p> <p>Type</p> <p style="text-align: center;"><b>Buildings – Small B</b></p>																																
10.4	<p>The minimum work experience requirements for key personnel are the following:</p> <table><tr><th>Qty.</th><th>Key Personnel</th><th>General Experience</th><th>Relevant Experience</th></tr><tr><td>1</td><td>Project Engineer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>General Foreman</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineer/Leadman for Civil Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineer/Leadman for Electrical Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineer/Leadman for Mechanical Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Safety Officer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>DPWH duly accredited Materials Engineer</td><td>3 years</td><td>3 years</td></tr></table> <p><b><i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing personnel shall perform work exclusively for the project until its completion. Please see attached bid forms.</i></b></p>	Qty.	Key Personnel	General Experience	Relevant Experience	1	Project Engineer	3 years	3 years	1	General Foreman	3 years	3 years	1	Trade Engineer/Leadman for Civil Works	3 years	3 years	1	Trade Engineer/Leadman for Electrical Works	3 years	3 years	1	Trade Engineer/Leadman for Mechanical Works	3 years	3 years	1	Safety Officer	3 years	3 years	1	DPWH duly accredited Materials Engineer	3 years	3 years
Qty.	Key Personnel	General Experience	Relevant Experience																														
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1	Safety Officer	3 years	3 years																														
1	DPWH duly accredited Materials Engineer	3 years	3 years																														
10.5	<p>The minimum major equipment requirements are the following:</p> <table><tr><th>Equipment</th><th>Capacity</th><th>Number of Units</th></tr><tr><td>Dump Truck</td><td>12 yd<sup>3</sup></td><td>1</td></tr><tr><td>Backhoe</td><td>0.80 cu.m.</td><td>1</td></tr><tr><td>Air Compressor</td><td></td><td>1</td></tr><tr><td>Chipping Gun</td><td></td><td>2</td></tr><tr><td>Jackhammer</td><td></td><td>2</td></tr></table> <p><b><i>In addition, the bidder must execute an affidavit of undertaking duly</i></b></p>	Equipment	Capacity	Number of Units	Dump Truck	12 yd <sup>3</sup>	1	Backhoe	0.80 cu.m.	1	Air Compressor		1	Chipping Gun		2	Jackhammer		2														
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Chipping Gun		2																															
Jackhammer		2																															

	<i>notarized stating that the foregoing equipment shall be used exclusively for the project until its completion. Please see attached bid forms.</i>
12	<i>[Insert Value Engineering clause if allowed.]</i>
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration with project number, or any of the following forms and amounts:</p> <ul style="list-style-type: none"> <li>a) The amount of not less than Php 419,426.22 or equivalent to two percent (2%) of ABC if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or</li> <li>b) The amount of not less than Php 1,048,565.56 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.</li> </ul>
19.2	<b>Partial bid is not allowed.</b> The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20	No additional requirement.
21	<p><b>Additional Contract Documents relevant to the Project as required:</b></p> <ol style="list-style-type: none"> <li><b>1. Construction Schedule and S-curve,</b></li> <li><b>2. Manpower Schedule,</b></li> <li><b>3. Construction Methods,</b></li> <li><b>4. Equipment Utilization Schedule,</b></li> <li><b>5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal.</b></li> </ol>

## ***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 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***

### **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	Completion of work shall be within 150 calendar days.
4.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
6	The site investigation reports are: <i>[list here the required site investigation reports.]</i>
7.2	<p><i>[Select one, delete the other.]</i></p> <p><i>[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:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p>
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
13	The amount of the advance payment is no more than fifteen percent (15%) of the Contract Price subject to approval by the HOPE and compliance with the conditions under RA 9184 and its IRR.
14	No further instructions.
15.1	<p>The date by which operating and maintenance manuals are required is <i>thirty (30) days</i></p> <p>The date by which "as built" drawings are required as part of final payment</p>
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 ten (10%) percent of the contract price.

## ***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.





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*Quezon City*  
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PROJECT TITLE : **PROPOSED UPGRADING OF WATERLINE SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN**

LOCATION : **BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY**

## **TECHNICAL SPECIFICATIONS**

### **I. GENERAL REQUIREMENTS**

- A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ the more stringent apply.
- C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- D. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location, to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- E. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence.
- F. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- G. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- H. Mobilization and Demobilization (if applicable)
  1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
  2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.
- I. Execute work in strict accordance with the best practices of the trades in a thorough substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- J. Temporary Facilities and Utilities
  1. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
  3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
  4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage.
  5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period
  6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly
- K. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property
1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.
  2. The medical room shall be provided with waterproofing, it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
  3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices in the site
  4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.
  5. Construction safety shall consist of construction canopy and safety net
- L. Necessary protections to the adjacent property shall be provided to avoid unlawful incidents / accidents.
- M. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

## II. SITE WORKS

- A. All grades, lines, levels and dimensions shall be verified as indicated on the plans and details. Any discrepancies or inconsistencies shall be reported before commencing work.
- B. This item shall consist of the removal wholly or in part, and satisfactory disposal of all buildings, fences, structures, old pavements, abandoned pipe lines, and any other obstructions which are not designated or permitted to remain, except for the obstructions to be removed and disposed of under other items in the Contract.

Removal and/or demolition of existing structures shall be done in accordance to safety procedures.

- C. All excavations shall be made to grade as indicated in the plans. Whenever water is encountered in the excavation process, it shall be removed by pumping, care being taken that the surrounding soil particles are not disturbed or removed.

The Contractor shall notify the Engineer sufficiently in advance of the beginning of any excavation so that cross-sectional elevations and measurements may be taken on the undisturbed ground. The natural ground adjacent to the structure shall not be disturbed without permission of the Engineer.

Trenches or foundation pits for structures or structure footings shall be excavated to the lines and grades or elevations shown on the Plans or as staked by the Engineer. They shall be of sufficient size to permit the placing of structures or structure footings of the full width and length shown. The elevations of the bottoms of footings, as shown on the Plans, shall be considered as approximate only and the Engineer may order, in writing, such changes

in dimensions or elevations of footings as may be deemed necessary, to secure a satisfactory foundation.

Boulders, logs, and other objectionable materials encountered in excavation shall be removed.

After each excavation is completed, the Contractor shall notify the Engineer to that effect and no footing, bedding material or pipe culvert shall be placed until the Engineer has approved the depth of excavation and the character of the foundation material.

- D. All excavated materials, so far as suitable, shall be utilized as backfill. The surplus materials shall be disposed of in such manner as not to obstruct the stream or otherwise impair the efficiency or appearance of the structure. No excavated materials shall be deposited at any time so as to endanger the partly finished structure.

All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted by wetting, tamping and rolling.

- E. Soil Poisoning. There are two methods usually adopted in soil poisoning which are as follows.

1. Cordoning. This method is usually adopted when there is no visible evidence of termite infestation. Trenches in concentric circles, squares or rectangles are dug 150mm to 220mm wide and at least one meter apart and applied with Liquid Termicide Concentrate working solution at the rate of 8 liters per linear meter.
2. Drenching. When soil show termite infestation, this method shall be applied. The building area shall be thoroughly drenched with Liquid Termicide Concentrate working solution at the rate of 24 liters per square meter.

## IX. CIVIL / STRUCTURAL WORKS

### A. CONCRETE WORKS

1. Delivery, Storage, and Handling: All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.
2. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
3. Materials
  - a. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150)
  - b. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
  - c. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be coarse, sharp, clean free from salt, dust, loam, dirt and all foreign matters.
  - d. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.

4. Proportioning and Mixing

- a. Proportioning and mixing of concrete shall conform to the requirements for Item 405 of the standard specification with the following proportions:  
  
Cement: Sand: Gravel  
Class "A" - 1: 2: 3  
Class "B" - 1: 2: 4  
Class "C" - 1: 2 ½
- b. Concrete mixture to be used for concrete shall conform with the structural requirements
- c. Mixing - concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.

5. Forms

- a. General - Forms shall be used whenever necessary to confine the concrete and shape it to the required lines, or to insure the concrete of contamination with materials caving from adjacent, excavated surfaces. 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 shall be sufficiently tight to prevent loss of mortar from the concrete. Forms shall be ¼" (6mm) thick ordinary plywood and form lumber.
- b. Cleaning of Forms - before placing the concrete, the contact surfaces of the formed shall be cleaned of encrustations of mortar, the grout or other foreign material
- c. Removal of Forms - forms shall be removed in a manner which will prevent damage to the concrete. Forms shall not be removed without approval. Any repairs of surface imperfections shall be formed at once and drying shall be started as soon as the surface is sufficiently hard to permit it without further damage.

6. Placing Reinforcement:

Steel reinforcement shall be provided as indicated, together with all necessary tie wires, 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 used in such manner that they will not be exposed or contribute in any way, to the discoloration or deterioration of the concrete.

7. Conveying and Placing Concrete.

- a. Conveying - concrete shall be conveyed from mixer to forms as rapidly as applicable, by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 15 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
- b. Placing - concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate, concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or embedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal layers not exceeding 30 centimeters in depth within the maximum lateral movement specified
- c. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more

than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer

- d. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower cured that have commenced initial set and reinforcement embedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major embedded parts shall be by hand spading and tamping and vibrators shall not be used
- e. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.

#### 8. Curing

- a. General – All concrete shall be moist cured for a period not less than seven (7) consecutive days by an approved method or combination applicable to local conditions
- b. Moist Curing – The surface of the concrete shall be kept continuously wet by covering with burlap plastic or other approved materials thoroughly saturated with water and keeping the covering spraying or intermittent hosing.

#### 9. Finishing

- a. Concrete surfaces shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be smooth, true to line and shall present or finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
- b. Concrete Slabs on Fill. The concrete slabs on fill shall be laid on a prepared foundation consisting of sub grade and granular fill with thickness equal to the thickness of the overlaying slab except when indicated.

### B. MASONRY WORKS

#### 1. Masonry Units (Concrete Hollow Blocks):

- a. 100mm thick for all interior walls and 150mm thick for all exterior walls unless otherwise indicated.
- b. Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.
- c. Where full height walls are constructed with concrete hollow blocks, these shall extend up to the bottom of beam or slab unless otherwise indicated on plans. Provide stiffener columns and lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height and other considerations.

#### 2. Sand.

- S-1, washed, clean and greenish in color.

3. Mortar:

One part Portland cement and two parts sand and water but not more than three parts sand and water

4. Reinforcement

The concrete hollow blocks shall be reinforced with 10mm diameter deformed bar, spaced not more than 0.8m on centers, both ways

5. Plaster bond:

The mixture of cement plaster for concrete hollow block wall finishes indicated in the drawings shall be one part Portland cement and three parts sand

6. Floor Topping Preparation for Tilework. One part Portland cement and two parts sand and water but not more than three parts sand and water

**C. ROOFING WORKS**

1. Corrugated galvanized iron (G.I.) sheets, including plain aluminum sheets for roofing accessories shall be cold-rolled meeting ASTM A-153 and with spelter coating of zinc of not less than 0.381 kg/sq.m. (1.25 ounce/sq.ft.) conforming to ASTM A-525 or pns 67:1985. Unless otherwise specified or shown on Plans, roofing sheets shall be gauge 26 (0.48mm thick) and provided in long span sizes to minimize end laps. Sheets shall weigh not less than 3.74 kg/sq.m. and shall be marked or stamped showing the gauge, size amount of zinc coating, brand and name of manufacturer. Test specimens shall stand being bent through 180 degrees flat on itself without fracture of the base metal and without flaking of the zinc coating.

2. Ridge/hip rolls, valleys, flashing and counter flashings, gutters and downspouts, whenever required, shall be fabricated from plain G.I. sheets. Ridge/hip rolls, flashings and counter flashings shall be gauge 26. Valleys, gutters and downspouts shall be gauge 24 unless otherwise specified on Plans. Wire basket strainers shall be galvanized, gauge 24.

Roof ventilators, whenever required shall be fabricated from gauge 26 plain G.I. sheets and constructed to the dimensions and details shown on Plans

3. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
4. Polycarbonate roofing and sunbreakers shall be covered with 6mm thick Rib-type polycarbonate sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the 6mm thick solid polycarbonate sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.
5. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 26 pre-painted plain G.I. Flashing to extend to the top and over to the other side of the wall. All fasteners shall be placed at the top of the corrugations of the roofing sheets to prevent water from standing around the fasteners.
6. Provide 6mm thick thermal insulation with single-side aluminum foil prior to fastening of roofing sheets to serve as thermal protection.

