

**PHILIPPINE BIDDING DOCUMENTS**

**Procurement of  
INFRASTRUCTURE  
PROJECTS**

Government of the Republic of the Philippines

**PROPOSED CONSTRUCTION OF HANDWASHING  
FACILITY AND REHABILITATION OF DAY CARE CENTER  
AT DISTRICT I AREA III**

**Project number:  
22-00029**

**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.

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# *Glossary of Terms, Abbreviations, and Acronyms*

**ABC** – Approved Budget for the Contract.

**ARCC** – Allowable Range of Contract Cost.

**BAC** – Bids and Awards Committee.

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

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

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

**BIR** – Bureau of Internal Revenue.

**BSP** – Bangko Sentral ng Pilipinas.

**CDA** – Cooperative Development Authority.

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

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

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

**CPI** – Consumer Price Index.

**DOLE** – Department of Labor and Employment.

**DTI** – Department of Trade and Industry.

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

**GFI** – Government Financial Institution.

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

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

**GOP** – Government of the Philippines.

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

**LGUs** – Local Government Units.

**NFCC** – Net Financial Contracting Capacity.

**NGA** – National Government Agency.

**PCAB** – Philippine Contractors Accreditation Board.

**PhilGEPS** - Philippine Government Electronic Procurement System.

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

**PSA** – Philippine Statistics Authority.

**SEC** – Securities and Exchange Commission.

**SLCC** – Single Largest Completed Contract.

**UN** – United Nations.



## ***Section I. Invitation to Bid***

### **Notes on the Invitation to Bid**

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

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

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria.

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



**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

February 8, 2022

### Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Durati on Cal. Days	Office	Source Fund
<b><u>Buildings – Small B</u></b>							
1	21-00157B	Proposed Construction of Hand Washing Facility at Payatas C Elementary School	Payatas	1,278,401.32	60	Engineering Dept.	Special Education Fund
2	22-00020	Proposed Upgrading of Electrical System at San Vicente Elementary School	San Vicente	1,520,269.09	90	Engineering Dept.	Special Education Fund
3	22-00021	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 1 Area V and VI	Balingasa, Manresa and Sta. Tersita	1,935,806.59	60	Engineering Dept.	Engineering Department
4	22-00022	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 1 Area IV	Mariblo and Talayan	3,338,152.13	75	Engineering Dept.	Engineering Department
5	22-00023	Proposed Rehabilitation of Electrical System at Diosdado P. Macapagal Elementary School	Tatalon	3,363,516.00	90	Engineering Dept.	Special Education Fund
6	22-00024	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 1 Area I	Bagong Pag-Asa, Project 6 and Sto. Cristo	3,881,427.69	90	Engineering Dept.	Engineering Department
7	22-00025	Proposed Rehabilitation of Electrical System at Pugad Lawin High School	Bahay Toro	4,405,341.15	120	Engineering Dept.	Special Education Fund
8	22-00026	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 1 Area II	Bahay Toro, Katipunan and San Antonio	6,205,275.26	90	Engineering Dept.	Engineering Department
9	22-00027	Proposed Rehabilitation of of SDEC Building at Barangay Milagrosa	Milagrosa	6,375,076.19	120	Engineering Dept.	Engineering Department
10	22-00028	Proposed Rehabilitation of Electrical System at Pura V. Kalaw Elementary School	Milagrosa	6,421,965.23	120	Engineering Dept.	Special Education Fund
11	22-00029	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 1 Area III	Bungad, Nayon Kanluran, Paltok, Sta. Cruz and Veterans Village	9,489,328.13	90	Engineering Dept.	Engineering Department

12	22-00030	Proposed Rehabilitation of Day Care Center at District 5 / Area VIII (Cluster 1)	Greater Lagro, Fairview and North Fairview	9,857,947.75	90	Engineering Dept.	Engineering Department
13	22-00031	Proposed Construction of Additional two (2) storey and Improvement of Existing two (2) storey Multi-Purpose Livelihood Center, Barangay Kaunlaran, Quezon City	Kaunlaran	24,800,293.60	270	Engineering Dept.	20% CDF
<b><u>Flood Control – Small B</u></b>							
14	22-00032	Proposed Rehabilitation of Alley and Construction of Reinforced Concrete Retaining Wall at Odelco Riverside	San Bartolome	9,364,427.28	150	Engineering Dept.	Local Disaster Risk Reduction and Management Fund
<b><u>Roads – Small B</u></b>							
18	22-00033	Proposed Rehabilitation of Manhole Covers and Surface Improvement at M. Agoncillo Street	Novaliches Proper	1,262,339.58	60	Engineering Dept.	20% CDF
19	22-00034	Proposed Rehabilitation of Road and Drainage at Tandoc Property Urban HOA, Inc.	Gulod	1,619,893.25	90	Engineering Dept.	20% CDF
19	22-00035	Proposed Rehabilitation (Surface Improvement) at Camarin Avenue	Kaligayahan	2,716,606.23	20	Engineering Dept.	20% CDF

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 **9 February 2022 (Wednesday)** 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>
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 on or before **February 16, 2022 - 5:00PM.**

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference<sup>1</sup> on **February 17, 2022 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 **March 2, 2022 – 9:00AM.** Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB Clause 16.**
9. Bid opening shall be on **March 2, 2022 - 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**

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.

<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.



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. MARK DALE DIAMOND P. PERRAL**  
Chairman, 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 CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF DAY CARE CENTER AT DISTRICT I AREA III**, with Project Identification Number **22-00029**.

*[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 **2022** in the amount of **Nine Million Four Hundred Eighty-Nine Thousand Three Hundred Twenty-Eight Pesos & 13/100 Cts. (P 9,489,328.13)**.

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 **February 17, 2022, 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 style="padding-left: 40px;">Type</p> <p style="text-align: center;"><b>Building - Small B</b></p>																																								
10.4	<p>The minimum work experience requirements for key personnel are the following:</p> <p style="text-align: center;"><b>PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF BUNGAD 1 AND BUNGAD 2 DAY CARE CENTER</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qty.</th> <th style="text-align: center;">Key Personnel</th> <th style="text-align: center;">General Experience</th> <th style="text-align: center;">Relevant Experience</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Project Engineer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>DPWH duly accredited Materials Engineer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Safety Officer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Foreman</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Skilled Worker</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Driver</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> <tr> <td style="text-align: center;">8</td> <td>Laborer</td> <td style="text-align: center;">1 year</td> <td style="text-align: center;">3 months</td> </tr> </tbody> </table> <p style="text-align: center;"><b>PROPOSED REHABILITATION OF NAYONG KANLURAN DAY CARE CENTER</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Qty.</th> <th style="text-align: center;">Key Personnel</th> <th style="text-align: center;">General Experience</th> <th style="text-align: center;">Relevant Experience</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Project Engineer</td> <td style="text-align: center;">3 years</td> <td style="text-align: center;">3 years</td> </tr> </tbody> </table>	Qty.	Key Personnel	General Experience	Relevant Experience	1	Project Engineer	3 years	3 years	1	DPWH duly accredited Materials Engineer	3 years	3 years	1	Safety Officer	3 years	3 years	1	Foreman	3 years	3 years	4	Skilled Worker	3 years	3 years	1	Driver	3 years	3 years	8	Laborer	1 year	3 months	Qty.	Key Personnel	General Experience	Relevant Experience	1	Project Engineer	3 years	3 years
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1	DPWH duly accredited Materials Engineer	3 years	3 years
1	Foreman	3 years	3 years
8	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
11	Laborer	1 year	3 months

**PROPOSED REHABILITATION OF EAST ANAKBAYAN DAY CARE CENTER**

Qnty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	DPWH duly accredited Materials Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

**PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER**

Qnty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	DPWH duly accredited Materials Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
4	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years

8	Laborer	1 year	3 months
<b>PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER</b>			
Qty.	Key Personnel	General Experience	Relevant Experience
1	Project Engineer	3 years	3 years
1	Safety Officer	3 years	3 years
1	Foreman	3 years	3 years
9	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
9	Laborer	1 year	3 months
<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>			

10.5	The minimum major equipment requirements are the following:		
<b>PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF BUNGAD 1 AND BUNGAD 2 DAY CARE CENTER</b>			
	Equipment	Capacity	Number of Units
	Elf Truck		1
	Scaffolding		as needed
	Power Tools		as needed
	Minor Tools		as needed
<b>PROPOSED REHABILITATION OF NAYONG KANLURAN DAY CARE CENTER</b>			
	Equipment	Capacity	Number of Units
	Elf Truck		1
	Scaffolding		as needed
	Power Tools		as needed
	Minor Tools		as needed
	Cut-Off Machine		as needed
<b>PROPOSED REHABILITATION OF EAST ANAKBAYAN DAY CARE CENTER</b>			
	Equipment	Capacity	Number of Units



	<p>Elf Truck 1</p> <p>Scaffolding as needed</p> <p>Power Tools as needed</p> <p>Minor Tools as needed</p> <p><b>PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER</b></p> <table> <thead> <tr> <th>Equipment</th> <th>Capacity</th> <th>Number of Units</th> </tr> </thead> <tbody> <tr> <td>Elf Truck</td> <td></td> <td>1</td> </tr> <tr> <td>Scaffolding</td> <td></td> <td>as needed</td> </tr> <tr> <td>Power Tools</td> <td></td> <td>as needed</td> </tr> <tr> <td>Minor Tools</td> <td></td> <td>as needed</td> </tr> </tbody> </table> <p><b>PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER</b></p> <table> <thead> <tr> <th>Equipment</th> <th>Capacity</th> <th>Number of Units</th> </tr> </thead> <tbody> <tr> <td>Elf Truck</td> <td></td> <td>1</td> </tr> <tr> <td>Scaffolding</td> <td></td> <td>as needed</td> </tr> <tr> <td>Power Tools</td> <td></td> <td>as needed</td> </tr> <tr> <td>Minor Tools</td> <td></td> <td>as needed</td> </tr> </tbody> </table> <p><i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for the project until its completion. Please see attached bid forms.</i></p>	Equipment	Capacity	Number of Units	Elf Truck		1	Scaffolding		as needed	Power Tools		as needed	Minor Tools		as needed	Equipment	Capacity	Number of Units	Elf Truck		1	Scaffolding		as needed	Power Tools		as needed	Minor Tools		as needed
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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> <p>a) The amount of not less than Php 189,786.56 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</p> <p>b) The amount of not less than Php 474,466.41 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.</p>																														
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 90 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 that 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.



Republic of the Philippines  
Quezon City

## CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road  
Dikman, Central 1100 Quezon City  
Trunk line: +63 2 8988 4742



**PROJECT TITLE:** PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND  
REHABILITATION OF BUNGAD 1 AND BUNGAD 2 DAY CARE CENTER  
**LOCATION:** BARANGAY BUNGAD, DISTRICT 1, QUEZON CITY

## TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

### I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform 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)
  - i. 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.
  - ii. 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

- i All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.
  - ii Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
  - iii Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
  - iv Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
  - v Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
  - vi 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.
- i A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
  - ii The medical room shall be provided in waterproof; 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
  - iii The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site
  - iv Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed.
- l Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m Final cleaning of the work shall be employed prior to the final inspection for 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 to work.
- B Removal / 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
- D All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted wetting, tamping and rolling.

### III CIVIL / STRUCTURAL WORKS

#### A. CONCRETE WORK

- a. **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.
- b. 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.
- c. **Materials**
  - i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C – 150).
  - ii. 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.
  - iii. 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.
  - iv. 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
- d. **Proportioning and Mixing**
  - i. 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
  - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
  - iii. Mixing – concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates
- e. **Forms**
  - i. 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" waterproof plywood and form lumber.
  - ii. Clearing 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.

- iii 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 curing shall be started as soon as the surface is sufficiently hard to permit it without further damage.

f. Placing Reinforcement.

Steel reinforcement shall be provided as indicated together with all necessary wire ties, chairs, spacer supported 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.

g. Conveying and Placing Concrete:

- i 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 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
- ii. 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.
- iii 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.
- iv 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 by hand spading and tamping and vibrators shall not be used.
- v 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.

h. Curing

- i. 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.
- ii. 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.

## i. Finishing

- i. 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 a 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.
- ii. 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**

## a. Masonry Units (CMB)

- i. 100mm thick for all interior walls and 125mm thick for all exterior walls unless otherwise indicated.
- ii. Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.
- iii. 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 & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.

## b. Sand.

S-1, washed, clean and greenish in color

## c. Mortar

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

## d. Plaster bond:

Apply plaster bond to all wall area

**C. METAL WORK**

## a. Description

Metal works shall conform to the approved plans and to the Standard Specifications.

## b. Reference Standards

Comply with the latest edition of the following as applicable, unless otherwise specified or modified.

1. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 1978: Specification for the Design, Fabrication and Erection of Structural Steel for Buildings. Code of Standard Practice for Steel Buildings and Bridges; Specification for Architecturally Exposed Structural Steel
2. AMERICAN WELDING SOCIETY (AWS): Standard Welding Symbols A2.068: Standard Welding Code D1 1-1973 (Rev 1-73 & 2-74) (To govern if in conflict with AISC)
3. RESEARCH COUNCIL ON RIVETED AND BOLTED JOINTS OF THE ENGINEERING FOUNDATION (RCRBJ) Specification for Structural Joists using ASTM A-325-76s Bolts.

4. STRUCTURAL STEEL PAINTING COUNCIL (SSPC): Painting Manual, Vol. 1; Good Painting Practice, Painting Manual, Vol. 2; Systems and Specifications

c. Source Quality Control

Errors of Shop Drawings, fabrication, correct fitting and alignment of the various metal items or component members shall be the responsibility of the Contractor. However, the Contractor shall permit the Architect or an independent inspection agency, if engaged by the Owner, to inspect work in progress in his shop. Such inspections shall not relieve the Contractor of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

d. Product Delivery, Handling and Storage

Handle and store in such manner as to prevent damage or disfigurement. Store finished items or components above ground on platforms, pallets or other supports and protect from harmful elements.

e. Protection

The Contractor shall protect any existing work subject to damage during the installation of the specified work and shall adequately protect specified work during installation.

f. Field Quality Control

Facilities shall be provided by the Contractor as needed for the proper inspection of the specified work, including temporary platforms, hoists, protective devices, electric current, etc. Improper workmanship, as determined by the Architect shall be corrected and replaced, at no additional cost to the Owner.

g. Materials

Products shall conform to the respective reference specifications and standards and to the requirements specified herein:

1. 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.
2. BOLTS, NUTS, STUDS AND RIVETS: ASTM A 307 & A 325
3. SCREWS: Fed. Spec. FF-S-85, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111

h. 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.

i. Measurements

Before fabrication, provide necessary field measurements and verify all measurements.

j. Metal 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, angles 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.



- k. **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.
- l. **Shop Fabrication**  
Fabrication and assembly shall be done in the shop to the greatest extent possible.
- m. **Submittals**  
Shop Drawings. Submit along with catalogue, cuts, templates and erection and installation details, indicating thickness, type, grade, type of metal and dimensions. Show construction details, reinforcement, anchorage, and installation with relation to the construction.
- n. **Qualification of Welders**  
In accordance with AWS D1.1 with procedures, materials and equipment of the type required for the work.
- o. **Delivery and Storage**  
Protect from corrosion, deformation and other types of damage. Store items in an enclosed area free from contact with soil and weather. Contractor shall replace and removed damage items with new items.
- p. **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 lack welding is permitted. Do not lack weld exposed to connections.) Grind smooth visible weld in finished installation.
- q. **Metal Purlins**  
Metal purlins shall be of high grade galvanized steel with minimum tensile strength of 275 MPA.

#### **D. ROOFING WORKS**

- a. The roof shall be covered with Ga. 24 pre-painted G.I. nb-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. nb-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.
- b. 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.

#### IV. ARCHITECTURAL WORKS

##### A. FLOOR FINISHES

1. **Homogeneous Tiles.** Unglazed homogeneous tiles shall be hard, dense tiles of homogeneous composition. Its color and characteristics are 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.

##### B. WALL FINISHES AND PARTITIONING

1. **Homogeneous Tiles.** Glazed tiles and trims shall have an impervious face of ceramic materials fused onto the body of the tiles and trims. The glazed surface may be clear white or colored depending on the color scheme approved by the Engineer. Standard glazes may be bright (glossy), semi-matte (less glossy), matte (dull) or crystalline (mottled and textured; good resistance to abrasion).

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. **Double-Wall Fiber Cement Board Drywall on Metal Studs.** Wall panel shall be two (2) 6 mm thick fiber cement boards, properly cut and prepared for installation and shall conform to the requirements of the Plans.

**Metal Studs.** Wall framing shall consist of 0.6 mm thick aluminum metal studs and aluminum metal tracks.

**Fasteners and Connection detail.** All construction and connections shall be secured with rivets, screws and drive pins, and shall conform to local and standard codes. Connections shall also be secured with gypsum putty and gypsum tape.

##### C. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished; masonry wall shall be treated with Neutralizer.
- f. 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.
- g. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

**D. 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.

**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:
  - B.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.
  - B.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.
  - B.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.
  - B.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 manufacturer's 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 than 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. 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. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. 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.

### F. PANELBOARDS

- F.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.
- F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
  - F.2.1 Rated for environmental conditions at installed location.
    - i. Indoor Dry and Clean Locations: NEMA 250, Type 1
    - ii. Outdoor Locations: NEMA 250, Type 3R.
    - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
    - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
    - v. Indoor Locations Subject to Dust, Falling Dirt, and Dropping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.
  - F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box.
  - F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
  - F.2.4 Skirt for Surface-Mounted Panelboards: Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
  - F.2.5 Gutter Extension and Barner: Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
  - F.2.6 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.

- F.2.7 Directory Card: Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover.
- F.3 Incoming Mains Location. Top or Bottom.
- F.4 Phase, Neutral, and Ground Buses:
  - F.4.1 Material: Hard-drawn copper 98 percent conductivity.
  - F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
  - F.4.3 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.

  
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5th, 6th, 7th Floors, QC Civic Center Building "B"  
Telephone Nos. 8968-4242 Local 8538



**PROJECT TITLE :** PROPOSED REHABILITATION OF EAST ANAKBAYAN DAYCARE CENTER  
**LOCATION :** BARANGAY PALTOK, 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. Personal Protective Equipment (PPE) shall consist of safety helmet/hard hat, safety reflectorized vest, safety insulated gloves, dust mask, safety shoes, safety goggles, and safety harness. Every skilled and unskilled worker, and the project foreman shall be provided PPE by the Contractor. Consideration of quantity shall be made for the Project Engineer, Materials Engineer, Safety Officer/Practitioner (as required) and project driver.
  6. Construction safety materials shall consist of safety net, fire extinguisher and safety signage and posters.
- L. Necessary protections to the adjacent property shall be provided to avoid untoward 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. Gardoning. 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.

### III. CIVIL / STRUCTURAL WORKS

#### A. 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 57, 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 1/4" 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.

## B. 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 applied 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.

## 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 kept 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. **Ceramic Tiles.** Glazed tiles and trims shall have an impervious face of ceramic materials fused onto the body of the tiles and trims. The glazed surface may be clear white or colored depending on the color scheme approved by the Engineer. Standard glazes may be bright (glossy), semi-matte (less glossy), matte (dull) or crystalline (mottled and textured; good resistance to abrasion).

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

Finish coat shall be pure Portland cement properly graded conforming to the requirements and mixed with water to approved consistency and plasticity.

3. **Double-Wall Fiber Cement Board Drywall on Metal Studs.** Wall panel shall be two (2) 6 mm thick fiber cement boards, properly cut and prepared for installation and shall conform to the requirements of the Plans.

**Metal Studs.** Wall framing shall consist of 0.6 mm thick aluminum metal studs and aluminum metal tracks.

**Fasteners and Connection detail.** All construction and connections shall be secured with rivets, screws and drive pins, and shall conform to local and standard codes. Connections shall also be secured with gypsum putty and gypsum tape.

4. **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 **Moisture-Resistant Gypsum 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.
- 3 **Gypsum 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.
- 4 **Acoustic Board Ceiling on T-Runner 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.
5. **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 bounded 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 831-02. 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 lumber. 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 kalsomine 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 and 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.

  
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## CITY ENGINEERING DEPARTMENT

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**PROJECT NAME:** PROPOSED REHABILITATION OF NAYONG KANLURAN DAYCARE CENTER  
**LOCATION:** BARANGAY NAYONG KANLURAN, DISTRICT 1, QUEZON CITY

## TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

### I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform 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)
  - i. 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.
  - ii. 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
  - i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.

- ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
  - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication
  - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
  - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
  - vi. 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.
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
  - ii. The medical room shall be provided in waterproof, 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.
  - iii. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations suitable notices in the site.
  - iv. Additional safety precautions shall be provided in the observance of pandemic. Protocols set-forth by the government shall be strictly followed.
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for 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 to work
- B. Removal / 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
- D. All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted wetting, tamping and rolling.

## III. CIVIL / STRUCTURAL WORKS

### ROOFING WORKS

- a. The roof shall be covered with Ga. 24 pre-painted G.I. rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min 2 ½" max. 3" long Tek screws. 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.

- b. The roof 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 ½" max. 3" long Tek screws. 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.
- c. 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.

#### IV. ARCHITECTURAL WORKS

##### A. PAINTING WORKS

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminium, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttled, sandpapered, rubbed and polished. masonry wall shall be treated with Neutralizer.
- f. 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.
- g. 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:
  - B.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.
  - B.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.
  - B.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.
  - B.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. 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. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes.
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. 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.
- F. PANELBOARDS
  - F.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.
  - F.2 Enclosures: Flush, Surface, Flush- and surface-mounted cabinets.
    - F.2.1 Rated for environmental conditions at installed location.
      - i. Indoor Dry and Clean Locations: NEMA 250, Type 1.
      - ii. Outdoor Locations: NEMA 250, Type 3R
      - iii. Kitchen and Wash-Down Areas: NEMA 250, Type 4X, stainless steel.
      - iv. Other Wet or Damp Indoor Locations: NEMA 250, Type 4.
      - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12.

- F.2.2 Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions, for flush-mounted fronts, overlap box.
- F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
- F.2.4 Skirt for Surface-Mounted Panelboards. Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
- F.2.5 Gutter Extension and Barrier: Same gage and finish as panelboard enclosure, integral with enclosure body. Arrange to isolate individual panel sections.
- F.2.6 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
- F.2.7 Directory Card: Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover.
- F.3 Incoming Mains Location: Top or Bottom.
- F.4 Phase, Neutral, and Ground Buses:
- F.4.1 Material: Hard-drawn copper, 98 percent conductivity.
  - F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors bonded to box.
  - F.4.3 Neutral Bus: 100 percent of phase bus & Extra-Capacity Neutral Bus Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

Prepared by:

  
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Republic of the Philippines  
Quezon City

## CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road  
Diliman, Central 1100 Quezon City  
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**PROJECT TITLE:** PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY CARE CENTER ✓  
**LOCATION:** BARANGAY STA. CRUZ, DISTRICT 1, QUEZON CITY

### TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

#### I. GENERAL REQUIREMENTS

- a. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations and standards. Any works perform 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)
  - i. 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.
  - ii. 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

- i. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.
  - ii. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
  - iii. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
  - iv. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
  - v. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
  - vi. 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
- i. A fully trained Medical Aide shall be employed permanently on the site who shall be engaged solely from medical duties.
  - ii. The medical room shall be provided in waterproof. 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.
  - iii. The location of the medical room and any other arrangements shall be made known to all employees by pasting on prominent locations suitable notices in the site.
  - iv. Additional safety precautions shall be provided in the observance of pandemic Protocols set-forth by the government shall be strictly followed.
- l. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- m. Final cleaning of the work shall be employed prior to the final inspection for 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 to work.
- B. Removal / 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.
- D. All backfills shall be placed in layers not exceeding to 150mm in thickness and each layer shall be thoroughly compacted wetting, tamping and rolling.

## III. CIVIL / STRUCTURAL WORKS

### A. CONCRETE WORK

- a. 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.

- b. 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.
- c. **Materials**
- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150).
  - ii. 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.
  - iii. 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.
  - iv. 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.
- d. **Proportioning and Mixing**
- i. 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
  - ii. Concrete mixture to be used for concrete shall conform with the structural requirements.
  - iii. Mixing - concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.
- e. **Forms**
- i. 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 ¾" waterproof plywood and form lumber.
  - ii. 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.
  - iii. 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 airing shall be started as soon as the surface is sufficiently hard to permit it without further damage.
- f. **Placing Reinforcement:**

Steel reinforcement shall be provided as indicated, together with all necessary wire ties, chairs, spacer supported 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.

g. Conveying and Placing Concrete

- i. 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 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized.
- ii. 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.
- iii. 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.
- iv. 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 courses 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 by hand spading and tamping and vibrators shall not be used.
- v. 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.

h. Curing

- i. 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.
- ii. 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.

i. Finishing

- i. 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 a 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.
- ii. 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 overlying slab except when indicated.

**B. MASONRY**

- a. Masonry Units (CHB):
  - i. 100mm thick for all interior walls and 125mm thick for all exterior walls unless otherwise indicated
  - ii. Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.
  - iii. 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 & lintel beams as specified in the structural drawings or as specified or as deemed required to assure a stabilized wall due to height & other considerations.
- b. Sand
  - S-1, washed, clean and greenish in color.
- c. Mortar
  - One part "Portland" cement and two parts sand and water but not more than three parts sand and water.
- d. Plaster bond:
  - Apply plaster bond to all wall area.

**IV. ARCHITECTURAL WORKS****A. PAINTING WORKS**

- a. All primers, thinners and putty, also waterproofing for internal and external application shall be the same brand as the specified material.
- b. Application shall be as per paint Manufacturer's specification and recommendation.
- c. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works.
- d. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- e. All surfaces including masonry wall shall be thoroughly cleaned, puttied, sandpapered, rubbed and polished, masonry wall shall be treated with Neutralizer.
- f. 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
- g. 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.
  - B 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.

- B.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.
- B.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
- B.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.
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- 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. 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).
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- F.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
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  - v. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 5 or Type 12
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- F.2.3 Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
- F.2.4 Skirt for Surface-Mounted Panelboards. Same gage and finish as panelboard front with flanges for attachment to panelboard, wall, and ceiling or floor.
- F.2.5 Gutter Extension and Barrier. Same gage and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
- F.2.6 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.
- F.2.7 Directory Card. Inside panelboard door, mounted in transparent card holder metal frame with transparent protective cover
- F.3 Incoming Mains Location. Top or Bottom.
- F.4 Phase, Neutral, and Ground Buses.
- F.4.1 Material: Hard-drawn copper. 99 percent conductivity.
- F.4.2 Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box
- F.4.3 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.

## VII. MECHANICAL 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. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. All equipment and installations shall meet or exceed minimum requirements of the Standards and Codes
- D. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen.
- E. 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.

  
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**PROJECT TITLE :** PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER ✓  
**LOCATION :** BARANGAY VETERANS VILLAGE, 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. Personal Protective Equipment (PPE) shall consist of safety helmet/hard hat, safety reflectorized vest, safety insulated gloves, dust mask, safety shoes, safety goggles, and safety harness. Every skilled and unskilled worker, and the project foreman shall be provided PPE by the Contractor. Consideration of quantity shall be made for the Project Engineer, Materials Engineer, Safety Officer/Practitioner (as required) and project driver.
  6. Construction safety materials shall consist of safety net, fire extinguisher and safety signage and posters.
- L. Necessary protections to the adjacent property shall be provided to avoid untoward 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.

### III. CIVIL / STRUCTURAL WORKS

#### A. 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 braong 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.

## B. ROOFING WORKS

1. The roof shall be covered with Ga. 24 pre-painted G.I rib-type roofing sheets as shown on the plans. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. 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.
2. The roof 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. 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.
3. 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.

## IV. ARCHITECTURAL WORKS

### A. FLOOR FINISHES

1. 600mm x 600mm Unglazed Ceramic Tiles including tile adhesive
2. 300mm x 300mm Unglazed Ceramic Tiles including tile adhesive
3. 50mm concrete Topping with Plain Cement Finish
4. Carpet Tiles including adhesive (Auditorium)
5. 50mm Concrete Topping for Tiles
6. Plastering Guide/ Grooves

### B. WALL FINISHES

1. 600mm x 600mm Unglazed Ceramic Tiles including tile adhesive
2. 300mm x 300mm Unglazed Ceramic Tiles including tile adhesive
3. 50mm concrete Topping with Plain Cement Finish
4. 50mm Concrete Topping for Tiles
5. Plastering Guide/ Grooves

### C. 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 kalsomine 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
- i. **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 putted 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, unpainted 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 flushed 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.
- ii. **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.
- iii. Application shall be as per paint Manufacturer's specification and recommendation.

- iv. Provide all drop cloth and other covering requisite for protection of floors, walls, aluminum, glass, finishes and other works
- v. All applications and methods used shall strictly follow the Manufacturer's Instructions and Specifications.
- vi. All surfaces including masonry wall shall be thoroughly cleaned, putied, sandpapered, rubbed and polished. masonry wall shall be treated with Neutralizer
- vii. 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
- viii. All other surfaces endangered by stains and paint marks should be taped and covered with craft paper.

#### **D. CEILING FINISHES**

6mm thick Fiber Cement Board with complete framing and accessories

#### **E. DOORS & WINDOWS**

Follow as per approved plan and specifications.

### **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 expense. 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 and 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 panel boards shall not be smaller than 3.5 mm but all homeruns to panel board more than 30 meters shall not be smaller than 5.5 mm. No conductor shall be less than 2 mm in size.
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 PANEL BOARDS

1. This Item shall consist of the furnishing and installation of the power load center unit substation or low voltage switchgear and distribution panel boards at the location shown 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.
3. Power Load Center Unit Substation. The Contractor shall furnish and install an indoor-type Power Load Center Unit Substation at the location shown on the approved Plans if required. It shall be totally metal-enclosed, dead front and shall consist of the following coordinated component parts:

- a. **High Voltage Primary Section.** High voltage primary incoming line section consisting of the following parts and related accessories.
- i. One (1) Air-filled Interrupter Switch, 2-position (open-close) installed in a suitable air filled metal enclosure and shall have sufficient interrupting capacity to carry the electrical load. It shall be provided with key interlock with the cubicle for the power fuses to prevent access to the fuses unless the switch is open.
  - ii. Three (3)-power fuses mounted in separate compartments within the switch housing and accessible by a hinged door
  - iii. One (1) set of high voltage potheads or 3-conductor cables or three single conductor cables.
  - iv. Lightning arresters shall be installed at the high voltage cubicle if required.

Items (i) and (ii) above could be substituted with a power circuit breaker with the correct rating and capacity.

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

The transformer shall be provided with four (4) approximately 2 1/2 % rated KVA taps on the primary winding in most cases one (1) above and three (3) below rated primary voltage and shall be changed by means of externally gang-operated manual tap changer only when the transformer is de-energized. Tap changing under load is acceptable if transformer has been so designed.

The following accessories shall be provided with the transformer, namely: drain valve, sampling device, filling connection, oil liquid level gauge, ground pad, top filter press connection, lifting lugs, diagrammatic nameplate, relief valve, thermometer and other necessary related accessories.

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

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

- ii. **Secondary Metering Section.** The secondary metering section shall consist of one (1) ammeter, AC, indicating type; one (1) voltmeter, AC, indicating type, one (1) ammeter transfer switch for 3-phase; one (1) voltmeter transfer switch for 3-phase; and current transformers of suitable rating and capacity.

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

- iii. **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.

- iv. **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 drawn out or molded case as required. The circuit breakers shall each have sufficient interrupting capacity and shall be manually operated complete with trip devices and all necessary accessories to insure safe and efficient operation. The number, ratings, capacities of the feeder branch circuit breakers shall be 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.

- d. **Low Voltage Switchgear** (For projects requiring low-voltage switchgear only). The Contractor shall furnish and install a low-voltage switchgear at the location shown on the plans. It shall be metal-clad, dead front, free standing, safety type construction and shall have copper busbars of sufficient size, braced to resist allowable root mean square (RMS) symmetrical short circuit stresses and all necessary accessories. The low-voltage switchgear shall consist of the switchgear housing, secondary metering, main breaker and feeder branch circuit.
- e. **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.

- f. **Panel boards and Cabinets**. Panel boards shall conform to the schedule of panel boards 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.

Panel boards 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. Panel boards shall be provided with directories and shall be printed to indicate load served by each circuit.

Panel board cabinets and trims shall be suitable for the type of mounting shown on the approved Plans. The inside and outside of panel board 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 panel boards 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.

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

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

- 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.

#### I. PANEL BOARDS

1. Fabricate and test panel boards 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 Panel boards: Same gauge and finish as panel board front with flanges for attachment to panel board, wall, and ceiling or floor.
  - e. Gutter Extension and Barrier: Same gauge and finish as panel board 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 panel board 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.



**RALPH GREGOR M. MANALO**  
Planning and Programming Division



**JOCELYN A. NAONG**  
Planning and Programming 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.]*

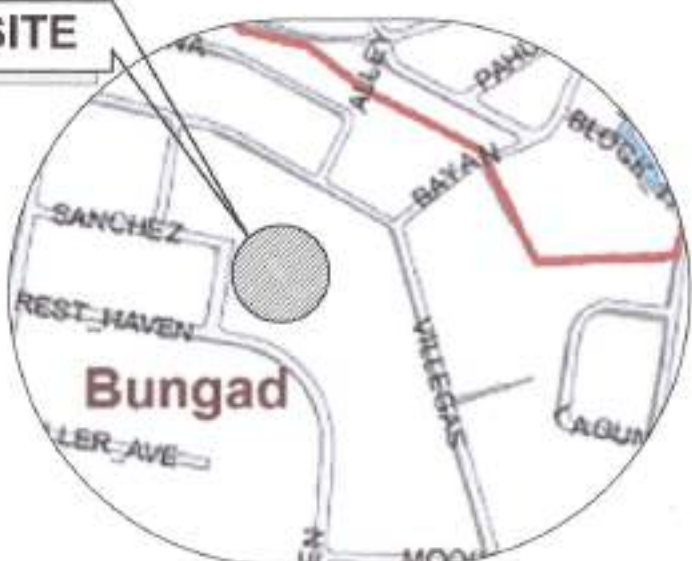
SITE



## 1 VICINITY MAP

SCALE: NTS

SITE



## 2 LOCATION PLAN

SCALE: NTS



## 3 PERSPECTIVE

SCALE: NTS

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Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND  
WASHING FACILITY AND  
REHABILITATION OF BUNGAD 1 &  
BUNGAD 2 DAYCARE CENTER

LOCATION:

DARANGAY BUNGAD DISTRICT 1, QUEZON CITY

DRAWN BY: OMC

DATE: JUL 16, 2021

CHECKED BY: JAH

REVISION NO.: 1

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. RAYMOND R. VERZOSA, JR.  
CIC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTTE  
CITY MAYOR, QUEZON CITY

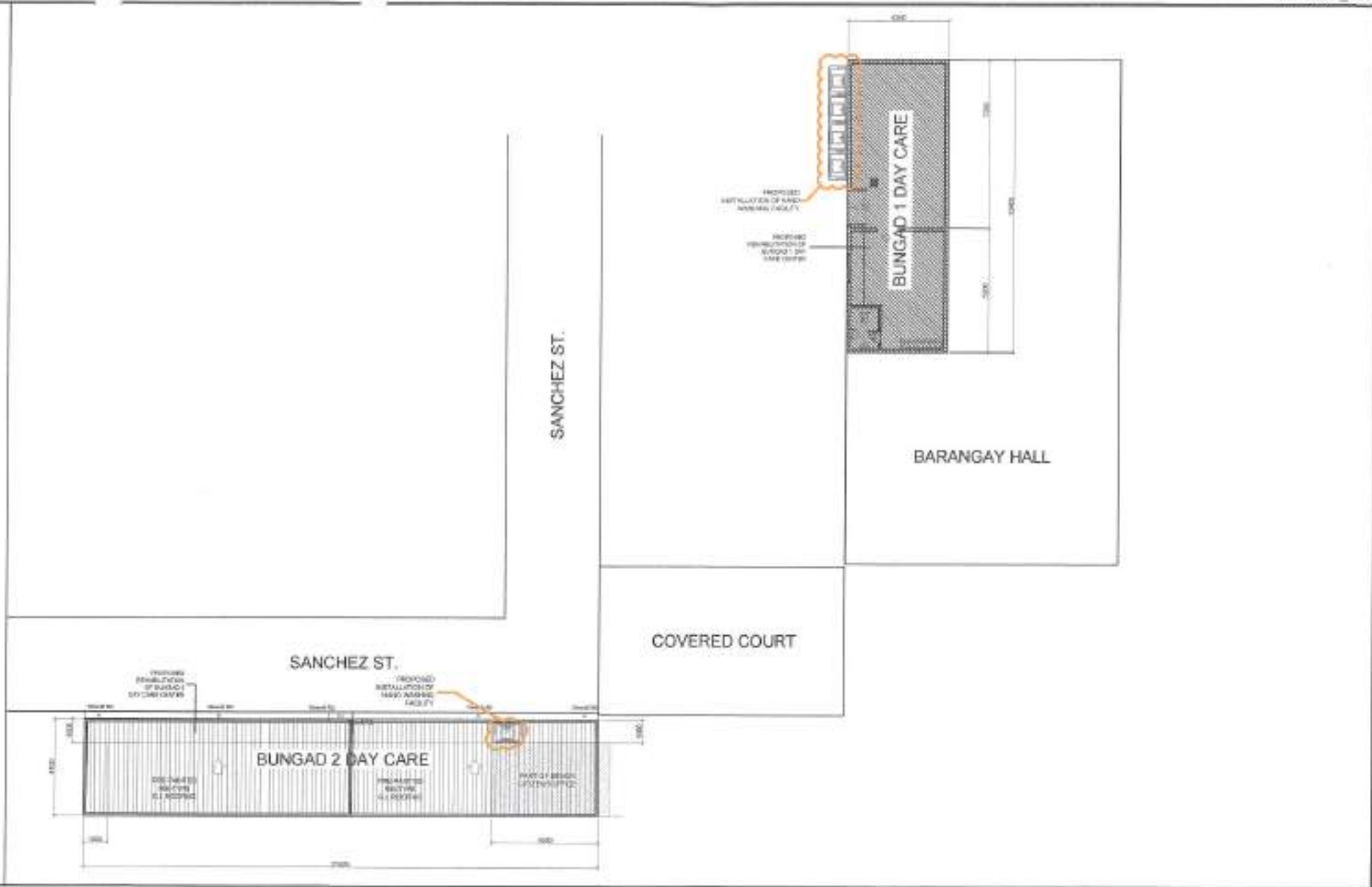
SHEET CONTENT

VICINITY MAP  
LOCATION PLAN  
PERSPECTIVE

SHEET NO.

