

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 2 AREA VII (CLUSTER 3)**

**Project number:
21-00176**

**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



2nd floor, Finance Building, Procurement Department, Quezon City Hall Complex, Elliptical Road, Quezon City

November 15, 2021

Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Durati on Cal. Days	Office	Source Fund
<u>Buildings – Small B</u>							
1	21-00156	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline System at Krus Na Ligas Elementary School (Simon Building)	Krus Na Ligas	1,136,052.36	60	Engineering Department	Special Education Fund
2	21-00157	Proposed Construction of Hand Washing Facility at Payatas C Elementary School	Payatas	1,278,401.32	60	Engineering Department	Special Education Fund
3	21-00158	Proposed Construction of Hand Washing Facility at Main Building of Balara High School	Pansol	1,282,912.05	60	Engineering Department	Special Education Fund
4	21-00159	Proposed Rehabilitation of Day Care Center at District 3 / Area XIII and XIV	Claro, Silangan & East Kamias	1,458,079.64	45	Engineering Department	Engineering - SB No. 1
5	21-00160	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline System at Ramon Magsaysay High School Belmonte Building)	Pinagkaisahan	1,731,551.85	90	Engineering Department	Special Education Fund
6	21-00161	Proposed Construction of Hand Washing Facility and Rehabilitation of Waterline at Bagong Pag-Asa Elementary School (SB Building)	Bagong Pag-Asa	1,801,334.79	60	Engineering Department	Special Education Fund
7	21-00162	Proposed Rehabilitation of Milagrosa Daycare Center and Livelihood Center	Milagrosa	2,198,687.07	75	Engineering Department	Engineering - SB No. 1
8	21-00163	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at Aguinaldo Elementary School (Estrada Building)	San Roque	2,296,791.86	120	Engineering Department	Special Education Fund
9	21-00164	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 5)	Payatas	2,871,590.18	60	Engineering Department	Engineering - SB No. 1
10	21-00165	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 3 / Area XV	Matandang Balara & Pansol	3,027,863.77	60	Engineering Department	Engineering - SB No. 1

11	21-00166	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at Maligaya Elementary School (Vargas Building)	Pasong Putik	3,565,679.65	90	Engineering Department	Special Education Fund
12	21-00167	Proposed Construction of Hand Washing Facility and Rehabilitation of Comfort Rooms and Waterline System at San Francisco High School (SB Building)	Ramon Magsaysay	4,900,074.64	60	Engineering Department	Special Education Fund
13	21-00168	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 3 / Area XVI and XVIII	Villa Maria Clara, Bagumbuhay, Bayanihan, Escopa 3, Marilag	5,527,209.52	90	Engineering Department	Engineering - SB No. 1
14	21-00169	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XIX	Kamuning, Obrero, Paligsahan, Roxas & South Triangle	7,108,186.57	60	Engineering Department	Engineering - SB No. 1
15	21-00170	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXIII	Old Capitol Site, San Vicente & U.P. Campus	8,767,692.58	90	Engineering Department	Engineering - SB No. 1
16	21-00171	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXIV	Central, Krus Na Ligas & Pinyahan	8,801,647.54	60	Engineering Department	Engineering - SB No. 1
17	21-00172	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 1)	Bagong Silangan	8,899,769.12	90	Engineering Department	Engineering - SB No. 1
18	21-00173	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XX	Horseshoe, Immaculate Concepcion, Kaunlaran, Pinagkaisahan & San Martin De Porres	9,342,308.35	60	Engineering Department	Engineering - SB No. 1
19	21-00174	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 4)	Holy Spirit	9,513,555.66	90	Engineering Department	Engineering - SB No. 1
20	21-00175	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 4 / Area XXII	Tatalon, Don Manuel, Doña Aurora, Doña Imelda, Doña Josefa, San Isidro Galas, Santol & Sto. Niño	11,988,174.41	90	Engineering Department	Engineering - SB No. 1
21	21-00176	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 3)	Balonbato & Sangandaan	14,755,919.20	90	Engineering Department	Engineering - SB No. 1