## **D. METAL FABRICATION**

### **1. Materials:**

- a. **Steel and Iron.** If not specified otherwise, use standard mill-finished structural steel shapes or bar iron in compliance with AISC Specifications for Design, Fabrication and Erection of Structural Steel for buildings.
- b. **Bolts, Nuts, Studs and Rivets.** ASTM A 307 and A 325.
- c. **Screws.** Fed. Spec FF-S-85, Fed. Spec FF-S-92, and Fed. Spec. FF-S-111.
- d. **Metal Purlins.** High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

### **2. Fabrication:**

By mechanics skilled in the trade and in accordance with the manufacturer's directions. Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

### **3. Metal Surfaces:**

Surfaces shall be clean and free from all scale, flake, rust and rust pitting; well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

### **4. Construction.**

Thickness of metals and details of assembly and supports shall give ample strength and stiffness for the minimum loads specified or indicated. Joints exposed to weather shall be formed to exclude water.

### **5. Welding:**

Use welding electrode E70xx and perform welding, welding inspection and corrective welding in accordance with AWS D1.1 Weld in a manner to prevent permanent distortion of the connected parts. Weld continuously along the entire area of contact (except where tack welding is permitted. Do not tack weld exposed to connections) Grind smooth visible weld in finished installation.

## **E. MOISTURE PROTECTION**

### **1. WATERPROOFING**

- a. Cementitious waterproofing powder mix shall be cement-based, aggregate-type, heavy duty, waterproof coating for reinforced concrete surface and masonry exposed to water. Additive binders shall be of special formulation of acrylic polymers and modifiers in liquid form used as additive with cement-based powder mix that improves adhesion and mechanical properties. Water shall be clean, clear and potable.
- b. Concrete surface to be apphed with waterproofing shall be structurally sound, clean and free of dirt, loose mortar particles, paint films, oil protective coats, efflorescence, laitance, etc. All defects shall be properly corrected and carefully formed to provide a smooth surface that is free of marks and properly cured prior to application works.
- c. Furnish all labor, materials, equipment, plant and other facilities required to complete all waterproofing work as shown on the drawings and herein specified. All applications shall be strictly performed by an approved waterproofing Contractor.

- d. Test waterproofed area by seventy-two (72) hours and check for any seepages.

Note: Thickness should be as per Manufacturer's Specifications and Installation depending on the areas to be applied with.

## **2. VAPOR BARRIER**

- e. Vapor barrier shall be placement of 6mil Polyethylene sheet prior to pouring of concrete for foundation members, slabs-on-fill and slabs-on-grade.

# **IV. ARCHITECTURAL WORKS**

## **A. FLOOR FINISHES**

1. **Ceramic Tiles.** Unglazed ceramic tiles shall be hard, dense tiles of homogeneous composition. Its color and characteristics area determined by the materials used in the body, the method of manufacture and the thermal treatment.

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

2. **Vinyl Floor Tiles.** Vinyl tiles shall be of first grade quality. Fully homogeneous, flexible, resilient, and resistant to alkali moisture, grease and oil. The color and design pattern of the vinyl tile shall be uniformly distributed throughout the thickness of the tile. Vinyl tiles shall be 2mm thick.

Installation of the tile shall not commence until the work of other trades, including painting has been completed. The Contractor shall carefully examine all surfaces over which the tiles are to be set. Floor surfaces that are to receive vinyl tile shall be clean thoroughly, dry, smooth, firm and sound and free from oil, paint, wax, dirt and any other damaging material.

3. **Cement Floor Finish.** Mortar topping shall be one part Portland cement and three parts fine aggregate by loose volume.

Finish topping shall be pure Portland cement properly graded, mixed with water to approved consistency and plasticity. Where required to be colored cement floor finish red or green oxide powder shall be premixed with Portland cement complying with finish topping requirements and the desired color intensity. Cement floor finish floor hardener shall be premixed as required and applied in accordance with the manufacturer's instruction manual.

4. **Pebble Washout Finish.** Pebble shall be well graded stones sized ranging from #4 to #10 rounded specie.

All pebble washout finish shall be done by men experienced and qualified to do this particular type of trade. The Contractor shall submit at least two samples for each type of pebble washout finish to the Engineer/Architect for approval showing its color, texture and design patterns.

Pebble washout finish mix shall consist of one part Portland cement and two parts pebble measured by volume or a proportion equivalent to 1:2. Mixtures shall be in approved containers to ensure that the specified materials are controlled and accurately measured. Mixtures measured by shovel or shovel counts will not be permitted. Unless specified otherwise pebble washout mix shall be in the proportion by volume in approved mixing machines or mortar boxes. The aggregates introduced and mixed in such a manner that the materials will be uniformly distributed throughout the mass. A sufficient amount of water shall be added gradually and the mass further mixed until a mortar plasticity necessary for the purpose intended is obtained. Mortar boxes, pans etc. where mixtures are mixed shall be keep clean and free from debris or dried mortar.

5. **Granite Tiles**  
6. **Vinyl Roll**  
7. **Anti-Microbial Tiles**  
8. **Hardwood Tiles**



## B. WALL FINISHES AND PARTITIONING

### 1. Toilet Partition.

## C. CEILING FINISHES

1. **Fiber Cement Board on Metal Frame.** The ceiling materials to be used shall conform to the samples approved by the City Engineer. All ceiling works shall be done by men experienced and qualified to do this particular specialty trade. The installation of ceiling materials shall be in accordance with the detailed section and with the manufacturer's manual instructions. Ceiling materials shall be cut as required to fit the perpendicular condition and should be properly secured by anchorage and other accessories to complete the installation. No mechanical work shall be exposed on the finish work. All joints around electrical outlets, pipes and other works extending through materials shall be sealed with caulking.

### 2. Slab Soffit.

## D. CARPENTRY WORKS

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

Rough lumber for framing and siding boards shall be air-dried or sundried such that its moisture content shall not exceed 22 percent. Dressed lumber for exterior and interior finishing, for doors and windows, millwork, cabinet work and flooring boards shall be kiln-dried and shall not have a moisture content in excess of 14 percent at the time of installation in the structure.

Plyboard shall be good grade and made of laminated wood strips of uniform width and thickness bonded together with water resistant resin glue. The laminated core shall be finished both faces with select grade Tanguile or red Lauan veneers not less than 2 mm thick similarly bonded to the core. The plyboard of not less than 19 mm thick shall be free from defects such as split in veneer, buckling or warping.

Plywood shall conform to the requirements of the Philippine Trade Standards 631-02. Thickness of a single layer laminae shall not be less than 2 mm. The laminae shall be superimposed in layers with grains crossing at right angles in successive layers to produce stiffness. The face veneers shall be rotary cut from select grade timber. The laminae and face veneers shall be bonded with water resistant resin glue, hot pressed and pressure treated. Ordinary Tanguile or red Lauan plywood with good quality face veneers, 6 mm thick shall be used for double walling and ceiling not exposed to moisture; waterproof or marine plywood shall be used for ceiling exposed to moisture such as at toilets and eaves, and ceiling to be finished with acrytex.

Glue shall be from water resistant resins which, upon hardening, shall not dissolve nor lose its bond or holding power even when soaked with water for extended period.

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

1. Nails of adequate size shall be steel wire, diamond-pointed, ribbed shank and blight finish.
2. Screws of adequate size shall be aluminum or brass plated steel with slotted head.
3. Lag screws of adequate size, for anchoring heavy timber framing in concrete or masonry, shall be galvanized steel.
4. Bolts and nuts shall be of steel having a yield point of not less than 245 Mpa. Bolts shall have square heads and provided with standard flat steel washers and hexagonal nuts. Threads shall conform to American coarse thread series. Threaded portion shall

be long enough so that the nut can be tightened against the bolted members without any need for blocking. The bolt's threaded end shall be finished smooth for ease of engaging and turning the nut.

5. Wrought iron straps or angles, when required in conjunction with bolts or lag screws to provide proper anchorage, shall be of the shape and size shown on the Plans.

#### **E. PAINTING WORKS**

1. **Paint Materials.** All types of paint material and other related products shall be subject to test as to material composition by the Bureau of Research and Standard, DPWH or the National Institute of Science and Technology.
2. **Tinting Colors.** Tinting colors shall be first grade quality pigment ground in alkylid resin that disperses and mixes easily with paint to produce the color desired. Use the same brand of paint and tinting color to effect good paint body.
3. **Skim coat.** Skim coat shall be fine powder type material like kelsomine that can be mixed into putty consistency, with oil-based primers and paints to fill minor surface dents and imperfections.

#### **4. Paint Schedule.**

- a. **Exterior Masonry Wall (plain cement plastered finish to be painted)**
  - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
- b. **Interior Masonry Wall (plain cement plastered finish to be painted)**
  - i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish
- c. **Interior Dry Wall**
  - i. 1 coat primer, 2 coats latex paint finish
- d. **Ceiling Boards**
  - i. 1 coat primer, 2 coats latex paint finish
- e. **Slab Soffit**
  - i. 1 coat primer, 2 coats latex paint finish
- f. **Metal / Steel Surfaces**
  - i. 1 coat primer, 2 coats epoxy enamel finish

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

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

Concrete and masonry surfaces shall be coated with concrete neutralizer and allowed to dry before any painting primer coat is applied. When surface is dried apply first coating. Hairline cracks and unevenness shall be patched and sealed with approved putty or patching compound. After all defects are corrected apply the finish coats as specified on the Plans (color scheme approved).

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

In addition, the Contractor shall undertake the following.

- a. Voids, cracks, nick etc. will be repaired with proper patching material and finished flush with surrounding surfaces.
  - b. Marred or damaged shop coats on metal shall be spot primed with appropriate metal primer
  - c. Painting and varnishing works shall not be commenced when it is too hot or cold.
  - d. Allow appropriate ventilation during application and drying period
  - e. All hardware will be fitted and removed or protected prior to painting and varnishing works.
6. Application. Paints when applied by brush shall become non-fluid, thick enough to lay down as adequate film of wet paint. Brush marks shall have flowed out after application of paint.
- Paints made for application by roller must be similar to brushing paint. It must be non-sticky when thinned to spraying viscosity so that it will break up easily into droplets
- Paint is atomized by high pressure pumping rather than broken up by the large volume of air mixed with it. This procedure changes the required properties of the paint.
7. Application shall be as per paint Manufacturer's specification and recommendation.
  8. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works
  9. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
  10. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
  11. All exposed finish hardware, lighting fixtures and accessories, glass and the like shall be adequately protected so that these are not stained with paint and other painting materials prior to painting works.
  12. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

## V. SANITARY / PLUMBING WORKS

- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable)
- B. Supply, installation and testing of the following
  1. Potable water supply system complete in all respects including but not limited to submittals, shop drawings, piping, water meters, valves, bibbs, insulation, all accessories required for complete and operational of the system.
  2. Water service connections including but not limited to water meters, float valves. Any and all other works involve in providing the complete operation of the water supply system.
  3. Soil waste and vent system complete in all respect including but not limited to connection to existing sewer, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.
  4. Storm drainage system complete in all respect including but not limited to connection to existing storm drainage, submittals, shop drawings, pipes, fittings, valves, cleanout, drains, etc. Complete and operational.