AR-01  
01/13





1 SITE DEVELOPMENT PLAN

SCALE: NTS



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CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER**

LOCATION:  
BARANGAY BUNGAD DISTRICT 1, QUEZON CITY

DRAWN BY: *ONE*  
DATE: AUG. 18, 2021  
CHECKED BY: *ONE*  
REVISION NO.: 1

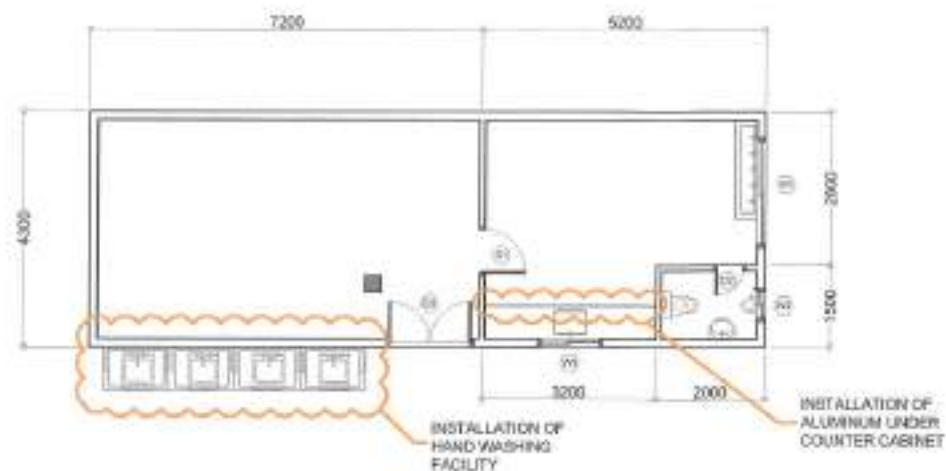
SUBMITTED BY:  
*[Signature]*  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAMING DIVISION

RECOMMENDS APPROVAL:  
*[Signature]*  
**ENGR. ISAGANI R. VERZOSA, JR.**  
CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*[Signature]*  
**HON. MA. JOSEFINA G. BELMONTÉ**  
CITY MAYOR, QUEZON CITY

SHEET CONTENT:  
SITE DEVELOPMENT PLAN

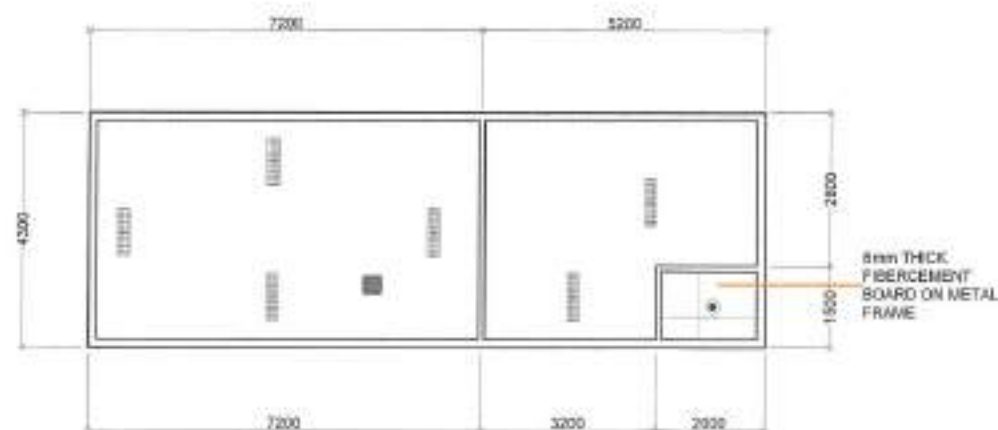
SHEET NO:  
**AR-02**  
**02 | 13**



SCOPE OF WORKS:  
 1 PLUMBING FIXTURES TO BE REPLACED.  
 1 INTERIOR WALL TO BE REPAINTED.

## 1 BUNGAD 1 GROUND FLOOR

SCALE: 1:100 METERS



## 2 BUNGAD 1 REFLECTED CEILING PLAN

SCALE: 1:100 METERS



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Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

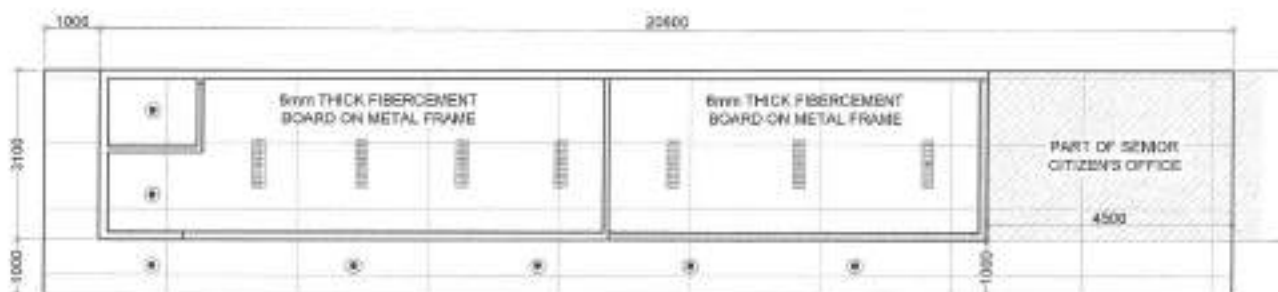
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PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER	ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING PROGRAM DIVISION	ENGR. RAONIL R. VERZOSA, JR. OC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAJOR, QUEZON CITY	BUNGAD 1 GROUND FLOOR BUNGAD 1 REFLECTED CEILING PLAN	AR-03 03/13							



SCOPE OF WORKS  
 \* TOILET WALL TO BE REPLACED WITH  
 300mm x 300mm HOMOGENOUS TILES

### 1 BUNGAD 2 GROUND FLOOR

SCALE: 1:100 METERS



### 2 BUNGAD 2 REFLECTED CEILING PLAN

SCALE: 1:100 METERS



### 3 BUNGAD 2 ROOF PLAN

SCALE: 1:100 METERS



Republika ng Pilipinas  
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 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND  
 WASHING FACILITY AND  
 REHABILITATION OF BUNGAD 1 &  
 BUNGAD 2 DAYCARE CENTER

LOCATION:

BARANGAY BUNGAD, DISTRICT 1, QUEZON CITY

DRAWN BY: JMG

DATE: AUG. 19, 2021

CHECKED BY: JMG

REVISIONS: 1

SUBMITTED BY:

*[Signature]*  
 ENGR. LEO S. DEL ROSARIO  
 HEAD, PLANNING & PROGRAM DIVISION

RECOMMENDING APPROVAL:

*[Signature]*  
 ENGR. SARAH R. VERZOGA, JR.  
 CC. CHIEF ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTÉ  
 CITY MAJOR, QUEZON CITY

SHEET CONTENT

BUNGAD 2 GROUND  
 FLOOR  
 BUNGAD 2 ROOF PLAN  
 BUNGAD 2 REFLECTED  
 CEILING PLAN

SHEET NO.

AR-04  
 04 13

MARK	(W1)	(W2)	(W3)	(W4)	(W5)	(W6)
REMARKS	POWDER COATED ALUMINUM FRAMED SLIDING WINDOW WITH FIXED GLASS	POWDER COATED ALUMINUM FRAMED SLIDING GLASS WINDOW	POWDER COATED ALUMINUM FRAMED SLIDING GLASS WINDOW	POWDER COATED ALUMINUM FRAMED SLIDING GLASS WINDOW	POWDER COATED ALUMINUM FRAMED SLIDING WINDOW WITH FIXED GLASS	POWDER COATED ALUMINUM FRAMED WARRING GLASS WINDOW
SETS	1	1	1	4	1	1
LOCATION	PANTRY	COMFORT ROOM	PANTRY	DAY CARE CENTER, PANTRY	DAY CARE CENTER	COMFORT ROOM

MARK	(D1)	(D2)	(D3)	(D4)	(D5)
REMARKS	PANEL DOOR 2100mm x 900mm	PVC DOOR 2100mm x 800mm	POWDER COATED ALUMINUM FRAMED GLASS DOOR 2100mm x 1920mm	FLUSH DOOR 2100mm x 800mm	PANEL DOOR 2100mm x 1000mm
SETS	1	2	1	1	3
LOCATION	PANTRY	COMFORT ROOM	DAY CARE CENTER	PANTRY	DAY CARE CENTER, PANTRY

## 1 DOORS AND WINDOWS

SCALE: 1:100 METERS



Republika ng Pilipinas  
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CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER**

LOCATION:  
BARANGAY BUNGAD DISTRICT 1, QUEZON CITY

DRAWN BY: *[Signature]*  
DATE: JUN. 18, 2021  
CHECKED BY: *[Signature]*  
REVISION NO.: 1

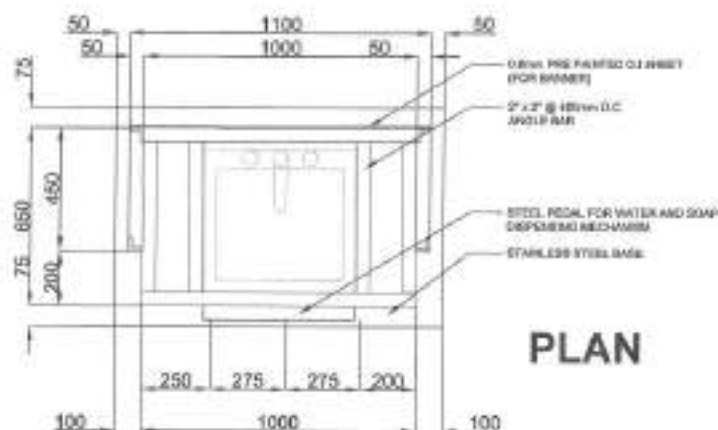
SUBMITTED BY:  
*[Signature]*  
ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING PROGRAMMING DIVISION

RECOMMENDING APPROVAL:  
*[Signature]*  
ENGR. MARGAM R. VERTOSA, JR.  
CITY ENGINEER

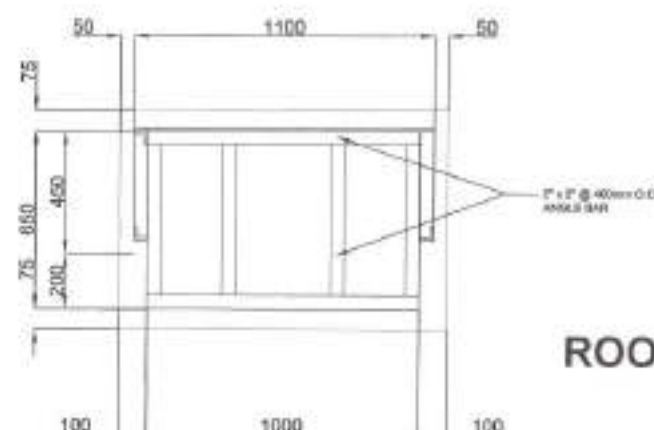
APPROVED BY:  
*[Signature]*  
HON. MA. JOSEFINA G. BELMONTÉ  
CITY MAYOR, QUEZON CITY

SHEET CONTENT:  
DOORS AND WINDOWS

SHEET NO.:  
AR-05  
0513



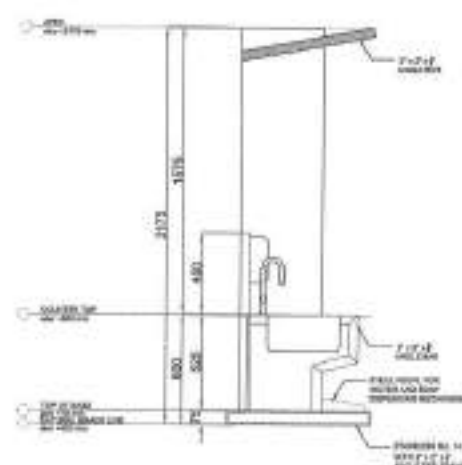
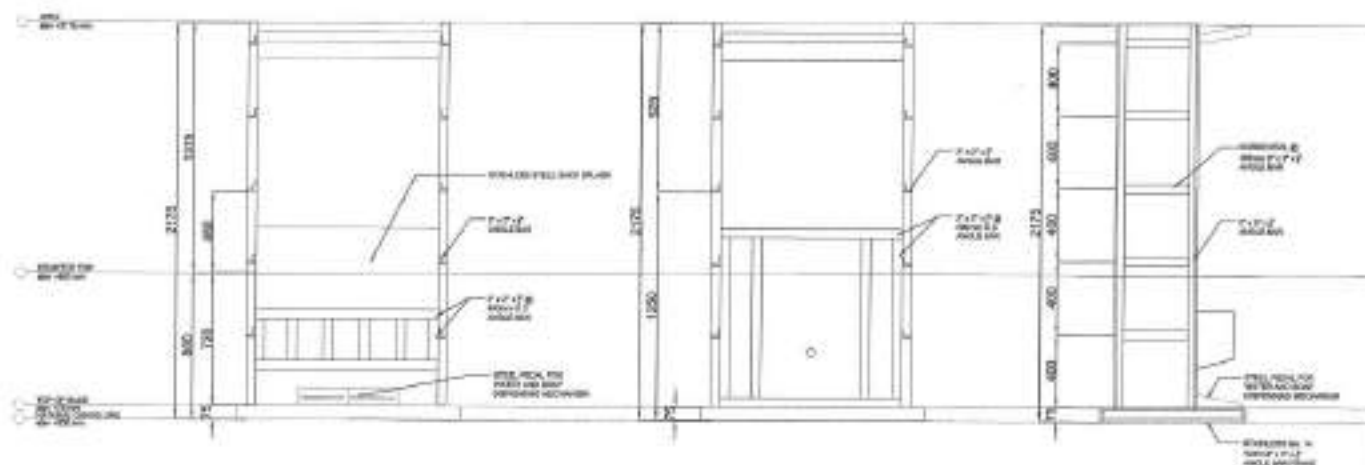
PLAN



ROOF PLAN

## 1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30METERS



## 2 ELEVATIONS

SCALE: 1:30METERS

## 3 ELEVATIONS

SCALE: 1:30METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
PROPOSED CONSTRUCTION OF HAND  
WASHING FACILITY AND  
REHABILITATION OF BUNGAD 1 &  
BUNGAD 2 DAYCARE CENTER

LOCATION:  
BARANGAY BUNGAD, DISTRICT 1, QUEZON CITY

DRAWN BY: DAE  
DATE: AUG. 16, 2021  
CHECKED BY: JAV

REVISION NO.: 1

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING PROGRAM DIVISION

RECOMMENDING APPROVAL:

ENGR. MARVIN R. VERZOSA, JR.  
DCC CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA O. BELMONTE  
CITY MAYOR, QUEZON CITY

SHEET CONTENT

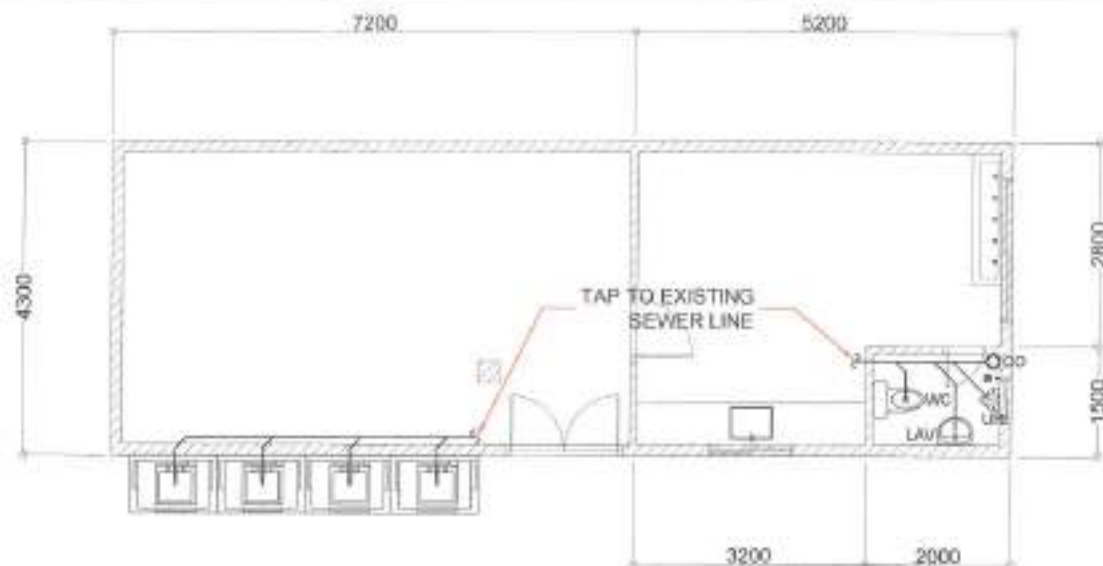
SINGLE SINK PORTABLE  
HAND WASHING STALL  
PLAN  
ELEVATIONS  
TYPICAL SECTION

SHEET NO.

ST-01  
06/13

**GENERAL NOTES:**

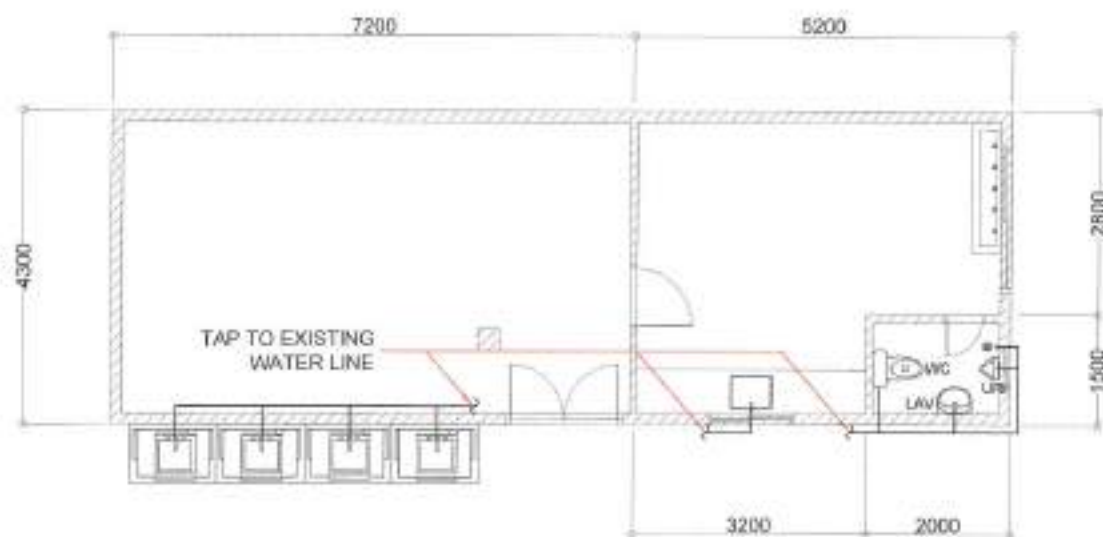
- All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the local developer when and where applicable.
- The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual disposition of the pipes and fixtures in the drawing but of the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper excavation in relation with other trades.
- The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.
- Pipes shall not be embedded in structural members unless otherwise specified or allowed.
- Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 2%.
- Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/utilities.
- Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
- All flow rates shall be verified individually.
- All clean out temples shall be flush mounted in wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines or grade and service areas not subject to traffic.
- All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar covering and set upon with jute cloth thoroughly soaked in tar or asphalt.
- Provide vent stacks and vent pipe thru roof of every service except as required.
- All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.
- Provide gate valves to all water supply lines to fixtures.
- All hot water lines shall be provided with proper insulation where exposed.
- All individual branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:  
H = 450 mm for 19 mm Ø and larger  
H = 300 mm for 12 mm Ø and smaller
- All hose bibbs shall be 19 mm Ø (¾" Ø) unless otherwise indicated.
- Inlet pipe of siphon tank to be 50 mm higher than the siphon pipe which is 20 mm higher than the outlet pipe.
- All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be referred to the same person.

**1 GENERAL NOTES**

+	UNION/FITTING
+	CHECK VALVE
---	BUILDING SEWER
---	BUILDING DRAIN
---	WASTE LINE
---	AREA DRAIN/CATCH BASIN
---	FLOOR DRAIN
---	WATER LINE
---	WATER LINE
---	GATE VALVE
---	SEIK DRAIN
---	GLER/ROOF
---	PIPE DOWN
---	PIPE UP
---	MILLIMETER
---	GATE VALVE
---	AREA DRAIN/CATCH BASIN
---	WATER CLOSET
---	LAVATORY
---	WASHOLE
---	HOSE BIBB
---	STORM DRAIN/LINE
---	VENT LINE
---	VENT ABOVE CEILING
---	CONCRETE/PRECAST CONC PIPE
---	VENT THRU ROOF
---	DIRECTION OF FLOW/SLOPE

**3 BUNGAD 1 SANITARY LAYOUT**

SCALE: 1:75 METERS

**2 LEGENDS AND SYMBOLS****4 BUNGAD 1 WATER LINE LAYOUT**

SCALE: 1:75 METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER**

LOCATION:  
BARANGAY (BUNGAD) DISTRICT 1, QUEZON CITY

DRAWN BY: *MAE*  
DATE: AUG. 18, 2021  
CHECKED BY: *MAE*  
REVISION: 1

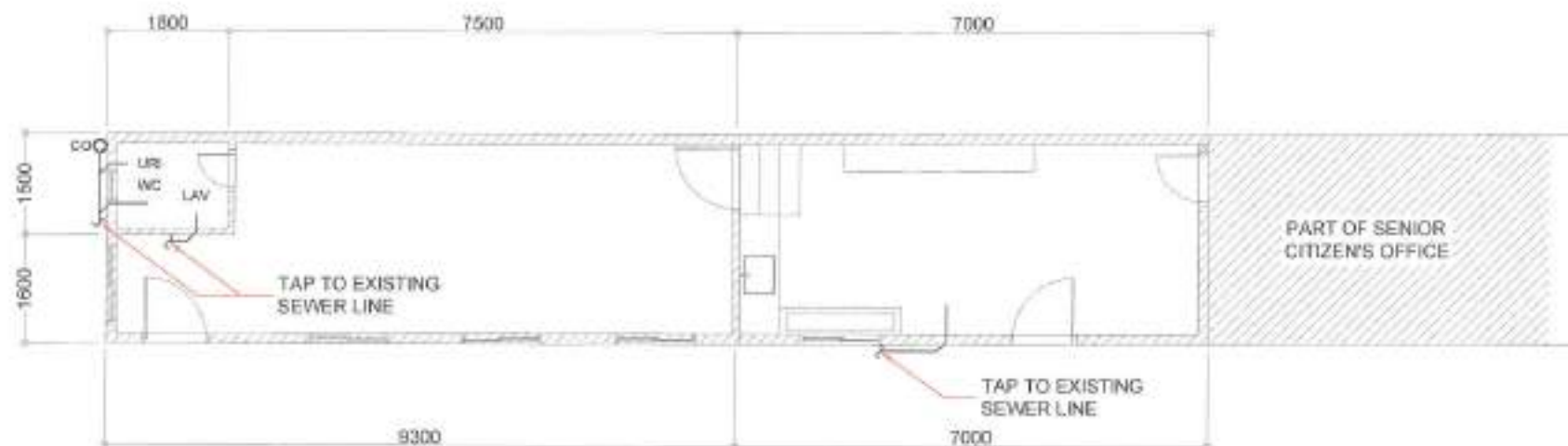
SUBMITTED BY:  
*(Signature)*  
**ENR. LEO S. DEL ROSARIO**  
HEAD, PLUMBING & PRECAST/CONCRETE

RECOMMENDING APPROVAL:  
*(Signature)*  
**ENR. ISAGAN R. VERZOSA, JR.**  
CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*(Signature)*  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MANAGER, QUEZON CITY

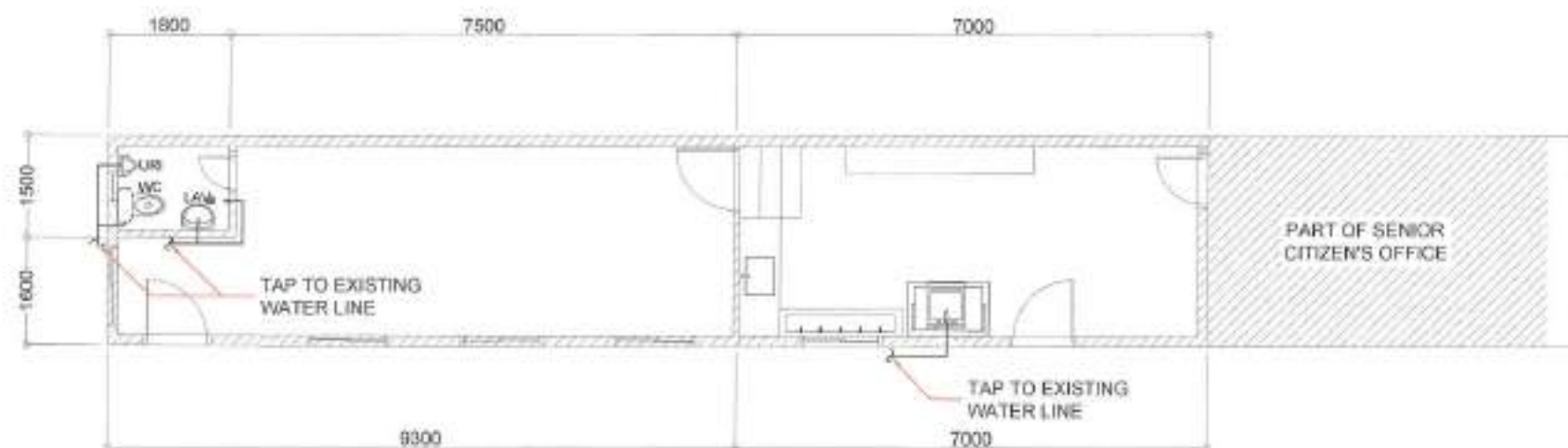
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GENERAL NOTES  
LEGENDS AND SYMBOLS  
BUNGAD 1 SANITARY LAYOUT  
BUNGAD 1 WATER LINE LAYOUT

SHEET NO:  
**PL-01**  
**07/13**



## 1 BUNGAD 2 SANITARY LAYOUT

SCALE: 1:75 METERS



## 2 BUNGAD 2 WATER LINE LAYOUT

SCALE: 1:75 METERS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: DIC	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	<b>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 &amp; BUNGAD 2 DAYCARE CENTER</b>	DATE: AUG 18, 2021	CHECKED BY: JAH	 <b>ENGR. LEO S. DEL ROSARIO</b> HEAD, PLANNING & PROGRAM GROUP	 <b>ENGR. ISADOR R. VERZOSA, JR.</b> DIC, CIVIL ENGINEERING DEPARTMENT	<b>HON. MA. JOSEFINA G. BELMONTÉ</b> CITY MAYOR, QUEZON CITY	BUNGAD 2 SANITARY LAYOUT BUNGAD 2 WATER LINE LAYOUT
	LOCATION: BARANGAY BUNGAD, DISTRICT 1, QUEZON CITY	REVISION NO.: 1					

**GENERAL NOTES:**

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCEMENT AGENCIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEERS, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL WIRING AND BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE AID SUPPORTED BY CONDUIT CLAMPS EVERY 100 MILLIMETER.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE SPACERLESS TYPE WITH PARALLEL SLOTS FOR 200 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFI) CIRCUIT BREAKER FOR LOADS MARKED "GFI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF. (118MM ABOVE WORKING COUNTER)
TELEPHONE OUTLET - 250 MM AFF.
CATV OUTLET - 300 MM AFF.
LIGHTING SWITCH - 1500 MM AFF.
PANELBOARD - 1800 MM AFF.

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. BRAND NAMES AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND GRID-OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 22 SQ. MM. 75MM<sup>2</sup> COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 1.5 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED
LINE 2 - YELLOW
NEUTRAL - WHITE
GROUND - GREEN

- BOXES, WIRE, GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:  
MAXIMUM WIDTH OF THE INSET SURFACE STEEL:  
UP TO INCLUDING 700 MM      GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
OVER 700 MM BUT NOT OVER 850 MM      GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
OVER 850 MM BUT NOT OVER 1000 MM      GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
OVER 1000 MM      GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER, AND A FULLY ACCREDITED ELECTRICAL CONTRACTOR BY POWER WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 250V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BEND RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, SUBSTITUTION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE CAGSANG CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 1 OHM.

Ⓜ	EXISTING DUPLEX CONVENIENCE OUTLET	Ⓜ	ADDITIONAL 1KW LIGHT SW (RECESSED)	Ⓜ	CIRCUIT HOMERUN
Ⓜ	ADDITIONAL DUPLEX CONVENIENCE OUTLET TO WEATHERPROOF OUTLET WITH COVER	Ⓜ	ADDITIONAL 1KW RECESSED TRIGGER TYPE	Ⓜ	PANEL BOARD
Ⓜ	REPLACE DUPLEX CONVENIENCE OUTLET TO WEATHERPROOF OUTLET WITH COVER	Ⓜ	SELECTOR SWITCH (FAN)	Ⓜ	KILOWATT-HOUR METER
Ⓜ	REPLACE ACU OUTLET	Ⓜ	SINGLE GANG SWITCH (LIGHTS)	➔	SERVICE ENTRANCE
Ⓜ	ADDITIONAL DROPT FAN	Ⓜ	THREE GANG SWITCH (LIGHTS)		

**2 LEGEND & SYMBOLS**

SCALE NTS

BENDING RADIUS DETAIL

SPOT DETAIL OF CONDUIT RUN AND BOX

CONDUIT RUN FOR LIGHTING DISTRIBUTION IN ONE CIRCUIT (FOR EXPOSED OR INSIDE DROPT-CEILING INSTALLATION)

PROPER CONDUIT LAYOUT IN PULL BOX

ROUNDED RACEWAY TERMINATION FOR SHEET METAL

**1 GENERAL NOTES**

SCALE NTS

**3 MISCELLANEOUS DETAILS**

SCALE NTS



Republika ng Pilipinas  
Lungsod ng Cagayan  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER**

LOCATION:  
BAYANGAY BUNGAD, DISTRICT 1, CAGAYAN CITY

DRAWN BY: EMC  
DATE: 1 AUG. 2021  
CHECKED BY: JG  
REVISION NO.: 1

SUBMITTED BY:  
  
ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING & PROGRAMMING DIVISION

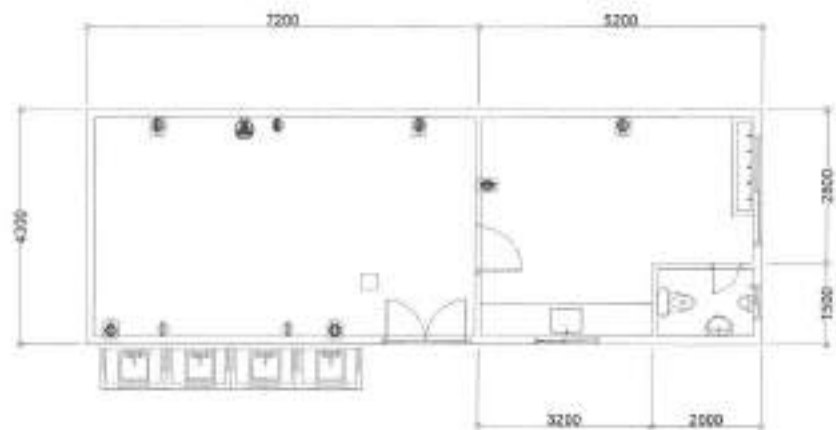
RECOMMENDING APPROVAL:  
  
ENGR. ISAGANI R. VERZOSA, JR.  
CC: CITY ENGINEERING DEPARTMENT

APPROVED BY:  
  
HON. MA. JOSEFINA G. BELMONTTE  
CITY MAYOR, CAGAYAN CITY

SHEET COUNT:  
GENERAL NOTES AND SYMBOLS  
MISCELLANEOUS  
DETAILS

SHEET NO:  
**EL-01**  
**09/13**








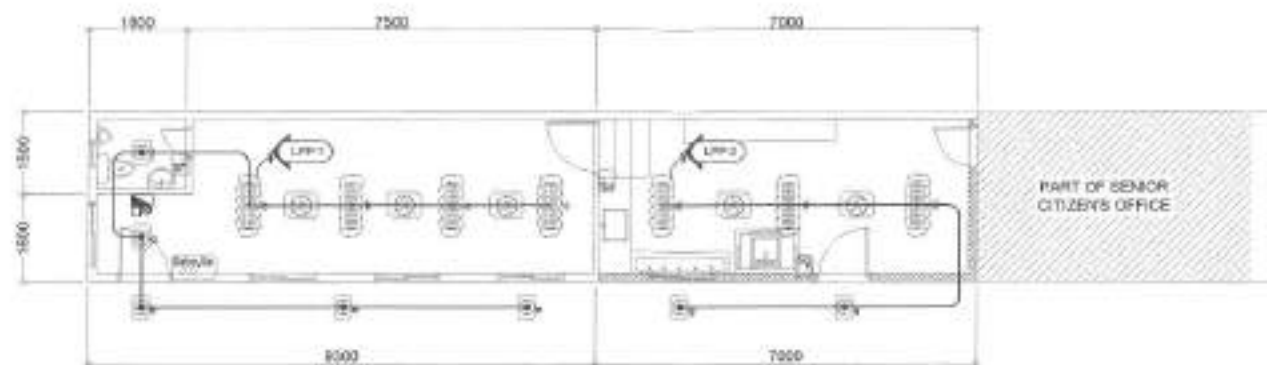
## 1 BUNGAD 1 LIGHTING LAYOUT

SCALE: 1:100 METERS

## 2 BUNGAD 1 POWER LAYOUT

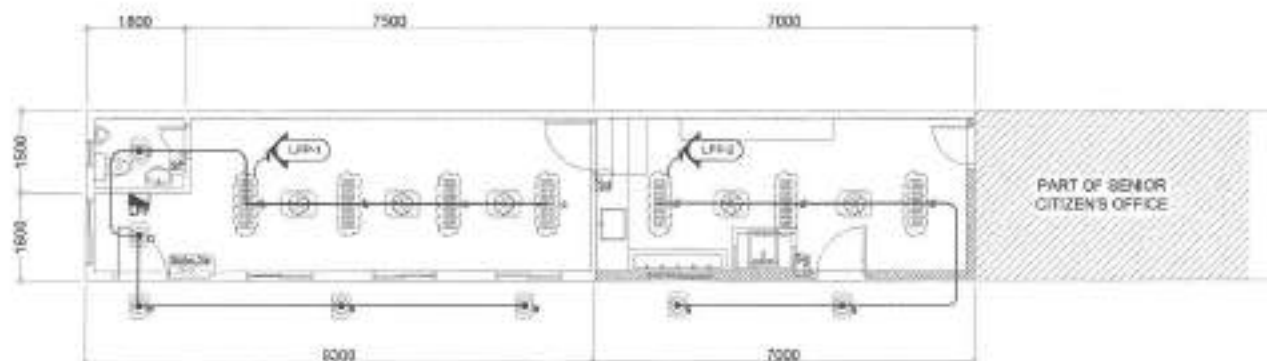
SCALE: 1:100 METERS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: DMC	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	<b>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 &amp; BUNGAD 2 DAYCARE CENTER</b>	DATE: AUG 16, 2021	CHECKED BY: JMC	 <b>ENGR. LEO S. DEL ROSARIO</b> <small>HEAD, PLANNING &amp; PROGRAM DIVISION</small>	 <b>ENGR. ISAGANI R. VERZOSA, JR.</b> <small>DEC. CITY ENGINEERING DEPARTMENT</small>	<b>HON. RA. JOSEFINA G. BELMONTE</b> <small>CITY MAYOR, QUEZON CITY</small>	LIGHTING LAYOUT POWER LAYOUT
	LOCATION: BANGGAY BUNGAD DISTRICT 1, QUEZON CITY	REVISION NO.: 1					



## 1 BUNGAD 2 LIGHTING LAYOUT

SCALE: 1:100 METERS

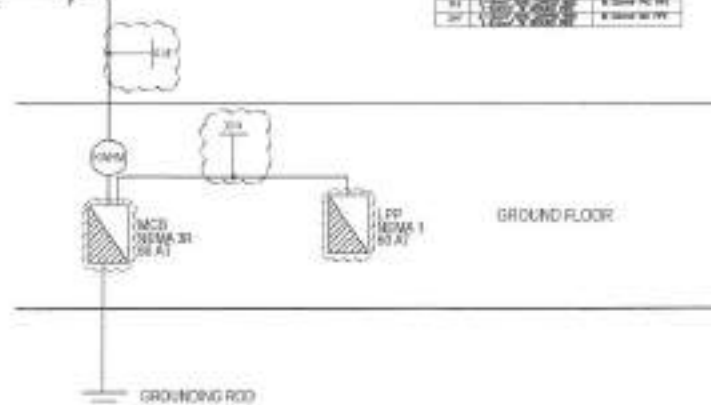


## 1 BUNGAD 2 POWER LAYOUT

SCALE: 1:100 METERS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: ENC	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	<b>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 &amp; BUNGAD 2 DAYCARE CENTER</b>	DATE: AUG 18, 2021	CHECKED BY: JAC	 <b>ENGR. LEO S. DEL ROSARIO</b> <small>HEAD, PLANNING &amp; PROJECTS DIVISION</small>	 <b>ENGR. ISADOR R. VERZOSA, JR.</b> <small>DEPT. CITY ENGINEERING SUPERVISOR</small>	 <b>HON. MA. JOSEFINA G. BELMONTE</b> <small>CITY ENGINEER - QUEZON CITY</small>	LIGHTING LAYOUT POWER LAYOUT
	LOCATION: SARANGAY BUNGAD DISTRICT 1, QUEZON CITY	REVISION NO.: 1					