22	21-00177	Proposed Construction of Hand Washing Facility and Rehabilitation of Day Care Center at District 2 Area VII (Cluster 2)	Batasan Hills	17,576,527.83	90	Engineering Department	Engineering - SB No. 1
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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 **16 November 2021 (Tuesday)** 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:

Approved Budget for the Contract	Maximum Cost of Bidding Documents (in Philippine Peso)
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 2nd Floor, Procurement Department, Finance Building, Quezon City Hall Compound on or before **November 23, 2021 - 5:00PM**.

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference¹ on **November 24, 2021 at 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

Virtual Conference (ZOOM APP)

Meeting ID: 854 9489 0133

Password: 273320

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **December 6, 2021 – 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 **December 6, 2021 - 10:00 AM at 2nd 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.
11. For further information, please refer to:

ATTY. DOMINIC B. GARCIA

OIC, Procurement Department

2nd 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

Website: 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

¹ 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.

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 2 AREA VII (CLUSTER 3)**, with Project Identification Number **21-00176**.

[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 **2021** in the amount of **Fourteen Million Seven Hundred Fifty-Five Thousand Nine Hundred Nineteen Pesos & 20/100 Cts. (P 14,755,919.20)**.

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 **November 24, 2021, 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	Subcontracting is not allowed.																																												
10.3	<p><i>No additional contractor license or permit is required</i></p> <p><i>In addition, eligible bidders shall qualify or comply with the following:</i></p> <p>1. Bidders with valid Philippine Contractors Accreditation Board (PCAB)</p> <p style="padding-left: 40px;">Type</p> <p style="text-align: center;">Building - Small B</p>																																												
10.4	<p>The minimum work experience requirements for key personnel are the following:</p> <p style="text-align: center;">PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER</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>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;">5</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;">5</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;">PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER</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>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> </tbody> </table>	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	5	Skilled Worker	3 years	3 years	1	Driver	3 years	3 years	5	Laborer	1 year	3 months	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
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5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAY CARE CENTER

Qnty.	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
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAYCARE 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
3	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER

Qnty.	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
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAY CARE CENTER

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
7	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
12	Laborer	1 year	3 months

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER

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
6	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years

4	Laborer	1 year	3 months
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PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER

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
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER

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
5	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED REHABILITATION OF LITEX DAY CARE CENTER

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
5	Skilled Worker	3 years	3 years

1	Driver	3 years	3 years
5	Laborer	1 year	3 months

PROPOSED REHABILITATION OF PUROK 16 YAKAP DAY CARE CENTER

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	Foreman	3 years	3 years
9	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
9	Laborer	1 year	3 months

PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER

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
6	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
6	Laborer	1 year	3 months

PROPOSED REHABILITATION OF UNIT IV DAY CARE CENTER

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
6	Skilled Worker	3 years	3 years
1	Driver	3 years	3 years
4	Laborer	1 year	3 months

PROPOSED REHABILITATION OF UNIT V DAY CARE CENTER

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
4	Laborer	1 year	3 months

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.

10.5

The minimum major equipment requirements are the following:

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER

Equipment	Capacity	Number of Units
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Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAY CARE CENTER		
Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAYCARE CENTER		
Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER		
Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAY CARE CENTER		
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
Cut-Off Machine		as needed
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER		
Equipment	Capacity	Number of Units

Welding Machine	1
Elf Truck	1
Scaffolding (H-Frame)	as needed
Power Tools	as needed
Minor Tools	as needed

PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF LITEX DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed

PROPOSED REHABILITATION OF PUROK 16 YAKAP DAY CARE CENTER

Equipment	Capacity	Number of Units
Elf Truck		1
Scaffolding		as needed
Power Tools		as needed
Minor Tools		as needed
Cut-Off Machine		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 295,118.38 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 737,795.96 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.</p>																																													
19.2	Partial bid is not allowed. 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	Additional Contract Documents relevant to the Project as required: 1. Construction Schedule and S-curve, 2. Manpower Schedule, 3. Construction Methods, 4. Equipment Utilization Schedule, 5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal.
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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.