- C. Workmanship and installation methods shall conform to the best modern practice. Employ skilled tradesmen to perform work under the direct supervision of fully qualified personnel.
- D. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes as specified in plans and program of work.
- E. Install equipment in strict accordance with manufacturers written recommendations.
- F. Physical sizes of all plant and equipment are to be suitable for the space allocated for the accommodation of such plant and equipment, taking into account the requirement of access for maintenance purposes.
- G. In selecting makes and types of equipment, the Contractor shall ascertain that facilities for proper maintenance, repair and replacement are provided.
- H. Where the Contractor proposes to use an item of equipment other than that specified or detailed in the drawing, which requires any redesign of the system, drawings showing the layout of the equipment and such redesign as required therefore shall be prepared by the Contractor at his own expenses. Where such approved deviation necessitates a different quantity and arrangement of materials and equipment's from that originally specified or indicated in the drawings, the Contractor shall furnish and install any such additional materials and equipment's required by the system at no additional cost.
- I. Equipment catalogue and manufacturer's specifications must be submitted for examination and details shall be submitted for approval before any equipment is to be ordered.
- J. This shall include all information necessary to ascertain the equipment comply with this specification and drawings. Data and sales catalogue of a general nature will not be accepted.
- K. All materials, equipment, components and accessories shall be delivered to the Site in a new condition, properly packed and protected against damage or contamination or distortion, breakage or structural weakening due to handling, adverse weather or other circumstances and, as far as practicable, they shall be kept in the packing cases or under approved protective coverings until required for use.
- L. Any items suffering from damage during manufacture, or in transit or on site whilst in storage or during erection shall be rejected and replaced without extra cost.
- M. All sanitary fittings and pipework shall be cleaned after installation and keep them in a new condition.
- N. All installed pipelines shall be flushed through with water, rodded when necessary to ensure clearance of debris.
- O. Cleaning and flushing shall be carried out in sections as the installation becomes completed.
- P. The Contractor shall carry out hydraulic test on the complete plumbing systems and the drainage system to show that it is functioning satisfactorily within the requirements of this Specification and local regulations.
- Q. The Contractor shall provide suitable test pumps and arrange for a supply of water required in connection with testing of pipework. The test pump shall be fitted with pressure gauges which shall be of suitable range for the pressure being applied.
- R. Hydraulic tests shall be carried out as the pipework is installed and shall be completed before chases in walls and ducts are closed. Also test shall be carried out prior to false ceilings and other finishes are installed.
- S. Testing apparatus shall be provided by the Contractor. Where any section of pipework or equipment is unable to withstand the maximum pipework test pressure, it shall be isolated during the pipework test then that section of pipework or equipment shall be re-tested at the appropriate test pressure.
- T. The Sanitary Contractor must carry out any additional tests required by the end-user and/or approving agency.

- U. Drainage pipe shall be tested by filling the pipe with 3m. of water higher than the test section and wait for 15 min, then check for leakage at every joints.
- V. Testing of drainage systems shall be carried out in sections by dividing the system horizontally. Each section shall comprise pipework and fitting for three floors/storeys required for testing
- W. Drainage pressure pipe shall be hydraulic tested at minimum pressure 50 psi.
- X. Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.
- Y. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- Z. Install lateral bracing with pipe hangers and supports to prevent swaying.
- AA. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 2-1/2 (DN 65) and larger and at changes in direction of piping. Install concrete inserts before concrete is placed: fasten inserts to forms and install reinforcing bars through openings at top of inserts
- BB. Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- CC. Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

## VI. ELECTRICAL WORKS

### A. CONDUITS, BOXES AND FITTINGS

1. This item shall consist of the furnishing and installation of the complete conduit work, consisting of electrical conduits; conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings, such as couplings, locknuts and bushings and other electrical materials needed to complete the conduit roughing-in work of this project.
2. 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.
3. 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.
4. The work to be done under this division of specifications consists of the fabrication, furnishing, delivery and installation, complete in all details of the electrical work, at the subject premises and all work materials incidental to the proper completion of the installation, except those portions of the work which are expressly stated to be done by other fields. All works shall be done in accordance with the rules and regulations and with the specifications.
5. All lighting fixtures and lamps are as specified and listed on lighting fixture schedule.
6. 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.
7. All auxiliary systems such as telephone and intercom system, time clock system, fire alarm system and public address/nurse's call/paging system installations shall be done in accordance with the approved design.

8. 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.
9. 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 systems are free from all grounds and from all defective workmanship and materials and will remain so for a period of one year from date of acceptance of works. Any defect shall be remedied by the Contractor at his own expense.

#### B. WIRES AND WIRING DEVICES

1. This item shall consist of the furnishing and installation of all wires and wiring devices consisting of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the approved Plans but not mentioned in these specifications.
2. Wires and cables shall be of the approved type meeting all the requirements of the Philippine Electrical Code and bearing the Philippine Standard Agency (PSA) mark. Unless specified or indicated otherwise, all power and lighting conductors shall be insulated for 600 volts. All wires shall be copper, soft drawn and annealed, smooth and of cylindrical form and shall be centrally located inside the insulation.
3. Conductors or wires shall not be drawn in conduits 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 connections for fixtures, switches, receptacles and other wiring devices without the use of additional splices.
4. All conductors of convenience outlets and lighting branch circuit homeruns shall be wired with a minimum of 3.5 mm in size. Circuit homeruns to panelboards shall not be smaller than 3.5 mm but all homeruns to panelboard more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.
5. All wires of 14mm and larger in size shall be connected to panels 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 fastened. They shall not loosen under vibration or normal strain.
6. 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 not less than that of the conductors.
7. No splices or joints shall be permitted in either feeder or branch conductors except within outlet boxes or accessible junction boxes or pull boxes. All joints in branch circuit wiring shall be made mechanically and electrically secured by approved splicing devices and taped with rubber and PVC tapes in a manner which will make their insulation as that of the conductor.
8. All wall switches and receptacles shall be fitted with standard Bakelite face plate covers. Device plates for flush mounting shall be installed with all four edges in continuous contact with finished wall surfaces without the use of coiled wire or similar devices. Plaster filling shall not be permitted. Plates installed in wet locations shall be gasketed.
9. When more than one switch or device is indicated in a single location, gang plate shall be used.

#### C. POWER LOAD CENTER, SWITCHGEAR AND PANELBOARDS

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

2. 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.
- a. **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.

- i. **Main Circuit Breaker.** The main circuit breaker shall be draw-out type, manually or electrically operated as required with ratings and capacity as shown on the approved Plans.

The main breaker shall include insulated control switch if electrically operated, manual trip button, magnetic tripping devices, adjustable time overcurrent protection and instantaneous short circuit trip and all necessary accessories to insure safe and efficient operation.

- ii. **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 breakers shall be drawout 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 as 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.

- b. **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.

- c. **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 capacities of branch circuit breakers.

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

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

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

- D. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- E. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- F. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- G. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- H. When the tests and inspections have been completed, a label shall be attached to all devices tested. The label shall provide the name of the testing company, the date the tests were completed, and the initials of the person who performed the tests

1. PANELBOARDS

- 1. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces defined in Division 16 Sections 16073 and 16074 "Hangers and Supports for Electrical Systems and Vibration and Seismic controls for Electrical Systems" respectively.
- 2. Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
  - a. Rated for environmental conditions at installed location.
    - i. Indoor Dry and Clean Locations: NEMA, Type 1
    - ii. Outdoor Locations: NEMA, Type 3R.
    - iii. Kitchen and Wash-Down Areas: NEMA, Type 4X, stainless steel.
    - iv. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 12.
    - v. Outdoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA, Type 5R.
  - b. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
  - c. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
  - d. Skirt for Surface-Mounted Panelboards: Same gauge and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor
  - e. Gutter Extension and Barrier: Same gauge and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
  - f. Finishes:
    - i. Panels and Trim: Steel and galvanized steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat.
    - ii. Back Boxes: Galvanized steel Same finish as panels and trim.
    - iii. Fungus Proofing: Permanent fungicidal treatment for overcurrent protective devices and other components.
  - g. Directory Card: Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover.
- 3. Incoming Mains Location: Top or Bottom



4. Phase, Neutral, and Ground Buses:

- a. Material: Hard-drawn copper, 98 percent conductivity.
- b. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- c. Neutral Bus: 100 percent of phase bus 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

  
ENGR. KENNETH V. GUIRAL  
Planning and Design Division

  
ENGR. CRISTAL MAE B. LORENZO  
Planning and Design Division

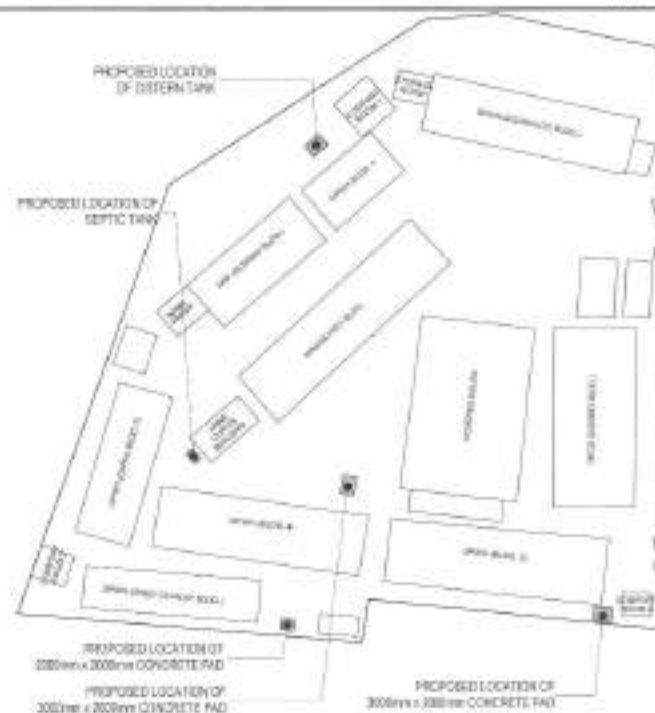
## ***Section VII. Drawings***

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

TYPICAL MALE COMFORT ROOM

## 1 INTERIOR PERSPECTIVE

NOT TO SCALE



2	LOCATION MAP
---	--------------

NOT TO SCALE

### 3 SITE DEVELOPMENT PLAN

NOT TO SCALE

[illegible]

PROJECT TITLE:	PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN
LOCATION:	BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY

DATE: November 11, 2020		SUBMITTED BY:
DESIGNED BY:	CHECKED BY:	 <b>ENGR. FREDSMANDA D. DE GUZMAN</b> <small>REG. PROFESSIONAL ENGINEER</small>
CIVIL ENGINEER	PROJECT NO.	
REVISIONS:		

RECOMMENDING APPROVAL:

ATTY. MARK DALE EDWARDS P. FERRAL

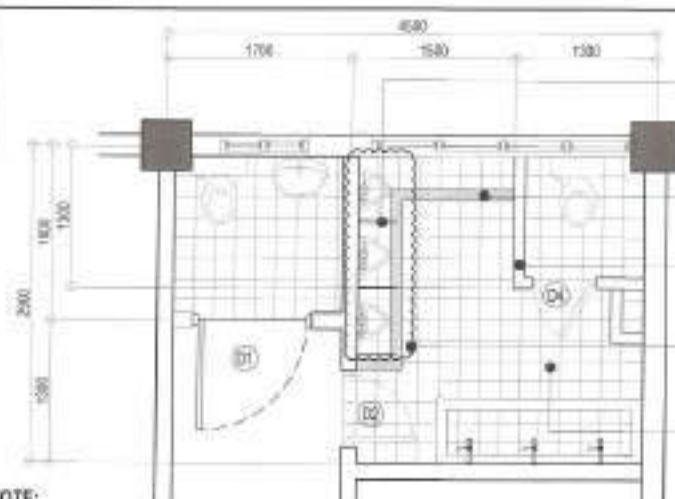
HON. MA. JOSEFINA G. BELMONTE  
Chairman, State Board of Education

SHEET CONTENT	SHEET NO.
FRANCIS AND LOCKERBANK SITE DEVELOPMENT PLAN	AR-01 0154

## SCALE: 1:125 METERS



- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



- REPLACEMENT OF CEILING WITH 8mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