SERVICE ENTRANCE

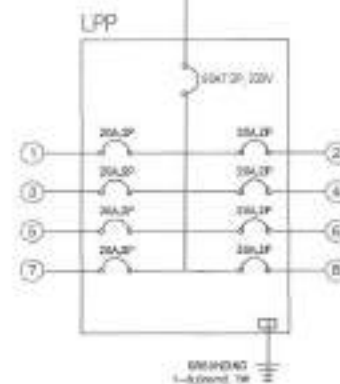
4/0 AWG CU SERVICE  
OVERHEAD LINE  
300 PVC, 30, 600

NO.	DATE	REVISION
01		AS SHOWN
02		REVISION

GROUND FLOOR

GROUNDING ROD

TO MCB



## 1 SINGLE LINE DIAGRAM

## 2 PANEL BOARD DETAIL

SCALE: NTS

## LIGHTING POWER PANEL (LPP)

LOCATION: GROUND FLOOR

MOUNTING: NEMA1, RECESSED WITH GRAY POWDERED  
COATED FINISH WITH MULTI-TERMINAL BLOCK FOR GOLD  
GROUND BUS

CIR NO.	LOAD DESCRIPTION	VOLTS	VA	AMP.	AT	SIZE OF	
						WIRES	CONDUITS
1	0-LIGHTING OUTLET 2-CORR FAN	230	1350	5.87	20	2-3.5mm <sup>2</sup> 1-3.5mm <sup>2</sup> TW GROUND WIRE	IN 20mm <sup>2</sup> PVC PIPE
2	0-LIGHTING OUTLET 2-CORR FAN	230	800	3.45	20	2-3.5mm <sup>2</sup> 1-3.5mm <sup>2</sup> TW GROUND WIRE	IN 20mm <sup>2</sup> PVC PIPE
3	0-CONVENIENCE OUTLET	230	340	2.35	20	2-3.5mm <sup>2</sup> 1-3.5mm <sup>2</sup> TW GROUND WIRE	IN 20mm <sup>2</sup> PVC PIPE
4	0-CONVENIENCE OUTLET	230	320	2.13	20	2-3.5mm <sup>2</sup> 1-3.5mm <sup>2</sup> TW GROUND WIRE	IN 20mm <sup>2</sup> PVC PIPE
5	2-2P AIR CONDITIONING UNIT (1.5HP EACH)	230	2760	12.0	30	2-5.5mm <sup>2</sup> 1-5.5mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
6	SPARE	230	-	-	30	-	-
7	SPARE	230	-	-	30	-	-
8	SPARE	230	-	-	30	-	-
			6170	26.83			

## COMPUTATION:

$$I = \frac{6170}{230V} = 26.83 \text{ AMP.}$$

$$I = 26.83 \text{ AMP.}$$

## OVER CURRENT PROTECTION:

USE : 60AT, 2P, 230V MOULDED CASE CIRCUIT BREAKER IN NEMA 1

## MAIN FEEDER:

USE : 2 - 14.0mm<sup>2</sup> THHN & 1-8.0mm<sup>2</sup> TW GROUND WIRE  
IN 32mm<sup>2</sup> PVC PIPE

## 3 BUNGAD 2 SCHEDULE OF LOAD










SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY: ENG. J. DEL ROSARIO	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 & BUNGAD 2 DAYCARE CENTER	DATE: AUG. 18, 2021	CHECKED BY: J. DEL ROSARIO	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAMMATION DIVISION	 ENGR. ISAAC M. R. VERZOSA, JR. CH. OF PLANNING AND DESIGN DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	SINGLE LINE DIAGRAM PANEL BOARD DETAIL SCHEDULE OF LOAD	EL-04 12/13
	LOCATION: BARANGAY BUNGAD DISTRICT 1, QUEZON CITY	REVISION NO. 1						

- ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.
- THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.
- THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES. ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.
- ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.
- EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.
- ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
- PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.
- PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD/COB.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD/COB.
- PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.
- PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.
- ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

## 1 GENERAL NOTES

SCALE: NTS


	- EQUIPMENT DESIGNATION		- ELBOW UP
	- REFRIGERANT PIPE		- ELBOW DOWN
	- WALL MOUNTED INDOOR UNIT		- FAN COIL UNIT
	- WINDOW TYPE AIR CONDITIONER		- TRANSFER AIR GRILLE
	- AIR COOLED CONDENSING UNIT		

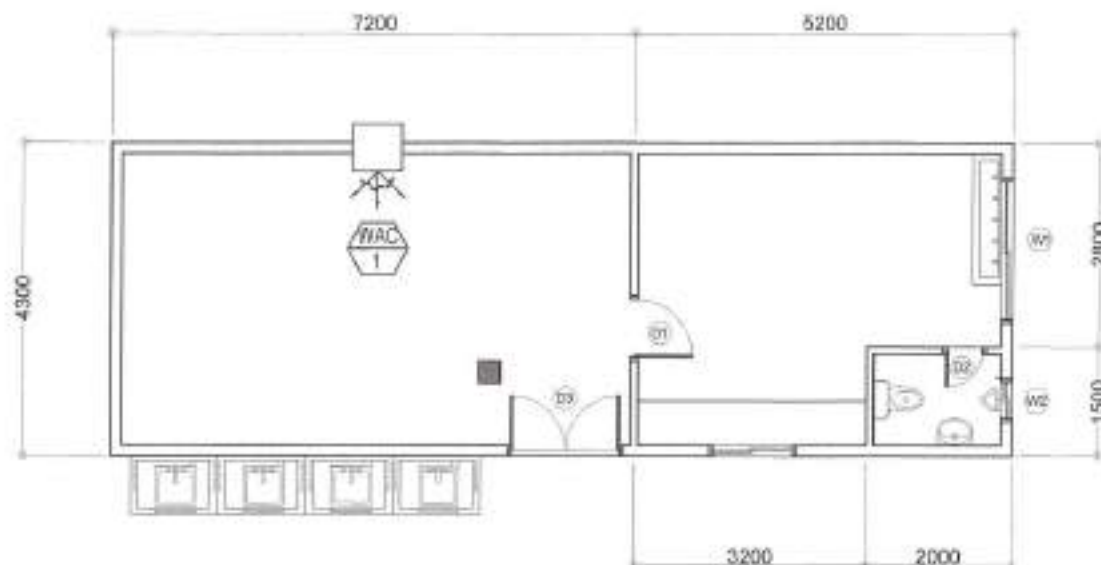
## 2 LEGENDS AND SYMBOLS

SCALE: NTS

## 3 EQUIPMENT SCHEDULE

SCALE: NTS

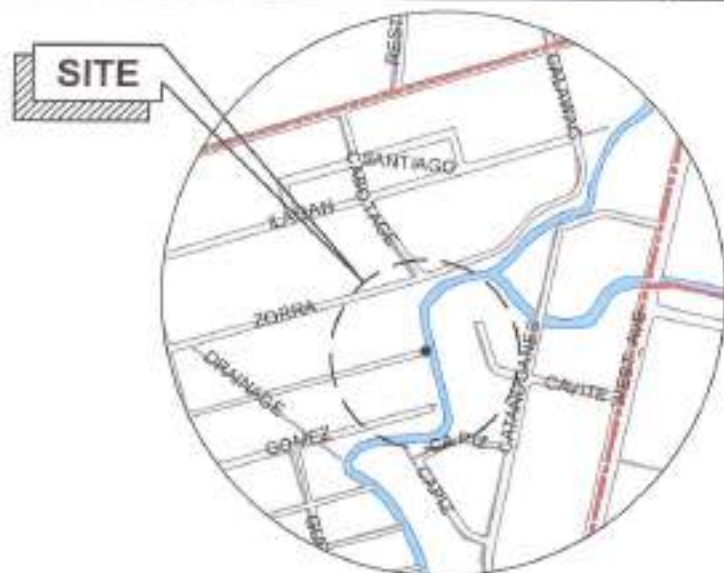
WINDOW TYPE AIRCONDITIONER AIR COOLED CONDENSING UNITS										
DESIGNATION	LOCATION	QUANTITY	HP RATING	COOLING CAPACITY	AIR CIRCULATION	POWER INPUT (WATTS)	ELECTRICAL SUPPLY			REMARKS
							VOLTS	PHASE	HERTZ	
 WAC 2	AS SHOWN ON PLANS	1 SET	2.5HP	2500	60 CMH	230	220V	1Ø	60Hz	PROVIDE FRAME GRILLE, EASY ACCESS, ANTIBAC FILTER, NY-MECH/FAN COIL, CHART THERM.



## 4 BUNGAD 1 GROUND FLOOR AIRCONDITIONING LAYOUT

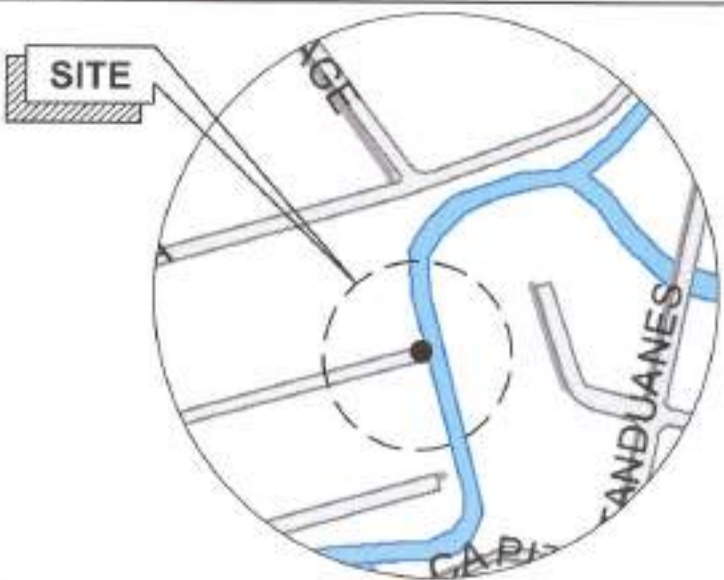
SCALE: 1:75METRES

	PROJECT TITLE: <b>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF BUNGAD 1 &amp; BUNGAD 2 DAYCARE CENTER</b>	DRAWN BY: 	SUBMITTED BY: 	RECOMMENDING APPROVAL: 	AFFIRMED BY: 	SHEET CONTENT: GENERAL NOTES, LEGENDS AND SYMBOLS, EQUIPMENT SCHEDULE, BUNGAD 1 GROUND FLOOR AIRCONDITIONING LAYOUT	SHEET NO.: <b>ME-01 13/13</b>	
	CITY ENGINEERING DEPARTMENT REPUBLICA NG PILIPINAS Lungsod ng Quezon	DATE: <b>AUG. 16, 2021</b>	CHECKED BY: 	<b>ENGR. LIZA S. DEL ROSARIO</b> EXEC. PLANNING PROGRAMMO DESIGN	<b>ENGR. ISIDORO R. VERZOSA, JR.</b> DE. CITY ENGINEERING DEPARTMENT	<b>HON. MA. JOSEFINA G. BELMONTE</b> CITY MAYOR, QUEZON CITY		
	LOCATION: BARANGAY BUNGAD DISTRICT 1, QUEZON CITY	REVISION NO.: 1						



1 VICINITY MAP

SCALE: NTS



2 LOCATION MAP

SCALE: NTS

3 SITE DEVELOPMENT PLAN

SCALE: 1:75m



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AR-3	GROUND FLOOR REFLECTED CEILING PLAN SECOND FLOOR REFLECTED CEILING PLAN
AR-4	ROOF PLAN SCHEDULE OF DOORS AND WINDOWS
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EL-2	GROUND FLOOR LIGHTING LAYOUT SECOND FLOOR LIGHTING LAYOUT



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF  
EAST ANAKBAYAN DAY CARE CENTER

LOCATION:  
BAGY PALTOK, DISTRICT 1, QUEZON CITY

DRAWN BY:

DATE: 7/31/2021

CHECKED BY:

REVISION NO.:

DESIGNED BY:

ENGR. LEO S. DEL ROSARIO  
HEAT, PLUMBING & PROGRAMMING DESIGN

RECOMMENDING APPROVAL:

ENGR. SAGANI R. VERZOSA, JR.  
D.O. C. ENGINEERING DEPARTMENT

APPROVED BY:

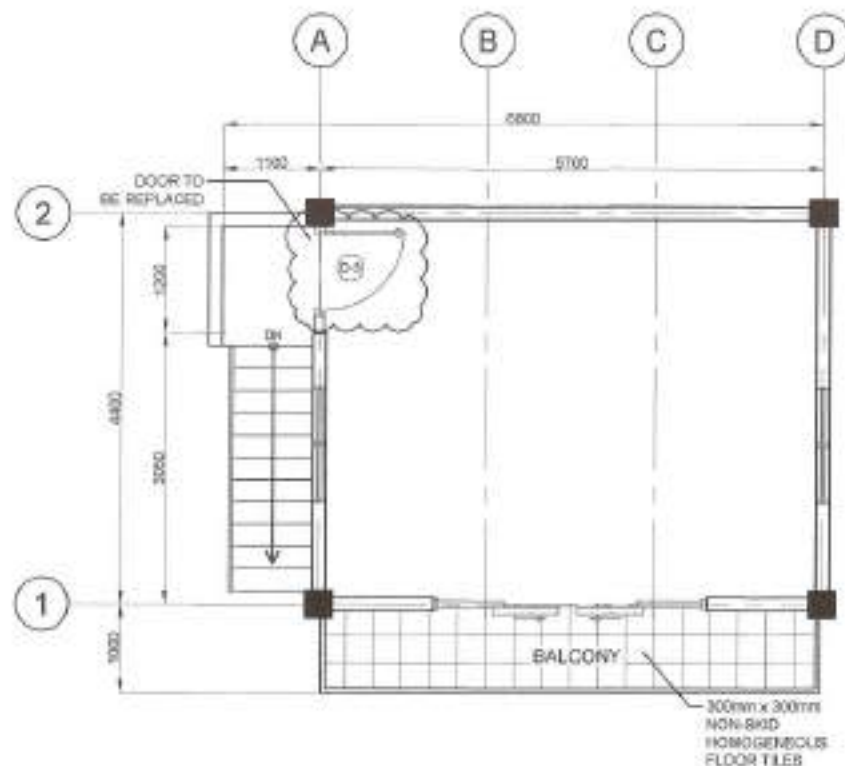
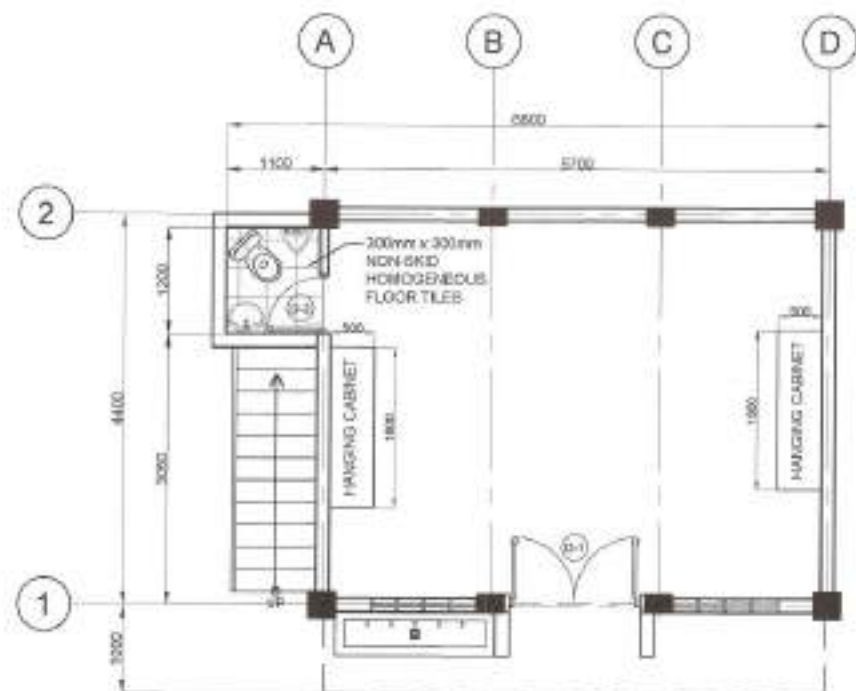
HON. MA. JOSEFINA G. BELMONTÉ  
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

VICINITY MAP  
LOCATION MAP  
SITE DEVELOPMENT PLAN

SHEET NO.:

AR-1  
01/07



## NOTE:

- FAUCETS TO BE REPLACED
- HAND WASHING FACILITY TO BE RELOCATED
- DOOR LOCKSET TO BE REPLACED
- COMFORT ROOM TO BE REHABILITATED (FIXTURES AND TILES TO BE REPLACED AND WATERPROOFING TO BE INSTALLED)
- CABINET TO BE REPAINTED
- BALCONY SLAB SOFFIT TO BE REPAINTED
- BALCONY RAILINGS TO BE REPAINTED AND WATERPROOFING TO BE INSTALLED

## 1 GROUND FLOOR PLAN

SCALE: 1:90ths

## 2 SECOND FLOOR PLAN

SCALE: 1:50ths



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF  
EAST ANAKBAYAN DAY CARE CENTER

LOCATION:  
BANDY BAYLOR, DISTRICT 1, QUEZON CITY

DRAWN BY:

DATE: 12/20/21

CHECKED BY:

REASONING:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING AND PROGRAMS DIVISION

RECOMMENDED APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.  
DIC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

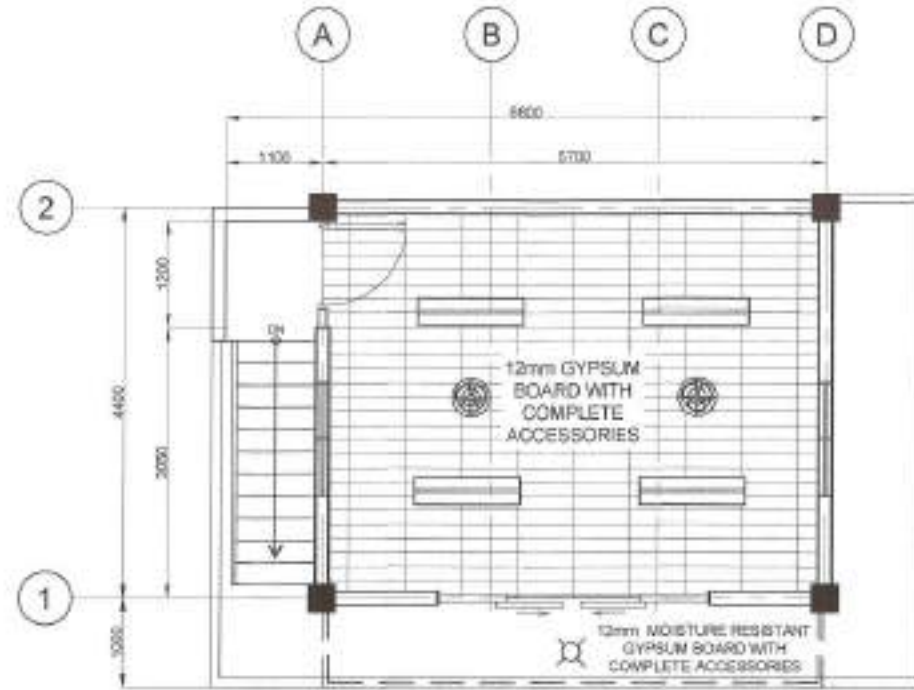
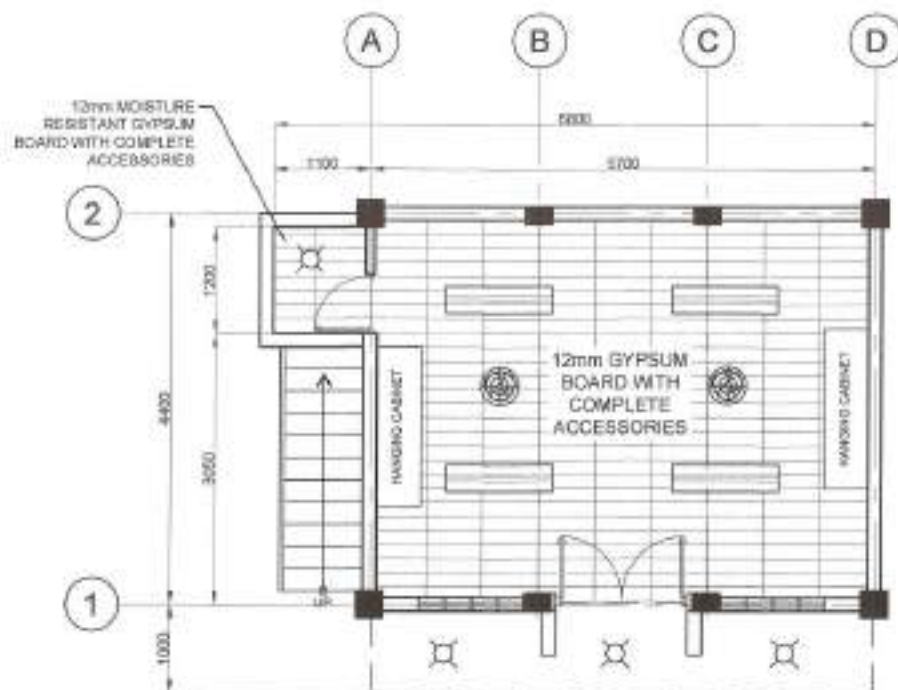
HON. MA. JOSEFINA G. BELMONTE  
CITY MAJOR, QUEZON CITY

SHEET CONTENT:

GROUND FLOOR PLAN  
SECOND FLOOR PLAN

SHEET NO.:

AR-2  
02/07


**1 GROUND FLOOR REFLECTED CEILING PLAN**

SCALE: 1/60th

**2 SECOND FLOOR REFLECTED CEILING PLAN**

SCALE: 1/60th



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
**PROPOSED REHABILITATION OF  
EAST ANAKBAYAN DAY CARE CENTER**

LOCATION:  
8007 PAL TOR, DISTRICT 1, QUEZON CITY

OWNER BY:

DATE: 131201

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO,  
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

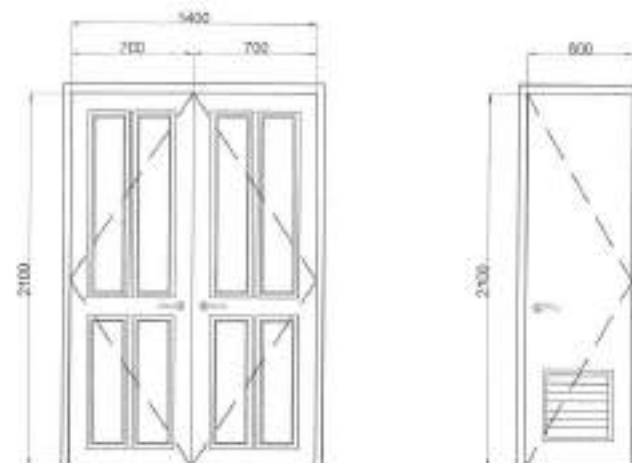
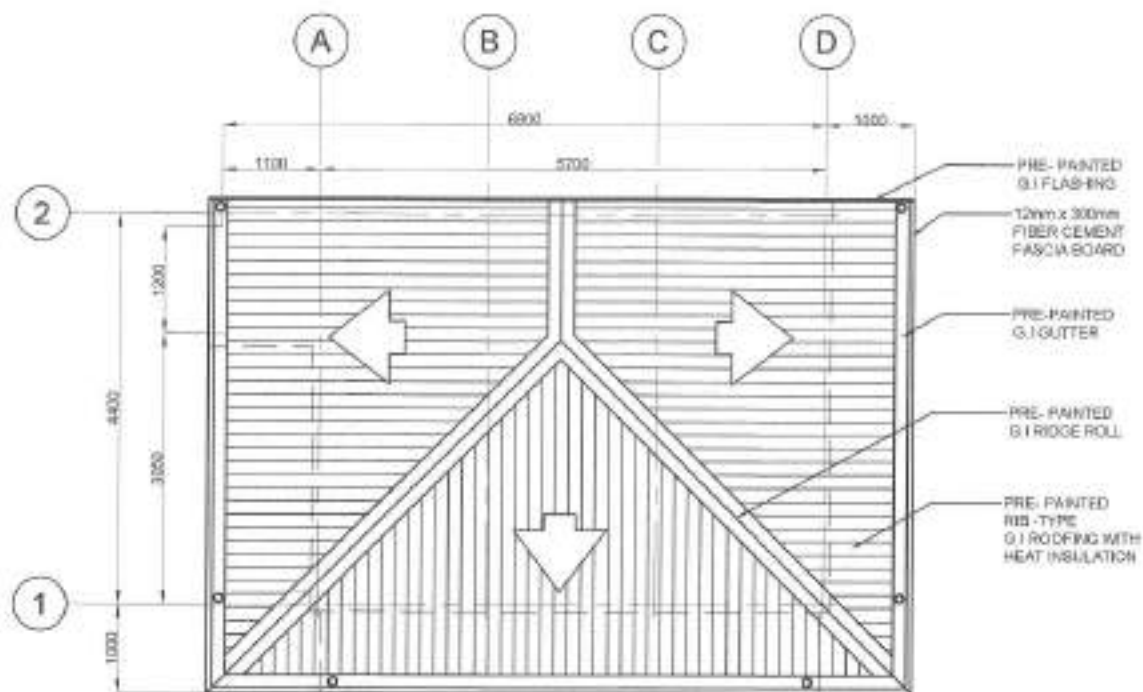
ENGR. ISAAC R. VERZOSA, JR.,  
DEPT. CHIEF, CEILING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE  
CITY MAYOR - QUEZON CITY

SHEET CONTENT:  
GROUND FLOOR  
REFLECTED CEILING PLAN  
SECOND FLOOR  
REFLECTED CEILING PLAN

SHEET NO.  
**AR-3  
03/07**



D-1		D-2	
LOCATION	FRONT DOOR	LOCATION	COMFORT ROOM
SPECIFICATIONS	DOUBLE PANEL DOOR	SPECIFICATIONS	PVC COVER
HARDWARE/GLAZING	COMPLETE ACCESSORIES	HARDWARE/GLAZING	COMPLETE ACCESSORIES
NO. OF SETS	1	NO. OF SETS	1



D-3	
LOCATION	SECOND FLOOR
SPECIFICATIONS	PANEL DOOR
HARDWARE/GLAZING	COMPLETE ACCESSORIES
NO. OF SETS	1

NOTE  
• REMOVAL AND REPLACEMENT OF ROOFING

NOTE  
• D-1: REPAINT AND REPLACEMENT OF LOCKSET  
• D-2: REPLACEMENT OF DOOR KNOB

## 1 ROOF PLAN

SCALE: 1:60mm

## 2 SCHEDULE OF DOORS

SCALE: 1:30mm



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF  
EAST ANAKBAYAN DAY CARE CENTER

LOCATION:  
BPO, PALTAN, DISTRICT 1, QUEZON CITY

DRAWN BY: *CPA*

DATE: 7/27/2021

CHECKED BY: *CPA*

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGAN R. VERZOSA, JR.  
D.C. CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA S. BELMONTÉ  
CITY MANOR, QUEZON CITY

SHEET CONTENT:

ROOF PLAN  
SCHEDULE OF DOORS

SHEET NO.:

AR-4  
04/07





1 FRONT ELEVATION

SCALE: 1:100ms



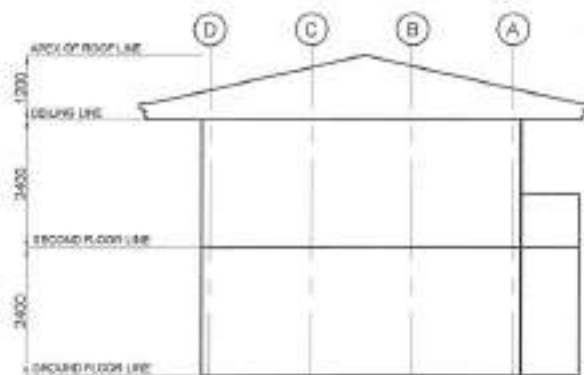
3 LEFT SIDE ELEVATION

SCALE: 1:100ms



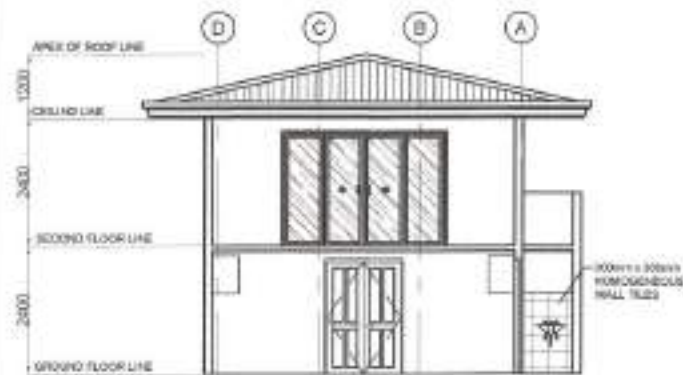
5 LEFT SIDE ELEVATION

SCALE: 1:100ms



2 REAR ELEVATION

SCALE: 1:100ms



4 LONGITUDINAL SECTION

SCALE: 1:100ms



6 CROSS SECTION

SCALE: 1:100ms

NOTE:

- WHOLE EXTERIOR AND INTERIOR OF BUILDING TO BE REPAINTED



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGN BY: <i>[Signature]</i>	RECOMMENDED APPROVAL:	PREPARED BY:	DWG. CONTENT:	SHEET NO.:
PROPOSED REHABILITATION OF EAST ANAKBAYAN DAY CARE CENTER	DATE: 7.31.2021	<i>[Signature]</i>	<i>[Signature]</i>	FRONT ELEVATION REAR ELEVATION LEFT SIDE ELEVATION RIGHT SIDE ELEVATION LONGITUDINAL SECTION CROSS SECTION	AR-5 05/07
LOCATION: BAGY. PALTOK, DISTRICT 1, QUEZON CITY	CHECKED BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. SEAGUIE R. VERZOSA, JR. CH. CITY ENGINEERING DIVISION	NON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	
	REVISION NO.:				

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODES ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANIES.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMERGENCY BRANCH CIRCUITS SHALL BE TWO CIRCUITS AND FOR EXPOSED INSTALLATION SHALL BE SECURELY SUPPORTED BY CONDUIT CLAMPS EVERY 90 DEGREES.
- PULLBOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING UNLESS OTHERWISE INDICATED ON THE PLANS. SIZE OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRIOR TO FABRICATION, LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH APPROPRIATE GFCI FOR 200V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) CIRCUIT BREAKER FOR LOADS MARKED GFCI ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDING.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:





RECEPTACLE OUTLET - 300 MM AFT, 150MM ABOVE WORKING SURFACE  
 TELEPHONE OUTLET - 300 MM AFT  
 GFI V OUTLET - 300 MM AFT  
 LIGHT FIXTURE - 1400 MM AFT  
 PANEL BOARD - 1800 MM AFT

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SCHEDULES AS SPECIFIED AND OR SHOWN UNDER THE RESPECTIVE SECTION.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, DUNNO REV AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED MATERIAL, LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCAL CONDITIONS, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE.
- ALL LIGHTING AND COMMAND CENTER OUTLET CIRCUITS SHALL BE 35 SQ. MM. 3-WIRE 2-CONDUCTOR WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 30 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED  
 LINE 2 - YELLOW  
 NEUTRAL - WHITE  
 GROUND - GREEN

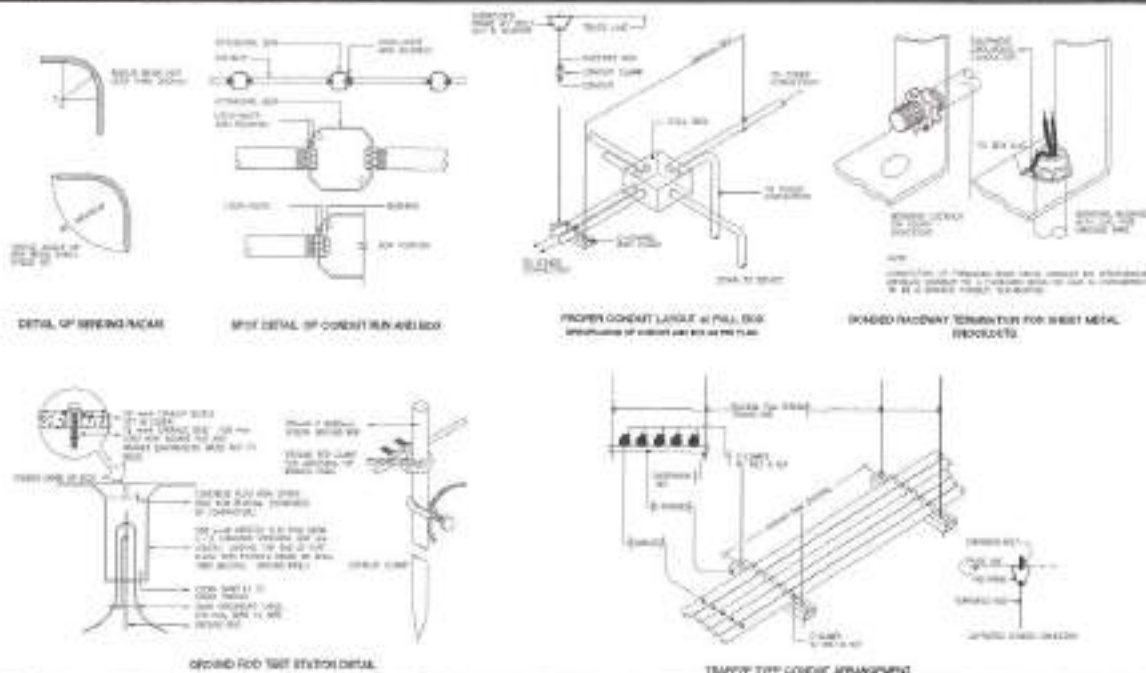
- BOXES, WIRE, SWITCHES, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:  
 MAXIMUM WIDTH OF THE WIRELESS SURFACE STEEL:  
 UP TO INCLUDING 92.4MM      GA SEPARATED WITH METAL PRIMER, EPOXY AND TOPCOAT  
 OVER 92.4MM BUT NOT OVER 41.30      GA 14 PAINTED WITH METAL PRIMER, EPOXY AND TOPCOAT  
 OVER 41.30MM BUT NOT OVER 92.4MM      GA SEPARATED WITH METAL PRIMER, EPOXY AND TOPCOAT  
 OVER 92.4MM      GA SEPARATED WITH METAL PRIMER, EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A FULLY ACCREDITED ELECTRICAL CONTRACTOR BY PCAB. WORKS SHALL BE NEATLY FINISHED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE BY WIRE SHALL BE: SINGLE PHASE, TWO WIRE PLUS GROUND, 200V/230V/AC/60HZ.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY CIRCUIT. ALL CONDUITS SHALL BE FIELD-BENT USING HYDRAULIC BENDERS. MINIMUM BEND RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR AND RESULTS OF THE METALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. CORROSION OR GALVANIC RESISTANCE SHALL NOT EXCEED 10 OHMS.