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 8538



PROJECT TITLE **PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER**
LOCATION : **BARANGAY COMMONWEALTH, DISTRICT 2, 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 bracing of adequate strength and durability with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

3. Metal Surfaces:

Surfaces shall be clean and free from all scale, flake, rust and rust pitting, well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet permanent connections. Weld and flush rivets shall be used and finished flush.

smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided; when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

4. Construction:

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

5. Welding:

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

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

B. 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 alkyd 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.**
 - b. **Exterior Masonry Wall (plain cement plastered finish to be painted)**
 - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
 - c. **Interior Masonry Wall (plain cement plastered finish to be painted)**
 - i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish
 - d. **Interior Dry Wall**
 - i. 1 coat primer, 2 coats latex paint finish
 - e. **Ceiling Boards**
 - i. 1 coat primer, 2 coats latex paint finish
 - f. **Slab Soffit**
 - i. 1 coat primer, 2 coats latex paint finish
 - g. **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 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. Mamed 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 flayed 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, aluminium, 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, puttied, 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.

C. 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 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 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.


RALPH GREGOR M. MANALO
 Planning and Programming Division


JOCELYN A. NAONG
 Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
51st, 61st, 71st Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 8538



PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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-82, and Fed. Spec. FF-S-111.
- d. **Metal Purlins.** High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication:

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

3. Metal Surfaces:

Surfaces shall be clean and free from all scale, flake, rust and rust pitting, well-formed and finished to shape and size, with sharp lines, angle and smooth surface. Shearing and punching shall leave clean true lines and surfaces. Weld or rivet

permanent connections. Weld and flush rivets shall be used and finished flush smooth on surfaces that will be exposed after installation. Do not use screws or bolts where they can be avoided, when used, heads shall be countersunk, screwed up tight and threads nicked to prevent loosening.

4. Construction:

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

5. Welding:

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

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

B. 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 alkyd 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.**
 - b. **Exterior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
 - c. **Interior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish
 - d. **Interior Dry Wall**
 - i. 1 coat primer, 2 coats latex paint finish
 - e. **Ceiling Boards**
 - i. 1 coat primer, 2 coats latex paint finish
 - f. **Slab Soffit**
 - i. 1 coat primer, 2 coats latex paint finish
 - g. **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 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. Matted 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, puttied, 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.

C. DOORS & WINDOWS

Follow as per approved plan and specifications

D. FABRICATED MATERIALS

Follow as per approved plan and specifications

E. LETTERINGS

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 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 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.


RALPH GREGOR M. MANALO
 Planning and Programming Division


JOCELYN A. NAONG
 Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 8538



PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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.

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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. 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. 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.

B. METAL FABRICATION

1. Materials:

- e. 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.
- f. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.
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- h. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication.

By mechanics skilled in the trade and in accordance with the manufacturer's directions. Metalwork shall be fabricated to allow for expansion and contraction of materials. Provide welding and bracing of adequate strength and durability, with light, 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.

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

B. 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 alkyd 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**
 - b. **Exterior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
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1. **Surface Preparation** All surfaces shall be in proper condition to receive the finish. Woodworks shall be hand-sanded smooth and dusted clean. All knot-holes, pitch pockets or sappy portions shall be sealed with natural wood filler. Nail holes, cracks or defects shall be carefully puttied after the first coat, matching the color of paint.

Interior woodworks shall be sandpapered between coats. Cracks, holes 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, puttied, 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.

C. CEILING FINISHES

6mm thick Fiber Cement Board including Metal Framing and Accessories.

D. DOORS & WINDOWS

Follow as per approved plan and specifications.