EXISTING FLOOR TILES TO BE  
REPLACED WITH 300mm x  
300mm NON-SKID  
HOMOGENEOUS FLOOR TILES

## SCALE: 1:50 METERS

SCALE : 1:50 METERS

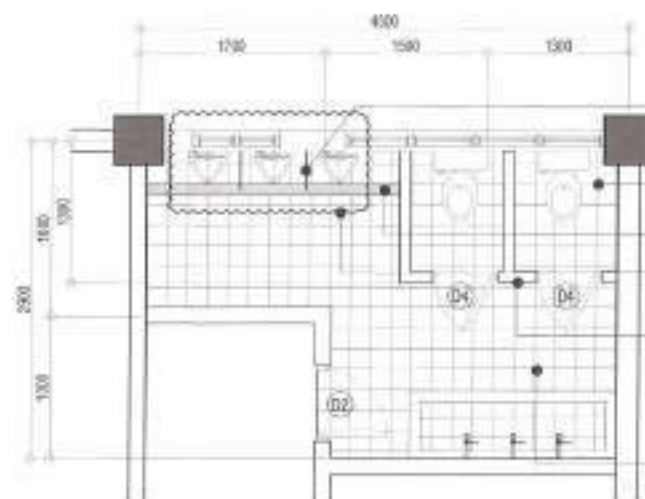
 <p>Republic of the Philippines          Department of Engineering          Quezon City          Office of the City Engineer          Quezon City, Philippines          Telephone: (02) 2644-1234          Fax: (02) 2644-1234</p>	PROJECT TITLE:		DATE: November 17, 2023		SUBMITTED BY:		RECOMMENDING APPROVAL:		APPROVED BY:		SHEET CONTENT		SHEET NO.	
	<p>PROPOSED UPGRADING OF PLUMBING          SYSTEM AND REHABILITATION OF COMFORT          ROOMS AT SAN ANTONIO ELEMENTARY          SCHOOL IN BARANGAY KATIPUNAN</p>		<p>DESIGNED BY:  </p>	<p>CHECKED BY:  </p>	<p>ENGR. FREDISWILDA D. DE GUZMAN          (ENR. PLUMBING DESIGNER)</p>		<p>ATTY. MARK DALE DIAMOND P. PERRAL          (ATTORNEY)</p>		<p>HON. MA. JOSEFINA G. BELMONTE          (CITY ENGINEER)</p>		<p>001 BUILDING 2 FLOOR          1.000 PLAN          002 BUILDING 2 FLOOR          1.000 PLAN          003 BUILDING 2 FLOOR          1.000 PLAN          004 BUILDING 2 FLOOR          1.000 PLAN          005 BUILDING 2 FLOOR          1.000 PLAN          006 BUILDING 2 FLOOR          1.000 PLAN          007 BUILDING 2 FLOOR          1.000 PLAN          008 BUILDING 2 FLOOR          1.000 PLAN          009 BUILDING 2 FLOOR          1.000 PLAN          010 BUILDING 2 FLOOR          1.000 PLAN</p>		<p>AR-02          02/54</p>	
	<p>LOCATION:          BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY</p>		<p>REVISIONS:</p>											



## SCALE : 1:125 METERS



- REPLACEMENT OF CEILING WITH 5mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

PROPOSED 450 WIDE x 900mm x 10mm THK. FORMICA COMPACT POST FORMING GRADE, HIGH PRESSURE PHENOLIC LAMINATED EN4386

APPLICATION OF POLYURETHANE

EXISTING CONCRETE URINAL TO BE DEMOLISHED

PROPOSED URINAL

EXISTING WALL TILES TO BE REPLACED WITH 300mm x 300mm NONSKID HOMOGENEOUS WALL TILES (1600mm HT)

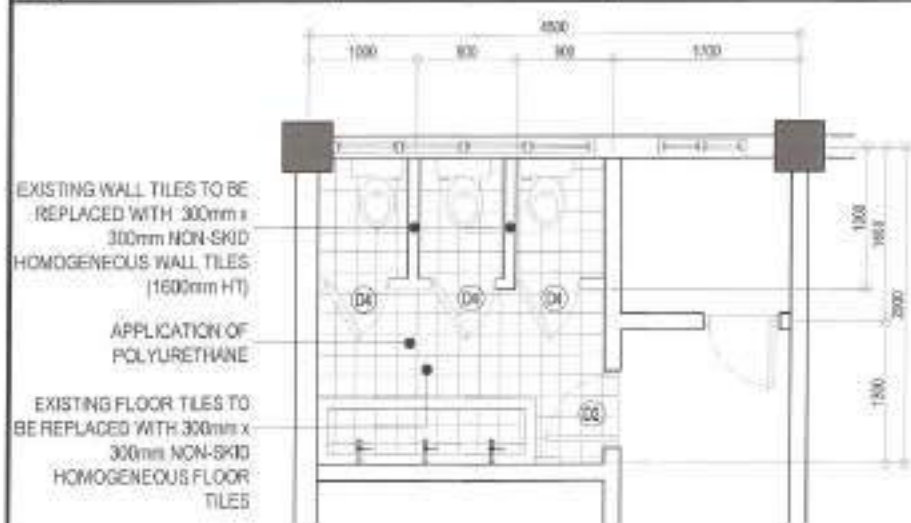
EXISTING FLOOR TILES TO BE REPLACED WITH 300mm x 300mm NON-SKID HOMOGENEOUS FLOOR TILES

SCALE - 150 METERS

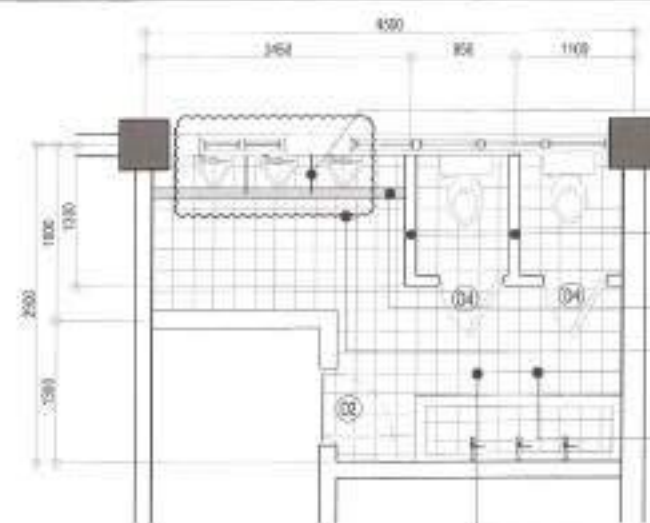
SCALE 1:50 METERS

 <p>             Republic of the Philippines              Department of Engineering              Quezon City           </p>	<b>PROJECT TITLE:</b> PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN	<b>DATE:</b> September 11, 2023	<b>SUBMITTED BY:</b>  ENGR. FREDSWAN D. DE GUZMAN <small>HEAD PLUMBING DESIGN DIVISION</small>	<b>RECOMMENDING APPROVAL:</b>  ATTY. MARK DALE DIAMOND P. PERRAL <small>CITY ENGINEER</small>	<b>APPROVED BY:</b>  HON. MA. JOSEFINA G. BELMONTE <small>CITY ENGINEER</small>	<b>SHEET CONTENT</b> 1. COVER SHEET 2. PROPOSED PLUMBING SYSTEM 3. PROPOSED REHABILITATION OF COMFORT ROOMS 4. PROPOSED ELECTRICAL SYSTEM 5. PROPOSED SANITARY SYSTEM 6. PROPOSED PLUMBING MATERIALS 7. PROPOSED PLUMBING LABOR 8. PROPOSED PLUMBING COSTS 9. PROPOSED PLUMBING SPECIFICATIONS 10. PROPOSED PLUMBING NOTES	<b>SHEET NO.</b> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>AR-03</b>  <b>0354</b> </div>
	<b>DESIGNED BY:</b> ENGR. FREDSWAN D. DE GUZMAN	<b>CHECKED BY:</b> 	<b>DATE:</b> September 11, 2023	<b>RECOMMENDING APPROVAL:</b>  ATTY. MARK DALE DIAMOND P. PERRAL <small>CITY ENGINEER</small>	<b>APPROVED BY:</b>  HON. MA. JOSEFINA G. BELMONTE <small>CITY ENGINEER</small>	<b>SHEET CONTENT</b> 1. COVER SHEET 2. PROPOSED PLUMBING SYSTEM 3. PROPOSED REHABILITATION OF COMFORT ROOMS 4. PROPOSED ELECTRICAL SYSTEM 5. PROPOSED SANITARY SYSTEM 6. PROPOSED PLUMBING MATERIALS 7. PROPOSED PLUMBING LABOR 8. PROPOSED PLUMBING COSTS 9. PROPOSED PLUMBING SPECIFICATIONS 10. PROPOSED PLUMBING NOTES	<b>SHEET NO.</b> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <b>AR-03</b>  <b>0354</b> </div>
	<b>LOCATION:</b> BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY	<b>REVISION NO. 1</b>	<b>DATE:</b> September 11, 2023	<b>SUBMITTED BY:</b>  ENGR. FREDSWAN D. DE GUZMAN <small>HEAD PLUMBING DESIGN DIVISION</small>	<b>RECOMMENDING APPROVAL:</b>  ATTY. MARK DALE DIAMOND P. PERRAL <small>CITY ENGINEER</small>	<b>APPROVED BY:</b>  HON. MA. JOSEFINA G. BELMONTE <small>CITY ENGINEER</small>	<b>SHEET CONTENT</b> 1. COVER SHEET 2. PROPOSED PLUMBING SYSTEM 3. PROPOSED REHABILITATION OF COMFORT ROOMS 4. PROPOSED ELECTRICAL SYSTEM 5. PROPOSED SANITARY SYSTEM 6. PROPOSED PLUMBING MATERIALS 7. PROPOSED PLUMBING LABOR 8. PROPOSED PLUMBING COSTS 9. PROPOSED PLUMBING SPECIFICATIONS 10. PROPOSED PLUMBING NOTES

SCALE: 1:125 METERS



- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

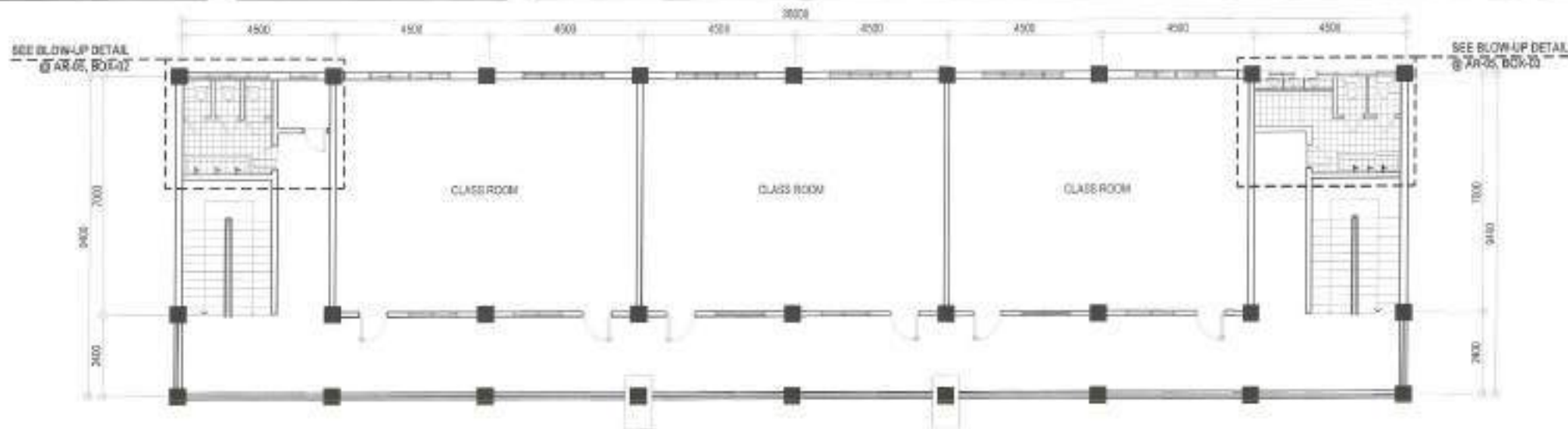


#### → APPLICATION OF POLYURETHANE

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

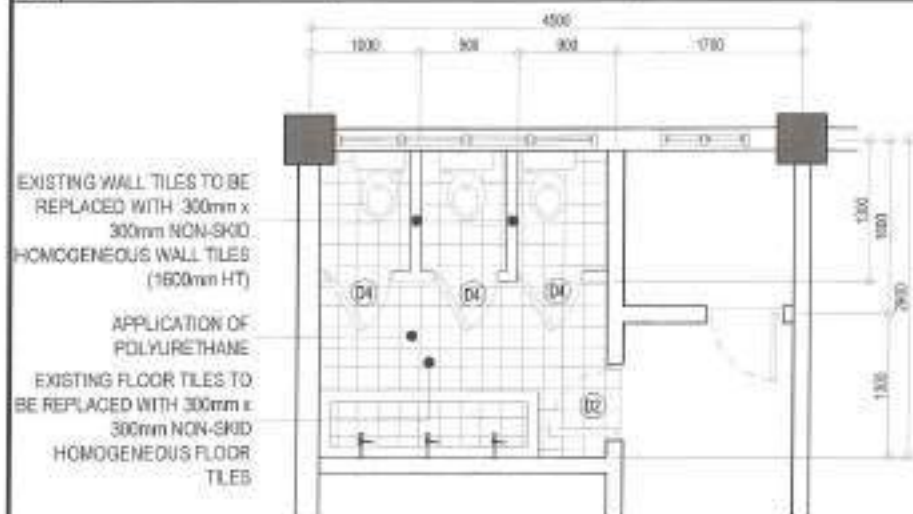
SCALE 1:50 METERS

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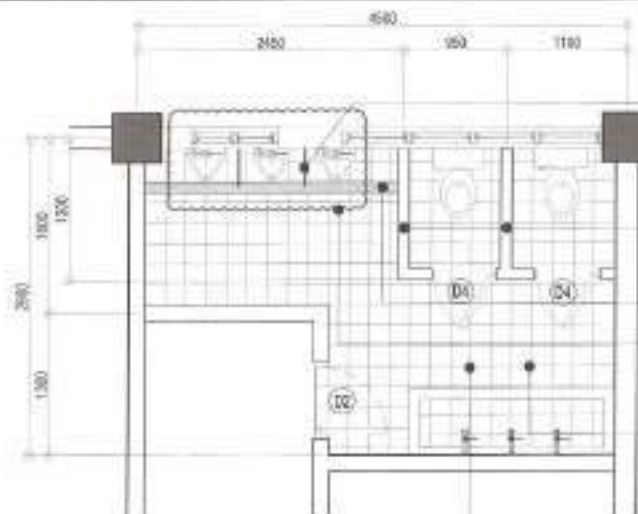
1 DPWH BUILDING 2 (FOURTH FLOOR PLAN)