**LEGENDS :**

-  RECEPTACLE W/ 10W LED BULB
-  1-18W LED FL IN TROFFER FIXTURE
- 3abc    THREE GANG SWITCH
- S        ONE GANG SWITCH
- Sa      SELECTOR SWITCH
-  PANEL BOARD
-  CEILING FAN

**2 LEGENDS AND SYMBOLS**

NOT TO SCALE



**1 GENERAL NOTES**

NOT TO SCALE

**3 MISCELLANEOUS DETAILS**

NOT TO SCALE



Republika ng Pilipinas  
 Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED REHABILITATION OF  
 EAST ANAKBAYAN DAY CARE CENTER**

LOCATION:  
 BPO7, PAL TOK, DISTRICT 1, QUEZON CITY

DESIGN BY:  
 DATE: 7/21/2021

CHECKED BY:  
 REVISION NO.:

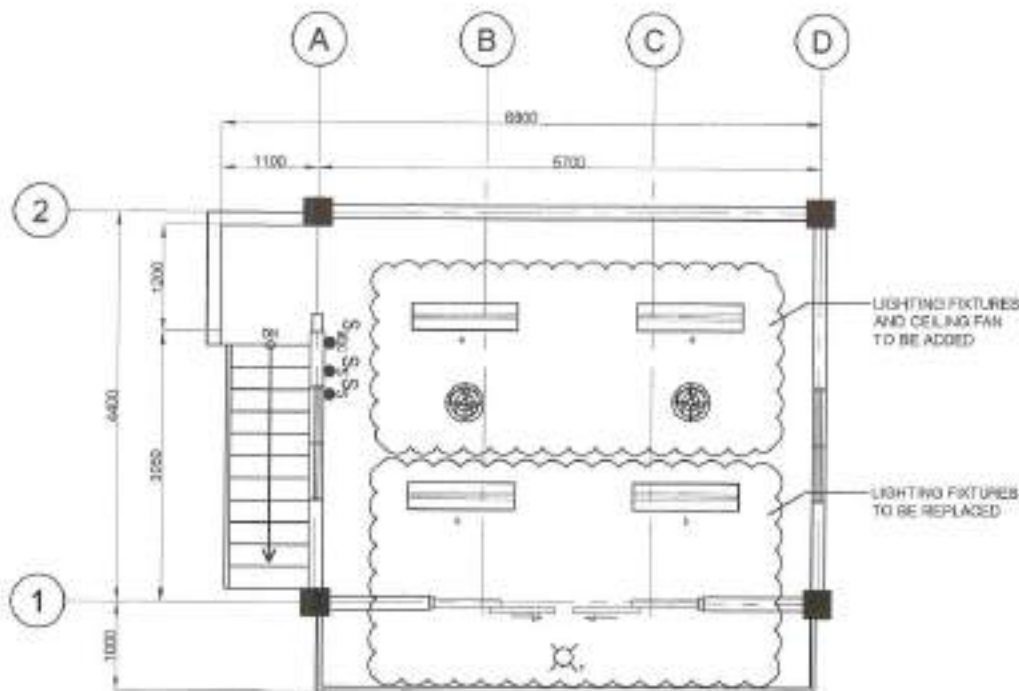
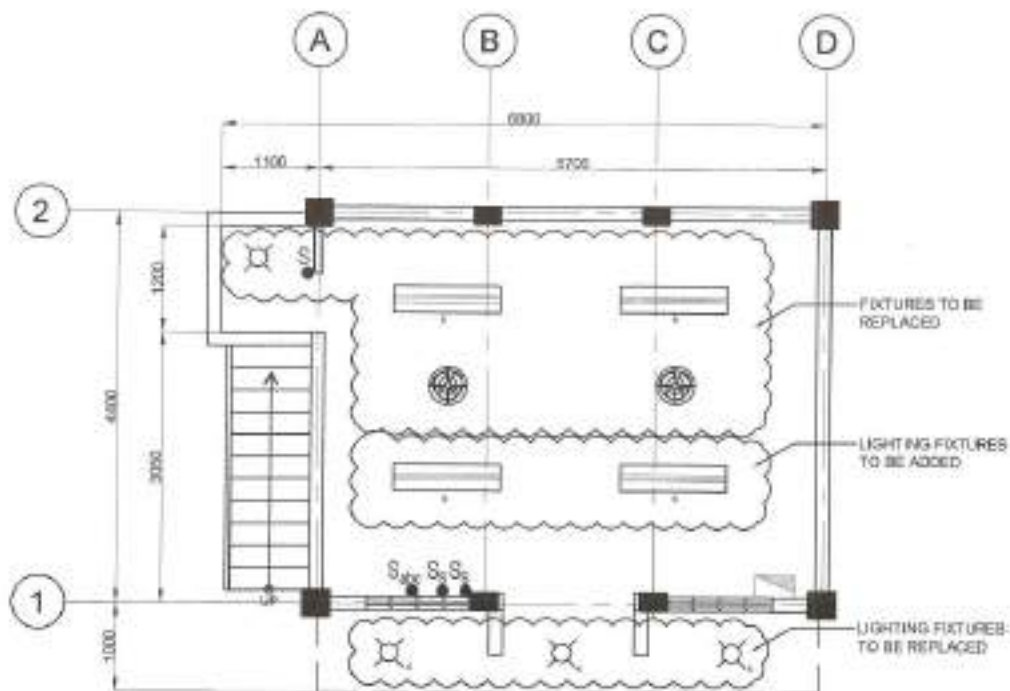
SUBMITTED BY:  
  
**ENGR. LINO S. DEL ROSARIO**  
 HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:  
  
**ENGR. ISAGANI R. VERZOSA, JR.**  
 DCC, CITY ENGINEERING DEPARTMENT

APPROVED BY:  
**HON. MA. JOSEFINA G. BELMONTE**  
 CITY ENGINEER, QUEZON CITY

SHEET CONTENT:  
 GENERAL NOTES  
 LEGENDS AND SYMBOLS  
 MISCELLANEOUS DETAILS

SHEET NO:  
**EL-1**  
**06/07**



NOTE:  
TAP TO EXISTING POWER SUPPLY

NOTE:  
TAP TO EXISTING POWER SUPPLY

**1 GROUND FLOOR LIGHTING LAYOUT**

**2 SECOND FLOOR LIGHTING LAYOUT**

SCALE: 1:80=1m

SCALE: 1:80=1m



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Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED REHABILITATION OF  
EAST ANAKBAYAN DAY CARE CENTER**  
LOCATION:  
BRGY. PALTOK, DISTRICT 1, QUEZON CITY

DRAWN BY: *JFA*  
DATE: 12/2021  
CHECKED BY: *JFA*  
REVISION NO.:

SUBMITTED BY:  
*[Signature]*  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING OFFICIAL:  
*[Signature]*  
**ENGR. ISAGANOR VERZOSA, JR.**  
CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*[Signature]*  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MGR., QUEZON CITY

SHEET CONTENT:  
GROUND FLOOR  
LIGHTING LAYOUT  
& SECOND FLOOR  
LIGHTING LAYOUT

SHEET NO.  
**EL-2**  
**07/07**



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<b>AR-4</b>	SCHEDULE OF DOORS AND WINDOWS HANGING CABINET DETAIL CABINET DETAIL
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<b>EL-2</b>	LIGHTING LAYOUT PLAN POWER LAYOUT PLAN

**1 VICINITY MAP**

NTS.

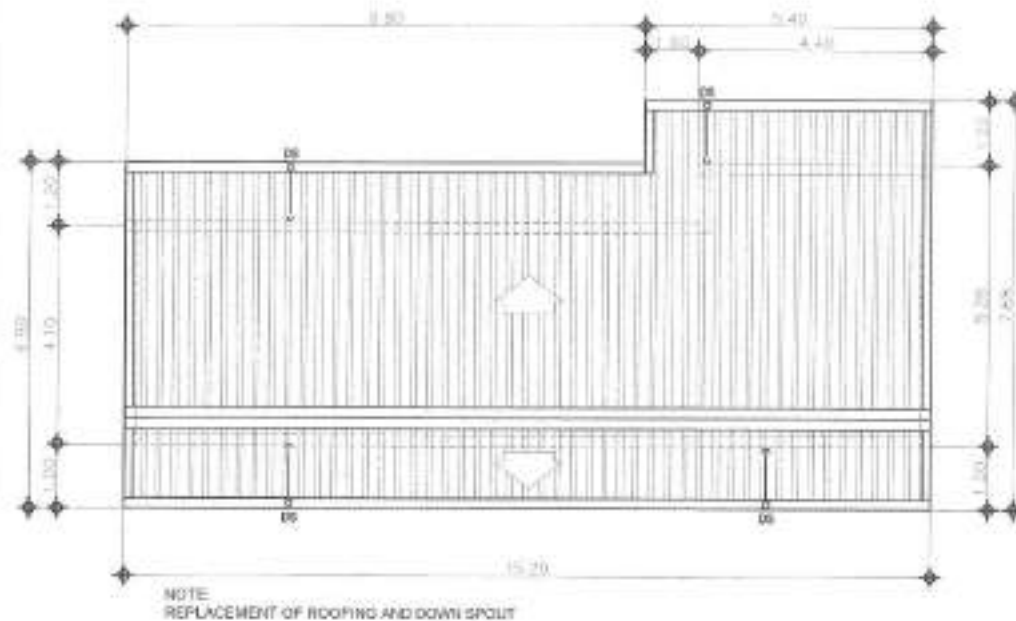
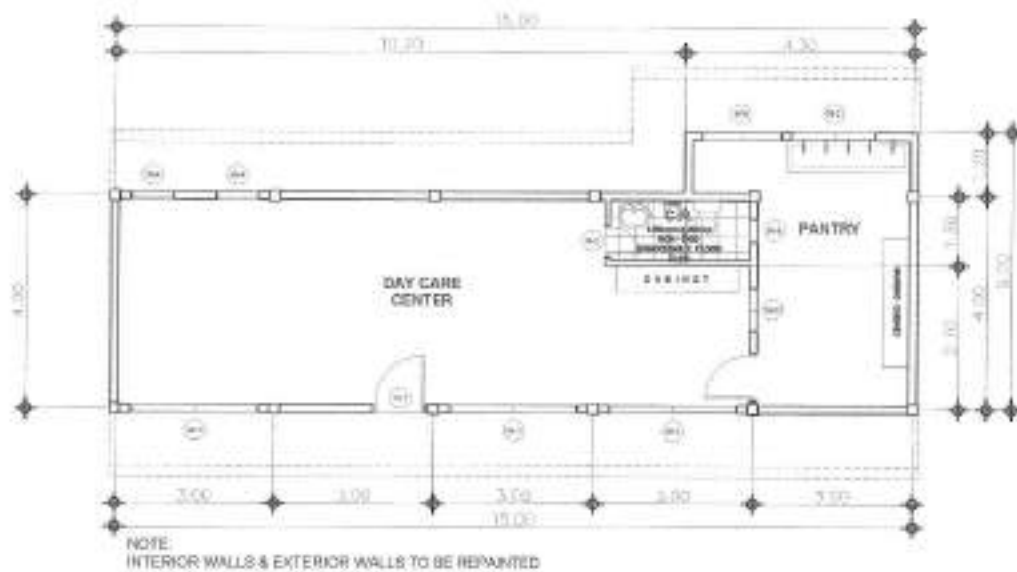
**2 LOCATION MAP**

NTS.



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Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE: <b>PROPOSED REHABILITATION OF NAYONG KANLURAN DAY CARE CENTER</b>	DATE: AUG. 1, 2021 CHECKED BY: JLP	DESIGNED BY:  ENGR. LEO S. DEL ROSARIO REG. PLANNER & REGISTERED CIVIL	RECOMMENDING APPROVAL:  ENGR. EVARAN R. VERZOSA, JR. REG. CIVIL ENGINEER	APPROVED BY:  HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	SHEET NO. OF TOTAL SHEETS: VICINITY MAP LOCATION MAP	SHEET NO. <b>AR-1</b> 16
LOCATION: BARAMGAY NAYONG KANLURAN DISTRICT 1, Q. C.	DESIGNED BY:	REVISION NO.:				



1 DAY CARE FLOOR PLAN

SCALE: 1/100th

2 ROOFING PLAN

SCALE: 1/100th



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Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
**PROPOSED REHABILITATION OF  
NAYONG KANLURAN  
DAY CARE CENTER**

LOCATION:  
BARANGAY NAYONG KANLURAN DISTRICT 1, D. C.

DESIGNED BY: *[Signature]*  
DATE: APR. 3, 2021  
CHECKED BY: *[Signature]*  
REVISION NO.:

DESIGNED BY: *[Signature]*  
DATE: APR. 3, 2021  
CHECKED BY: *[Signature]*  
REVISION NO.:

ENGR. LEO S. DEL ROSARIO  
REG. PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:

ENGR. SAHANI R. VERZOSA, JR.  
REG. PROFESSIONAL ENGINEER

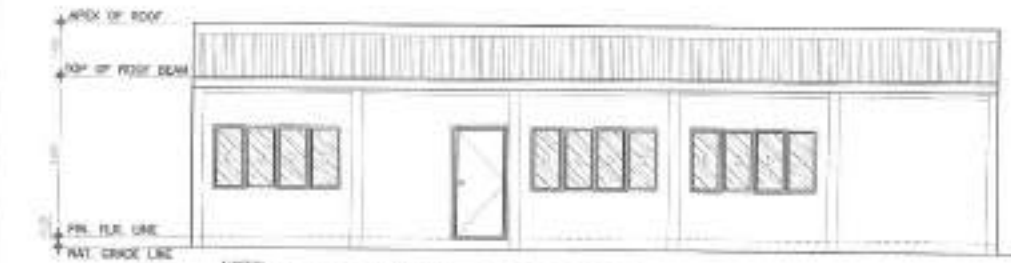
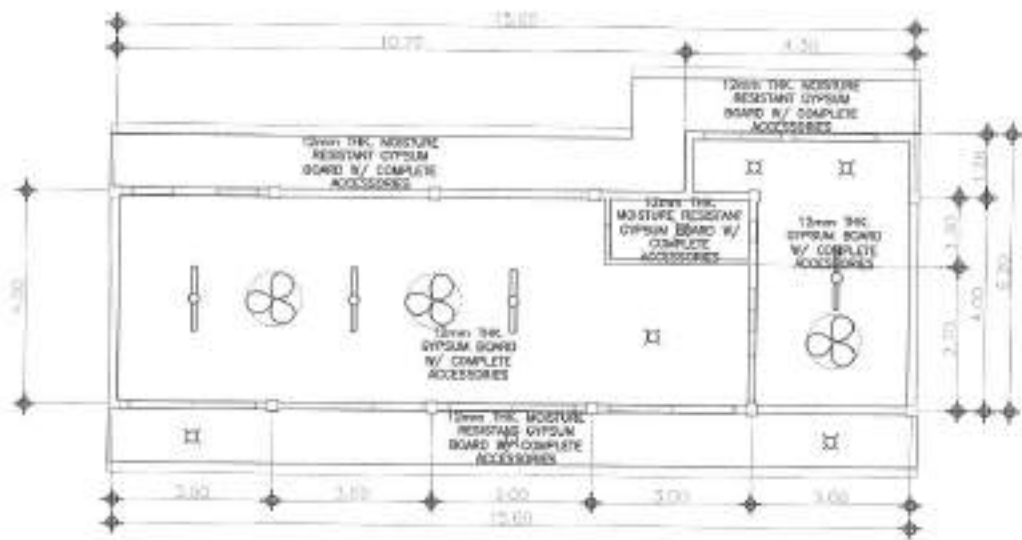
APPROVED BY:

HON. MA. JOSEFINA G. BELMONTTE  
CITY ENGINEER - CIVIL

SHEET NO. 0001

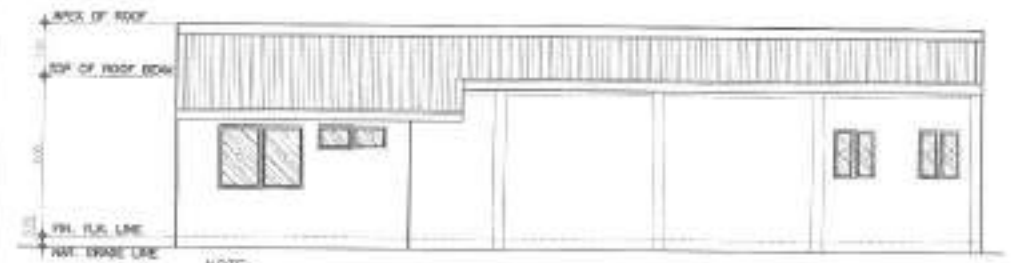
GROUND FLR. PLAN  
SECOND FLR. PLAN  
THIRD FLR. PLAN

AR-2  
2 | 6



**2 FRONT ELEVATION**

SCALE: 1/80th



**3 REAR ELEVATION**

SCALE: 1/80th



**4 RIGHT AND LEFT SIDE ELEVATION**

SCALE: 1/80th

**1 REFLECTED CEILING PLAN**

SCALE: 1/80th



PROJECT TITLE: **PROPOSED REHABILITATION OF NAYONG KANLURAN DAY CARE CENTER**  
 DATE: JUN 3, 2011  
 CHECKED BY: *JJR*  
 LOCATION: **BARANGAY NAYONG KANLURAN DISTRICT 1, Q. C.**  
 REVISION NO.:

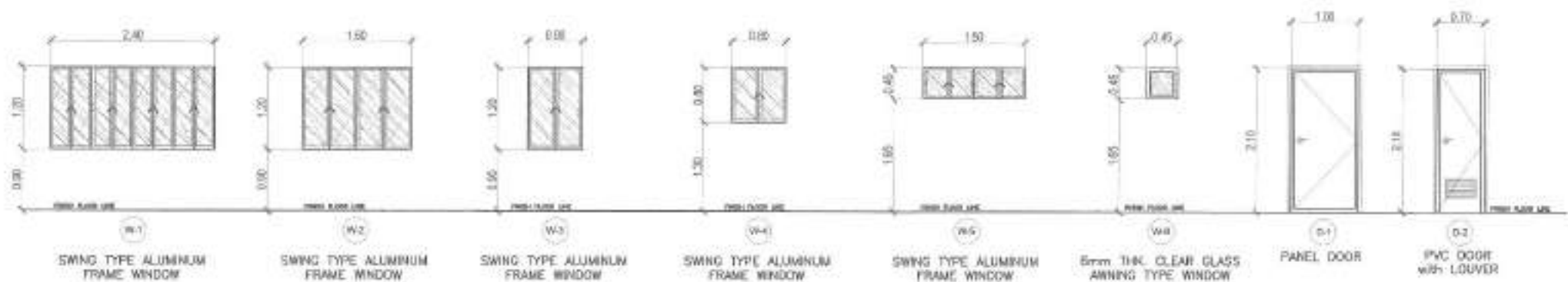
DRAWN BY: *[Signature]*  
 ENGR. **LEO S. DEL ROSARIO**  
 HEAD, PLANNING & PRODUCTION DIVISION

RECOMMENDING APPROVAL: *[Signature]*  
 ENGR. **MARICEL R. VERZOSA, JR.**  
 CHIEF, ENGINEERING DIVISION

APPROVED BY: *[Signature]*  
 HON. **MA. JOSEFINA G. BELMONTTE**  
 CITY ENGINEER

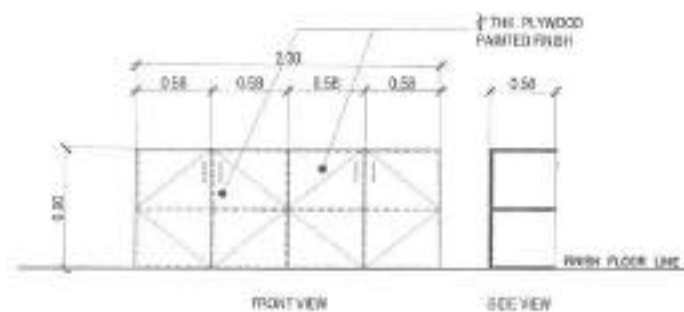
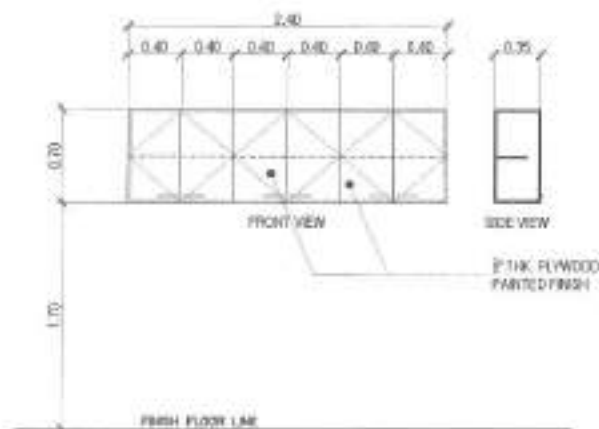
SHEET CONTENT: **REFLECTED CEILING PLAN, FRONT ELEVATION, REAR ELEVATION, RIGHT & LEFT SIDE ELEVATION**

SHEET NO.: **AR-3 / 36**



**1 SCHEDULE OF WINDOWS AND DOORS**

SCALE: 100%



**2 HANGING CABINET DETAIL**

SCALE: 140%

**3 CABINET DETAIL**

SCALE: 140%



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CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DATE: JUN 1, 2021	DESIGNED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDING APPROVAL:	APPROVED BY:	DISTRICT OFFICER:	SHEET NO.:
LOCATION:	BARANGAY NAYONG KANLURAN DISTRICT 1, Q.C.	CHECKED BY:		ENGR. SARANI R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTTE CITY MAJOR, QUEZON CITY	SCHEDULE OF DOORS & WINDOWS HANGING CABINET DET. CABINET DETAIL	AR-4 46

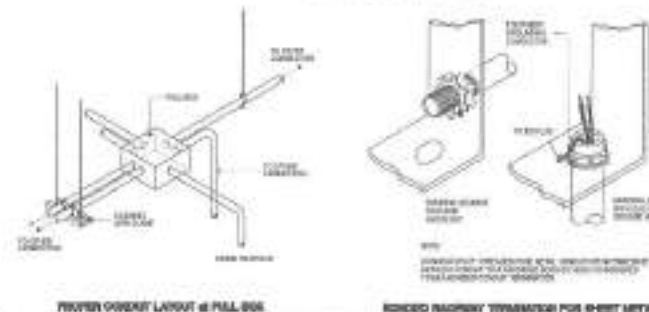
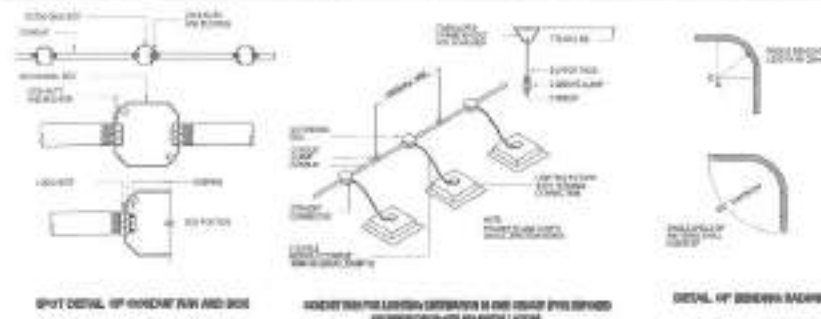
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL TURN-IN TO THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND NOT EXPOSED INSTALLATION SHALL BE NOT SUPPORTED BY CONDUIT CLAMPS EVERY TWO METER.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "NO QUANT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 220 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) RECEPTACLE FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND GROUNDING.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF. (300MM ABOVE WORKING CENTER)  
 TELEPHONE OUTLET - 300 MM AFF  
 CITY OUTLET - 300 MM AFF  
 LIGHTING SWITCH - 1000 MM AFF  
 PANELBOARD - 1800 MM AFF

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR ANTENNAS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NAME AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DETAILED ACTUAL LOCATIONS, LEVEL, AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HIGHLY REQUIRED TO MAKE SUCH ADJUSTMENT BY THE ACTUAL AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM THINW GAGE COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM COPPER WIRE. ALL WIRING AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LINE 1 - RED  
 LINE 2 - YELLOW  
 NEUTRAL - WHITE  
 GROUND - GREEN

- BOXES, WIRE, CUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:  
 MAXIMUM WIDTH OF THE WIRESET SURFACE STEEL  
 UP TO INCLUDING 152.40 MM      GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 152.40 MM BUT NOT OVER 457.20      GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 457.20 MM BUT NOT OVER 762.00 MM      GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 762.00 MM      GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY PCSA. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE 3-WIRE (PHASE, TWO WIRE PLUS GROUND), 50 HERTZ, 220V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. CONTINUITY OF GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.



## 2 MISCELLANEOUS DETAILS

NOT TO SCALE

CIRCUIT LINE	LED TROFFER TYPE LIGHTING
DUPLEX OUTLET	LED TROFFER TYPE LIGHTING
ACU OUTLET	LED BOX TYPE LIGHTING
JUNCTION BOX	LED PINLIGHT
THREE WAY SWITCH	LED BULB w/ RECEPTACLE
THREE GANG SWITCH	LED WALL MOUNTED LIGHTING
TWO GANG SWITCH	LED SURFACE MOUNTED LIGHTING
ONE GANG SWITCH	WALL MOUNTED EXHAUST FAN
SELECTOR SWITCH	CIRCUIT HOMERUN
ORBIT FAN	PANELBOARD
	ENCLOSED CIRCUIT BREAKER

## 1 GENERAL NOTES

NOT TO SCALE

## 3 LEGENDS AND SYMBOLS

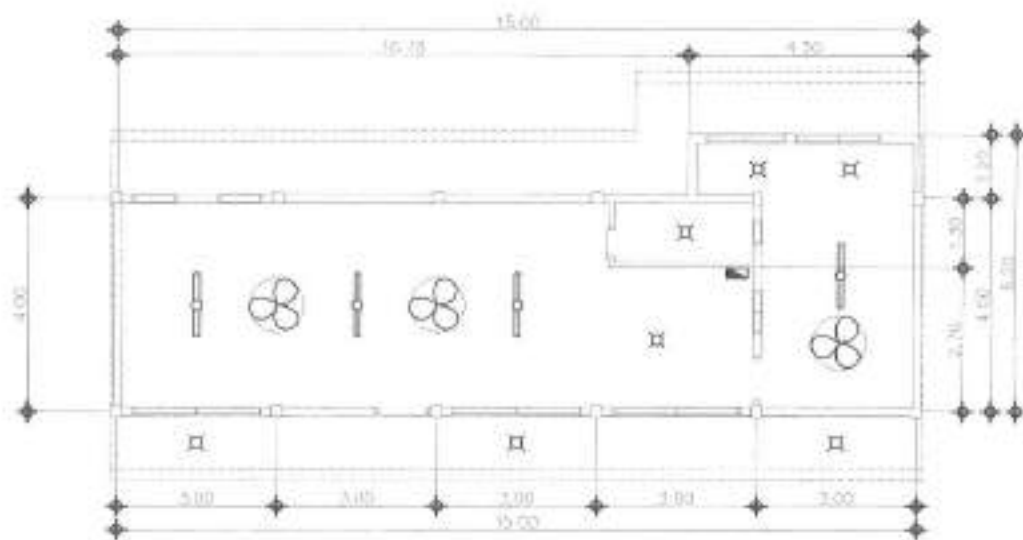
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 CITY ENGINEERING DEPARTMENT

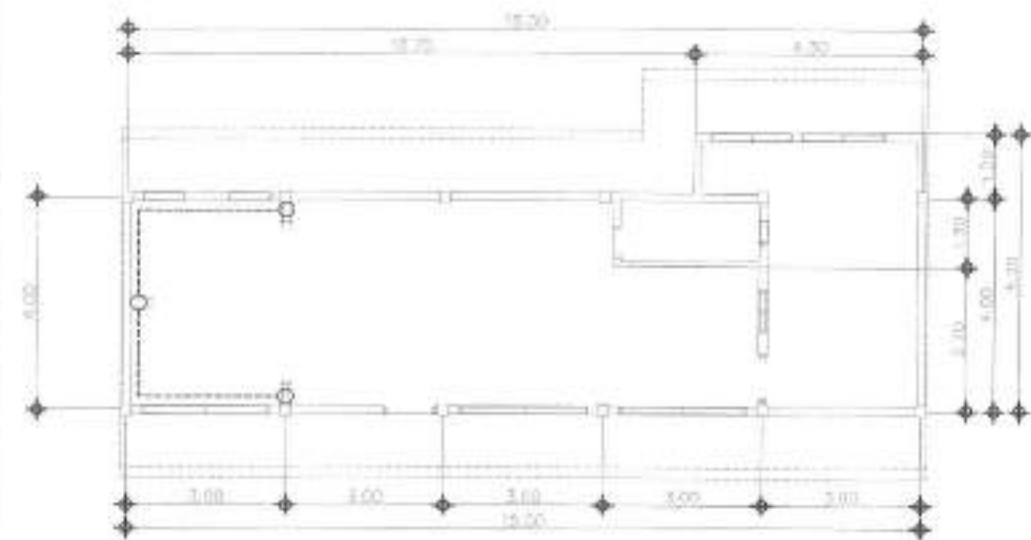
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PROPOSED REHABILITATION OF NAYONG KANLURAN DAY CARE CENTER	DATE: AUG. 3, 2021	DESIGNED BY: <i>[Signature]</i>	QUANTIFIED BY: <i>[Signature]</i>	RECOMMENDATION APPROVAL: <i>[Signature]</i>	AFFIRMED BY: <i>[Signature]</i>	GENERAL NOTES, MISCELLANEOUS DET, LEGEND & SYMBOLS	EL-1 5/6
LOCATION: BARANGAY NAYONG KANLURAN DISTRICT 1, D. C.		ENGR. LEO S. DEL ROSARIO MECH. PLUMBING & ELECTRICAL ENGINEER		ENGR. BASILINI R. VERZOSA, JR. CITY ENGINEERING SUPERVISOR	ENGR. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY		





## 1 LIGHTING LAYOUT PLAN

SCALE: 1:100



## 2 POWER LAYOUT PLAN

SCALE: 1:100



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF  
NAYONG KANLURAN  
DAY CARE CENTER

LOCATION:  
BARANGAY NAYONG KANLURAN DISTRICT 1, D. C.

DESIGNED BY:

DATE: AUG. 3, 2021

DRAWN BY: JFO

REVISION NO.:

CHECKED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLANNING AND DESIGN DIVISION

RECOMMENDED APPROVAL:

ENGR. ISAAC R. VERZOSA, JR.  
CHIEF, PLANNING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE  
CITY ENGINEER - QUEZON CITY

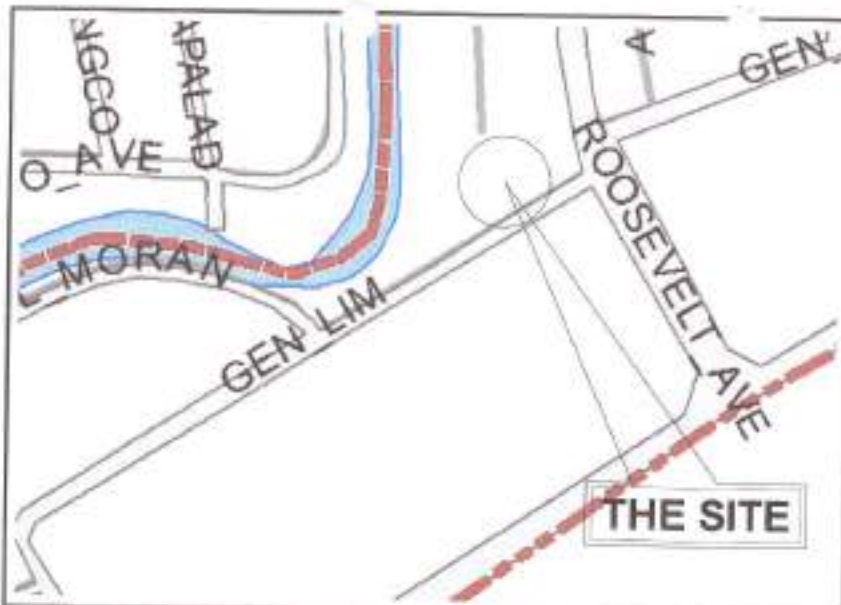
SHEET COUNT:

LIGHTING LAYOUT  
POWER LAYOUT

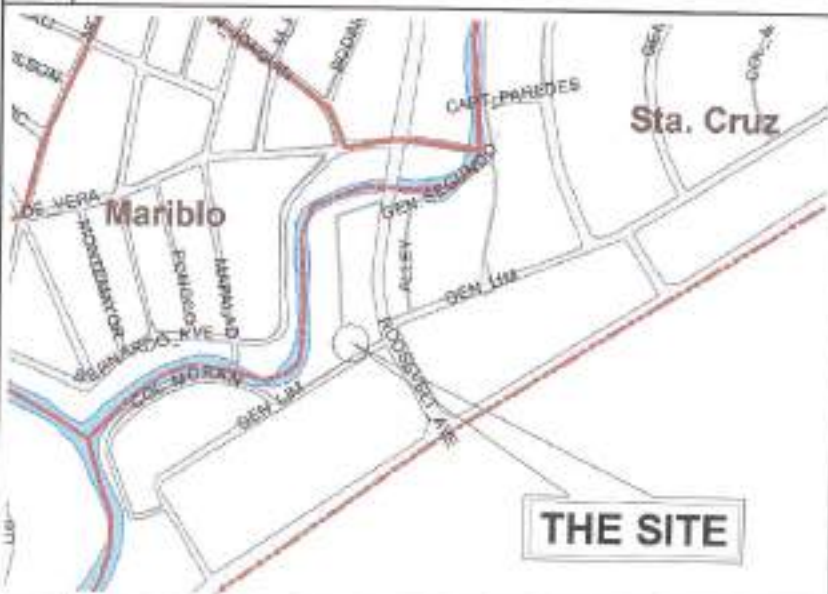
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EL-2

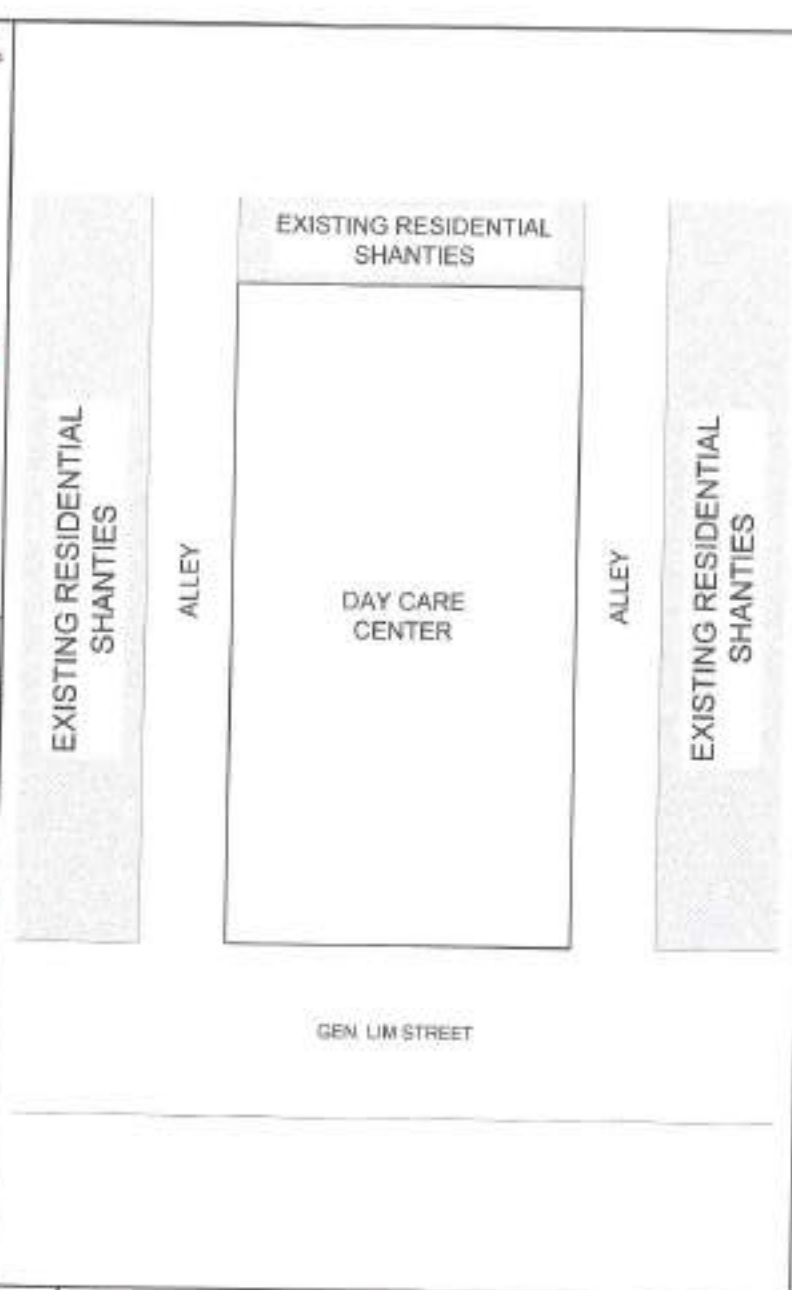
6/6



**1 VICINITY MAP**



**2 LOCATION MAP**



**3 SITE DEVELOPMENT PLAN**

NOT TO SCALE

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AR-04	SINGLE SINK PORTABLE HANDWASHING STALL PLAN ELEVATIONS
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Republic of the Philippines  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER**

LOCATION: BARRAGAY STA. CRUZ, DISTRICT 1, QUEZON CITY

DRAWN BY: **MSD**  
DATE: **06/02/21**  
CHECKED BY: **[Signature]**  
REASON NO.:

SUBMITTED BY:  
**[Signature]**  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:  
**[Signature]**  
**ENGR. JOSEAN R. VERZOSA, JR.**  
DCC CITY ENGINEERING DEPARTMENT

APPROVED BY:  
**[Signature]**  
**HON. NA. JOSEFINA G. BELMONTTE**  
CITY MARCH, QUEZON CITY

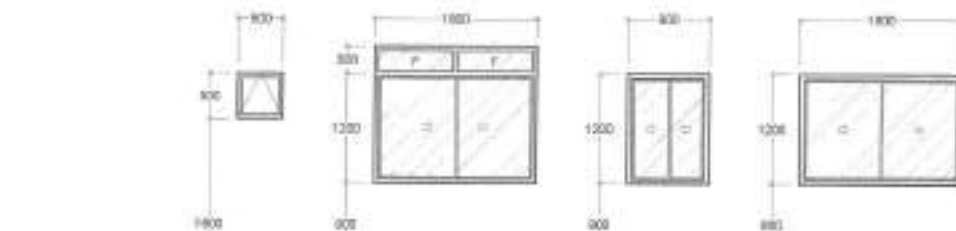
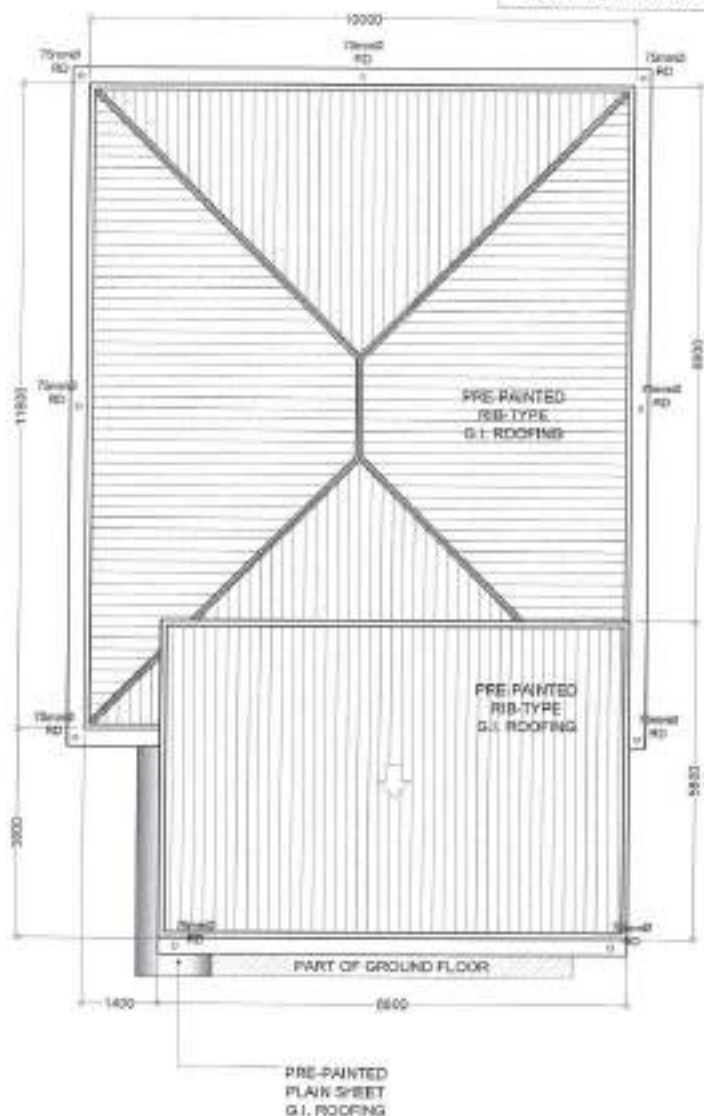
SHEET CONTENT:  
DAY CARE CENTER  
SITE DEVELOPMENT PLAN