E. FABRICATED MATERIALS

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 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 walls and ground wire laps 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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Trunk line: +63 2 8988 4242



PROJECT NAME: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND
REHABILITATION OF LOWER NAWASA DAYCARE CENTER ✓
LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, 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**

1. 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 wherever 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 forms 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 imbedded 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 imbedded in concrete beginning to set or already set shall not be disturbed by vibrators. Consolidation around major imbedded parts shall be 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 or finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
- 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. 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 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.
- 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 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.
- 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.

C. WATERPROOFING**a. Waterproofing:**

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.

b. Testing:

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

Note: Thickness should be as per Manufacturers Specifications and Installation depending on the Areas to be applied with

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, 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.
- 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 15 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; banded 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

Prepared by:

Checked by:


VERGEL JEROME A. MAPILI
Planning and Programming Division


JOCELYN A. NAONG
Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8968-4242 Local 8538



PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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.
- J. 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.

N. 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. MASONRY WORKS

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

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

3. Mortar:

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

4. Reinforcement

The concrete hollow blocks shall be reinforced with 10mm diameter deformed bar spaced not more than 0.6m on centers, both ways.

5. Plaster bond:

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

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

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 purline 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 28 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. 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.

C. METAL FABRICATION

1. Materials:

- e. 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.
- f. Bolts, Nuts, Studs and Rivets. ASTM A 307 and A 325.
- g. Screws. Fed. Spec FF-S-85, Fed. Spec FF-S-92, and Fed. Spec FF-S-111.

- n. **Metal Purlins.** High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal

2. **Fabrication:**

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

3. **Metal Surfaces:**

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

4. **Construction.**

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

5. **Welding:**

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

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

B. 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 alkyd 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**
 - b. **Exterior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
 - c. **Interior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish
 - d. **Interior Dry Wall**
 - i. 1 coat primer, 2 coats latex paint finish

- e. Ceiling Boards
 - i. 1 coat primer, 2 coats latex paint finish

- f. Slab Soffit
 - i. 1 coat primer, 2 coats latex paint finish

- g. 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 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. Marned 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 flewed 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, puttied, 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.

C. CEILING FINISHES

6mm thick Fiber Cement Board Including Metal Framing and Accessories.

D. 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 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 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 5.6 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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republic of the Philippines
Quezon City
CITY ENGINEERING DEPARTMENT

Cwc Center Building B, Quezon City Hall Compound, Elliptical Road
Dikman, Central 1100 Quezon City
Trunk line: +63 2 8988 4242



TECHNICAL SPECIFICATIONS
QUEZON CITY INFRASTRUCTURE PROJECT

**PROJECT TITLE : PROPOSED CONSTRUCTION OF HANDWASHING FACILITY
AND REHABILITATION OF PUROK 15 DAYCARE CENTER**

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

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
- E. Excavation shall be shored and braced by members of suitable sizes where necessary to prevent danger to persons, injurious caving or erosions. Shoring bracing and sheathing shall be removed, as the excavations are backfilled, in a manner such as to prevent injurious caving. The contractor shall keep all excavations free from water while construction is in progress.

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, foam, 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 whatever 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 or mortar from the concrete. Forms shall be ¼" 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.

- ii. **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 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 or finished appearance

except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works

- 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 (CHB):**
 - i. 100mm thick for all interior walls and 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. 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 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.
- 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 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.
- 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.

D. WATERPROOFING

- a. **Waterproofing:**

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.

b. Testing.

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

Note. Thickness should be as per Manufacturers Specifications and Installation depending on the Areas to be applied with.

IV. ARCHITECTURAL WORKS

A. TILE WORKS

- a. Both broken and unbroken old tiles must be chip-off
- b. Surface should be smoothen & clean.
- c. Ceramic tiles shall be soaked in clean water prior to installation.
- d. Lay the tiles true to profile as specified in the plan.

B. PROVISION OF CABINET

- a. Good Lumber must be 2" x 2" x 10' for support frames and main frames.
- b. 1/2" thick Plywood must be used
- c. Countertop must be finished with 300mm x 300mm Tiles

C. FABRICATED DOORS & WINDOWS

All doors and windows must be in approved quality as specified in the plan and program of works

D. 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, putied, 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, 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.