SCALE : 1:125 METERS



NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

2 DPWH BUILDING 2 (FOURTH FLOOR FEMALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS

3 DPWH BUILDING 2 (FOURTH FLOOR MALE COMFORT ROOM PLAN)

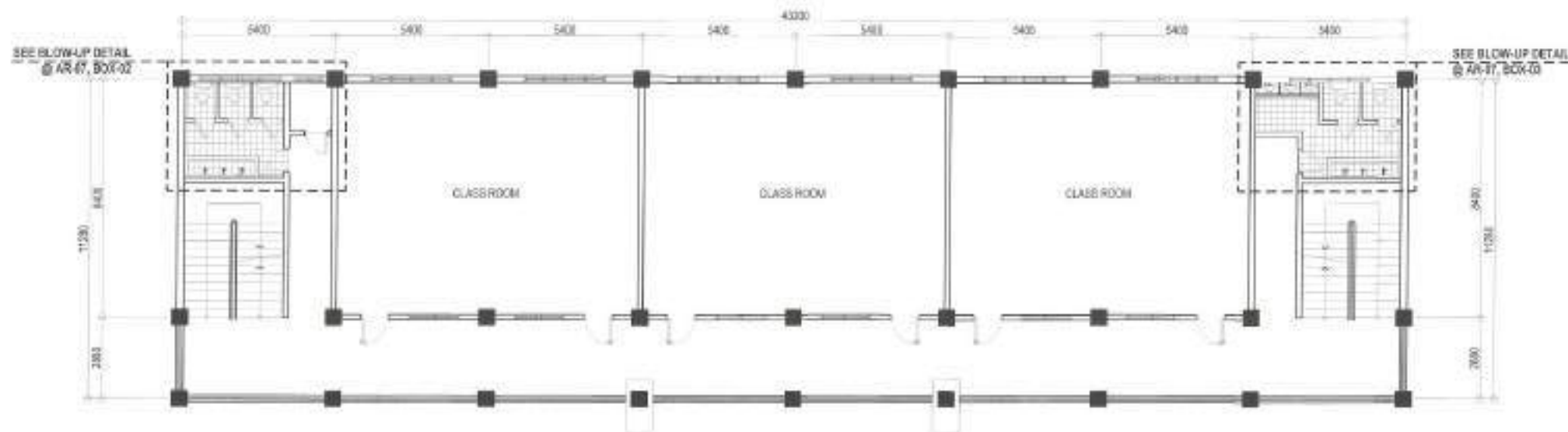
SCALE : 1:50 METERS

<p>Project San Antonio Department of Engineering Quezon City</p>	PROJECT TITLE :	DATE : November 11, 2023	SUBMITTED BY :	RECOMMENDING APPROVAL :	APPROVED BY :	SHEET CONTENT :	SHEET NO :
	<p>PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN</p> <p>LOCATION : BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY</p>	<p>DESIGNED BY :</p> <p>DR. J. J. J. J.</p> <p>REVISION :</p>	<p>ENGR. FREDISWILDA D. DE GUZMAN</p> <p>PROJ. PLANNING &amp; DESIGN DIVISION</p>	<p>ATTY. MARK DAVID DIAMOND P. PERRAL</p> <p>CITY ENGINEER</p>	<p>HON. MA. JOSEFINA G. BELMONTE</p> <p>CITY ENGINEER</p>	<p>DPWH BUILDING 2 (FOURTH FLOOR FEMALE COMFORT ROOM PLAN)</p> <p>DPWH BUILDING 2 (FOURTH FLOOR MALE COMFORT ROOM PLAN)</p>	<p>AR-05 0554</p>



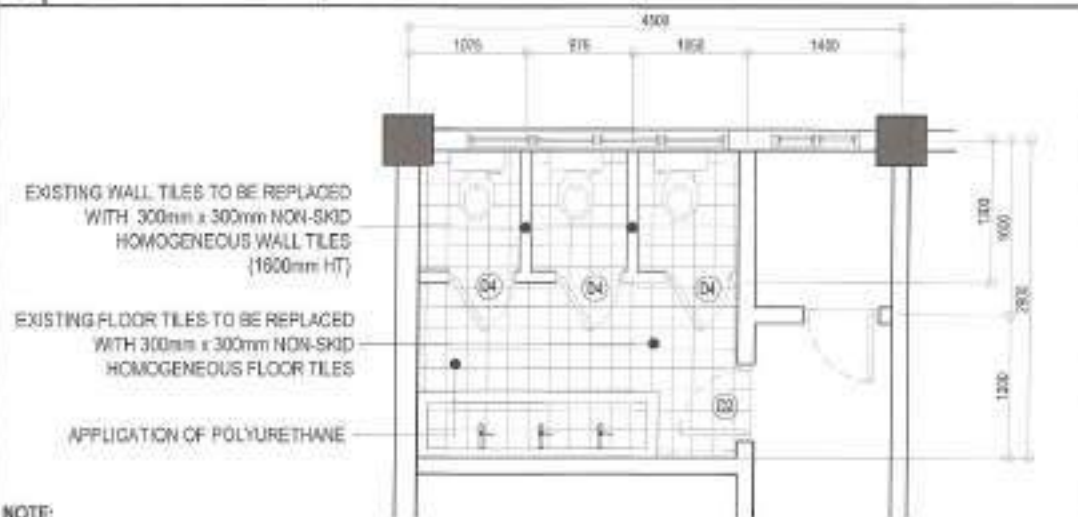






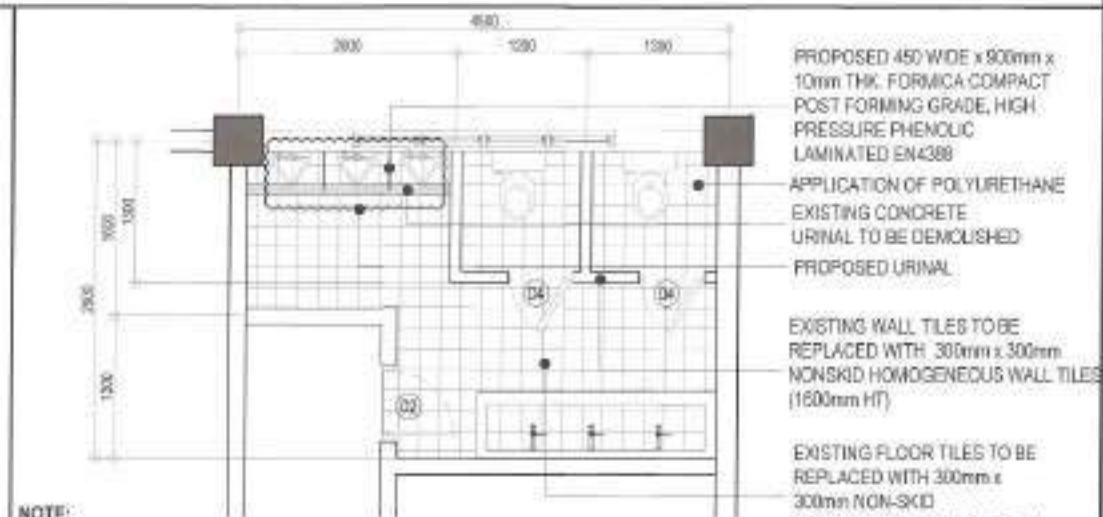
1 DPWH BUILDING 3 (SECOND FLOOR PLAN)

SCALE : 1:125 METERS



## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

2 DPWH BUILDING 3 (SECOND FLOOR FEMALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS

3 DPWH BUILDING 3 (SECOND FLOOR MALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS



Engineering Division  
Lungsod ng Quezon  
DEPARTMENT OF ENGINEERING  
Quezon City, Philippines  
Bldg. 1000 1000 1000  
Quezon City, Philippines

PROJECT TITLE:  
PROPOSED UPGRADING OF PLUMBING  
SYSTEM AND REHABILITATION OF COMFORT  
ROOMS AT SAN ANTONIO ELEMENTARY  
SCHOOL IN BARANGAY KATIPUNAN

LOCATION:  
BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY

DATE: November 1, 2021

DESIGNED BY:  
CAYLOR

DRAWN BY:  
CAYLOR

REVISIONS:

SUBMITTED BY:

ENGR. FREDISWINDA D. DE GUZMAN  
HEAD, PLUMBING DESIGN DIVISION

RECOMMENDING APPROVAL:

ATTY. MARK DALE DIAMOND P. PERRAL  
CITY ENGINEER

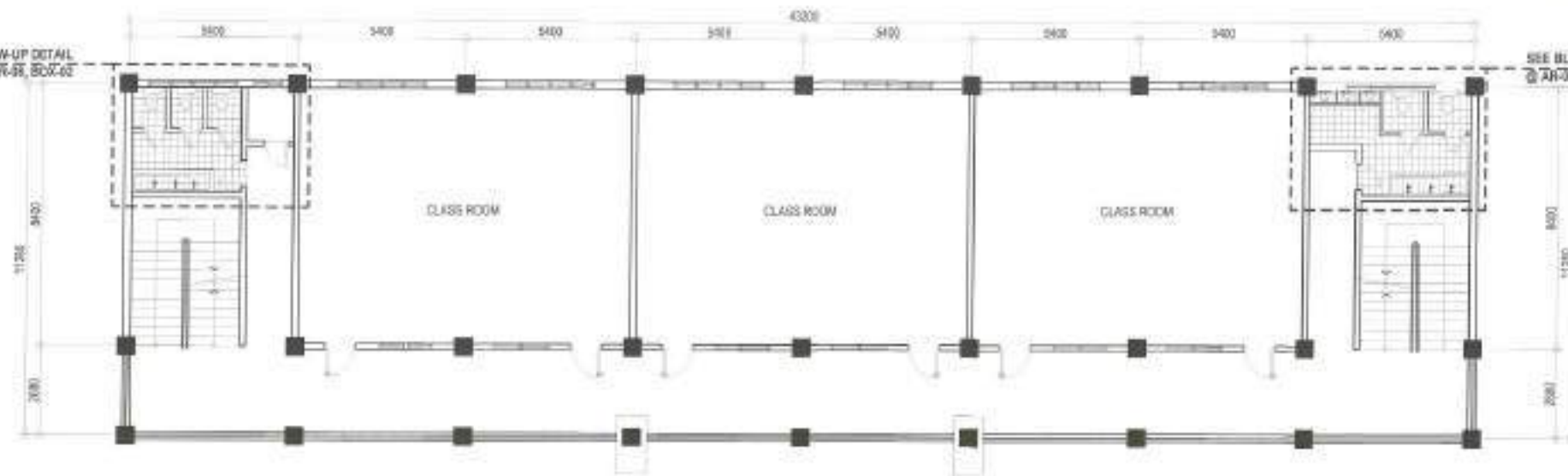
APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE  
CITY ENGINEER (CIVIL)

SHEET CONTENT:  
UPGRADING OF  
SECOND FLOOR FEMALE  
COMFORT ROOM  
(SECOND FLOOR)  
FEMALE COMFORT  
ROOM PLAN  
CAYLOR  
(SECOND FLOOR MALE  
COMFORT ROOM PLAN)