SHEET NO.:  
**AR-01**  
**1** / **11**



**SCOPE OF WORKS:**

- REPAIR AND REPLACEMENT OF EXISTING DILAPIDATED ROOFING
- REPAIR AND REPLACEMENT OF EXISTING DILAPIDATED GUTTER



MARK	W1	W2	W3	W4
REMARKS	POWDER COATED ALUMINUM FRAMED AWING GLASS WINDOW	POWDER COATED ALUMINUM FRAMED SLIDING WINDOW WITH FIXED GLASS	POWDER COATED ALUMINUM FRAMED SLIDING GLASS WINDOW	POWDER COATED ALUMINUM FRAMED SLIDING GLASS WINDOW
SETS	1	1	1	1
LOCATION	COMFORT ROOM	PANTRY	DAY CARE CENTER	DAY CARE CENTER, STORAGE



MARK	D1	D2	D3	G1
REMARKS	PANEL DOOR 900mm x 2100mm	PVC DOOR 900mm x 2100mm	FLUSH DOOR 900mm x 2100mm	G.I. PIPE FRAMED WITH 12mm SQUARE BARS AND G.I. PLATE STEEL GATE
SETS	3	1	1	1
LOCATION	DAY CARE CENTER, STORAGE	COMFORT ROOM	STORAGE	TERRACE

**1 ROOF PLAN**

SCALE: 1:100 METERS

**2 SCHEDULE OF DOORS AND WINDOWS**

SCALE: 1:60 METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER ✓  
LOCATION: SANMAY STA. CRUZ, DISTRICT 1, QUEZON CITY  
REVISION NO.:

DRAWN BY:  
DATE: 05/09/21  
CHECKED BY:  
DESIGNED BY:

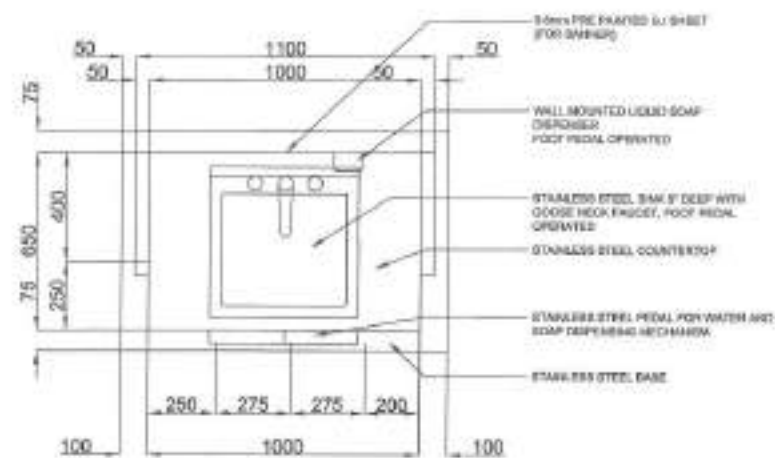
SUBMITTED BY:  
  
**ENGR. LEV S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAM DIVISION

RECOMMENDING APPROVAL:  
  
**ENGR. NESTOR R. VERZOSA, JR.**  
D.C. CITY ENGINEERING DIVISION

APPROVED BY:  
  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAYOR, QUEZON CITY

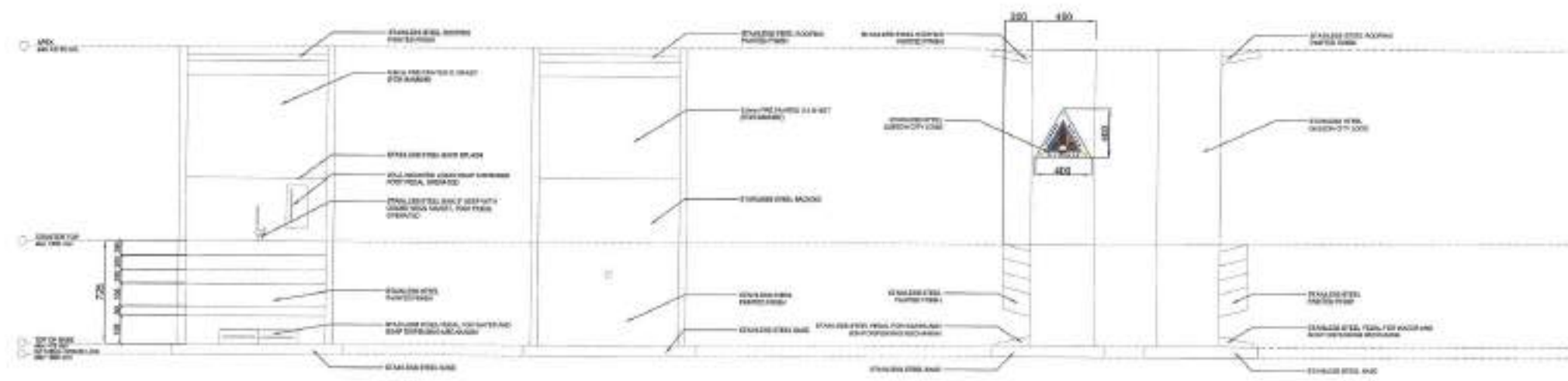
SHEET CONTENT:  
ROOF PLAN  
SCHEDULE OF DOORS AND  
WINDOWS

SHEET NO.:  
**AR-03**  
3 11







**1 PERSPECTIVE**

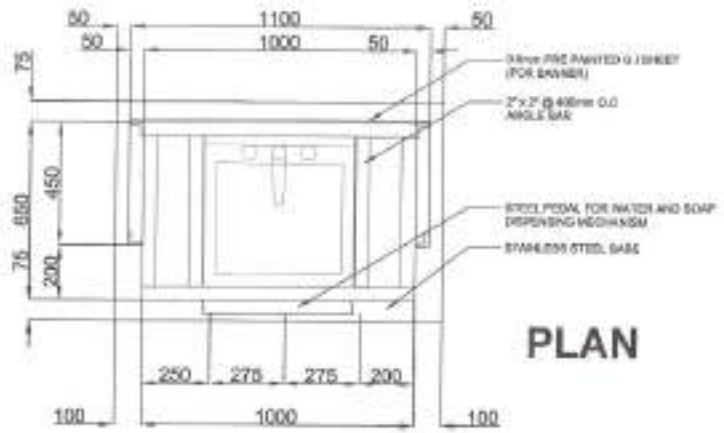
**2 SINGLE SINK PORTABLE HAND WASHING STALL PLAN SCALE: 1:60 METERS**



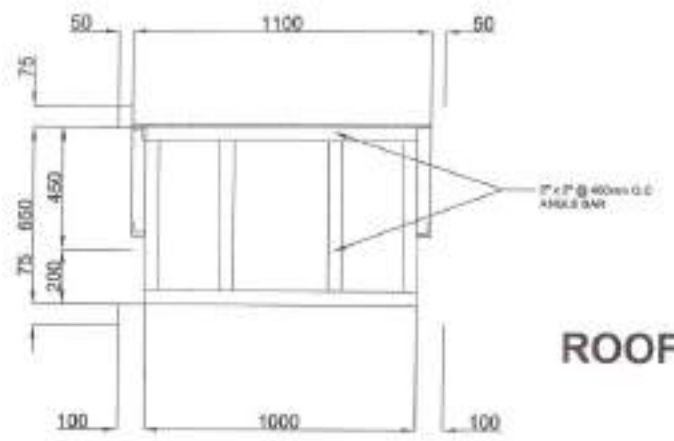
**3 ELEVATIONS**

SCALE: 1:30 METERS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER	DATE: 05/08/2021					PROPOSED SINGLE SINK PORTABLE HAND WASHING STALL PLAN REF: 001	AR-04 4   11
	LOCATION: BAYHWAY STA. CRUZ, DISTRICT 1, QUEZON CITY	REASON NO.:	ENGR. LEV S. DEL ROSARIO HEAD, PLANNING & RECONSTRUCTION DIVISION	ENGR. JERISAN R. VERZOSA, JR. D.C. CIVIL ENGINEER	HON. MA. JOSEFINA G. BELMONTÉ CITY MAYOR, QUEZON CITY			



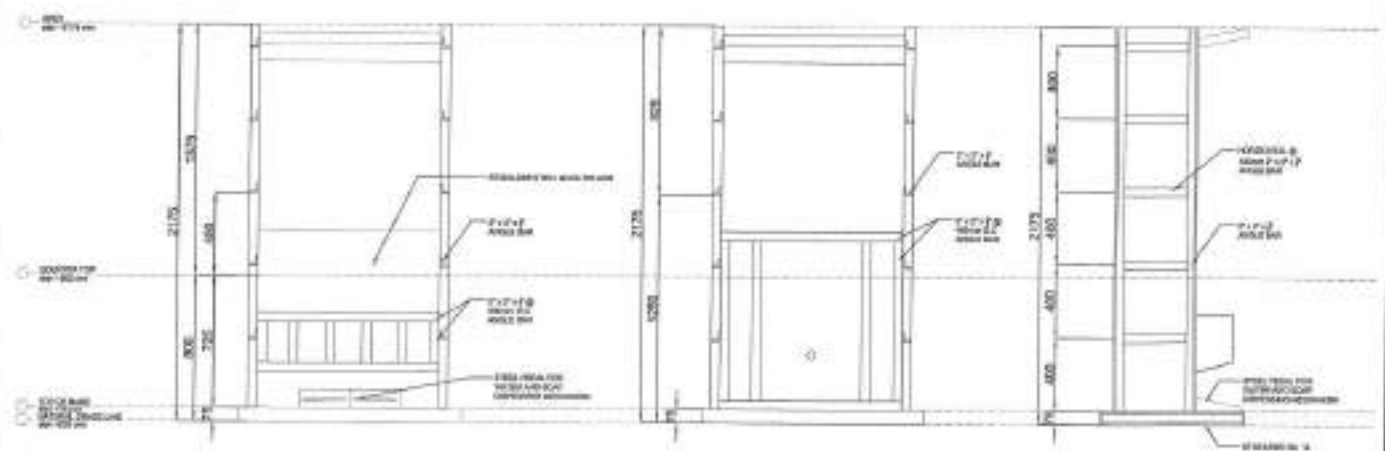
**PLAN**



**ROOF PLAN**

**1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN**

SCALE: 1:20 METERS



**2 ELEVATIONS**

SCALE: 1:30 METERS

**3 TYPICAL SECTION**

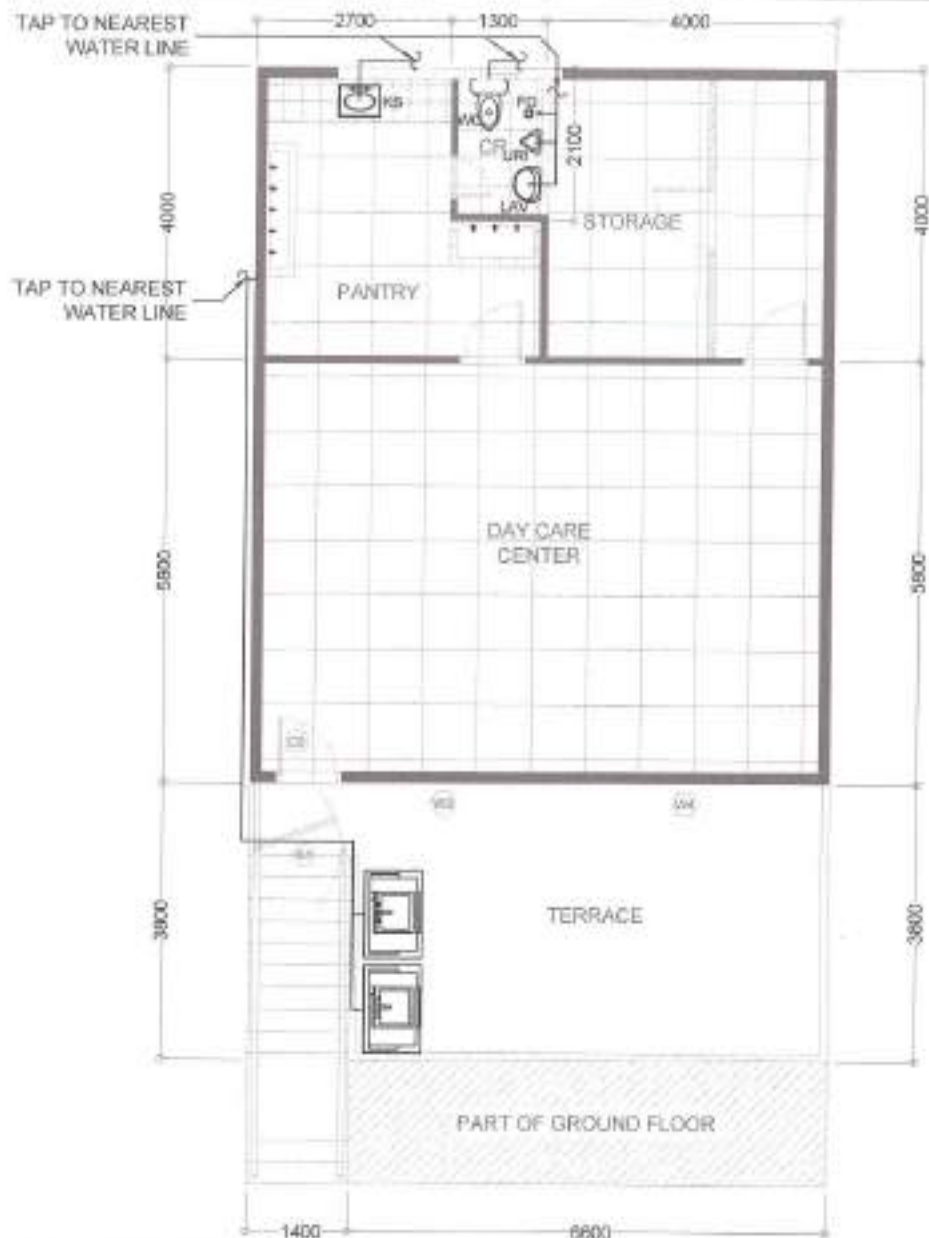
SCALE: 1:30 METERS

<p>         Republika ng Pilipinas          Lungsod ng Quezon  <b>CITY ENGINEERING DEPARTMENT</b> </p>	PROJECT TITLE: <b>PROPOSED CONSTRUCTION OF          HAND WASHING FACILITY AND          REHABILITATION OF STA. CRUZ DAY          CARE CENTER</b>	DRAWN BY: <i>LR</i> DATE: 08/09/21 CHECKED BY: <i>JM</i>	SUBMITTED BY:  <b>ENGR. LEO S. DEL ROSARIO</b> HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDING APPROVAL:  <b>ENGR. JARAM R. VERZOSA, JR.</b> CH. CITY ENGINEERING DEPARTMENT	APPROVED BY:  <b>HON. MA. JOSEFINA G. BELMONTE</b> CITY MAYOR, QUEZON CITY	SHEET CONTENT: SINGLE SINK PORTABLE HAND WASHING STALL PLAN TYPICAL SECTION	SHEET NO.: 	
	LOCATION: BAYANGDAY STA. CRUZ, DISTRICT 1, QUEZON CITY	REVISION NO.:						

## GENERAL NOTES:

- All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.
- The plumbing layout is only diagrammatic; pipes, cleanouts and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but all the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper execution in relation with other trades.
- The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.
- Pipes shall not be embedded in structural members unless otherwise specified or allowed.
- Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 5%.
- Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/utilities.
- Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
- All floor drains shall be vented individually.
- All clean out females shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines on grade and service areas not subject to traffic.
- All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.
- Provide vent stack and vent pipe thru roof of cast iron service weight as required.
- All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.
- Provide gate valves to all water supply lines to fixtures.
- All hot water lines shall be provided with proper insulation when exposed.
- All individual branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:  
H = 450 mm for 19 mm Ø and larger  
H = 300 mm for 12 mm Ø and smaller
- All hose bibbs shall be 19 mm Ø (3/4" Ø) unless otherwise indicated.
- Inlet pipe of septic tank is 50 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.
- All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

	UNION FITTING		PIPE UP
	CHECK VALVE		MILLIMETER
	BUILDING SEWER		GATE VALVE
	BUILDING DRAIN		AREA DRAIN/CATCH BASIN
	WASTE LINE		WATER CLOSET
	AREA DRAIN/CATCH BASIN		LAVATORY
	FLOOR DRAIN		MANHOLE
	DIAMETER		HOSE BIBB
	WASTE LINE		STORM DRAIN LINE
	WATER LINE		VENT LINE
	GATE VALVE		VENT ABOVE CEILING
	DECK DRAIN		CONCRETE PIPE/REINF. CONC. PIPE
	CLEANOUT		VENT THRU ROOF
	PIPE DOWN		DIRECTION OF FLOW/SLOPE



## 1 GENERAL NOTES

## 2 DAY CARE WATER LINE LAYOUT

SCALE: 1:75 METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER

ADDRESS: SANMIGAY STA. CRUZ, DISTRICT 1, QUEZON CITY

DESIGNED BY:

DATE: 00000000

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO  
HEAD, PLUMBING & PIPING DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.  
CIL, CITY ENGINEERING DEPARTMENT

APPROVED BY:

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

SHEET CONTENT:

UNREPLACED  
DAY CARE CENTER WATER  
LAYOUT

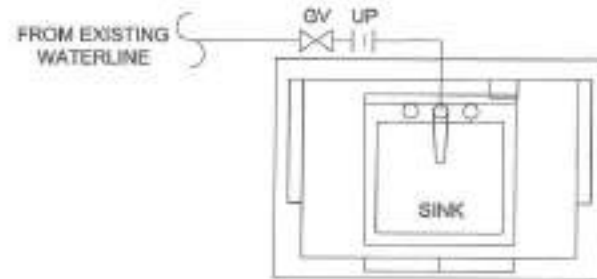
SHEET NO.:

PL-01  
6 11



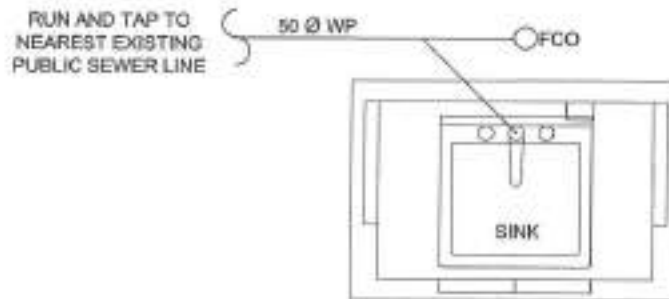
**1 DAY CARE SANITARY LAYOUT**

SCALE: 1:75 METERS



**2 SINGLE SINK PORTABLE HAND WASHING WATER LINE**

SCALE: 1:20 METERS



**3 SINGLE SINK PORTABLE HAND WASHING SANITARY LINE**

SCALE: 1:20 METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER**

LOCATION: SANANDAY SEA, CRUZ DISTRICT 1, QUEZON CITY

DRAWN BY: *[Signature]*  
DATE: 05/27/2021  
CHECKED BY: *[Signature]*  
REVISIONS:

SUBMITTED BY:  
*[Signature]*  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLUMBING & PROGRAMMING SECTION

RECOMMENDING APPROVAL:  
*[Signature]*  
**ENGR. SAGUN R. VERZOSA, JR.**  
SEC. CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*[Signature]*  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAYOR, QUEZON CITY

SHEET CONTENT:  
SINK AND WATER SUPPLY  
LAYOUT  
FOR SINK AND PORTABLE  
HAND WASHING FACILITY, RE-  
HABILITATION OF STA. CRUZ DAY  
CARE CENTER, QUEZON CITY









SHEET NO.:  
**PL-02**  
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11  
11



- ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.
- THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.
- THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES. ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.
- ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.
- EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.
- ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
- PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.
- PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD /CB.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD /CB
- PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.
- PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.
- ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

## 1 GENERAL NOTES

	- EQUIPMENT DESIGNATION		- ELBOW UP
	- REFRIGERANT PIPE		- ELBOW DOWN
	- WALL MOUNTED INDOOR UNIT		- FAN COIL UNIT
	- WINDOW TYPE AIR CONDITIONER		
	- AIR COOLED CONDENSING UNIT		

## 2 LEGENDS AND SYMBOLS

WINDOW TYPE AIR-CONDITIONER AIR-COOLED CONDENSING UNITS										
DESIGNATION	LOCATION	QUANTITY	HP RATING	COOLING CAPACITY	AIR CIRCULATION	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
							VOLTS	PHASE	HERTZ	
	45 STAIRS OR PLANE	1 SET	15 HP	10000	300 CFM	1200	200V	3P	60	INCLUSIVE OF AIR-COOLED CONDENSING UNIT TO CLIMATE CONTROL UNIT IN MECHANICAL CHASE AREA

## 3 AIRCONDITIONING SYSTEM SCHEDULE



## 4 DAY CARE CENTER FLOOR AIRCONDITIONING LAYOUT

SCALE: 1:100 METERS



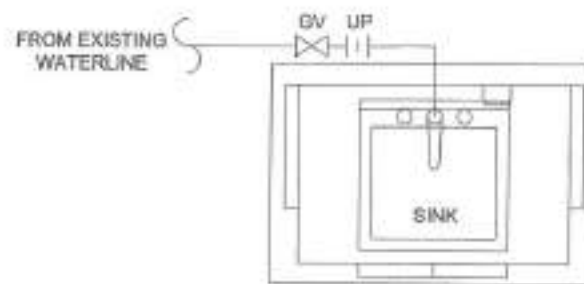
Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER ✓	DRAWN BY: <i>[Signature]</i> DATE: 07/09/2021 CHECKED BY: <i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDING OFFICER: <i>[Signature]</i> ENGR. ISAGAN R. VERZOSA, JR. CH. CIV. ENGR. (LANSING DEPARTMENT)	APPROVED BY: <i>[Signature]</i> HON. MA. JOSEFINA O. BELMONTE CITY ENGINEER - QUEZON CITY	SHEET CONTENT: GENERAL NOTES PLANS & SPECIFICATIONS AIR-CONDITIONING SYSTEM SCHEDULE DRY CARE CENTER FLOOR AIR-CONDITIONING LAYOUT	SHEET NO.: 
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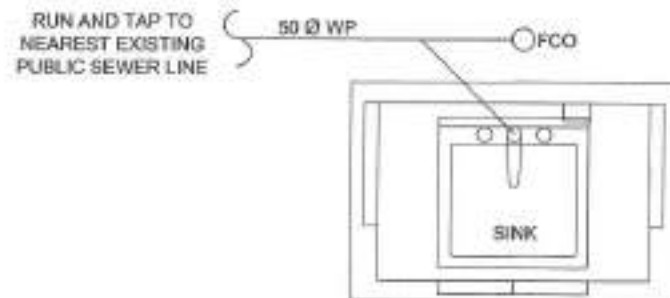
### 1 DAY CARE SANITARY LAYOUT

SCALE: 1:75 METERS



### 2 SINGLE SINK PORTABLE HAND WASHING WATER LINE

SCALE: 1:20 METERS



### 3 SINGLE SINK PORTABLE HAND WASHING SANITARY LINE

SCALE: 1:20 METERS



Republika ng Pilipinas  
Lungsod ng Cebu  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER  
LOCATION: BAMBANGI STA. CRUZ, DISTRICT 1, QUEZON CITY

DRAWN BY: [Signature]  
DATE: 05/20/21  
CHECKED BY: [Signature]  
REVISION NO.:

DESIGNED BY: [Signature]  
ENGR. LEO S. DEL ROSARIO  
HEAD, PLUMBING & PIPING DIVISION

RECOMMENDED BY: [Signature]  
ENGR. ISMAEL R. VERZOSA, JR.  
C.E., CITY ENGINEERING DEPARTMENT

APPROVED BY: [Signature]  
HON. MA. JOSEFINA G. BELMONTE  
CITY MAYOR, CEBU CITY

SHEET CONTENT:  
DAY CARE CENTER SANITARY  
LAYOUT  
SINGLE SINK PORTABLE  
HAND WASHING FACILITY, FC  
SINK FROM PUBLIC  
SEWERAGE SANITARY LINE

SHEET NO.:  
PL-02  
7 | 11

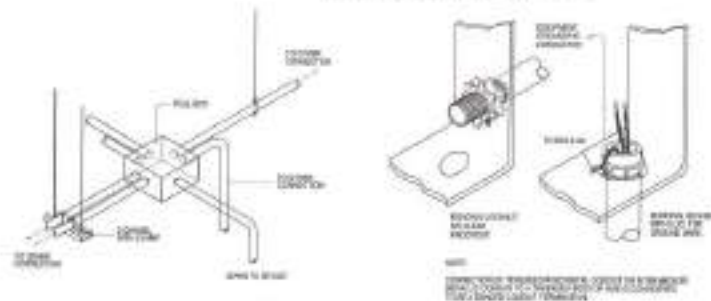
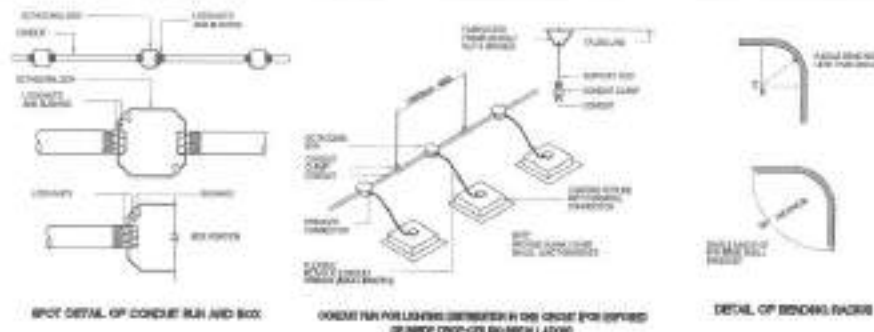
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE MC SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS.
- WALL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THERE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRIOR TO FABRICATION, LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH FINISHED SLOTS FOR 220 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDING.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFT, 150MM ABOVE WORKING COUNTER  
 TELEPHONE OUTLET - 300MM APT  
 CATHY OUTLET - 300MM APT  
 LIGHTING SWITCH - 1400MM APT  
 PANELBOARD - 1800MM APT

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND AS SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NAMES SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND GROUND OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE EXACT AND ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 22 AWG. MM 1/8" DIA COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.0/32" MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

LIVE 1 - RED  
 LIVE 2 - YELLOW  
 NEUTRAL - WHITE  
 GROUND - GREEN

- BOXES, WIRE, CUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:  
 MAXIMUM WIDTH OF THE WIREBET SURFACE STEEL  
 UP TO 300MM 10 GA  
 OVER 300MM 12 GA  
 OVER 450MM 14 GA  
 OVER 600MM 16 GA  
 OVER 750MM 18 GA  
 OVER 900MM 20 GA  
 OVER 1050MM 22 GA  
 OVER 1200MM 24 GA  
 OVER 1350MM 26 GA  
 OVER 1500MM 28 GA  
 OVER 1650MM 30 GA  
 OVER 1800MM 32 GA  
 OVER 1950MM 34 GA  
 OVER 2100MM 36 GA  
 OVER 2250MM 38 GA  
 OVER 2400MM 40 GA  
 OVER 2550MM 42 GA  
 OVER 2700MM 44 GA  
 OVER 2850MM 46 GA  
 OVER 3000MM 48 GA
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A QUALY ACCREDITED ELECTRICAL CONTRACTOR BY PG&E WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 220VAC NOMINAL.
- CONDUITS IN AND OUT SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS OR FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 3 OHMS.



## 2 MISCELLANEOUS DETAILS

NOT TO SCALE

1	EXISTING DUPLEX CONVENIENCE OUTLET	REPLACE	ADDITIONAL 1X100R RECESSED TRIGGER TYPE (TAP TO EXISTING LIGHTING DEVICES)	MCP-1	CIRCUIT BREAKER
2	ADDITIONAL DUPLEX CONVENIENCE OUTLET (TAP TO EXISTING CONVENIENCE OUTLET)	INSTALL	ADDITIONAL PULLBOX (TAP TO EXISTING LIGHTING DEVICES)		FINEL BOARD
3	REPLACE DUPLEX CONVENIENCE OUTLET (TAP TO EXISTING CONVENIENCE OUTLET)	REPLACE	SELECTOR SWITCH (TAP)		ILLUMINATION METER
4	ADDITIONAL 1X100R INLET OUTLET (INDOOR TYPE)	INSTALL	SINGLE GANG SWITCH (LIGHTS)		SERVICE ENTRANCE
5	ADDITIONAL CEILING FAN (TAP TO EXISTING LIGHTING DEVICES)	INSTALL	THREE GANG SWITCH (LIGHTS)		

## 1 GENERAL NOTES

NOT TO SCALE

## 3 LEGENDS AND SYMBOLS

NOT TO SCALE

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGN BY:	SUBMITTED BY:	NECESSARILY APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER	DATE: 07/20/2021	CHECKED BY: J.M.				GENERAL NOTES WITH REVISIONS (REVISED AND PANELS)
LOCATION: BARANGAY STA. CRUZ, DISTRICT 1, QUEZON CITY	REVISION NO.:	ENGR. LEO S. DEL ROSARIO REG. PLANNER & PROFESSIONAL DESIGNER	ENGR. ISMAEL R. VERZOSA, JR. P.E. ELECTRICAL ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY			

### MDP (MAIN DISTRIBUTION PANEL)

LOCATION: GROUND FLOOR

MOUNTING: NEMA1, RECESSED WITH GRAY POWDERED COATED FINISH WITH MULTI-TERMINAL BLOCK FOR SOLID GROUND BUS

CKT. NO.	LOAD DESCRIPTION	VOLTS	VA	AMP.	AT	SIZE OF	
						WIRES	CONDUITS
1	LIGHTING OUTLET	230	2000	8.70	20	2 - 14.0mm <sup>2</sup> THHN COPPER WIRE 2 - 14.0mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
2	CONVENIENCE OUTLET	230	2160	9.39	30	2 - 14.0mm <sup>2</sup> THHN COPPER WIRE 2 - 14.0mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
3	CONVENIENCE OUTLET	230	2160	9.39	30	2 - 14.0mm <sup>2</sup> THHN COPPER WIRE 2 - 14.0mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
4	1-2HP AIR CONDITIONING UNIT (SPLIT TYPE)	230	2760	12.0	30	2 - 14.0mm <sup>2</sup> THHN COPPER WIRE 2 - 14.0mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
5	1-2HP AIR CONDITIONING UNIT (WINDOW TYPE)	230	2300	10.0	30	2 - 14.0mm <sup>2</sup> THHN COPPER WIRE 2 - 14.0mm <sup>2</sup> TW GROUND WIRE	IN 25mm <sup>2</sup> PVC PIPE
			11380	49.48			

#### COMPUTATION:

$$I_T = \frac{11380}{230V} = 49.48 \text{ AMP.}$$

$$I_T = 52.48 \text{ AMP.}$$

#### OVERCURRENT PROTECTION

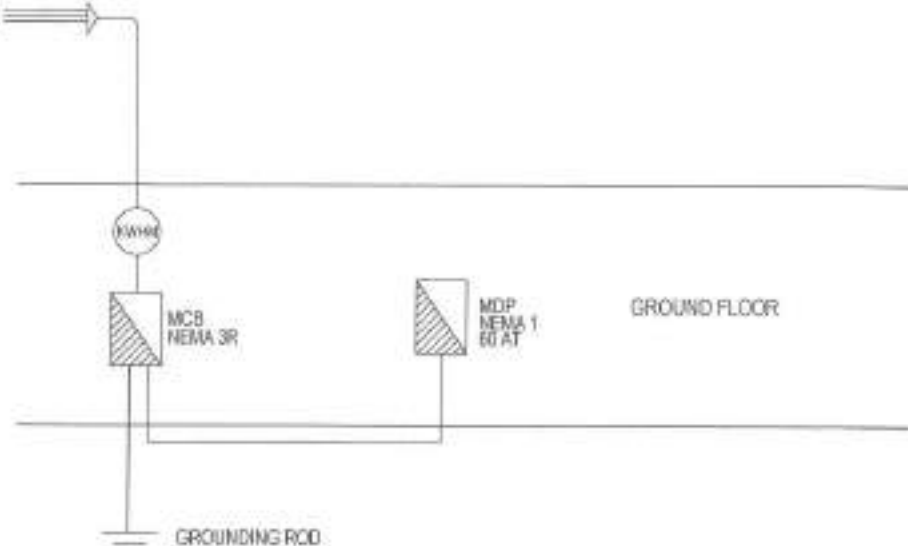
USE: 80AT, 2P, 230V MOULDED CASE CIRCUIT BREAKER IN NEMA 1

#### MAIN FEEDER:

USE: 2 - 14.0mm<sup>2</sup> THHN & 1-14.0mm<sup>2</sup> TW GROUND WIRE IN 32mm<sup>2</sup> PVC PIPE

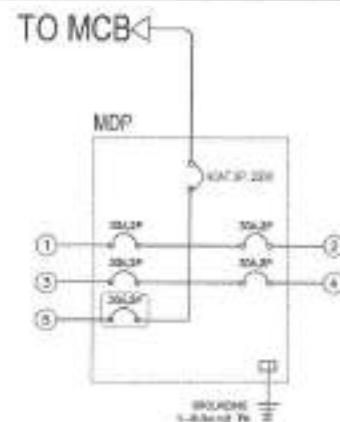
#### SERVICE ENTRANCE

UTILITY COMPANY  
OVERHEAD LINE  
3Ø, 1Ø, 2Ø, 3Ø, 3Ø



## 2 SINGLE LINE DIAGRAM

NOT TO SCALE



## 1 SCHEDULE OF LOADS

NOT TO SCALE

## 3 PANEL BOARD DETAIL

NOT TO SCALE



Republika ng Pilipinas  
Lungsod ng Quezon  
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:  
PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER

LOCATION: BARANGAY STA. CRUZ, DISTRICT 1-QUEZON CITY

DRAWN BY: *[Signature]*  
DATE: 08/20/2019  
CHECKED BY: *[Signature]*  
REVISION NO.:

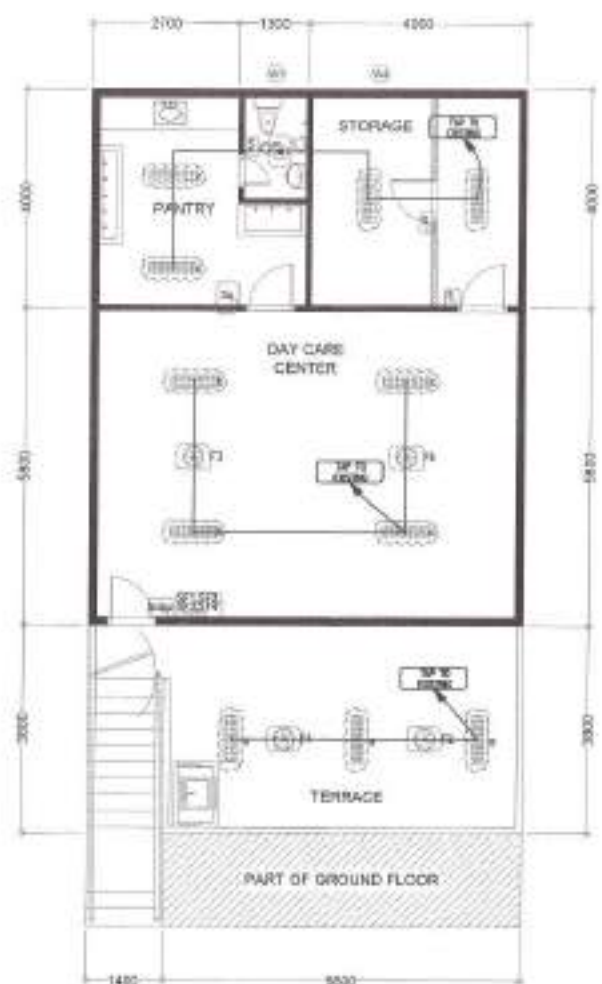
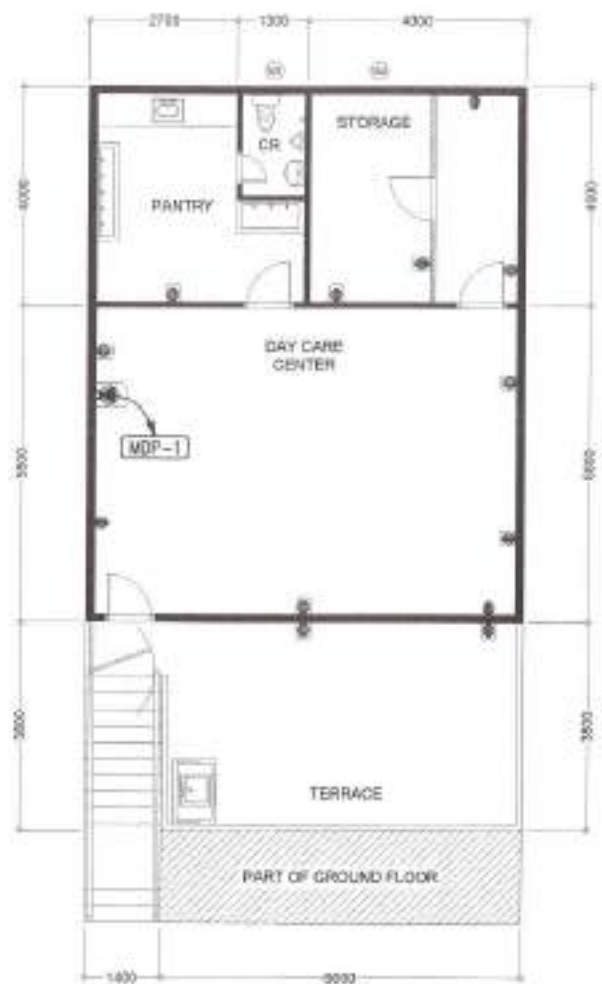
SUBMITTED BY:  
*[Signature]*  
ENGR. LEON DEL ROSARIO  
ENR. PLANNING & PERFORMANCE DIVISION

RECOMMENDING APPROVAL:  
*[Signature]*  
ENGR. ISAGAN R. VERZOSA, JR.  
CO. CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*[Signature]*  
HON. NA. JOSEFINA G. BELMONTE  
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:  
CITY ENGINEERING DEPARTMENT  
HAND WASHING FACILITY AND REHABILITATION

SHEET NO.:  
EL-02  
9 11



# 1 DAY CARE CENTER POWER LAYOUT

SCALE 1 : 100 MTS

# 2 DAY CARE CENTER LIGHTING LAYOUT

SCALE 1 : 100 MTS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF  
HAND WASHING FACILITY AND  
REHABILITATION OF STA. CRUZ DAY  
CARE CENTER**  
LOCATION: BARANGAY STA. CRUZ, DISTRICT 1, QUEZON CITY

DRAWN BY: *[Signature]*  
DATE: 05/08/2018  
CHECKED BY: *[Signature]*  
REVISION NO.:

SUBMITTED BY:  
*[Signature]*  
**ENGR. LEONIS DEL ROSARIO**  
18-01, PLANNING & REGULATIONS DIVISION

RECOMMENDED APPROVAL:  
*[Signature]*  
**ENGR. ISAAC M. R. VERZOSA, JR.**  
CH. OF ENGINEERING DEPARTMENT









APPROVED BY:  
*[Signature]*  
**HON. RA. JOSEFINA S. BELMONTTE**  
CITY MANOR, QUEZON CITY

SHEET CONTENT:  
DAY CARE CENTER POWER  
LAYOUT  
DAY CARE CENTER LIGHTING  
LAYOUT

SHEET NO.:  
**EL-03**  
10 | 11

- ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE NATIONAL BUILDING CODE, PSME CODE AND THE RULES AND REGULATIONS OF QUEZON CITY.
- THE SCOPE OF WORK SHALL INCLUDE ALL WORKS DESCRIBED IN PLANS.
- THE WORKS SHALL BE EXECUTED IN CLOSE COORDINATION WITH ALL OTHER TRADES. ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- ALL AIRCONDITIONED SPACES SHALL BE MAINTAINED AT 24°C DB AND 50% RH.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MANUFACTURERS CATALOGUE, SPECIFICATIONS, SAMPLES, INCLUDING VIBRATION ISOLATORS BEFORE EXECUTION OF WORK.
- ALL FLOOR SLAB MOUNTED VIBRATING EQUIPMENT SHALL BE PROVIDED WITH VIBRATION ISOLATORS TO PREVENT VIBRATIONS AND NOISE TRANSMISSION.
- EXHAUST FAN SHALL BE PROVIDED WITH SUITABLE FLEXIBLE CONNECTIONS TO DISCHARGE DUCT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTING AND COMMISSIONING OF THE WHOLE VENTILATION AND AIRCONDITIONING SYSTEM AND INSTALLATION.
- ALL POWER WIRING SHALL BE ELECTRICAL AND TERMINATION TO EQUIPMENT SHALL BE MECHANICAL.
- PROVIDE CONTROL WIRING FOR AIRCONDITIONING EQUIPMENT.
- PROVIDE THERMOSTAT FOR ALL INDOOR UNITS / FAN COIL UNITS.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD / CB.
- ALL PIPE EQUIPMENT CONDENSATE DRAIN SHALL BE CONNECTED TO THE NEAREST FLOOR DRAIN / AD / CB.
- PROVIDE GUIDES, HANGERS, AND SUPPLEMENTAL STEEL SUPPORT FOR ALL PIPING, DUCTING AND EQUIPMENTS.
- PROVIDE PIPE SLEEVES FOR ALL PIPING PASSING THRU BUILDING STRUCTURE.
- ALL PIPE DIMENSIONS ARE IN MILLIMETER UNLESS OTHERWISE NOTED.