VERGEL JEROME A. MAPILI
Planning and Programming Division


JOCELYN R. NAONG
Planning and Programming Division



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Phone No: +63 2 8986 4242



PROJECT NAME: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND
REHABILITATION OF UPPER MAWASA DAYCARE CENTER
LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, 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.

- vi. 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.
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- i. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150).
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 - iii. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be course, 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.
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- i. General - Forms shall be used whatever 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 ½" waterproof plywood and form lumber.
 - ii. Cleaning of Forms - before placing the concrete, the contact surfaces of the forms 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 ailing 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.

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- 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.
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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.
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B. 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 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.
- 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 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.
- 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.

C. WATERPROOFING

- a. Waterproofing:

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.

- b. Testing:

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

Note: Thickness should be as per Manufacturers Specifications and Installation depending on the Areas to be applied with.

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

- a. All primers, thinners and putty, also waterproofing for internal and external applications 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.
- 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 bands, 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 4. Extra-Capacity Neutral Bus. Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

Prepared by:



VERGEL JEROME A. MAPILI
Planning and Programming Division

Checked by:



JOCELYN A. NAONG
Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8966-4242 Local 8538



PROJECT TITLE : PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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 6 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. MASONRY WORKS

1. Masonry Units (Concrete Hollow Blocks):

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

2. Sand:

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

3. Mortar

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

4. Reinforcement

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

5. Plaster bond:

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

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

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. 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.

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 50mm Concrete Topping for Tiles

B. WALL FINISHES AND PARTITIONING

1. **ALUMINUM COMPOSITE CLADDING.** Wall panel shall be 6 mm thick nano finish, properly cut and prepared for installation and shall conform to the requirements of the Plans. This includes structural angular framing sections, backer rod and sealant.

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

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 alkyd 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.

b. Exterior Masonry Wall (plain cement plastered finish to be painted)

- i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish

c. Interior Masonry Wall (plain cement plastered finish to be painted)

- i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish

d. Interior Dry Wall

- i. 1 coat primer, 2 coats latex paint finish

e. Ceiling Boards

- i. 1 coat primer, 2 coats latex paint finish

f. Slab Soffit

- i. 1 coat primer, 2 coats latex paint finish

g. 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 puttied after the first coat, matching the color of paint

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

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

E. DOORS & WINDOWS

Follow as per approved plan and specifications.

F. FABRICATED MATERIALS

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 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 laps 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 coated 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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 8538



PROJECT TITLE : PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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 quality 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. **CML / STRUCTURAL WORKS**

A. MASONRY WORKS

1. Masonry Units (Concrete Hollow Blocks):

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

2. Sand:

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

3. Mortar

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

4. Reinforcement

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

5. Plaster bond

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

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

B. 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-95, Fed. Spec. FF-S-92, and Fed. Spec. FF-S-111.
- d. Metal Purlins. High grade galvanized steel with minimum tensile strength of 275 MPa, 1.4mm in thickness or approved equal.

2. Fabrication.

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

3. Metal Surfaces:

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

4. Construction

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

5. Welding

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

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. 300mm x 600mm Ceramic Wall Tiles
7. Plastering Guide/ Grooves

B. WALL FINISHES AND PARTITIONING

1. **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 0.8 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

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 alkyd 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.**

b. Exterior Masonry Wall (plain cement plastered finish to be painted)

- i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish

c. Interior Masonry Wall (plain cement plastered finish to be painted)

- i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish

d. Interior Dry Wall

- i. 1 coat primer, 2 coats latex paint finish

e. Ceiling Boards

- i. 1 coat primer, 2 coats latex paint finish

f. Slab Soffit

- i. 1 coat primer, 2 coats latex paint finish

g. 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 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. Mared 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 an 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, puttied, 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. DOORS & WINDOWS

Follow as per approved plan and specifications.