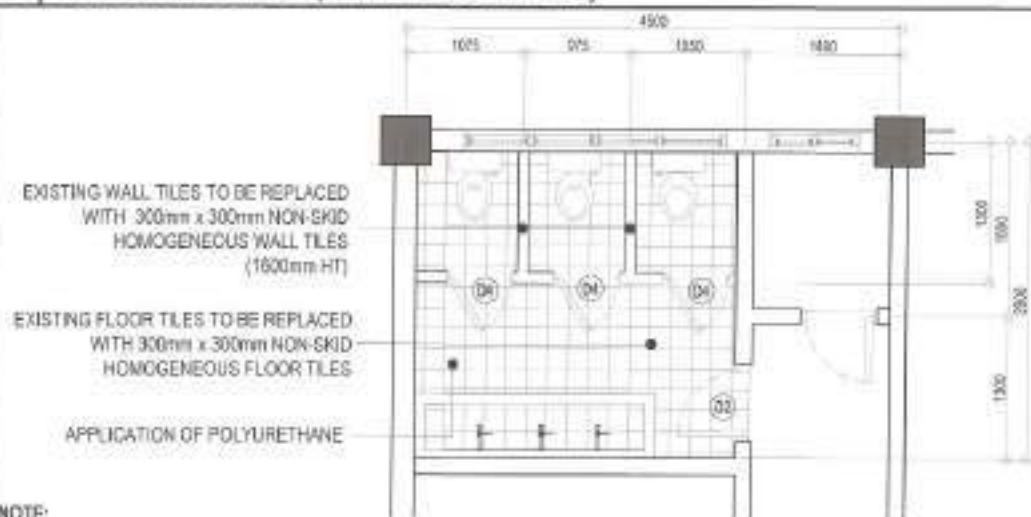
SHEET NO.  
AR-07  
0754

SEE BLOW-UP DETAIL



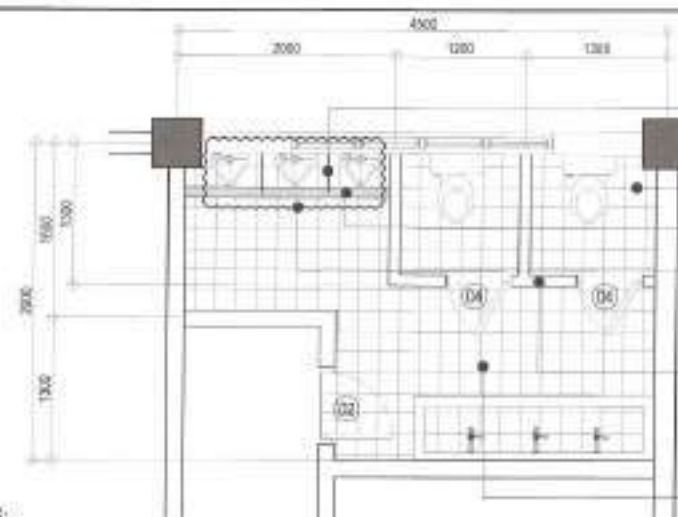
1	DPWH BUILDING 3 (THIRD FLOOR PLAN)
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SCALE | 1:125 METERS



NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



**NOTE:**

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

PROPOSED 460 WIDE x 500mm x  
10mm THK. FORMICA COMPACT  
POST FORMING GRADE, HIGH  
PRESSURE PHENOLIC  
LAMINATED EN4388

APPLICATION OF POLYURETHANE  
EXISTING CONCRETE  
URINAL TO BE DEMOLISHED  
PROPOSED URINAL

EXISTING WALL TILES TO BE  
REPLACED WITH 300mm x 300mm  
NONSKID HOMOGENEOUS WALL TILES  
(1600mm HT)

EXISTING FLOOR TILES TO BE  
REPLACED WITH 300mm x  
300mm NON-SKID  
HOMOGENEOUS FLOOR TILES

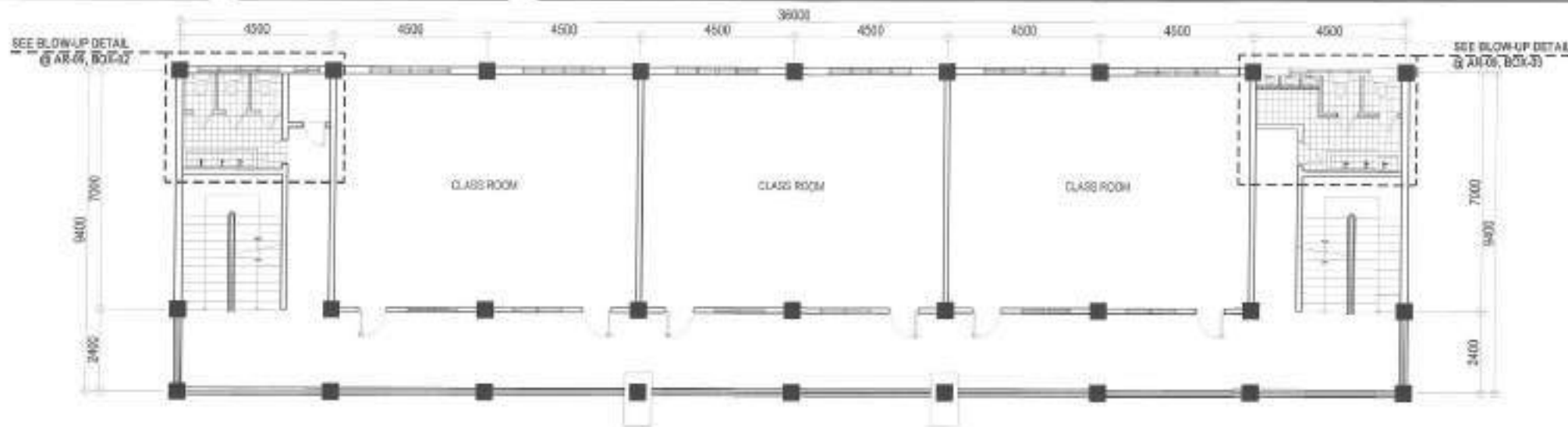
2 DPW/H BUILDING 3 (THIRD FLOOR FEMALE COMFORT ROOM PLAN)

SCALE 1:50 METERS

3	DPWH BUILDING 3 (THIRD FLOOR MALE COMFORT ROOM PLAN)
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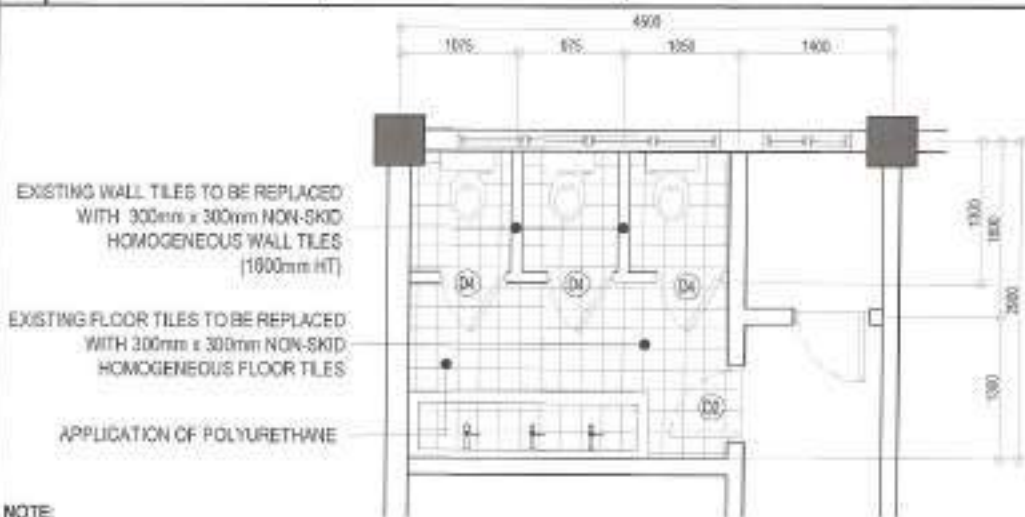
SCALE: 150 METERS

 <p>Republic of the Philippines          Department of Engineering          Quezon City</p>	PROJECT TITLE:	DATE: November 11, 2023	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	<p>PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN</p> <p>LOCATION:          BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY</p>	<p>DESIGNED BY:          CIVIL ENGINEER</p> <p>REVISIONS:</p>	<p>DRAWN BY:          CIVIL ENGINEER</p>	<p>ENGR. FREDISWINDA D. DE GUZMAN          (SEAL: PLUMBING SUBDIVISION)</p>	<p>ATTY. MARK DALE DIAMOND P. PERRAL          (SEAL: BAR)</p>	<p>HON. MA. JOSEFINA G. BELMONTE          (SEAL: ENGINEER)</p>	<p>OPERATIONALS:          (THIRD FLOOR PLAN)          (THIRD FLOOR PLAN)          (THIRD FLOOR PLAN)          COMFORT ROOM PLAN          COMFORT ROOM PLAN          (THIRD FLOOR WALL)          COMFORT ROOM PLAN</p>



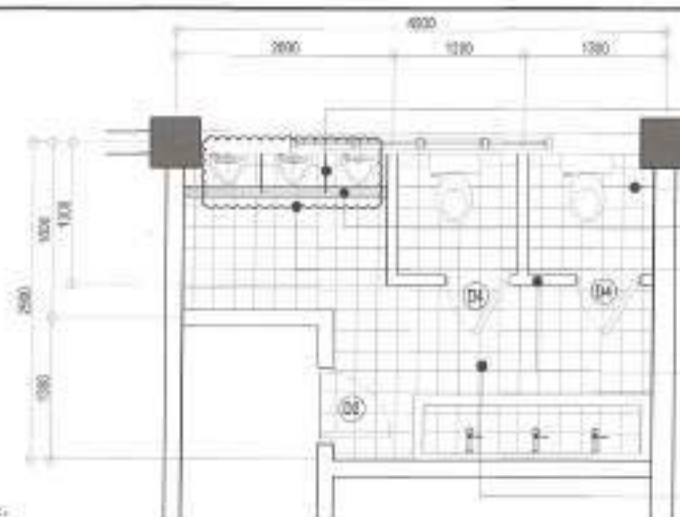
# 1 DPWH BUILDING 3 (FOURTH FLOOR PLAN)

SCALE : 1:125 METERS



## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP



## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

# 2 DPWH BUILDING 3 (FOURTH FLOOR FEMALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS

# 3 DPWH BUILDING 3 (FOURTH FLOOR MALE COMFORT ROOM PLAN)

SCALE : 1:125 METERS



Republic of the Philippines  
Department of Engineering  
Quezon City

PROJECT TITLE:  
PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN

LOCATION:  
BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY

DATE: November 11, 2020

DESIGNED BY:  
ENGR. FREDSWINDA D. DE GUZMAN

CHECKED BY:  
[Signature]

REVISION:

SUBMITTED BY:  
ENGR. FREDSWINDA D. DE GUZMAN

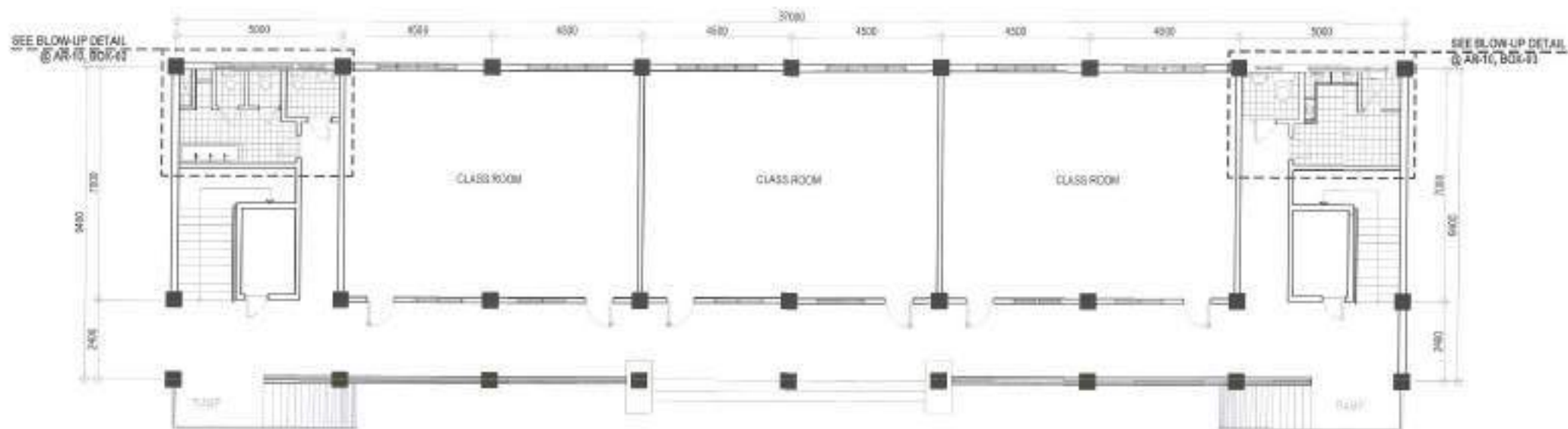
RECOMMENDING APPROVAL:  
ATTY. MARK DALE DIAMOND P. PERRAL