## 1 GENERAL NOTES

	- EQUIPMENT DESIGNATION		- ELBOW UP
	- REFRIGERANT PIPE		- ELBOW DOWN
	- WALL MOUNTED INDOOR UNIT		- FAN COIL UNIT
	- WINDOW TYPE AIR CONDITIONER		
	- AIR COOLED CONDENSING UNIT		

## 2 LEGENDS AND SYMBOLS

### WINDOW TYPE AIR-CONDITIONER AIR-COOLED CONDENSING UNITS


DESIGNATION	LOCATION	QUANTITY	HP RATING	COOLING CAPACITY	AIR CIRCULATION	POWER INPUT WATTS	ELECTRICAL SUPPLY			REMARKS
							VOLTS	PHASE	HERTZ	
WAC 1	45 DAYCARE ON FLOOR	1 SET	1.5 HP	10000	300 CM	1200	220V	1Ø	600	REMOVE EXISTING FAN TO GROUND FLOOR OR MECHANICAL ROOM

## 3 AIRCONDITIONING SYSTEM SCHEDULE



## 4 DAY CARE CENTER FLOOR AIRCONDITIONING LAYOUT

SCALE: 1:100 METERS

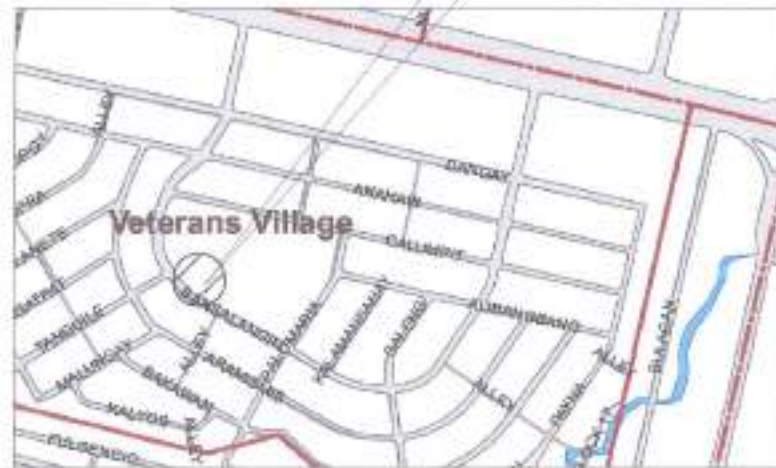
 <p>Republika ng Pilipinas Lungsod ng Quezon <b>CITY ENGINEERING DEPARTMENT</b></p>	PROJECT TITLE:	DRAWN BY: <i>AT</i>	DESIGNED BY:	REVISIONS APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER ✓	DATE: 08/20/21	<i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	<i>[Signature]</i>	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	REVISIONS: 1. REMOVE EXISTING FAN TO GROUND FLOOR OR MECHANICAL ROOM	ME-01
	LOCATION: BARRANGAY STA. CRUZ, DISTRICT 4, QUEZON CITY	CHECKED BY: <i>[Signature]</i>	<i>[Signature]</i>	ENGR. ISAGANI R. VERZOSA, JR. C.E. DIVISION CHIEF			DAY CARE CENTER FLOOR AIRCONDITIONING LAYOUT	11/11

THE SITE



1 LOCATION MAP

THE SITE



1 VICINITY MAP

NTS



3 PERSPECTIVE

NTS

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EL-3	DESIGN OF ELECTRICAL SYSTEM, SECOND FLOOR LAYOUT



PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER**  
 LOCATION:  
 BAYANG VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

DATE: April 4, 2024  
 CHECKED BY: J. J. J.  
 REVISIONS:

SUBMITTED BY:  
  
**ENGR. LEO S. DEL ROSARIO**  
 CIVIL ENGINEER

RECOMMENDING APPROVAL:  
  
**ENGR. ISAGANI R. VERZOSA, JR.**  
 CIVIL ENGINEERING CONTRACTOR

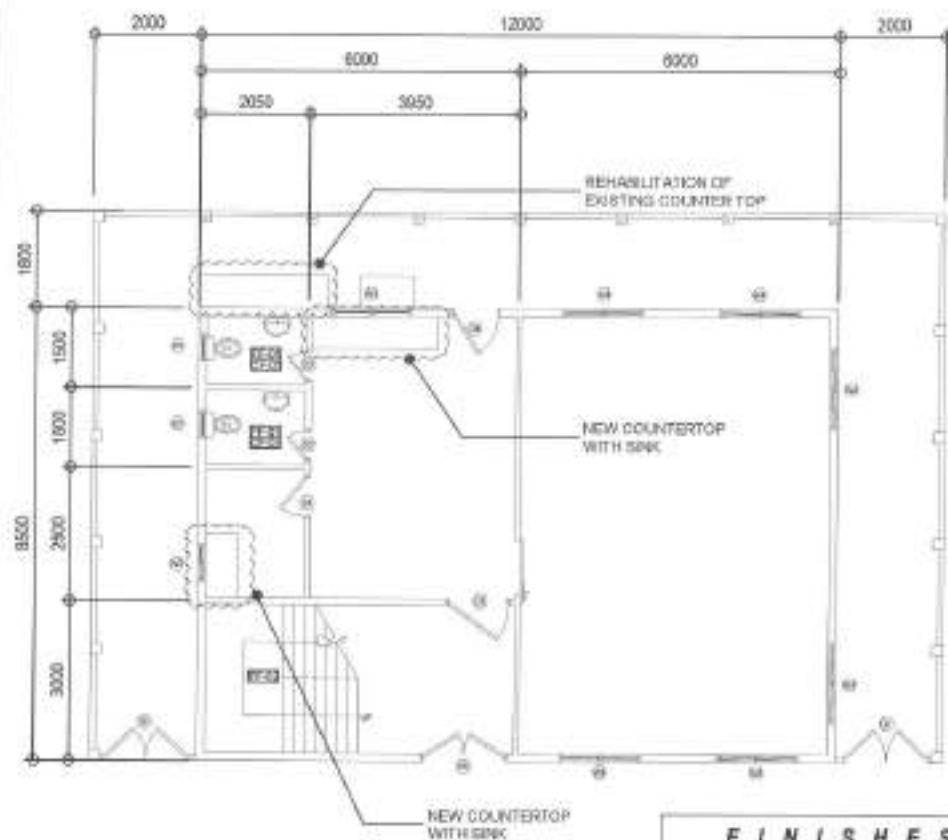
APPROVED BY:  
  
**HON. MA. JOSEFINA G. BELMONTE**  
 CITY MAJOR

SHEET CONTENT:  
 VICINITY MAP, LOCATION MAP, PERSPECTIVE

SHEET NO.  
  
**AR-1**  
**1/14**







### FINISHES

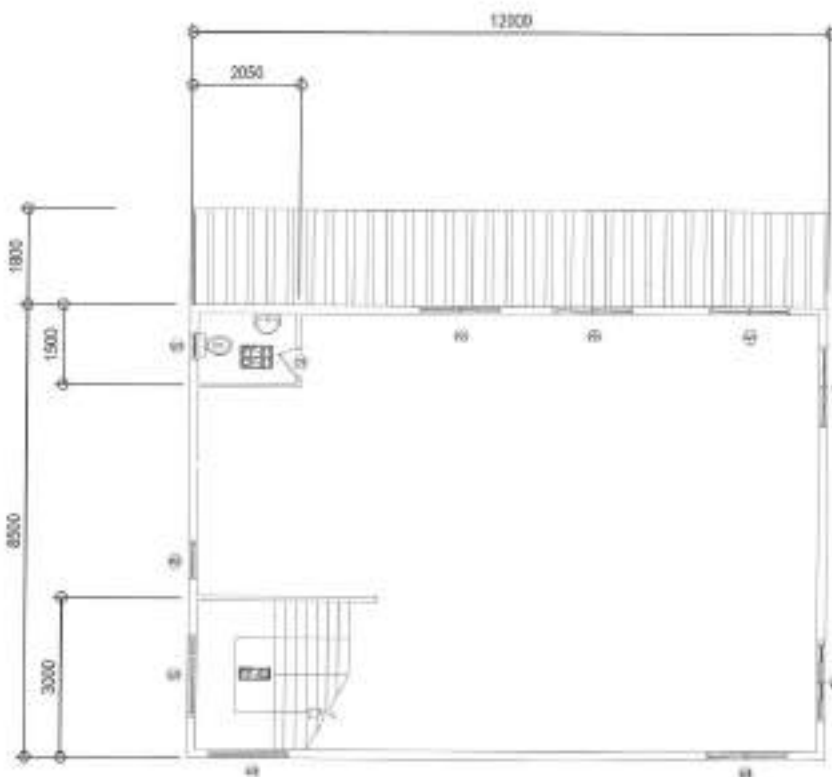
(FF-01)	400 x 400mm HOMOGENEOUS FLOOR TILES
(FF-02)	300 x 300mm HOMOGENEOUS STAIR TILES WITH GROOVE
(CF-01)	PAINTED FINISH 8mm thick FIBER CEMENT BOARD W/ COMPLETE FRAMING & ACCESSORIES

#### NOTES:

1. VERIFY ALL ACTUAL DIMENSION ON SITE
2. 400mm X 400mm WALL TILES FOR COMFORT ROOMS
3. REPAINTING OF INTERIOR AND EXTERIOR WALL

## 1 GROUND FLOOR PLAN

SCALE: 1:100 MTS



### FINISHES

(FF-01)	400 x 400mm HOMOGENEOUS FLOOR TILES
(FF-02)	300 x 300mm HOMOGENEOUS STAIR TILES WITH GROOVE
(CF-01)	PAINTED FINISH 8mm thick FIBER CEMENT BOARD W/ COMPLETE FRAMING & ACCESSORIES

#### NOTES:

1. VERIFY ALL ACTUAL DIMENSION ON SITE

## 2 SECOND FLOOR PLAN

SCALE: 1:100 MTS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:

**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER**

DRAWN:

BARAMSKY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

DRAWN BY:

JCT

DATE: August 1, 2021

CHECKED BY:

JFB

REVISIONS:

SUBMITTED BY:

**ENGR. LEO S. DEL ROSARIO**  
HEAD PLANNER & PROJECT MANAGER

RECOMMENDING APPROVAL:

**ENGR. EMMANUEL R. VERZOSA, JR.**  
CITY ENGINEERING DEPARTMENT

APPROVED BY:

**HON. MA. JOSEFINA G. BELMONTE**  
CITY ENGINEER

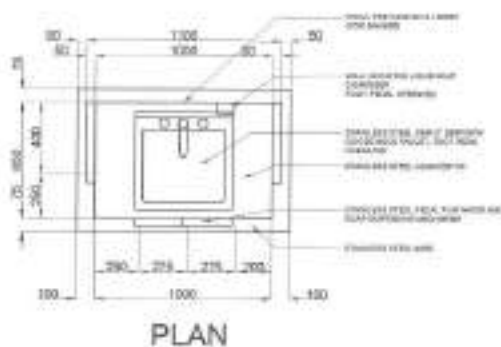
SHEET CONTENT:

GROUND FLOOR PLAN  
SECOND FLOOR PLAN

SHEET NO.:

**AR-3**  
**3/14**

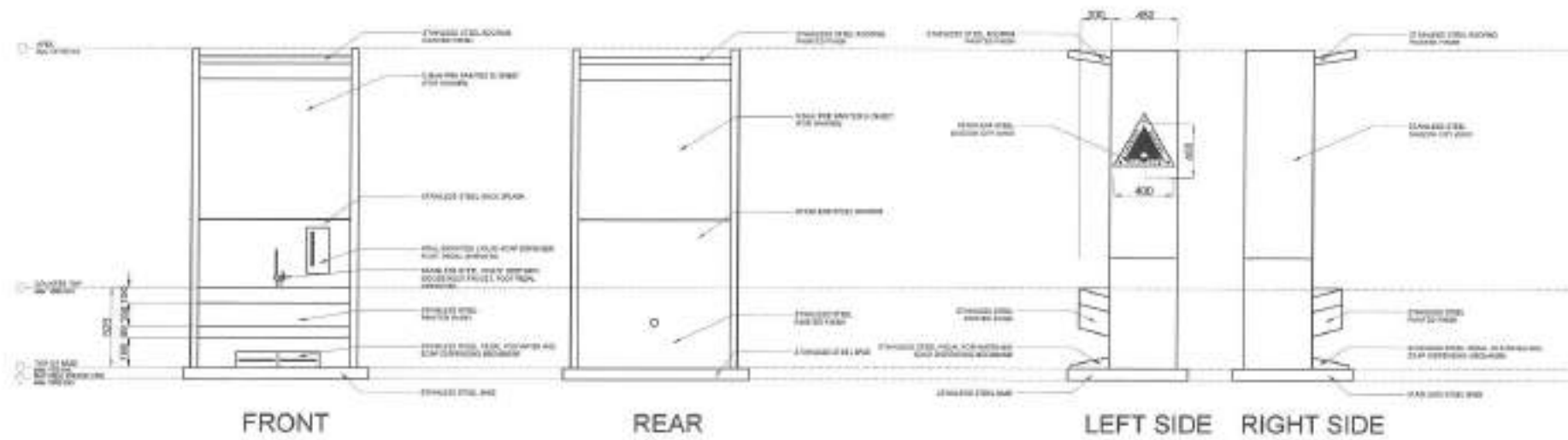




PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30mts

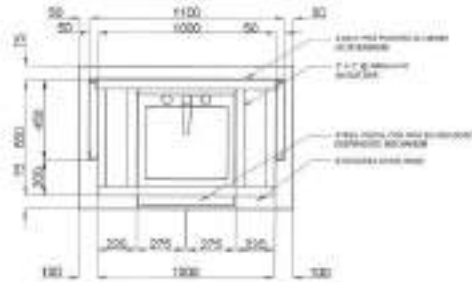


2 ELEVATIONS

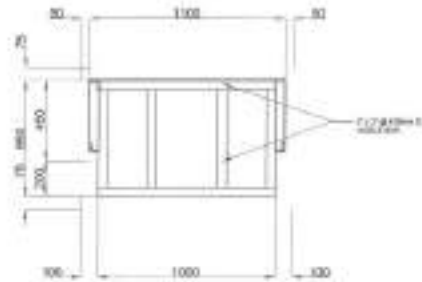
SCALE: 1:30mts

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	<p>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER</p> <p>LOCATION: BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY</p>	<p>DATE: JUL 11, 2021</p> <p>CHECKED BY: [Signature]</p> <p>REVISIONS:</p>	<p>[Signature]</p> <p>ENGR. LEO S. DEL ROSARIO RMC - PLANNING PROGRAMS DIVISION</p>	<p>[Signature]</p> <p>ENGR. BAGANI R. VERZOSA, JR. RMC CITY ENGINEERING DIVISION</p>	<p>[Signature]</p> <p>HON. MA. JOSEFINA G. BELMONTE CITY MAYOR</p>	<p>SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS</p>	<p>AR-5 5/14</p>





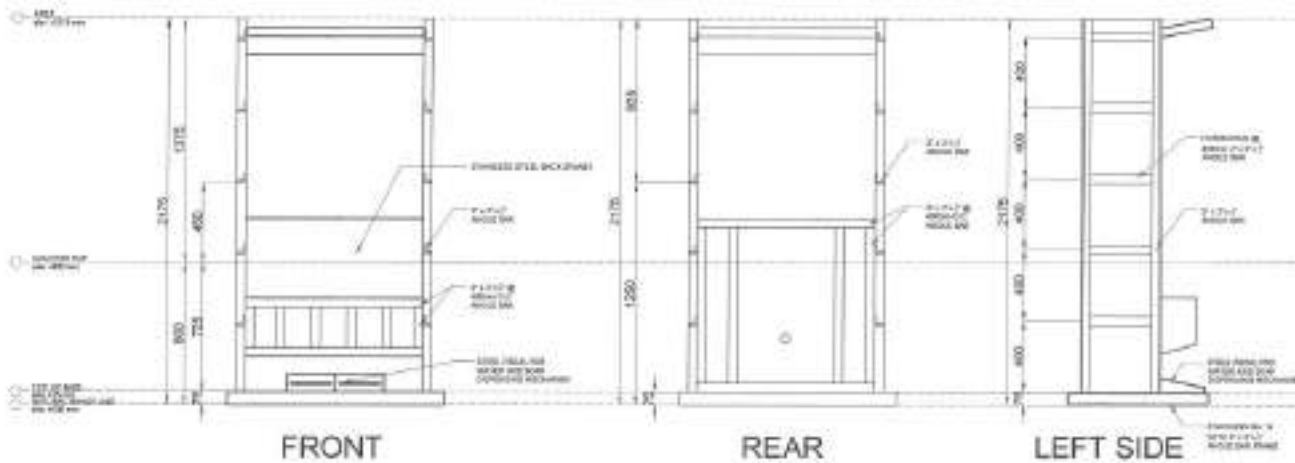
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

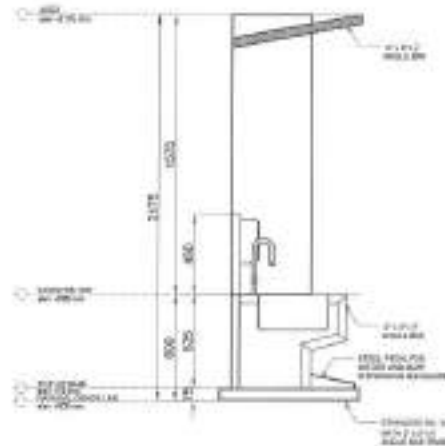
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FRONT

REAR

LEFT SIDE


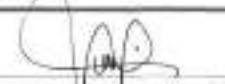
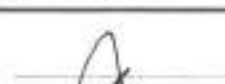


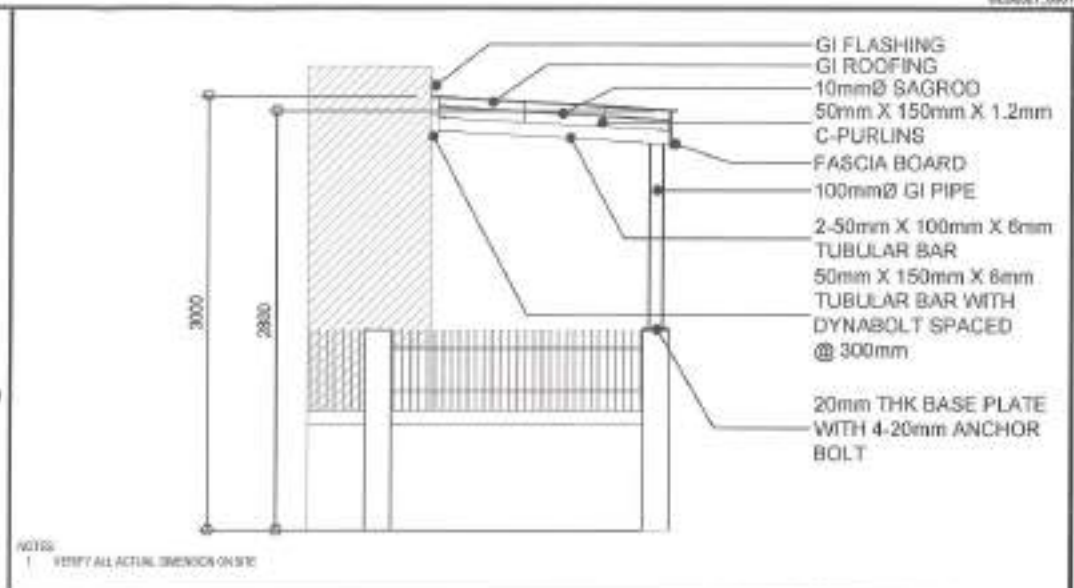
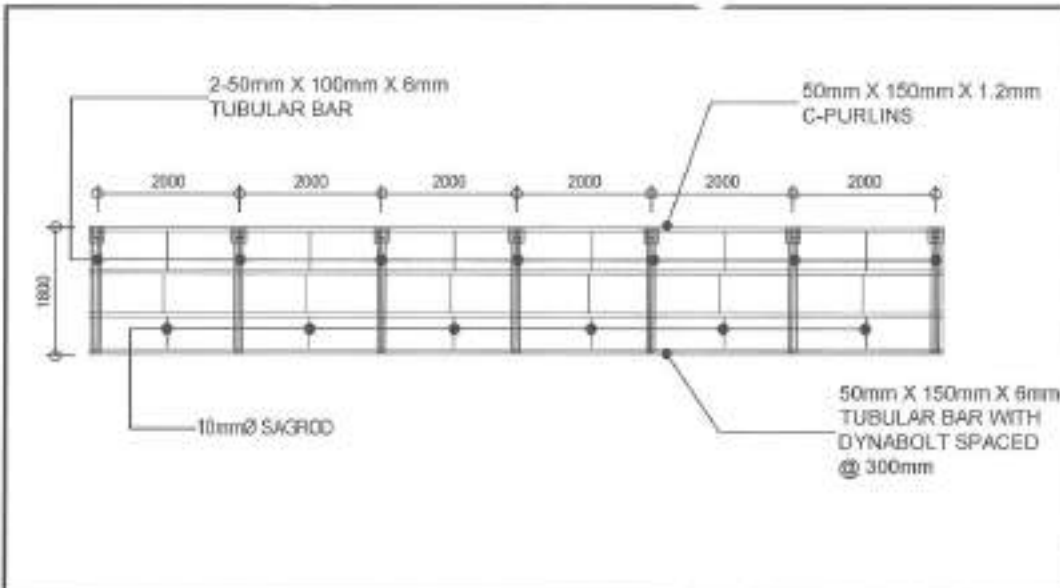
2 ELEVATIONS

SCALE: 1:30mts

3 TYPICAL SECTION

SCALE: 1:30mts

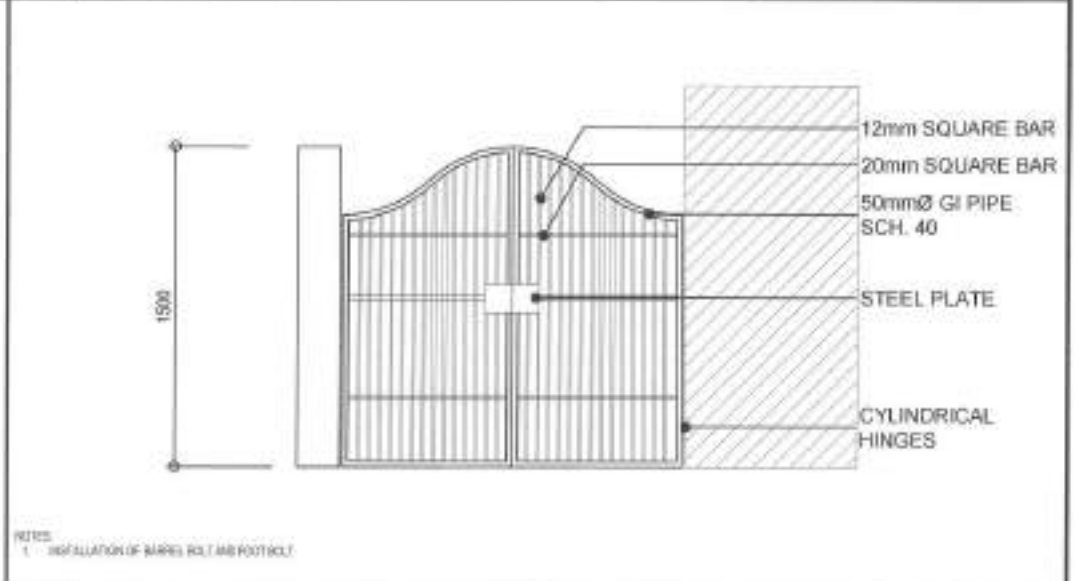
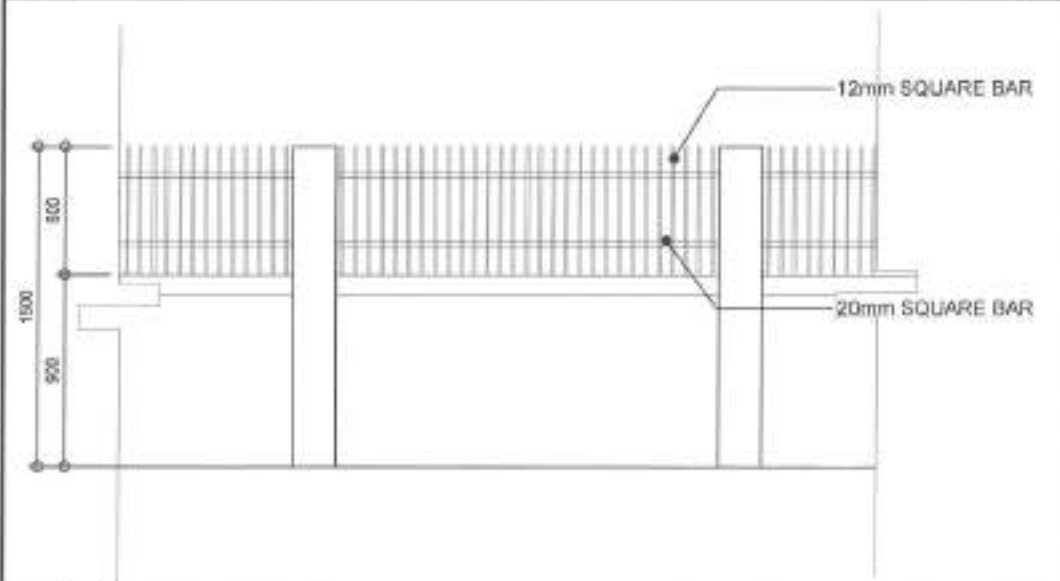
 <p>Republika ng Pilipinas Lungsod ng Quezon <b>CITY ENGINEERING DEPARTMENT</b></p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER	DATE: July 11, 2018	 <b>ENGR. LEO S. DEL ROSARIO</b> HOD - PLANNING AND DESIGN DIVISION	 <b>ENGR. EAGAN R. VERZOSA, JR.</b> CE - CIVIL ENGINEERING DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS TYPICAL SECTION	<b>ST-2</b> <b>8.14</b>
	DESIGNER:	CHECKED BY:					
	BARWOGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY						



NOTES:  
1. VERIFY ALL ACTUAL DIMENSION ON SITE

**1 CANOPY FRAMING** SCALE: 1:75 MTS

**2 CANOPY LEFT SIDE VIEW** SCALE: 1:40 MTS



NOTES:  
1. INSTALLATION OF BARRIL BOLT AND FOOTING

**3 PERIMETER FENCE DETAIL** SCALE: 1:25 MTS

**4 STEEL GATE DETAIL** SCALE: 1:25 MTS

<p>Republika ng Pilipinas Lungsod ng Quezon <b>CITY ENGINEERING DEPARTMENT</b></p>	PROJECT TITLE:	ISSUED BY: <i>JCT</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	<b>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER</b> BARAMOKAY VETERANS VILLAGE, DISTRICT I, QUEZON CITY	DATE: August 1, 2021	<p><b>ENGR. LEO S. DEL ROSARIO</b> HEAD PLANNING &amp; PROGRAMMING DIVISION</p>	<p><b>ENGR. JASON R. VERZOSA, JR.</b> HEAD OF ENGINEERING DEPARTMENT</p>	<p><b>HON. MA. JOSEFINA G. BELMONTE</b> CITY MAYOR</p>	CANOPY FRAMING CANOPY LEFT SIDE VIEW PERIMETER FENCE DETAIL STEEL GATE DETAIL	<b>ST-2</b> <b>7 14</b>
		DESIGNED BY: <i>JCB</i>					
		REVISION NO.:					

**GENERAL NOTES:**

1. All plumbing works and materials indicated herein shall be compliant to the provisions of the latest edition of National Plumbing Code, the rules and regulations of local authorities concerned, the rules and regulations of local utility companies and the provisions of the land developer when and where applicable.
2. The plumbing layout is only diagrammatic; pipes, downs and check valves shall be concealed as much as possible. It is not intended to show the actual dimension of the pipes and fixtures in the drawing but all the pipes and fixtures shall be installed as and where indicated. Any relocation will require proper execution in relation with other trades.
3. The plumbing contractor shall verify all existing utilities at the site and shall coordinate the work with other trades.
4. Pipes shall not be embedded in structural members unless otherwise specified or allowed.
5. Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 5%.
6. Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipe utilities.
7. Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.
8. All floor drains shall be vented individually.
9. All clean out fixtures shall be flush-mounted to wall and shall be provided with polished cover caps. Do not install floor clean outs except at lines on grade and service areas not subject to traffic.
10. All underground G.I. pipes in direct contact with soil shall be provided with two (2) coats of protective tar coating and wrapped with jute cloth thoroughly soaked in tar or asphalt.
11. Provide vent stack and vent pipe thru roof of cast iron service vent as required.
12. All cast iron pipes shall be of approved quality and G.I. pipes for water distribution lines shall be Schedule 40 U.S. standard weight.
13. Provide gate valves to all water supply lines to fixtures.
14. All hot water lines shall be provided with proper insulation where exposed.
15. All individual trenches for fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimensions as shown:  
 H = 450 mm for 12 mm Ø and larger  
 H = 300 mm for 12 mm Ø and smaller
16. All hose bibbs shall be 12 mm Ø (3/4" Ø) unless otherwise indicated.
17. Inlet pipe of septic tank is 50 mm higher than the siphon pipe which is 30 mm higher than the outlet pipe.
18. All plumbing works and material of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

—	CWL	COLD WATER LINE
⊗	GV	GATE VALVE
∇	CV	CHECK VALVE
— —	UP	UNION PATENTE
⊙	FLV	FLOAT VALVE



**1 GENERAL NOTES AND LEGENDS**

**2 GROUND FLOOR WATER LINE**

SCALE: 1:100 METERS

**3 SECOND FLOOR WATER LINE**

SCALE: 1:100 METERS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER**

LOCATION: BROY VETERANS ALLIAGE, QUEZON CITY

DRAWN BY: GJM  
DATE: August 3, 2021  
CHECKED BY: JES  
REVISION:

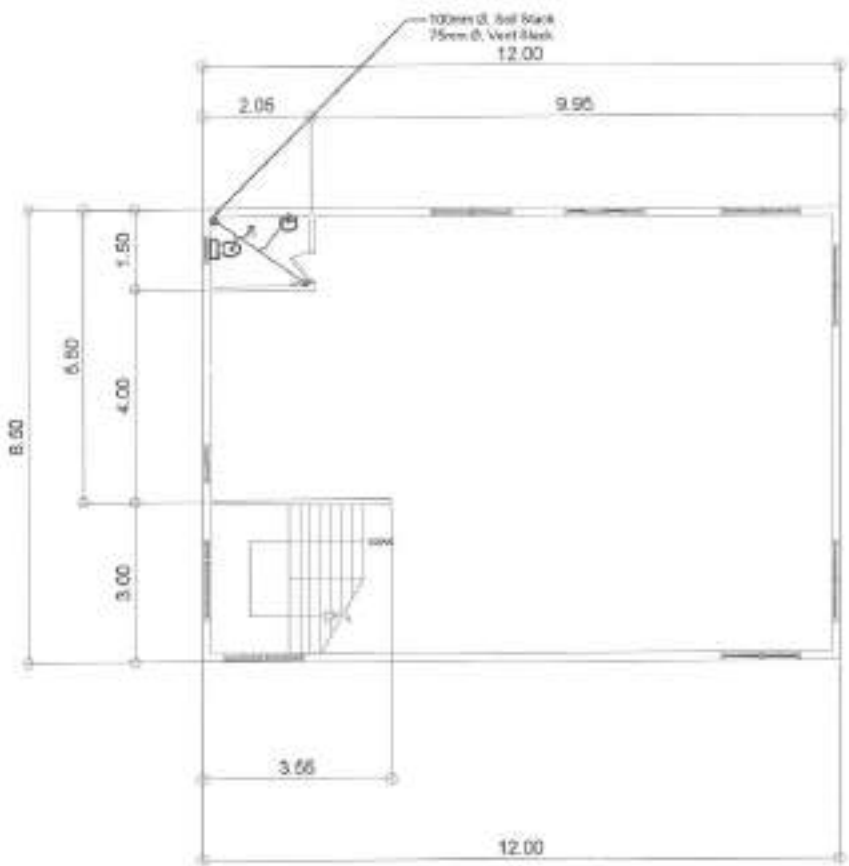
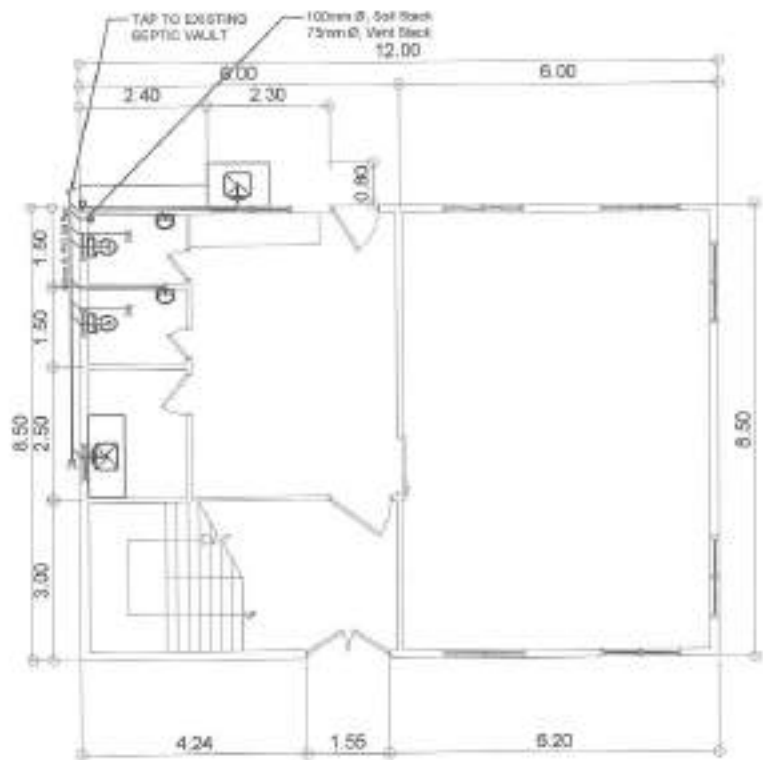
SUBMITTED BY:  
  
**ENGR. LEO S. DEL ROSARIO**  
REG. PLUMBING LIC. 00488888 (2008)

RECOMMENDING APPROVAL:  
  
**ENGR. GASANI R. VERZOSA, JR.**  
REG. CITY ENGINEERING DEPARTMENT

APPROVED BY:  
  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAYOR

SHEET CONTENT:  
GENERAL NOTES  
GROUND FLOOR PLAN  
WATER LINE LAYOUT  
SECOND FLOOR PLAN  
WATER LINE LAYOUT

SHEET NO.  
**PL-1**  
**9**, 14



**1 GROUND FLOOR SANITARY LINE**

SCALE: 1:100 METERS

**2 SECOND FLOOR SANITARY LINE**

SCALE: 1:100 METERS

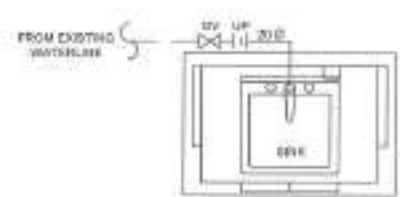
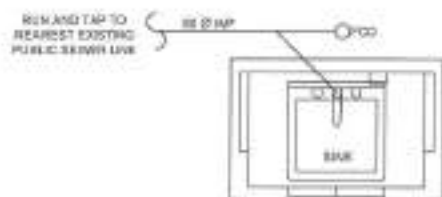


Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:	DRAWN BY: <i>AM</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HANDWASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER	DATE: August 2024	<i>[Signature]</i>	<i>[Signature]</i>		GROUND FLOOR PLAN SANITARY LAYOUT	PL-2 1014
LOCATION: BRD7 VETERANS VILLAGE, QUEZON CITY	DESIGNED BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER	ENGR. ISAAC R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA JOSEFINA G. BELMONTE CITY AYO	SECOND FLOOR PLAN SANITARY LAYOUT	



1. ALL THE PLUMBING/SANITARY WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISIONS OF THE PHILIPPINE PLUMBING CODE, THE NATIONAL BUILDING CODE, RULES AND REGULATIONS OF QUEZON CITY.
2. COORDINATE THE DRAWINGS WITH OTHER RELATED DRAWINGS AND SPECIFICATION REQUIRED. THE ENGR/ARCH. SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
3. ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATION REQUIRED FOR PROPER EXECUTION OF OTHER TRADES SHALL BE WITH PRIOR APPROVAL OF THE ENGINEER OR ARCHITECT.
4. PROPOSED SANITARY UTILITIES SHALL BE CONFORM TO THE ACTUAL LOCATION, DEPTH, AND INVERT ELEVATION OF ALL EXISTING STRUCTURES AND PIPES AS VERIFIED BY THE CONTRACTOR.
5. ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 1% MIN (UNLESS OTHERWISE SPECIFIED).
6. SIZES OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE AND COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTING POINT.
8. ALL WATER PIPE AND WATER TANKS SHALL BE THOROUGHLY FLUSHED AND DISINFECTED WITH LIQUID CHLORINE OR HYDROCHLORIDE SOLUTION.
9. ALL WATER PIPES SHALL BE HYDROSTATICALLY TESTED TO A PRESSURE 1-1/2 THE DESIGNED WORKING PRESSURE OF THE SYSTEM.
10. ALL SANITARY AND STORM DRAINAGE PIPES SHALL BE HYDROSTATICALLY TESTED AT LEAST 3.0 MTS. HEAD TO ENSURE THAT THE SYSTEM ARE WATER TIGHT.
11. ALL DIMENSIONS ARE IN METERS AND ALL PIPES SIZES ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
12. ALL PIPES INDICATED ON PLANS REFER TO PIPES INSIDE DIAMETER.