E. FABRICATED MATERIALS

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 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 last 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 gage 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

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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 6538



PROJECT TITLE **PROPOSED REHABILITATION OF LITEX DAY CARE CENTER**
LOCATION : **BARANGAY COMMONWEALTH, DISTRICT 2, 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 Termiticide 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 Termiticide 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 bracing of adequate strength and durability, with tight, flush joints, dressed smooth and clean. Complete with bolts and nuts.

3. Metal Surfaces.

Surfaces shall be clean and free from oil 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.

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 400mm x 400mm Non-Skid Homogeneous Tiles including tile adhesive
3. 50mm concrete Topping with Plain Cement Finish

B. WALL FINISHES

1. 300mm x 300mm Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

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

g. **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 of imperfections in plaster shall be filled with patching compound and smoothed off to match adjoining surfaces.

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

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

B. CEILING FINISHES

6mm thick Fiber Cement Board with complete framing and accessories

C. 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 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 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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Trunkline: +63 2 8968 4242



TECHNICAL SPECIFICATIONS QUEZON CITY INFRASTRUCTURE PROJECT

PROJECT TITLE : PROPOSED REHABILITATION OF PUROK 16 YAKAP DAYCARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

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 whatever 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. Cleaning of Forms – before placing the concrete, the contact surfaces of the forms 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 or finished appearance except for minor defects which can be easily repaired with patching with cement mortar, or can be ground to a smooth surface to remove all joint marks of the form works.
- 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 (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

C. THERMAL AND MOISTURE PROTECTION**1. VAPOR BARRIER**

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

D. ROOFING WORKS

- a. Corrugated galvanized iron (G.I.) sheets, including plain aluminum sheets for roofing accessories shall be cold-rolled meeting ASTM A-153 and with spelter coating of zinc of not less than 0.381 kg/sq.m (1.25 ounce/sq.ft.) conforming to ASTM A-525 or pns 67:1985. Unless otherwise specified or shown on Plans, roofing sheets shall be gauge 26 (0.48mm thick) and provided in long span sizes to minimize end laps. Sheets shall weigh not less than 3.74 kg/sq.m and shall be marked or stamped showing the gauge, size amount of zinc coating, brand and name of manufacturer. Test specimens shall stand being bent through 180 degrees flat on itself without fracture of the base metal and without flaking of the zinc coating.
- b. 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
- c. The roofing shall be secured to the purlins with min. 2 1/2" max. 3" long Tek screws. Provide all-purpose sealant under the fasteners. Ridge rolls, hip rolls and valleys to be used shall be those compatible with the Ga. 24 pre-painted G.I. rib-type roofing sheets. They shall lap the roofing sheets at least 250mm. The ridge rolls, hip rolls and valleys shall be riveted to the roofing sheets.

- d 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 ½" 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.
- e 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.
- f Provide 5mm thick thermal insulation with single-side aluminum foil prior to fastening of roofing sheets to serve as thermal protection.

E. METAL FABRICATION

a. 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.

b. 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.

c. 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.

d. 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.

e. 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.

IV. ARCHITECTURAL WORKS

A. WALLS AND FLOOR FINISHES

- a. 300mm x 600mm Unglazed Ceramic Tiles including tile adhesive
- b. 50mm Concrete Topping for Tiles
- c. 300mm x 600mm Ceramic Wall Tiles
- d. 6mm thick Fiber Cement Board on Metal Studs (double wall)
- e. Plastering Guide/ Grooves

B. CEILING FINISHES

- a. 12mm thk gypsum board on metal furring
- b. 12mm thk moisture resistant gypsum board on metal furring

C. PAINTING WORKS

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

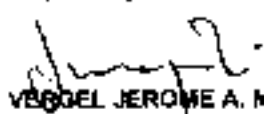
- A. Comply with the current applicable codes, ordinances, and regulations of the authority or authorities having jurisdiction, the rules, regulations and requirements of the utility companies (as applicable).
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements 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 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.
- 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 4. Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.