APPROVED BY:  
HON. MA. JOSEFINA G. BELMONTE

SHEET CONTENT:  
DPWH BUILDING 3 (FOURTH FLOOR FEMALE COMFORT ROOM PLAN)

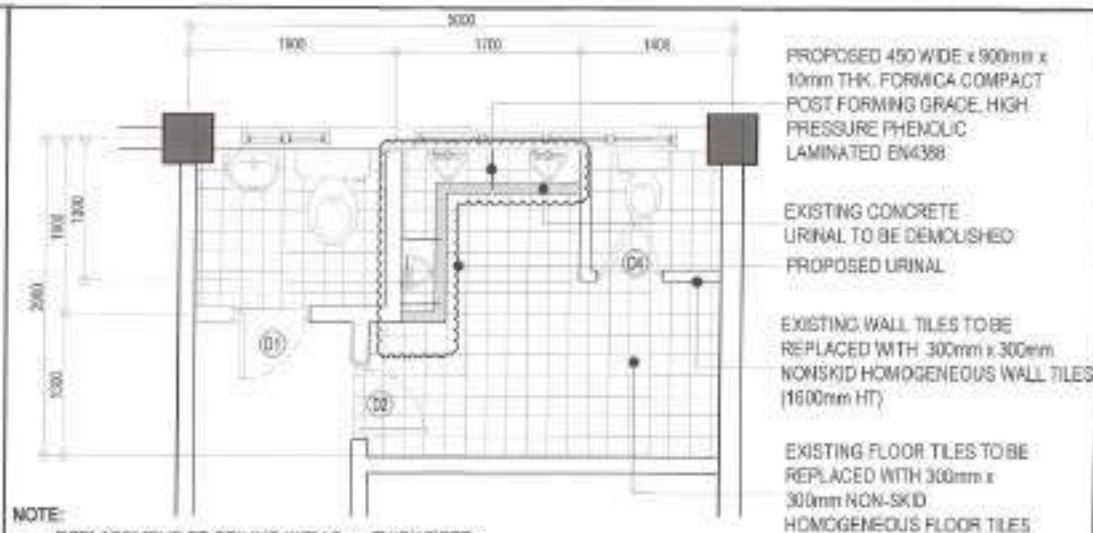
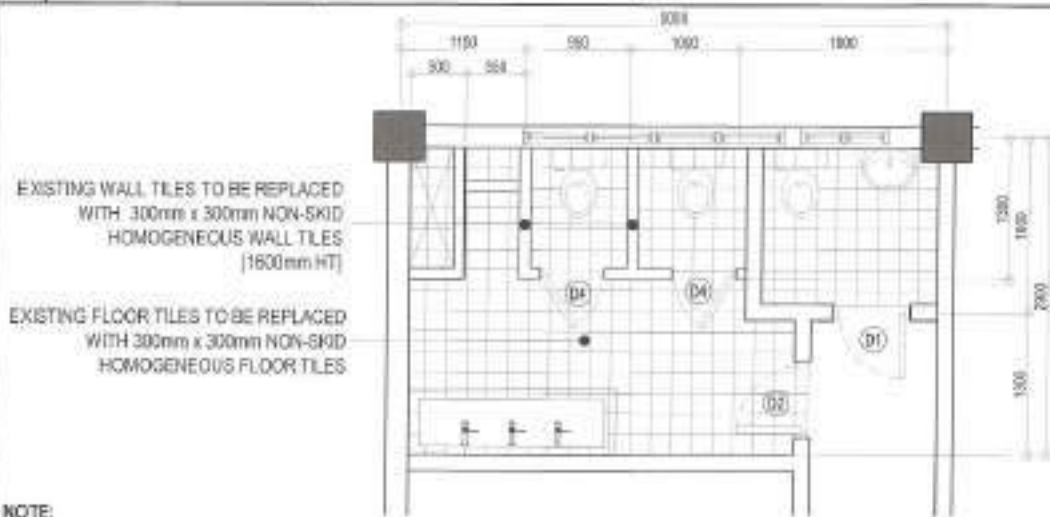
SHEET NO.:  
AR-09  
0954





1 DPWH BUILDING 4 (GROUND FLOOR PLAN)

SCALE : 1:125 METERS



2 DPWH BUILDING 4 (GROUND FLOOR FEMALE PLAN)

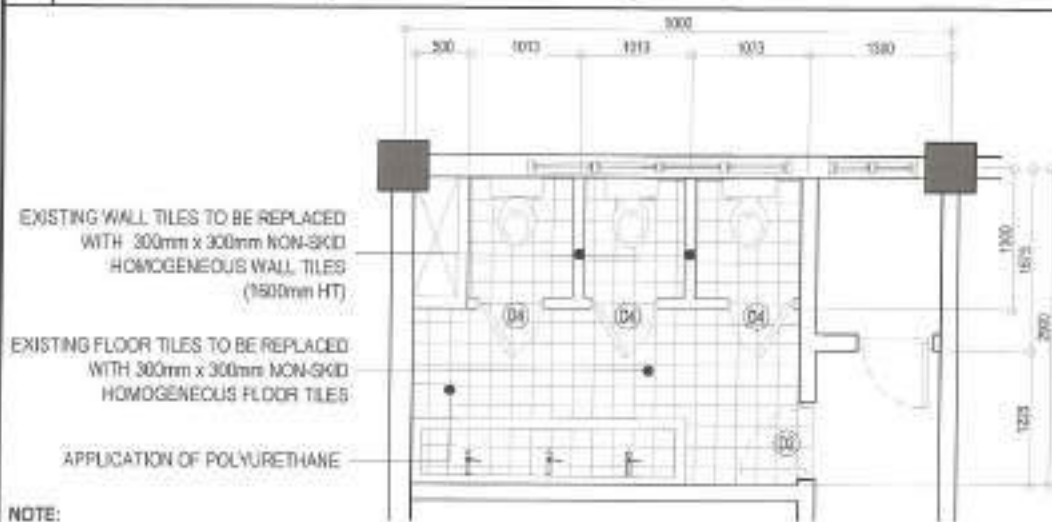
SCALE : 1:50 METERS

3 DPWH BUILDING 4 (GROUND FLOOR MALE PLAN)

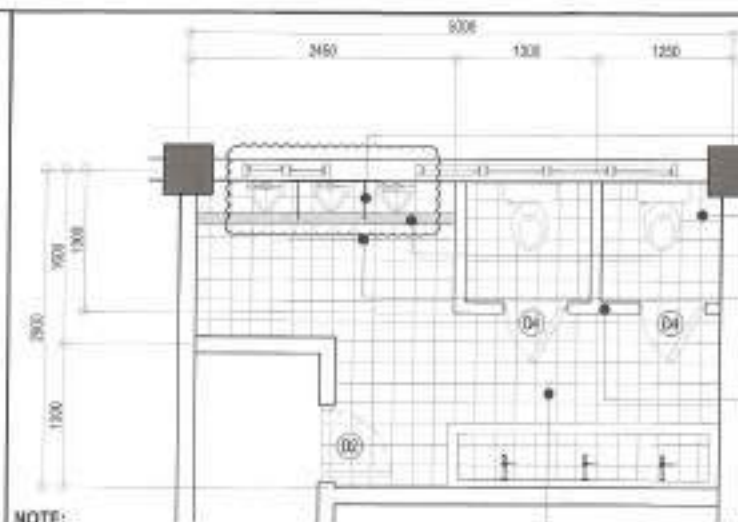
SCALE : 1:50 METERS

<p>Republic of the Philippines Department of Engineering Quezon City</p>	PROJECT TITLE:	DATE: November 11, 2020	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN	DESIGNED BY:  CHECKED BY:  REVIEWED BY: 	ENGR. FREDWIN D. DE GUZMAN (SEAL)	ATTY. MARK DALE DIAMOND P. PERRAL (SEAL)	HON. MA. JOSEFINA G. BELMONTE (SEAL)	SHEET 1 OF 1 PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN	AR-10 1054

SCALE 1:125 METERS.



- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP




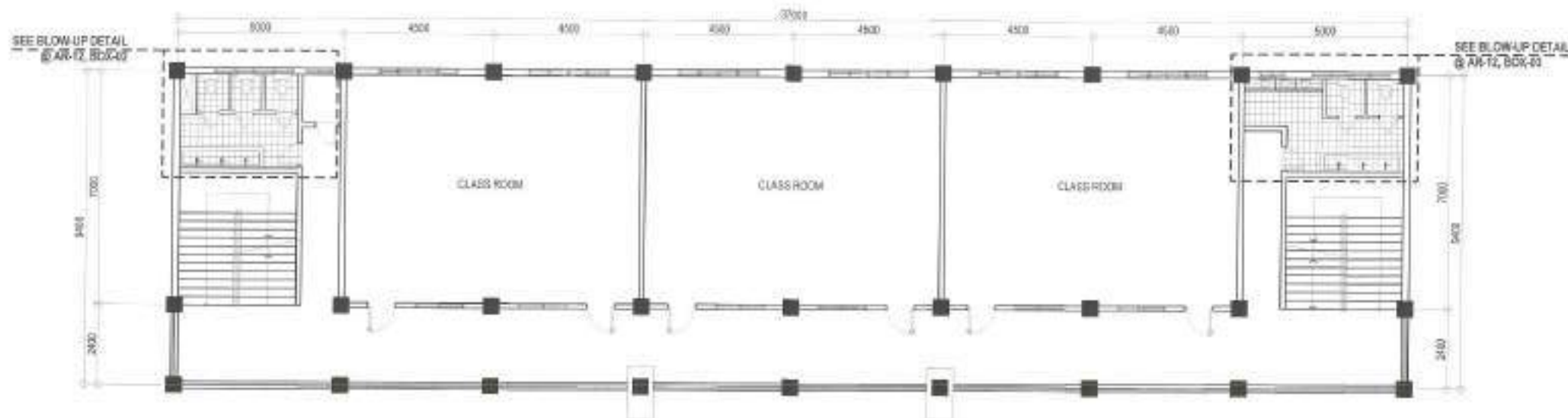
- REPLACEMENT OF CEILING WITH 5mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