**1 GENERAL NOTES**

- I. SEWER/WASTE AND VENT SYSTEM:**
- SP / WP - SOIL PIPE / WASTE PIPE
  - VP / VRC - VENT PIPE / VENT AT CEILING
  - DP - STORM DRAIN PIPE
  - FCC/FCC - FLOOR CLEANOUT / GROUND CLEANOUT
  - CCO - CEILING CLEAN-OUT
  - DS - DRAINAGE STACK / DOWNSPOUT
  - VSTR - VENT STACK EXTENDED THROUGH ROOF
  - SS - SOIL STACK
  - FD - FLOOR DRAIN
  - CB - CATCH BASIN
  - AD - AREA DRAIN
  - STALL TYPE URINAL
  - GT - GREASE TRAP
- II. WATER DISTRIBUTION SYSTEM:**
- CWL - COLD WATER LINE
  - CWR - COLD WATER RISER
  - GV - GATE VALVE
  - CV - CHECK VALVE
  - WM - WATER METER
  - SD - BALCONY DRAIN

**2 LEGENDS AND SYMBOLS**

**3 SINGLE SINK PORTABLE HANDWASHING SANITARY LINE SCALE 1:30m**

SCALE 1:30m

**5 SINGLE SINK PORTABLE HAND WASHING WATER LINE SCALE 1:30m**

SCALE 1:30m

Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:	DRAWN BY: DT
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER	DATE: May 19, 2021
DESIGNED BY: JPH	DECIDED BY: JPH
DATE:	REVISION NO.:
SARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY	

SUBMITTED BY:

**ENGR. LEO S. DEL ROSARIO**  
REG. PLUMBER & ROBBERSHIP OFFICER

RECOMMENDING APPROVAL:

**ENGR. ISALMI R. VERZOSA, JR.**  
CITY ENGINEERING DIVISION

APPROVED BY:

**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAYOR

SHEET CONTENT:

GENERAL NOTES  
LEGENDS AND SYMBOLS  
SINGLE SINK PORTABLE  
HAND WASHING SANITARY  
AND WATERLINE LAYOUT

SHEET NO.:

**PL-3**  
**1114**

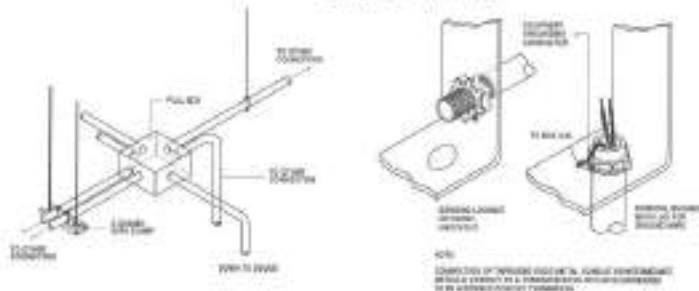
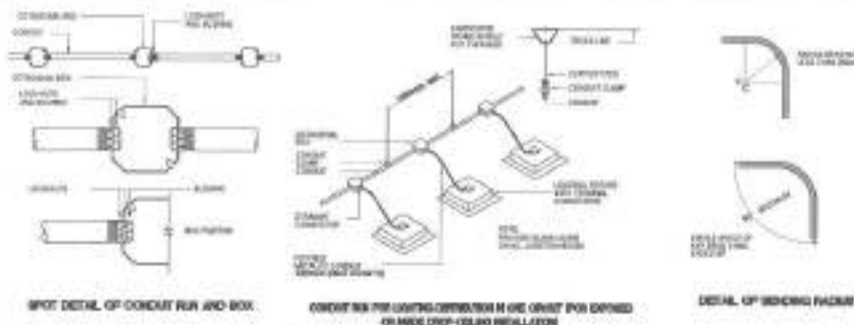
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATE OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EMBEDDED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE IMC SUPPORTED BY CONDUIT CLAMPS EVERY 100 MILLIMETERS.
- FULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NECESSARY TO FACILITATE WIRE PULLING EVEN IF THERE ARE NOT INDICATED ON THE PLANS. SIZES OF ALL FULL BOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. EXISTING "SNIP" DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF FULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 20A.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDING.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF, 100MM ABOVE WORKING COUNTER.  
 TELEPHONE OUTLET - 300 MM AFF  
 DATA OUTLET - 300 MM AFF  
 LIGHTING SWITCH - 1500MM AFF  
 PANELBOARD - 1800 MM AFF

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR SIZES AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDING TO PRESENT GENERAL LAYOUT AND EXACT OUTLINE/DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE/DESCRIBE ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE SITES AS LOCATION, DISTANCE AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM. THWN-2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLORED AS FOLLOWS:

LINE 1 - RED  
 LINE 2 - YELLOW  
 NEUTRAL - WHITE  
 GROUND - GREEN

- BOXES, WIRE GUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:  
 MAXIMUM WIDTH OF THE INNER SURFACE STEEL:  
 UP TO 800MMMS 1.50 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 800MM BUT NOT OVER 400MM GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 400MM BUT NOT OVER 70MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT  
 OVER 70MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY PCAB. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC NOMINAL.
- CONDUITS IN NO-CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER SIZES IN ANY ONE RUN. ALL CONDUIT SIZES SHALL BE FIELD MADE BY USING HYDRAULIC BENDERS. MINIMUM BEND AND RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, REGULATOR RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAILS ON FORMS APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEM SHALL NOT BE MORE THAN 5 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.



**2 MISCELLANEOUS DETAILS**

NOT TO SCALE

	EXISTING LED TUBE LIGHT BOX TYPE		SWITCH (FOR REPLACEMENT)
	LED TUBE LIGHT BOX TYPE (REPLACEMENT)		DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	EXISTING CEILING FAN		INDOOR UNIT SPLIT TYPE AC
	EXISTING E27 RECEPTACLE WITH LED BULB		ENCLOSED CIRCUIT BREAKER
	ADDITIONAL E27 RECEPTACLE WITH LED BULB		PANEL BOARD
	BALL-SHAPED OUTDOOR CHAPTER LIGHT		

**1 GENERAL NOTES**

NOT TO SCALE

**3 LEGENDS AND SYMBOLS**

NOT TO SCALE



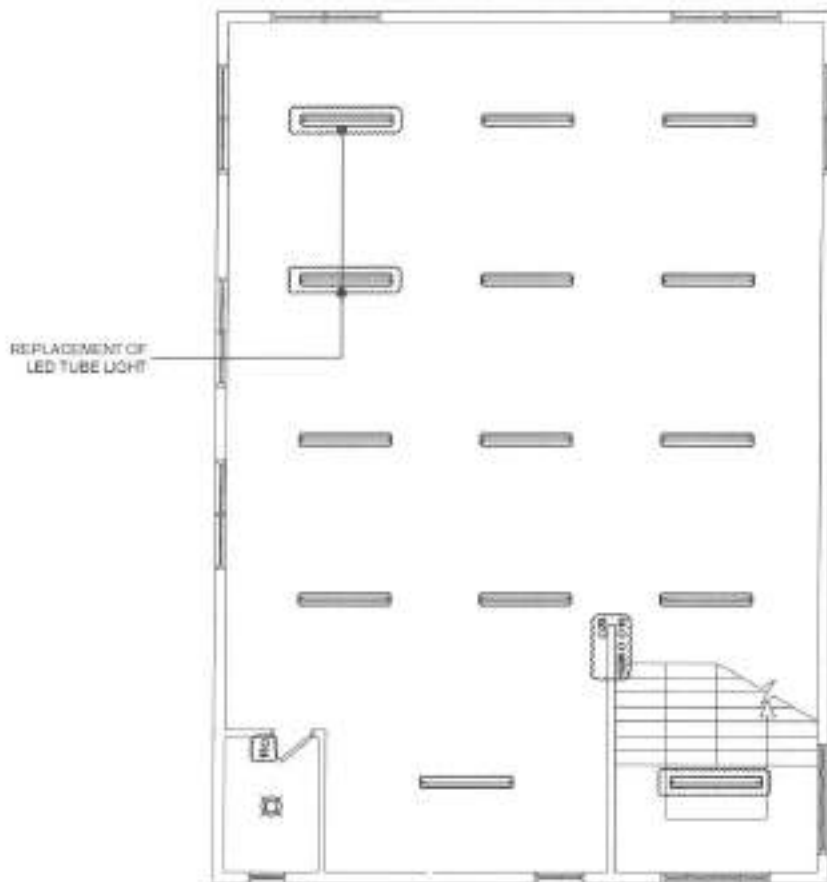
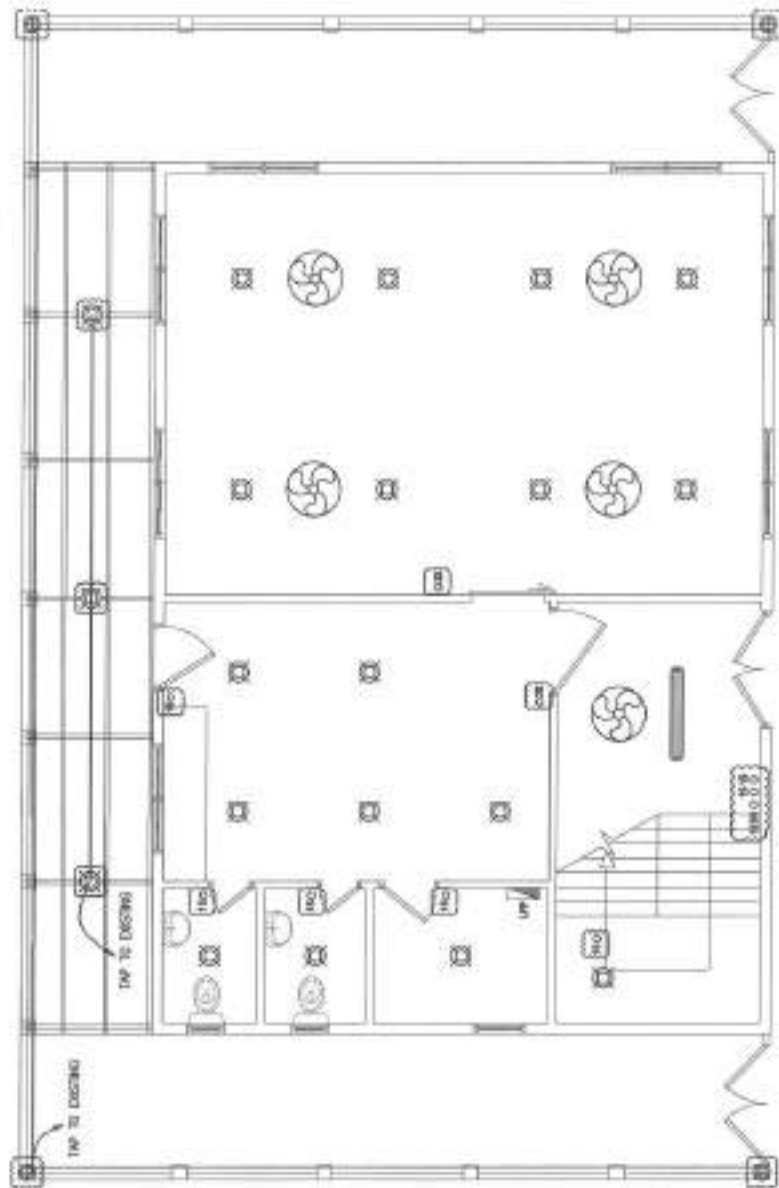
Republika ng Pilipinas  
 Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:	DATE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER ✓	ISSUED BY: J. J. ✓
LOCATION:	REVISION NO.:
BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY	

DESIGNED BY:	SUBMITTED BY:
	ENGR. LEO S. DEL ROSARIO <small>REG. PROFESSIONAL ENGINEER</small>

RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. ISMAEL R. VERZOSA, JR. <small>REG. PROFESSIONAL ENGINEER</small>	HON. MA. JOSEFINA G. BELMONTE <small>CITY MAJOR</small>

SHEET CONTENT:	SHEET NO.:
AS SHOWN	EL-1 1214




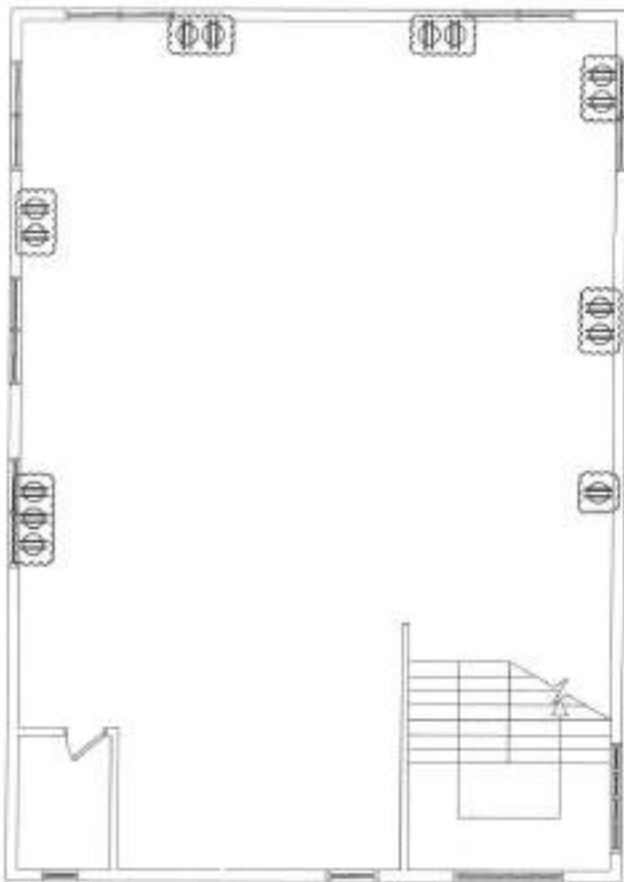
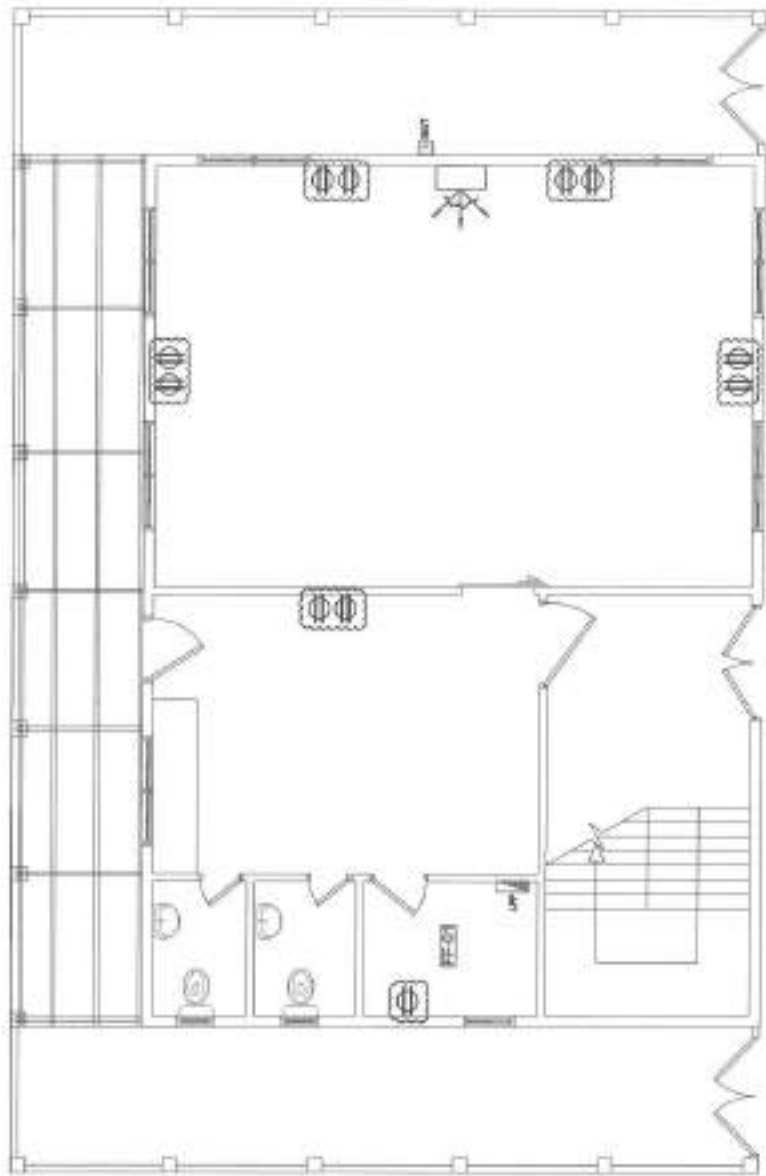
1 GROUND FLOOR LIGHTING LAYOUT

SCALE: 1:100MTS

2 SECOND FLOOR LIGHTING LAYOUT

SCALE: 1:100MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon <b>CITY ENGINEERING DEPARTMENT</b></p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER	ENGR. LEO S. DEL ROSARIO	ENGR. LEO S. DEL ROSARIO	ENGR. JOSE ANTONIO R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTTE	AS SHOWN	EL-3
	LOCATION: BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY	REVISION NO.:	HEAD, PLUMBING & ROOFING DIVISION	HEAD, CIVIL ENGINEERING DIVISION	CITY ENGINEER		1414



1 GROUND FLOOR POWER LAYOUT

SCALE: 1:100MTS

2 SECOND FLOOR POWER LAYOUT

SCALE: 1:100MTS



Republika ng Pilipinas  
Lungsod ng Quezon  
**CITY ENGINEERING DEPARTMENT**

PROJECT TITLE:  
**PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER**

LOCATION:  
BARANGAY VETERANS VILLAGE, DISTRICT I, QUEZON CITY

DRAWN BY: *[Signature]*  
DATE:  
DESIGN NO.: *[Handwritten]*  
REVISION NO.:

SUBMITTED BY:  
*[Signature]*  
**ENGR. LEO S. DEL ROSARIO**  
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING APPROVAL:  
*[Signature]*  
**ENGR. ISAGANI R. VERZOSA, JR.**  
CITY ENGINEERING DEPARTMENT

APPROVED BY:  
*[Signature]*  
**HON. MA. JOSEFINA G. BELMONTE**  
CITY MAOR

SHEET CONTENT:  
AS SHOWN

SHEET NO.:  
**EL-2  
1314**

## ***Section VIII. Bill of Quantities***

### **Notes on the Bill of Quantities**

#### **Objectives**

The objectives of the Bill of Quantities are:

- a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and
- b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

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

#### **Daywork Schedule**

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

- a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.
- b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

#### **Provisional Sums**

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's Representative's).

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

**Signature Box**

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

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

**PROJECT TITLE : PROPOSED CONSTRUCTION F HAND WASHING FACILITY AND REHABILITATION OF DAY CARE CENTER AT DISTRICT 1 AREA III**

**LOCATION : BARANGAY BUNGAD, NAYON KANLURAN, STA. CRUZ, AND VETERANS VILLAGE, DISTRICT 1, QUEZON CITY**

**PROJECT NO. : 22 - 00029**

**DURATION : Ninety (90) Calendar Days**

**BREAKDOWN OF COST**

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
<b>BUNGAD 1 AND 2 DAY CARE CENTER, BARANGAY BUNGAD</b>					
I	GENERAL REQUIREMENTS				
II	BUNGAD 1 DAY CARE CENTER				
III	BUNGAD 2 DAY CARE CENTER				
<b>BARANGAY NAYONG KANLURAN</b>					
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
<b>EAST ANAKBAYAN DAY CARE CENTER, BARANGAY PALTOK</b>					
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
<b>BARANGAY STA. CRUZ</b>					
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				
<b>VETERANS, BARANGAY VETERANS VILLAGE</b>					
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HAND WASHING FACILITY				
III	REHABILITATION OF DAY CARE CENTER				

**TOTAL COST P** \_\_\_\_\_

LUMP SUM BID IN WORDS : \_\_\_\_\_

---

Contractor : \_\_\_\_\_



**BILL OF QUANTITIES**  
(Building Construction/Rehabilitation Project)

**PROJECT TITLE :** PROPOSED REHABILITATION OF NAYON KANLURAN DAY CARE CENTER

**LOCATION :** BARANGAY NAYON KANLURAN, DISTRICT 1, QUEZON CITY

**PROJECT NO. :** 22 - 00029

**SCOPE OF WORKS:**

1. General Requirements include temporary facilities and utilities, billboard, scaffolding, construction safety and health, temporary enclosure and clearing, hauling and disposal of construction materials and debris.
2. Site works include cleaning / clearing for painting preparation, removal of dilapidated roof, tiles, ceiling, doors and windows.
3. Civil works include roofing works.
4. Architectural Works include floor finishes, wall partitioning and finishes, ceiling finishes, installation of doors and windows, painting works and fabricated materials.
5. Sanitary/Plumbing Works include installation of roughing-ins, fixtures and accessories.
6. Electrical Works include installation of roughing-ins, wiring, devices, fixtures and accessories.
7. All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
<b>I</b>	<b>GENERAL REQUIREMENTS</b>				
	Billboard	1	unit	₱	₱
	Cleaning, Hauling and Disposal of Construction Materials and Debris	3	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	94	sq.m.		
	Temporary Electrical and Water Facilities	60	day		
	Temporary Enclosure Around the Construction Area (h=2.4m)	20	l.m.		
				<b>Direct Cost I</b>	<b>₱</b>
<b>II</b>	<b>SITE WORKS</b>				
	Cleaning / Clearing for Painting Preparation	302	sq.m	₱	₱
	Removal Works				
	Removal of Dilapidated Ceiling	65	sq.m.		
	Removal of Dilapidated Roof	138	sq.m.		
	Removal of Dilapidated Tiles	20	sq.m.		
	Removal of Existing Doors	4	sq.m.		
	Removal of Existing Windows	15	sq.m.		
				<b>Direct Cost II</b>	<b>₱</b>
<b>III</b>	<b>CIVIL WORKS / STRUCTURAL WORKS</b>				
	Roofing Works				
	6mm Thick Thermal Insulation (Single Sided Aluminum Foil)	138	sq.m.	₱	₱
	12.5mm x 300mm Fascia Board	32	l.m.		
	Pre-Painted Rib Type G.I Roofing Ga. 20	138	sq.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Pre Painted Flashing	9	l.m.		
	Pre Painted G.I. Gutter	30	l.m.		
	Pre Painted Ridge Roll	15	l.m.		
	Miscellaneous and Consumables				
	Rivets	391	piece		
	Tekscrew	1,380	piece		
	Silicon Sealant	5	tube		
				<b>Materials Cost III</b>	₱
				<b>Labor Cost III</b>	
				<b>Direct Cost III</b>	₱
<b>IV</b>	<b>ARCHITECTURAL WORKS</b>				
	Floor Finishes				
	400mm x 400mm Non-skid Homogeneous Floor Tiles	4	sq.m.	₱	₱
	Floor Topping for Preparation of Tiles	25	sq.m.		
	Wall Partitioning and Finishes				
	400mm x 400mm Homogeneous Wall Tiles	21	sq.m.		
	Ceiling Finishes				
	12mm thk Gypsum Board with Complete Framing and Accessories	61	sq.m.		
	12mm thk Moisture Resistant Gypsum Board with Complete Framing and Accessories	38	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - 1.0m x 2.1m Solid Panel Door	1	set	₱	₱
	D2 - 0.7m x 2.1m PVC Door with Louver	1	set		
	Door Jamb				
	D1 - 1.0m x 2.1m Wooden Door Jamb	1	set		
	Hardwares and Accessories				
	Door Hinge, Heavy Duty	6	piece		
	Door Knob, Lever Type	2	piece		
	Installation of Windows				
	W1 - 2.4m x 1.20m Aluminum Framed Window	3	set		
	W2 - 1.60m x 1.20m Aluminum Framed Window	1	set		
	W3 - 0.8m x 1.2m Aluminum Framed Window	1	set		
	W4 - 0.8m x 0.8m Aluminum Framed Window	2	set		
	W5 - 1.5m x 0.45m Aluminum Framed Window	1	set		
	W6 - 0.4m x 0.45m Awning Window on Powder Coated Frame with 6mm thk Clear Glass	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Painting Works				
	Elastomeric Paint Finish				
	Exterior Wall	107	sq.m.	₱	₱
	Flat Latex Paint Finish				
	Interior Wall	147	sq.m.		
	Ceiling	48	sq.m.		
	Fabricated Materials				
	Hanging Cabinet	2	sq.m.		
	Cabinet	3	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				<b>Materials Cost IV</b>	₱
				<b>Labor Cost IV</b>	
				<b>Direct Cost IV</b>	₱
<b>V</b>	<b>SANITARY / PLUMBING WORKS</b>				
	Storm Drainage System				
	100mm Ø PVC Standard Hub Pipe	8	piece	₱	₱
	100mm Ø x 100mm Ø PVC 1/4 Bend	8	piece		
	100mm Ø PVC Coupling	8	piece		
	Fixtures & Accessories				
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Hose Bibb, Stainless, Lever Type (Water Efficient)	6	piece		
	Lavatory, Wall-hung, Kiddy (Water Efficient)	1	unit		
	Lavatory Faucet, Lever-type Heavy Duty Stainless Steel (Water Efficient)	1	unit		
	Water Closet, Tank Type, Kiddy (Water Efficient)	1	unit		
	Accessories & Hardwares				
	Angle Valve, Single-Way, Stainless	1	piece		
	Angle Valve, Two-Way, Stainless	1	piece		
	Facial Mirror, 450mm x 600mm x 6mm	1	piece		
	Flexible Hose, Stainless	2	piece		
	Pipe Hangers and Supports				
	Downspout Brackets	19	l.m.		
	Miscellaneous and Consumables				
	All Around Sealant	2	can		
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	4	roll		
	Waste Cloth	2	kg		
				<b>Materials Cost V</b>	₱
				<b>Labor Cost V</b>	
				<b>Direct Cost V</b>	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
<b>VI</b>	<b>ELECTRICAL WORKS</b>				
	Roughng-ins				
	20mmØ PVC Pipe	45	piece	₱	₱
	Fittings and Accessories				
	20mmØ PVC Adaptor	38	piece		
	20mmØ PVC Locknut and Bushing	38	pair		
	50mm x 100mm PVC Utility Box	8	piece		
	100mm x 100mm PVC Junction Box with cover	11	piece		
	12mm x 12mm x 2.4m Rectangular PVC Moulding	15	piece		
	Wire Gutter, 300mm x 200mm x 1000mm, w/ Terminal Lugs	1	unit		
	Wires and Cables				
	3.5mm² THHN Wire	2	roll		
	2.0mm² TW Wire	60	l.m.		
	Lighting Fixtures ( Energy Efficient )				
	1 x 18W LED, Tube Light, Box Type	4	piece		
	10W LED Bulb	7	piece		
	100mmØ Receptacle	7	piece		
	Wiring Devices & Appliances				
	Orbit Fan, Heavy Duty with Selector Switch	3	piece		
	Convenience Outlet with ground, Two-gang	3	piece		
	Switch with Plate & Cover, One Gang	1	piece		
	Switch with Plate & Cover, Three Gang	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All around Sealant	2	can		
	Electrical Tape	8	roll		
	G.I Tie Wire	3	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	roll		
	Pulling Lubricant	1	gal		
	Rubber Tape	3	roll		
				<b>Materials Cost VI</b>	<b>₱</b>
				<b>Labor Cost VI</b>	
				<b>Direct Cost VI</b>	<b>₱</b>

**SUMMARY**

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	SITE WORKS	
III	CIVIL WORKS / STRUCTURAL WORKS	
IV	ARCHITECTURAL WORKS	

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
V VI	SANITARY / PLUMBING WORKS ELECTRICAL WORKS				
Strictly enforce health protocols relative to the latest applicable DPWH memorandum				<b>TOTAL DIRECT COST</b> ₱ Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	
					<b>TOTAL ESTIMATED COST</b> ₱

**BILL OF QUANTITIES**  
(Building Construction/Rehabilitation Project)

**PROJECT TITLE :** PROPOSED REHABILITATION OF EAST ANAKBAYAN DAY CARE CENTER

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

**PROJECT NO. :** 22 - 00029

**SCOPE OF WORKS:**

- 1 General Requirements include billboard, cleaning, hauling and disposal of construction materials and debris, construction safety and health, scaffolding, temporary facilities and utilities and temporary enclosure around the construction area.
- 2 Site Works include demolition/removal works.
- 3 Civil/Structural works include roofing works and thermal and moisture protection.
- 4 Architectural works include installation of floor finishes, wall finishes, ceiling works, installation of doors and painting works.
- 5 Sanitary/plumbing works include installation of roughing-ins, fixtures and accessories.
- 6 Electrical works include installation of roughing-ins, wirings, devices, fixtures and accessories.
- 7 All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
<b>I</b>	<b>GENERAL REQUIREMENTS</b>				
	Billboard	1	unit	₱	₱
	Cleaning, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	51	sq.m.		
	Temporary Electrical and Water Facilities	60	day		
	Temporary Enclosure Around the Construction Area (h=2.4m)	17	l.m.		
				<b>Direct Cost I</b>	₱
<b>II</b>	<b>SITE WORKS</b>				
A	Cleaning and Clearing for Painting Preparation	274	sq.m.	₱	₱
	Demolition/Removal Works				
	Removal of Existing Ceiling	74	sq.m.		
	Removal of Existing CR Tiles	11	sq.m.		
	Removal of Existing Door and Door Jambs	1	set		
	Removal of Existing Lavatory	1	unit		
	Removal of Existing Urinal	1	unit		
	Removal of Existing Water Closet	1	unit		
	Removal of Existing Roof	48	set		
				<b>Direct Cost II</b>	₱
<b>III</b>	<b>CIVIL WORKS / STRUCTURAL WORKS</b>				
A	Thermal and Moisture Protection				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Cementitious Capillary Type Waterproofing (Comfort Room)	2	sq.m.	₱	₱
	Membrane Type Waterproofing (Balcony)	8	sq.m.		
B	Roofing works				
	6mm thick Double-sided Thermal Insulation	48	sq.m		
	12.5mm x 300mm Fascia board	19	l.m.		
	Pre-painted Rib Type G.I Roofing	48	sq.m		
	Pre-painted G.I Flashing	6	l.m.		
	Pre-painted G.I Gutter	19	l.m.		
	Pre-painted G.I Ridge Roll	13	l.m.		
	Miscellaneous				
	Rivets	96	piece		
	Silicon Sealant	2	tube		
	Tekscrew	480	piece		
				<b>Materials Cost III</b>	₱
				<b>Labor Cost III</b>	
				<b>Direct Cost III</b>	₱
<b>IV</b>	<b>ARCHITECTURAL WORKS</b>				
A	Floor Finishes				
	300mm x 300mm Non-skid Homogeneous Floor Tile Comfort Room/Balcony	8	sq.m.	₱	₱
	Floor topping for preparation of tiles	8	sq.m.		
B	Wall Partitions and Finishes				
	300mm x 300mm Homogeneous Tile (Comfort Rooms)	8	sq.m.		
C	Ceiling Finishes				
	12mm thick Gypsum Board including Metal Framing	53	sq.m.		
	12mm thick Moisture Resistant Gypsum Board including Metal Framing	21	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
D	Installation of Doors				
	Doors				
	D3 - 0.9m x 2.1m Solid Wood Panel Door	1	set	₱	₱
	Door Jamb				
	D3 - 0.9m x 2.1m Solid Wood Panel Door	1	set		
	Hardwares and Accessories				
	Door Hinge, Heavy Duty	3	piece		
	Door Knob, Lever Type	2	piece		
	Door Lockset, Stainless Steel	1	piece		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
E	Painting Works				
	Elastomeric Paint Finish (Exterior Walls)	76	sq.m.	₱	₱
	Epoxy Enamel Paint Finish	2	sq.m.		
	Flat Latex Paint Finish				
	Interior Walls - GF	61	sq.m.		
	Interior Walls - 2F	54	sq.m.		
	Ceiling	74	sq.m.		
	Slab Soffit	7	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Direct Cost	₱
				<b>Materials Cost IV</b>	₱
				<b>Labor Cost IV</b>	
				<b>Direct Cost IV</b>	₱
V	<b>SANITARY AND PLUMBING WORKS</b>				
A	Sewer Line System				
	50mm Ø PVC Standard Hub Pipe	1	piece	₱	₱
	75mm Ø PVC Standard Hub Pipe	1	piece		
	75mm Ø x 75mm Ø PVC Wye	1	piece		
	50mm Ø x 50mm Ø PVC 1/4 Bend	1	piece		
	75mm Ø x 75mm Ø PVC 1/4 Bend	1	piece		
	75mm Ø x 75mm Ø PVC 1/8 Bend	1	piece		
	50mm Ø PVC P-Trap	1	piece		
	50mm Ø PVC Coupling	1	piece		
	75mm Ø PVC Coupling	1	piece		
B	Water Line System				
	20mm Ø PPR Pipe, PN 16	1	piece		
	20mm Ø PPR 90° Elbow	2	piece		
	20mm Ø PPR Female Threaded Adaptor	1	piece		
	20mm Ø PPR Coupling	1	piece		
	20mm Ø PPR End Cap	1	piece		
C	Fixtures & Accessories				
	Bidet with Accessories, Stainless Heavy Duty (Water Efficient)	1	piece		
	Hose Bibb, Stainless Steel, Lever-Type (Water Efficient)	6	unit		
	Lavatory, Wall-hung, Kiddy	1	unit		
	Lavatory Faucet, Lever Type (Water Efficient)	1	unit		
	Water Closet, Kiddy, Tank Type (Water Efficient)	1	unit		
	Urinal, Kiddy Flush Type (Water Efficient)	1	unit		
	Accessories				
	Angle Valve, One-way, Stainless Steel	1	piece		
	Angle Valve, Two-way, Stainless Steel	1	piece		
	Flexible Hose, Stainless Steel	2	piece		



ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
D	Miscellaneous and Consumables				
	400cc Solvent Cement	1	can		
	All Around Sealant	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				<b>Materials Cost V</b>	<b>₱</b>
				<b>Labor Cost V</b>	
				<b>Direct Cost V</b>	<b>₱</b>
<b>VI</b>	<b>ELECTRICAL WORKS</b>				
	Roughng-ins				
	20mmØ PVC Pipe	55	piece	₱	₱
	Fittings and Accessories				
	20mmØ PVC Adaptor	42	piece		
	20mmØ PVC Locknut and Bushing	42	pair		
	50mm x 100mm PVC Utility Box	7	piece		
	100mm x 100mm PVC Junction Box with cover	13	piece		
	Wires and Cables				
	3.5mm² THHN Wire	3	roll		
	Lighting Fixtures ( Energy Efficient )				
	10W LED Bulb	5	piece		
	100mmØ Receptacle	5	piece		
	300mm x 1200mm, 1 x 18W LED, Troffer Type, w/ complete accessories, Surfaced Mounted	8	piece		
	Wiring Devices & Appliances				
	Orbit Fan, Heavy Duty with Selector Switch	4	piece		
	Switch with Plate & Cover, One Gang	1	piece		
	Switch with Plate & Cover, Three Gang	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All around Sealant	1	can		
	Electrical Tape	10	roll		
	G.I Tie Wire	2	kg		
	Hacksaw Blade	4	piece		
	Masking Tape	8	roll		
	Pulling Lubricant	1	gal		
	Rubber Tape	8	roll		
				<b>Materials Cost VI</b>	<b>₱</b>
				<b>Labor Cost VI</b>	
				<b>Direct Cost VI</b>	<b>₱</b>

**SUMMARY**

ITEM	WORK DESCRIPTION AND SCOPE OF WORKS	AMOUNT
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ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
NO					
I II III IV V VI	GENERAL REQUIREMENTS SITE WORKS CIVIL WORKS / STRUCTURAL WORKS ARCHITECTURAL WORKS SANITARY AND PLUMBING WORKS ELECTRICAL WORKS				
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum	Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	<b>TOTAL DIRECT COST</b>		<b>P</b>	
		<b>TOTAL ESTIMATED COST</b>			<b>P</b>

**BILL OF QUANTITIES**  
(Building Construction/Rehabilitation Project)

**PROJECT TITLE :** PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF STA. CRUZ DAY CARE CENTER

**LOCATION :** BARANGAY STA. CRUZ, DISTRICT 1, QUEZON CITY

**PROJECT NO. :** 22 - 00029

**SCOPE OF WC**

**I GENERAL REQUIREMENTS**

1.) General Requirements include temporary facilities and utilities, billboard, construction safety and health, scaffolding, hauling and disposal of construction materials and debris.