EXISTING FLOOR TILES TO BE  
REPLACED WITH 300mm x  
300mm NON-SKID  
HOMOGENEOUS FLOOR TILES

SCALE: 1:50 METERS

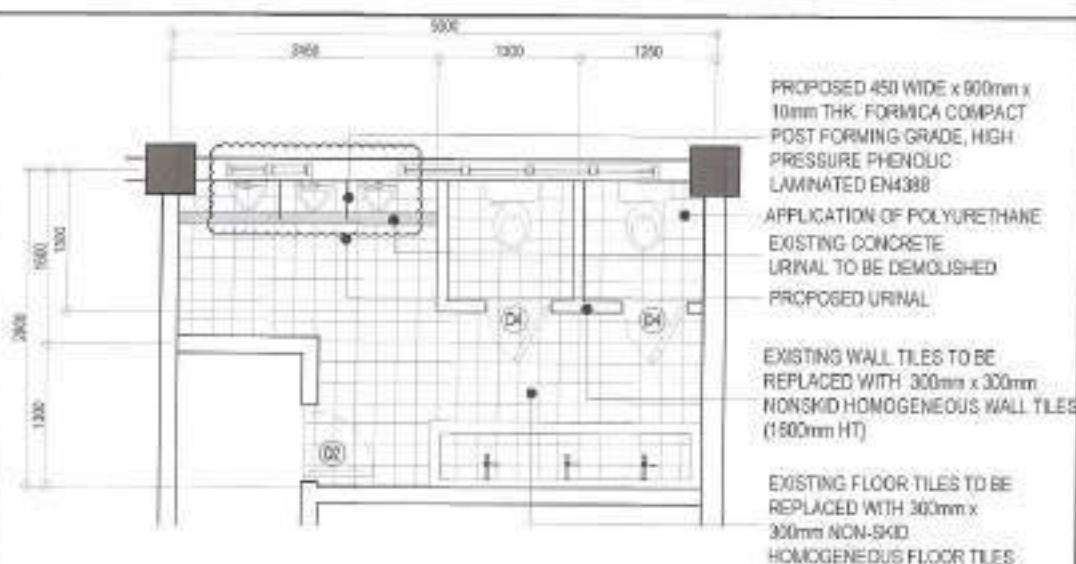
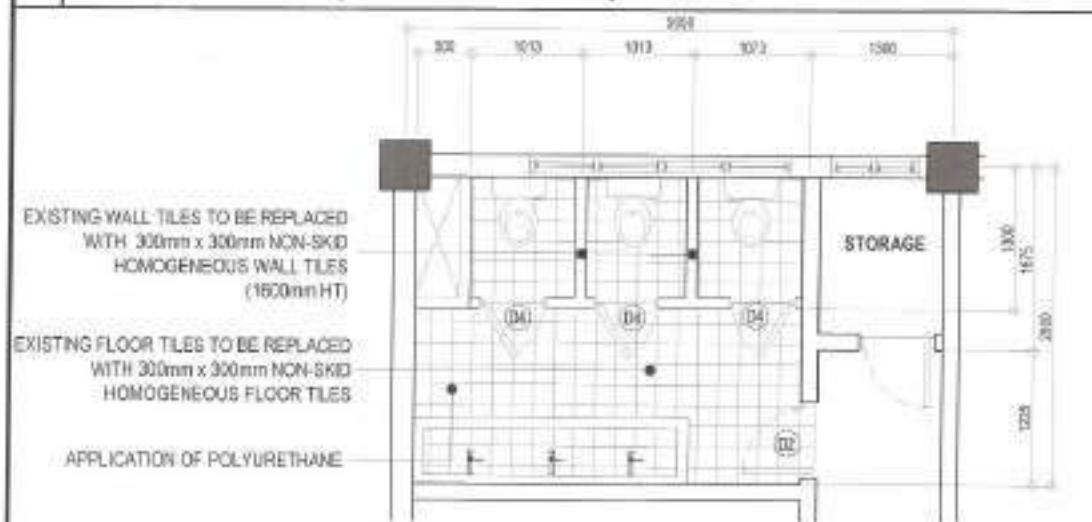
SCALE: 1:50 METERS

 <p>Report No. <u>PE-001</u>          Department of Engineering          Quezon City          Date: <u>11/11/2023</u>          Engineer: <u>Engr. Fredwin B. de Guzman</u></p>	PROJECT TITLE:	DATE: <u>November 11, 2023</u>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN  LOCATION: BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY	DESIGNED BY: <u>Engr. Fredwin B. de Guzman</u> CHECKED BY: <u>Engr. Fredwin B. de Guzman</u> REVIEWED BY: <u>Engr. Fredwin B. de Guzman</u>	ENGR. FREDWIN B. DE GUZMAN REG. PLUMBING ENGINEER	ATTY. MARK DALE DIAMOND P. PERRALTA CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	SHEET NO. 1 TOTAL SHEETS: 1 SHEET NO. 1 TOTAL SHEETS: 1 SHEET NO. 1 TOTAL SHEETS: 1	AR-11 1154



1 DPWH BUILDING 4 (THIRD FLOOR PLAN)

SCALE : 1:125 METERS



2 DPWH BUILDING 4 (THIRD FLOOR FEMALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS

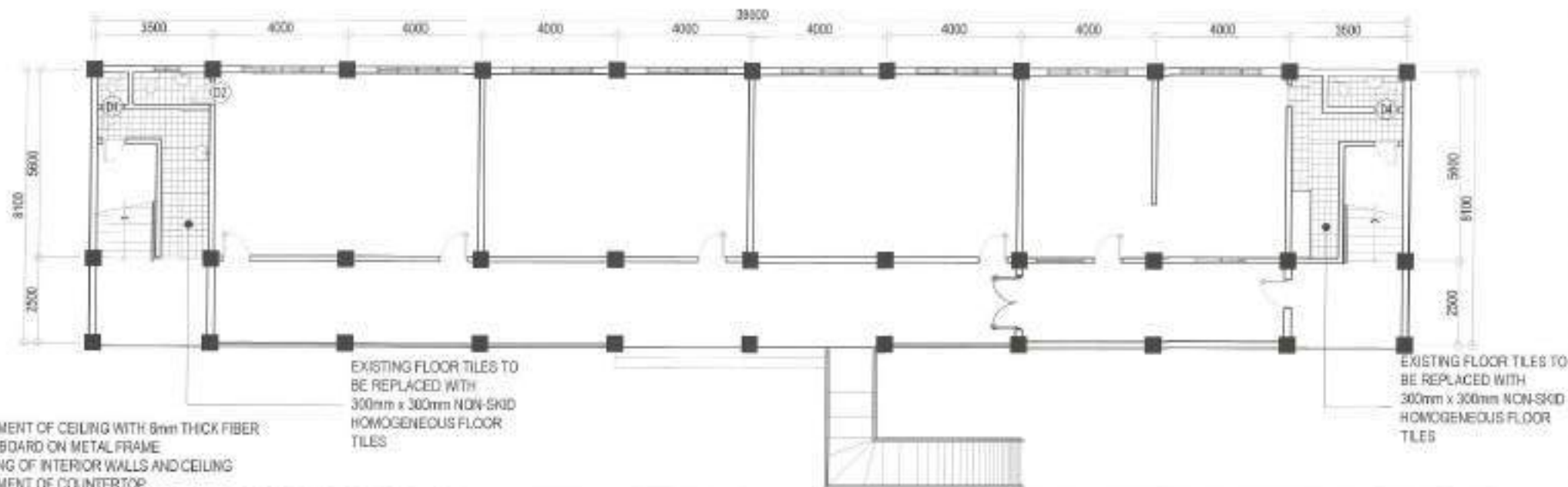
3 DPWH BUILDING 4 (THIRD FLOOR MALE COMFORT ROOM PLAN)

SCALE : 1:50 METERS

<p>Republic of the Philippines Department of Engineering Quezon City</p>	PROJECT TITLE:	DATE: November 11, 2023	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.	
	PROPOSED UPGRADING OF PLUMBING SYSTEM AND REHABILITATION OF COMFORT ROOMS AT SAN ANTONIO ELEMENTARY SCHOOL IN BARANGAY KATIPUNAN	DESIGNED BY: DR. J. J. J. J.	DR. J. J. J. J.	ENGR. FREDISWING A. DE GUZMAN SENIOR PLUMBING ENGINEER	ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	DPWH BUILDING 4 (THIRD FLOOR FEMALE COMFORT ROOM PLAN)	AR-12 1254
	LOCATION: BARANGAY KATIPUNAN, DISTRICT 1, QUEZON CITY	DESIGNED BY:	DR. J. J. J. J.	ENGR. FREDISWING A. DE GUZMAN SENIOR PLUMBING ENGINEER	ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	DPWH BUILDING 4 (THIRD FLOOR MALE COMFORT ROOM PLAN)	





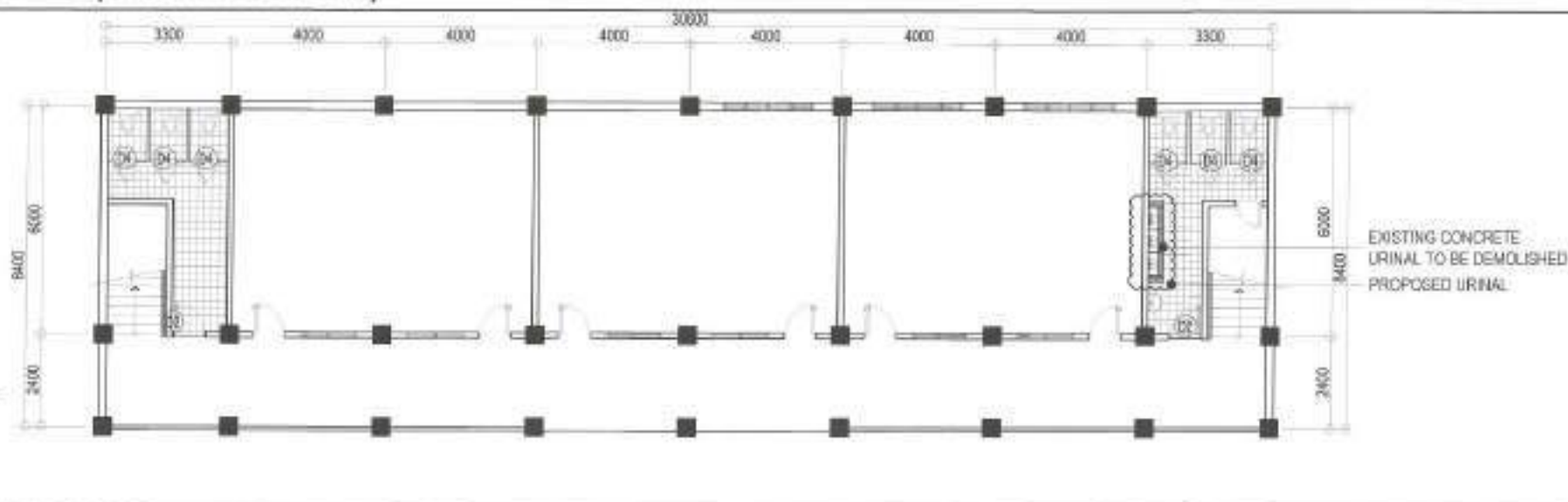


## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

## 1 AGUINALDO BUILDING (GROUND FLOOR PLAN)

SCALE: 1:125 METERS



## NOTE:

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

## 1 MAGSAYSAY BUILDING (GROUND FLOOR PLAN)

SCALE: 1:125 METERS



Republic of the Philippines  
Department of Engineering  
Cebu City

PROJECT TITLE:  
PROPOSED UPGRADING OF PLUMBING  
SYSTEM AND REHABILITATION OF COMFORT  
ROOMS AT SAN ANTONIO ELEMENTARY  
SCHOOL IN BARANGAY KATIPUNAN

DATE: November 1, 2023

DESIGNED BY:

DRAWN BY:

REVISION NO.

SUBMITTED BY:

ENGR. FREDISMAN D. DE GUZMAN  
HEAD, PLUMBING & ROOFING DIVISION

RECOMMENDING APPROVAL:

ATTY. MARK DALE DIAMOND P. PERRAL  
CITY ENGINEER

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE  
CITY MAYOR, CEBU CITY

SHEET CONTENT

PLUMBING & ROOFING  
DIVISION FLOOR PLAN  
MAGSAYSAY BUILDING  
GROUND FLOOR PLAN

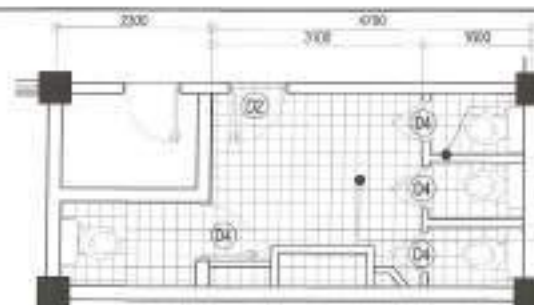
SHEET NO.

AR-14  
1454



EXISTING FLOOR TILES TO  
BE REPLACED WITH  
300mm x 300mm NON-SKID  
HOMOGENEOUS FLOOR  
TILES

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING



EXISTING FLOOR TILES TO  
BE REPLACED WITH  
300mm x 300mm NON-SKID  
HOMOGENEOUS FLOOR  
TILES

- REPLACEMENT OF CEILING WITH 6mm THICK FIBER CEMENT BOARD ON METAL FRAME
- REPAINTING OF INTERIOR WALLS AND CEILING
- REPLACEMENT OF COUNTERTOP

## SCALE: 1:125 METERS



DATE: November 11, 2023	
DESIGNED BY CARL JOHNSON 	DRAWN BY LINA  CHECKED BY RICK 
REVISION NO.:	

SUBMITTED BY:

ENGR. FREDSWIN D. DE GUZMAN  
HEAD PLANNING & DESIGN DIVISION

RECOMMENDING APPROVAL:

ATTY. MARK DALE DIAMOND P. PERRA,  
COUNSELLOR

HON. MA. JOSEFINA G. BELMONTE  
 Of course, please sir

SHEET CONTENT
CORROSION RESISTANCE CONCRETE FLOOR PLAN
CORROSION RESISTANT CONCRETE FLOOR PLAN
PURPOSE: CORROSION RESISTANT CONCRETE FLOOR PLAN

SHEET NO.

AR-15  
1554