**II CONSTRUCTION OF HAND WASHING FACILITY**

1.) Supply and installation of single sink handwashing stall.

2.) Tapping of hand washing facility include plumbing works.

**III REHABILITATION OF DAY CARE CENTER**

1.) Site Works include chipping of wall (electrical works).

2.) Civil/Structural Works include masonry work, metal works, and roofing works.

3.) Architectural Works include wall finishes and partitions, ceiling finishes, installation of doors and windows, and painting works.

4.) Sanitary/Plumbing Works include installation of roughing-ins, fixtures and accessories.

5.) Electrical Works include installation of roughing-ins, fixtures and accessories.

6.) Mechanical Works include installation of roughing-ins, fixtures and accessories.

**IV All necessary testing and commisioning shall be performed in accordance to standards.**

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
<b>I</b>	<b>GENERAL REQUIREMENTS</b>				
	Billboard	1	piece	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	2	t.l.		
	Construction Health and Safety	1	unit		
	Scaffolding (Rental)	260	sq.m		
	Temporary Electrical and Water Facilities	90	day		
	Temporary Enclosure around the Construction Area (H=2.4m)	52	l.m.		
				<b>Direct Cost I</b>	₱
<b>II</b>	<b>CONSTRUCTION OF HAND WASHING FACILITY</b>				
<b>A</b>	<b>Hand Washing Facility</b>				
	Single Sink Portable Hand Washing Facility	1	unit	₱	₱
				<b>Direct Cost A</b>	₱
<b>B</b>	<b>Tapping of Handwashing Facility</b>				
	Sanitary / Plumbing Works				

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
	Sanitary Line / Sewer Line / Storm Drainage System				
	50mm Ø PVC Pipe with Hub	1	piece	₱	₱
	50mm Ø x 50mm Ø PVC 1/4 Bend	2	piece		
	Waterline System	2	piece		
	25mm Ø PPR Pipe	5	piece		
	25mm Ø, Tee Equal	2	piece		
	25mm Ø x 25mm Ø PPR 90° Elbow	7	piece		
	25mm Ø PPR Coupling	2	piece		
	25mm Ø x 20mm Ø PPR Reducer	1	piece		
	25mm Ø, Union Patente	2	piece		
	32mm Ø x 25mm Ø PPR Reducer	1	piece		
	Valves & Appurtenances				
	20mm Ø PPR Gate Valve	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Material Cost B	₱
				Labor Cost B	₱
				Direct Cost B	₱
				<b>Material Cost II</b>	<b>₱</b>
				<b>Labor Cost II</b>	<b>₱</b>
				<b>Direct Cost II</b>	<b>₱</b>
<b>III</b>	<b>REHABILITATION OF DAY CARE CENTER</b>				
A	Site Works				
	Chipping of Wall (Electrical Works)	12	sq.m.	₱	₱
				Direct Cost A	₱
B	Civil Works / Structural Works				
	Masonry Works				
	150mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering (Enclosure of ACU Opening)	1	sq.m.	₱	₱
	Restoration of Wall (Electrical Works)	12	sq.m		
	Metal Works				
	G1 - Steel Gate				
	50mmØ G.I. Pipe	53	kg		
	12mm Square Bar	26	kg		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Barrel Bolt (Steel Gate)	1	piece		

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
	Pre-Painted Plain G.I. Sheet	2	sq.m.		
	Miscellaneous & Consumables				
	Acetylene Tank Refill	1	tank		
	Cut Off Blade	1	piece		
	Grinding Disc Metal	1	piece		
	Oxygen tank Refill	1	tank		
	Welding Rod	1	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	168	sq.m.		
	Pre-Painted Plain G.I. Roofing	9	sq.m.		
	Pre-Painted G.I. End Flashing	8	l.m.		
	Pre-Painted G.I. Gutter	58	l.m.		
	Pre-Painted G.I. Ridge Roll	33	l.m.		
	6mm thick One-Sided Aluminum Foil Thermal Insulation	168	sq.m.		
	12mm x 300mm Fiber Cement Fascia Board	80	l.m.		
	Tekscrew	865	piece		
	Silicon Sealant	6	tube		
				Material Cost B	₱
				Labor Cost B	₱
				Direct Cost B	₱
C	Architectural Works				
	Wall Finishes and Partition				
	6mm Thick Double Wall Fiber Cement Board including Metal Framing	11	sq.m.	₱	₱
	Ceiling Finishes				
	6mm Thick Fiber Cement Board including Metal Framing	185	sq.m.		
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
	Installation of Doors				
	D1 - 0.90m x 2.10m Panel Door	3	set	₱	₱
	D2 - 0.60m x 2.10m PVC Door with Louver	1	set		
	D3 - 0.90m x 2.10m Flush Door	1	set		
	Door Jambs				
	D1 - 0.90m x 2.10m Panel Door Wooden Jamb	3	piece		
	D3 - 0.90m x 2.10m Flush Door Wooden Jamb	1	piece		
	Hardwares and Accessories				
	Door Hinges, Heavy Duty Stainless	15	piece		
	Door Knob, Lever Type, Stainless	5	set		
	Installation of Windows				
	W1 - 0.50m x 0.50m Awning Window	1	set		

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
	W2 - 1.50m x 1.80m Sliding Window with Fixed Glass	1	set		
	W3- 1.20m x 0.90m Sliding Window	1	set		
	W4 - 1.20m x 1.80m Sliding Window	5	set		
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
	Painting Works				
	Epoxy Enamel Finish				
	Steel Gate	6	sq.m.	₱	₱
	Stair and Terrace Grilles	43	sq.m.		
	Flat Latex Paint Finish				
	Interior Wall	224	sq.m.		
	Ceiling	185	sq.m.		
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
	Mural Paint (Elastomeric Paint Finish)	34	sq.m.	₱	₱
				Subtotal	₱
				Material Cost C	₱
				Labor Cost C	₱
				Direct Cost C	₱
D	Sanitary / Plumbing Works				
	Sewer Line / Storm Drainage System				
	100mm Ø, PVC Pipe with Hub	2	piece	₱	₱
	75mm Ø, PVC Pipe with Hub	24	piece		
	50mm Ø, PVC Pipe with Hub	7	piece		
	100mm Ø x 100mm Ø, Wye	2	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 50mm Ø, Wye	3	piece		
	75mm Ø x 50mm Ø, Tee	5	piece		
	75mm Ø, 1/4 Bend	20	piece		
	50mm Ø, 1/4 Bend	9	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/8 Bend	3	piece		
	50mm Ø, 1/8 Bend	5	piece		
	P-Trap 50mm Ø	2	piece		
	P-Trap 32mm Ø	2	piece		
	Coupling 75mm Ø	15	piece		
	Waterline (Water Efficient)				

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
	25mm Ø, PPR Pipe	2	piece		
	20mm Ø, PPR Pipe	4	piece		
	20mm Ø, Tee Equal	4	piece		
	20mm Ø, End Cap	4	piece		
	25mm Ø, 90 Deg Elbow	3	piece		
	20mm Ø, 90 Deg Elbow	7	piece		
	25mm Ø, Union Patent	2	piece		
	20mm Ø x 1/2: Ø, Female Thread Tee	4	piece		
	25mm Ø, Coupling	2	piece		
	25mm Ø, Male Adaptor	2	piece		
	Reducer 32mm Ø x 25mm Ø	2	piece		
	Reducer 25mm Ø x 20mm Ø	2	piece		
	Valves and Appurtenances				
	25mm Ø, Gate Valve	1	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	set		
	Floor Drain, 100mm x 100mm Stainless Steel	1	piece		
	Hose Bibb, Lever Type, Stainless Steel, Heavy Duty (Water Efficient)	9	piece		
	Lavatory Faucet, Lever Type, Stainless Steel Heavy Duty (Water Efficient)	1	piece		
	Lavatory Wall Hung, Kiddy	1	set		
	Urinal, Flash Valve, Kiddy (Water Efficient)	1	set		
	Water Closet, Tank Type, Kiddy with Accessories (Water Efficient)	1	set		
	Accessories				
	Angle Valve, Single-Way Stainless Steel	1	piece		
	Angle Valve, Two-Way Stainless Steel	1	piece		
	Flexible Hose, Stainless	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All-Around Sealant	1	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Material Cost D	₱
				Labor Cost D	₱
				Direct Cost D	₱
E	Electrical Works				
	Roughing-ins				
	20mmØ PVC Pipe	50	piece	₱	₱
	25mmØ PVC Pipe	10	piece		

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
	Fittings and Accessories				
	20mmØ PVC Adaptor	76	piece		
	25mmØ PVC Adaptor	4	piece		
	20mmØ PVC Flexible Tube	25	lm		
	25mmØ PVC Flexible Tube	12	lm		
	20mmØ PVC Locknut and Bushing	76	pair		
	25mmØ PVC Locknut and Bushing	4	pair		
	50mm x 100mm PVC Utility Box	25	piece		
	100mm x 100mm PVC Junction Box with Cover	15	piece		
	100mm x 100mm PVC Utility Box (Pullbox)	5	piece		
	Wires and Cables				
	3.5mm² THHN Wire	2	roll		
	5.5mm² THHN Wire	60	lm		
	3.5mm² TW Wire	1	roll		
	Wiring Devices and other fixtures				
	300mm x 1200mm, 1 x 18w LED, Troffer Type, w/ Complete Accessories, Recessed Type	11	set		
	100mm Ø Round Recessed Pinlight (case)	1	piece		
	100mm Ø Round Recessed Pinlight LED 9W	1	piece		
	Wiring Devices and other fixtures				
	Aircon Outlet, Multipurpose outlet 250V/20A	1	piece		
	Outlet with Grounding, Two-Gang	13	piece		
	Orbit Fan with Selector Switch	4	piece		
	Switch w/ Plate & Cover, One Gang	4	piece		
	Switch w/ Plate & Cover, Three Gang	1	piece		
	Panelboard				
	Cut-Off Breaker				
	30AT, 2P, 230V, 18 KAIC	1	assy		
	Pipe Hangers & Supports				
	Horizontal Layout of Pipe	50	lm		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Electrical Tape	6	roll		
	G.I. Tie Wire Ga. 16 (for cable pulling)	2	kg		
	Hacksaw Blade	6	piece		
	Masking Tape	1	roll		
	Pulling Lubricant	1	can		
	Rubber Tape	1	roll		
	Torch w/ Butane	3	set		
				Material Cost E	₱
				Labor Cost E	₱
				Direct Cost E	₱



ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
F	Mechanical Works				
	Condensate Water Drainage System				
	Roughing-Ins				
	25mm Ø x 3m uPVC Pipe	3	piece	₱	₱
	25mm Ø uPVC Elbow	3	piece		
	Insulation				
	25mmØ x 12mm thick Rubber Foam Insulation	8	piece		
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
	Window-type Air Conditioning Unit				
	WAC 1 - Window-Type Air Conditioning Unit, 1.50 hp, 13,000 KJ/Hr Cooling Capacity, 1,200 W, 230/1/60	1	unit	₱	₱
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
	Pipe Hangers and Supports				
	Condensate Water Drainage System Support	6	l.m.	₱	₱
	Window Type Aircon Steel Bracket	1	unit		
	Miscellaneous & Consumables				
	400cc Pipe Solvent Cement	1	can		
	25mm wide x 50m long Polyethylene Tape	1	roll		
	50mm x 10m Duct Tape	1	roll		
	Waste Cloth	1	kg		
				Material Cost	₱
				Labor Cost	₱
				Subtotal	₱
				Material Cost F	₱
				Labor Cost F	₱
				Direct Cost F	₱
				Material Cost III	₱
				Labor Cost III	₱
				Direct Cost III	₱

**SUMMARY**

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	TOTAL COST
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ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY.	UNIT	UNIT COST	TOTAL COST
I II III	GENERAL REQUIREMENTS CONSTRUCTION OF HAND WASHING FACILITY REHABILITATION OF DAY CARE CENTER				₱
<b>Note:</b> • Strictly enforce Protocols relative to the latest applicable DPWH Memorandum				<b>TOTAL DIRECT COST</b> Overhead, Contingencies and Miscellaneous and Consumables Expenses (OCM) Profit VAT	₱
				<b>TOTAL ESTIMATED COST</b>	₱

**BILL OF QUANTITIES**  
(Building Construction/Rehabilitation Project)

**PROJECT TITLE :** PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF VETERANS DAY CARE CENTER

**LOCATION :** BARANGAY VETERANS VILLAGE, DISTRICT 1, QUEZON CITY

**PROJECT NO. :** 22 - 00029

**SCOPE OF WORK :**

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris, construction safety & health, temporary Enclosure and Scaffolding.
- II Construction of Hand Washing Facility.
  - a Supply and installation of foot operated single sink and double sink handwashing facility.
  - b Sanitary/Plumbing Works include installation of waterline, sewer line, valves and appurtenances and accessories.
- III Rehabilitation of Day Care Center.
  - a Site Works include earthworks and removal of roofing and accessories, ceiling, tiles, doors, windows, counter top, and cleaning/clearing for painting preparation
  - b Civil Works include concreting, masonry works, thermal and moisture protection, metal works and roofing works
  - c Architectural Works include floor finishes, wall finishes, ceiling works, painting works, installation of doors and windows and fabricated materials
  - d Sanitary/Plumbing Works include installation of waterline, sewer line, valves and appurtenances, fixtures, hardware and accessories.
  - e Electrical Works include installation of wiring devices and other fixtures.
- IV All necessary testing and commissioning shall be performed in accordance to standards.

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
<b>I.</b>	<b>GENERAL REQUIREMENTS</b>				
	Billboard	1	unit	P	P
	Clearing, Hauling and Disposal of Demolished Materials and Debris	3	t.l		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	107	sq.m		
	Temporary Enclosure around the area (H=2.4m)	57	lm		
				<b>DIRECT COST I</b>	<b>P</b>
<b>II.</b>	<b>CONSTRUCTION OF HAND WASHING FACILITY</b>				
<b>A</b>	<b>Hand Washing Facility</b>				
	Single Sink, Portable Hand Washing Facility	1	set	P	P
				Direct Cost A	P
<b>B</b>	<b>Sanitary/Plumbing Works</b>				
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	1	piece	P	P
	20mm Ø, Tee Equal	1	piece		
	20mm Ø, Elbow	1	piece		
	20mm Ø, Coupling	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	1	piece		
	75 mm Ø, Pipe PVC	1	piece		
	100mm Ø, Pipe PVC	1	piece		
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	100mm Ø x 75mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				Material Cost B	P
				Labor Cost B	
				Subtotal B	P
				<b>MATERIAL COST II</b>	<b>P</b>
				<b>LABOR COST II</b>	
				<b>DIRECT COST II</b>	<b>P</b>
<b>III.</b>	<b>REHABILITATION OF VETERANS DAY CARE CENTER</b>				
A	Site Works				
	Site Clearing and Preparation	41	sq.m	P	P
	Layout and staking	41	sq.m		
	Excavation for structures				
	Footing	10	cu.m		
	Wall Footing	11	cu.m		
	Soil Treatment	10	sq.m		
	Gravel Bedding	2	cu.m		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
	Backfill and Compaction	12	cu.m	P	P
				Subtotal	P
	Demolition Works				
	Removal of Roofing and Accessories	147	sq.m	P	P
	Removal of Ceiling	8	sq.m		
	Chipping of Tiles	15	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Removal of Doors	7	piece		
	Removal of Windows	30	sq.m		
	Demolition of Counter Top	3	sq.m		
	Cleaning/Clearing for Painting Preparation	564	sq.m		
				Subtotal	P
				Material Cost A	P
				Labor Cost A	P
				Subtotal A	P
B	Civil Works/Structural Works				
	Concreting				
	On Site Mix Concrete				
	Column Footing	3	cu.m	P	P
	Wall Footing	4	cu.m		
	Column	2	cu.m		
	Reinforcing Steel Bars				
	Grade 40 Reinforcing Steel Bars including G.I. Tie Wire # 16				
	10mmØ Reinforcing Steel Bars				
	Column Ties	296	kg		
	12mmØ Reinforcing Steel Bars				
	Wall Footing	202	kg		
	Grade 60 Reinforcing Steel Bars including G.I. Tie Wire # 16				
	16mmØ Reinforcing Steel Bars				
	Column Footing	280	kg		
	Column	319	kg		
	Formworks				
	Column Footing	9	sq.m		
	Column	18	sq.m		
	Scaffolding and Shoring				
	Column	42	l.m		
	Masonry Works				
	150mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering	49	sq.m		
	Plastering of Door and Window Openings	111	l.m		
	Thermal and Moisture Protection				
	Cementitious Capillary Type Waterproofing (Toilet)	14	sq.m		
	Metal Works				
	Steel Gate				
	12mm Square Bar	50	kg		
	20mm Square Bar	16	kg		
	50mm Ø G.I Pipe	13	kg		
	6mm Thick Steel Plate	4	kg		
	Cylindrical Hinge, Heavy Duty	6	piece		
	Foot Bolt	1	set		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Barrel Bolt	1	set		
	Fence				
	12mm Square Bar	462	kg		
	20mm Square Bar	214	kg		
	Canopy				
	50mm x 150mm x 4mm Tubular Bar	15	kg		
	50mm x 100mm x 4mm Tubular Bar	15	kg		
	50mm x 150mm x 1.2mm C Purlin	57	kg		
	100mm Ø G.I Pipe	602	kg		
	10mm Ø Sagrod	36	kg		
	20mm thick Base Plate	47	kg		
	20mm Ø Dynabolt	80	kg		
	20mm Ø Anchor bolt	28	kg		
	Miscellaneous and Consumables				
	Acetylene Tank Refill	2	tank		
	Assorted Metal Drill Bit	5	piece		
	Cut Off Blade	5	piece		
	Grinding Disc Metal	5	piece		
	Oxygen Tank Refill	4	tank		
	Welding Rod	2	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	23	sq.m		
	Pre-Painted Curve Roof G.I. Roofing	155	sq.m		
	Pre-Painted G.I. End Flashing	77	lm		
	12mm x 300mm Fascia Board	68	lm		
	Tekscrew	868	piece		
	Blind Rivets	192	piece		
	Silicon Sealant	10	tube		
				Material Cost B	P
				Labor Cost B	
				Subtotal B	P
<b>C</b>	<b>ARCHITECTURAL WORKS</b>				
	Floor Finishes				
	400mm x 400mm Homogeneous Floor Tiles	8	sq.m	P	P
	300mm x 300mm Homogeneous Stair Tiles with Groove	15	sq.m		
	Floor Topping for Preparation of Tiles	8	sq.m		
	Wall Finishes				
	400mm x 400mm Homogeneous Wall Tiles	31	sq.m		
	Ceiling Works				
	6mm Thick Fiber Cement Board with Complete Framings and Accessories	8	sq.m		
	Painting Works				
	Flat Latex Paint Finish (Interior Wall and Partitions)	243	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Flat Latex Paint Finish (Ceiling)	3	sq.m		
	Elastomeric Paint Finish (Exterior Wall and Perimeter Fence)	275	sq.m		
	Epoxy Enamel Paint Finish (Steel Surface)	54	sq.m		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
	Installation of Doors				
	D1 -0.80m x 2.10m Swing Type Flush Door, Painted Finish	1	set	P	P
	D2 -1.20m x 2.10m Swing Type Flush Door, Painted Finish	1	set		
	D3 -0.60m x 2.10m Swing Type PVC Door w/ Louver	3	set		
	D4 -0.90m x 2.10m Swing Type Panel Door, Painted Finish	1	set		
	D5 - 1.60m x 2.10m Two Leaf Door, Clear Tempered Glass Powder Coated Aluminum Frame with Complete Accessories	1	set		
	Door Jambs				
	D1 -0.80m x 2.10m Swing Type Flush Door, Painted Finish	1	set		
	D2 -1.20m x 2.10m Swing Type Flush Door, Painted Finish	1	set		
	D2 -0.90m x 2.10m Swing Type Flush Door, Painted Finish	1	set		
	Hardware Accessories				
	Door Hinges, Heavy Duty Stainless	18	set		
	Door Knob, Lever Type, Stainless	6	set		
	Installation of Windows				
	W1 -0.50m x 0.50m Awning Window, 6mm Thk, Clear Tempered Glass Powder Coated Aluminum Frame with Complete Accessories	3	set		
	W2 -0.70m x 1.20m Sliding Window, 6mm Thk, Clear Tempered Glass Powder Coated Aluminum Frame with Complete Accessories	2	set		
	W3 -1.50m x 1.20m Fixed Window, 6mm Thk, Clear Tempered Glass Powder Coated Aluminum Frame with Complete Accessories	2	set		
	W4 -1.50m x 1.20m Sliding Window, 6mm Thk, Clear Tempered Glass Powder Coated Aluminum Frame with Complete Accessories	13	set		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
	Fabricated Materials				
	Counter Top with Aluminum Cover (Inside and Pantry)	5	l.m	P	P
	Counter Top Tiles And Aluminum Cover (Outside)	3	l.m		
				Materials Cost	P

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Labor Cost	
				Subtotal	₱
				Material Cost C	₱
				Labor Cost C	
				Subtotal C	₱
D	Plumbing/Sanitary Works				
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece	₱	₱
	20mm Ø, Tee Equal	16	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Female Elbow, Threaded	12	piece		
	20mm Ø, Union patente	1	piece		
	20mm Ø, End Cap	12	piece		
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	4	piece		
	100mm Ø, Pipe PVC	4	piece		
	50mm Ø, P-Trap	5	piece		
	50mm Ø, 1/8 Bend	14	piece		
	100mm Ø, 1/8 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	14	piece		
	100mm Ø x 100mm Ø, Wye	2	piece		
	100mm Ø, Cleanout with Adapter	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	3	piece		
	Hose Bibb Lever Type, Stainless Steel Heavy Duty (Water Efficient)	7	piece		
	Water Closet, Tank Type w/ Accessories, (Water Efficient)	3	piece		
	Kitchen Sink, Stainless Single	1	piece		
	Kitchen Sink Faucet Lever Type, Heavy Duty (Water Efficient)	1	piece		
	Lavatory Wall Hung	3	piece		
	Lavatory Faucet Lever Type, Stainless Steel Heavy Duty	3	piece		
	Accessories				
	Flexible Hose, Stainless Steel	7	piece		
	Single Way Angle Valve, Stainless Steel	4	piece		
	Two Way Angle Valve, Stainless Steel	3	piece		
	100mmx100mm Flat Floor Drain, Stainless Steel	3	piece		
	Miscellaneous & Consumables				



ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	400cc Solvent Cement	3	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	3	rolls		
	Waste Cloth	2	kgs		
				Material Cost D	P
				Labor Cost D	
				Subtotal D	P
E	Electrical Works				
	Roughing-ins				
	20mmØ PVC Pipe	25	piece	P	P
	Fittings and Accessories				
	20mmØ PVC Adaptor	20	piece		
	20mmØ PVC Locknut & Bushing	20	piece		
	50mm x 100mm PVC Utility Box	5	piece		
	100mm x 100mm PVC Pull Box	10	piece		
	Wires and Cables				
	3.5mm² THHN Wire	180	l.m.		
	Wiring Devices and other fixtures				
	Convenience Outlet with ground, Two-gang	25	set		
	E27 Receptacle Ceiling Mounted	3	piece		
	Switch w/ plate & cover, Single gang	9	set		
	Switch w/ plate & cover, Three-way, Single gang	2	set		
	Switch w/ plate & cover, Two gang	3	set		
	T8, 18w LED Tube light, Box type	3	piece		
	Lighting Fixtures (Energy Efficient)				
	18W LED bulb	1	piece		
	Ball-shaped Outdoor Chapter Light	4	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Electrical Tape	5	roll		
	Hacksaw Blade	2	piece		
	Torch with Butane	1	set		
				Material Cost E	P
				Labor Cost E	
				Subtotal E	P
				<b>MATERIAL COST III</b>	<b>P</b>
				<b>LABOR COST III</b>	
				<b>DIRECT COST III</b>	<b>P</b>

**SUMMARY**

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
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ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I. II. III.	GENERAL REQUIREMENTS CONSTRUCTION OF HAND WASHING FACILITY REHABILITATION OF VETERANS DAY CARE CENTER				P
Note: <b>Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum</b>	Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT	<b>TOTAL DIRECT COST</b>			P
	<b>TOTAL ESTIMATED COST</b>				P

## ***Section IX. Checklist of Technical and Financial Documents***

### **Notes on the Checklist of Technical and Financial Documents**

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

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

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

# Checklist of Technical and Financial Documents

## I. TECHNICAL COMPONENT ENVELOPE

### *Class “A” Documents*

#### Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);  
**and**
- (b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document;  
**and**
- (c) Mayor’s or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas;  
**and**
- (e) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

#### Technical Documents

- (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid (*please see attached prescribed forms required by the QC – BAC for Infrastructure and Consultancy*); **and**
- (g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules with an attached Notice of Award, Notice to Proceed, Contract and Certificate of Acceptance (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**
- (h) Philippine Contractors Accreditation Board (PCAB) License;  
**or**  
Special PCAB License in case of Joint Ventures;  
**and** registration for the type and cost of the contract to be bid; **and**
- (i) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;  
**or**  
Original copy of Notarized Bid Securing Declaration; **and**
- (j) Project Requirements, which shall include the following:
  - a. Organizational chart for the contract to be bid;
  - b. List of contractor’s key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*);
  - c. List of contractor’s major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment

lessor/vendor for the duration of the project, as the case may be (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*); **and**

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

Additional Technical Requirements:

- Certificate of Site Inspection or Affidavit of Site Inspection as part of Omnibus Sworn Statement
- Affidavit of Undertaking for Key Personnel and Equipment (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*)
- Equipment Utilization Schedule
- Manpower Schedule
- Construction Schedule and S-Curve
- PERT-CMP
- Construction Methods

#### Financial Documents

- (l) The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- (m) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) (*please see attached prescribed form required by the QC – BAC for Infrastructure and Consultancy*).

#### **Class "B" Documents**

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

## **II. FINANCIAL COMPONENT ENVELOPE**

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

#### Other documentary requirements under RA No. 9184

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

**Bid Form for the Procurement of Infrastructure Projects**  
*[shall be submitted with the Bid]*

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**BID FORM**

Date : \_\_\_\_\_  
Project Identification No. : \_\_\_\_\_

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

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

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines<sup>1</sup> for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

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<sup>1</sup> currently based on GPPB Resolution No. 09-2020

- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity].
- l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: \_\_\_\_\_

Legal Capacity: \_\_\_\_\_

Signature: \_\_\_\_\_

Duly authorized to sign the Bid for and behalf of: \_\_\_\_\_

Date: \_\_\_\_\_

## **Bid Securing Declaration Form**

*[shall be submitted with the Bid if bidder opts to provide this form of bid security]*

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REPUBLIC OF THE PHILIPPINES)  
CITY OF \_\_\_\_\_) S.S.

### **BID SECURING DECLARATION** **Project Identification No.: *[Insert number]***

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
  - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
  - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
  - c. I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this \_\_\_\_ day of *[month]* *[year]* at *[place of execution]*.

*[Insert NAME OF BIDDER OR ITS AUTHORIZED  
REPRESENTATIVE]  
[Insert signatory's legal capacity]  
Affiant*

#### **[Jurat]**

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



## Omnibus Sworn Statement (Revised)

*[shall be submitted with the Bid]*

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REPUBLIC OF THE PHILIPPINES )  
CITY/MUNICIPALITY OF \_\_\_\_\_ ) S.S.

### AFFIDAVIT

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

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

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

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

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

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

*[If a partnership, corporation, cooperative, or joint venture:]* I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];

3. [Name of Bidder] is not "blacklisted" or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;

5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

*[If a sole proprietorship:]* The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*[If a partnership or cooperative:]* None of the officers and members of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project

Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*[If a corporation or joint venture:]* None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
  - a. Carefully examining all of the Bidding Documents;
  - b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
  - c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
  - d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**
11. We pledge that the project will be completed in accordance and congruency with the approved plans and programs.

**IN WITNESS WHEREOF**, I have hereunto set my hand this \_\_\_ day of \_\_\_\_\_ 20\_\_ at \_\_\_\_\_, Philippines.

*[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]*

*[Insert signatory's legal capacity]*

Affiant

**[Jurat]**

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

**Contract Agreement Form for the  
Procurement of Infrastructure Projects (Revised)**

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

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**CONTRACT AGREEMENT**

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - a. Philippine Bidding Documents (PBDs);
    - i. Drawings/Plans;
    - ii. Specifications;
    - iii. Bill of Quantities;
    - iv. General and Special Conditions of Contract;
    - v. Supplemental or Bid Bulletins, if any;
  - b. Winning bidder's bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;  
  
Bid form, including all the documents/statements contained in the Bidder's bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
  - c. Performance Security;
  - d. Notice of Award of Contract and the Bidder's conforme thereto; and
  - e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**
3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

*[Insert Name and Signature] [Insert Name and Signature]*

*[Insert Signatory's Legal Capacity] [Insert Signatory's Legal Capacity]*

*for: for:*

*[Insert Procuring Entity] [Insert Name of Supplier]*

**Acknowledgment**

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

## Performance Securing Declaration (Revised)

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

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REPUBLIC OF THE PHILIPPINES)  
CITY OF \_\_\_\_\_ ) S.S.

### PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents] To:  
[Insert name and address of the Procuring Entity]

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.
2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;
3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:
  - a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
    - i. Procuring Entity has no claims filed against the contract awardee;
    - ii. It has no claims for labor and materials filed against the contractor; and
    - iii. Other terms of the contract; or
  - b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

**IN WITNESS WHEREOF**, I/We have hereunto set my/our hand/s this \_\_\_\_ day of [month] [year] at [place of execution].

*[Insert NAME OF BIDDER OR ITS  
AUTHORIZED REPRESENTATIVE]  
[Insert signatory's legal capacity]  
Affiant*

**[Jurat]**

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



**LIST OF ALL AWARDED BUT NOT YET STARTED GOVERNMENT AND PRIVATE CONTRACTS OF THE BIDDER**

**NAME OF CONTRACTOR:** \_\_\_\_\_

**PROJECT TITLE:** \_\_\_\_\_

PROJECT TITLE & EXACT LOCATION	MAJOR SCOPE OF WORKS & DATE STARTED	NAME AND ADDRESS OF PROJECT OWNER	CONTRACT PRICE (PHP) AS AWARDED	DATE OF SCHEDULED COMPLETION	ROLE OF BIDDER IN THE <u>CONTRACT</u> <u>SOLE CONTRACTOR / SUB-CONTRACTOR/PARTNER IN A</u>
	TOTAL AMOUNT OF CONTRACT (Php)				

**SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID**

**NAME OF CONTRACTOR:** \_\_\_\_\_

**PROJECT TITLE:** \_\_\_\_\_

PROJECT TITLE (Name of the Contract) & EXACT PROJECT LOCATION	DATE OF CONTRACT	CONTRACT DURATION	PROJECT OWNER & POSTAL ADDRESS	NATURE OF WORK	CONTRACTOR'S ROLE (SOLE CONTRACTOR, SUBCONTRACTOR, PARTNER IN A JV) and PERCENTAGE OF PARTICIPATION	TOTAL CONTRACT VALUE AT AWARD	DATE OF COMPLETION or ESTIMATED COMPLETION TIME	TOTAL CONTRACT VALUE AT COMPLETION IF APPLICABLE

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page \_\_\_\_\_ of \_\_\_\_\_



**LIST OF MAJOR EQUIPMENT TO BE USED FOR THE PROJECT**

**NAME OF CONTRACTOR:** \_\_\_\_\_

**PROJECT TITLE:** \_\_\_\_\_

TYPE	DESCRIPTION / CAPACITY	SERIAL NO.	YEAR ACQUIRED	PRESENT LOCATION (SPECIFIC ADDRESS)	STATUS OF AVAILABILITY (OWNED/LEASED)

**A. LIST OF KEY CONSTRUCTION PERSONNEL TO BE ASSIGNED TO THE PROJECT**

NAME OF CONTRACTOR: \_\_\_\_\_

PROJECT TITLE: \_\_\_\_\_

NAME	POSITION	AGE	EDUCATIONAL ATTAINMENT	TYPE OF CONSTRUCTION EXPERIENCE	NO.OF YEARS WITH THE CONTRACTOR	PROFESSION	PRC NO.

## COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

NAME OF BIDDER: \_\_\_\_\_

CURRENT ASSETS*		PHP	_____
(LESS) CURRENT LIABILITIES*	(LESS)	PHP	_____
NETWORTH		PHP	_____
NETWORTH x 15	x 15	PHP	_____
(LESS) VALUE OF ALL OUTSTANDING ON-GOING CONTRACTS**	(LESS)	PHP	_____
(LESS) VALUE OF ALL AWARDED BUT NOT YET STARTED CONTRACTS AS OF DATE**	(LESS)	PHP	_____
<b>NET FINANCIAL CONTRACTING CAPACITY</b>		PHP	_____

NOTES: \* CURRENT ASSETS AND LIABILITIES BASED ON AUDITED FINANCIAL STATEMENT FOR THE PRECEDING CALENDAR YEAR SUBMITTED TO B.I.R.

\*\* BASED ON LIST OF ON-GOING AND AWARDED BUT NOT YET STARTED CONTRACTS SUBMITTED

REPUBLIC OF THE PHILIPPINES)

\_\_\_\_\_ ) S.S.

### AFFIDAVIT OF UNDERTAKING

I, \_\_\_\_\_ of legal age, Filipino, \_\_\_\_\_ [OFFICER OR REPRESENTATIVE]

with office address at \_\_\_\_\_ after having been duly sworn to in accordance with law, hereby voluntary depose and state:

That I am duly authorized representative of the [Name of Bidder] to execute this undertaking as evidenced by Secretary's Certificate and Board Resolution.

That [Name of Bidder] bidding for the (Name of Project)

That relative to the aforementioned Project, the [Name of Bidder] hereby undertake that the equipment to be use and the key personnel to be assign shall exclusively be used and will only perform to the said project until its completion.

That I am executing this affidavit to attest to the truth of the foregoing and in compliance with the submission of the technical requirements for the public bidding of the said project.

IN WITNESS HEREOF, I have hereunto signed my name below this \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

AFFIANT FURTHER SAYETH NAUGHT.

\_\_\_\_\_  
Affiant

SUBSCRIBED AND SWORN TO BEFORE ME this \_\_\_\_\_ day of \_\_\_\_\_  
in \_\_\_\_\_

affiant exhibiting to me his/her \_\_\_\_\_ issued at \_\_\_\_\_  
on \_\_\_\_\_

Doc. No. ;  
Page No. ;  
Book No. ;  
Series of 2020

\_\_\_\_\_  
Notary Public