Prepared by:



YSGEL JEROME A. MAPILI

Planning & Programming Division

Checked by:



JOCELYN A. NAONG

Planning & Programming Division



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT
5TH, 6TH, 7TH Floors, QC Civic Center Building "B"
Telephone Nos. 8988-4242 Local 8538



PROJECT TITLE : PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, 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 unfordward 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. CONCRETE WORKS

1. **Delivery, Storage, and Handling:** All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign materials and the damage of materials by water or breakage. Package materials shall be delivered and stored in original packages until ready to be used. Packages or materials showing evidence of water or other damage shall be rejected.
2. Unless otherwise specified herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given on trades to install embedded items. Provisions shall be made for setting items not placed in the forms. Before concrete is placed, embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.
3. **Materials**
 - a. Cement for concrete shall conform to the requirements of specifications for Portland Cement (ASTM C - 150).
 - b. Water used in mixing concrete shall be clean and free from other injurious amounts of oils, acids, alkaline, organic materials or other substances that may be deleterious to concrete or steel.
 - c. Fine aggregates shall be beach or river sand conforming to ASTM C33, "Specification for Concrete Aggregates". Sand particle shall be coarse sharp, clean free from salt, dust, loam, dirt and all foreign matters.
 - d. Coarse aggregates shall be either natural gravel or crushed rock conforming to the "Specifications for Concrete Aggregates (ASTM C33). The minimum

size of aggregates shall be larger than one fifth (1/5) of the narrowest dimensions between sides of the forms within which the concrete is to be cast nor larger than three fourths (3/4) of the minimum clear spacing between reinforcing bars or between reinforcing bars and forms.

4. Proportioning and Mixing

- a. Proportioning and mixing of concrete shall conform to the requirements for item 405 of the standard specification with the following proportions:

Cement: Sand: Gravel
 Class "A" - 1: 2: 3
 Class "B" - 1: 2: 4
 Class "C" - 1: 2 ½

- b. Concrete mixture to be used for concrete shall conform with the structural requirements
- c. Mixing - concrete shall be machine mixed. Mixing shall begin within 30 minutes after the cement has been added to the aggregates.

5. Forms

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

6. Placing Reinforcement:

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

7. Conveying and Placing Concrete:

- a. Conveying - concrete shall be conveyed from mixer to forms as rapidly as applicable by methods which will prevent segregation, or loss of ingredients. There will be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized
- b. Placing - concrete shall be worked readily into the corners and angles of the forms and around all reinforcement and imbedded items without permitting the material to segregate. concrete shall be deposited as close as possible to its final position in the forms so that flow within the mass does not exceed two (2) meters and consequently segregation is reduced to a minimum near forms or imbedded items, or elsewhere as directed, the discharge shall be so controlled that the concrete may be effectively compacted into horizontal

layers not exceeding 30 centimeters in depth within the maximum lateral movement specified.

- c. Time interval between mixing and placing. Concrete shall be placed before initial set has occurred and before it has contained its water content for more than 45 minutes. No concrete mix shall be placed before 60 complete revolution of the machine mixer
- d. Consolidation of Concrete – concrete shall be consolidated with the aid of mechanical vibrating equipment and supplemented by the hand spading and tamping. Vibrators shall not be inserted into lower 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 be by hand spading and tamping and vibrators shall not be used.
- e. Placing Concrete through reinforcement – In placing concrete through reinforcement, care shall be taken that no segregation of the coarse aggregate occurs. On the bottom of beams and slabs, where the congestion of steel near the forms makes placing difficult, a layer of mortar of the same cement-sand ratios as used in concrete shall be first deposited to cover the surfaces.

8. Curing

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

9. Finishing

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

B. MASONRY WORKS

1 Masonry Units (Concrete Hollow Blocks)

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

2 Sand.

S-1, washed, clean and greenish in color

3. Mortar:

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

4. Reinforcement

The concrete hollow blocks shall be reinforced with 10mm diameter deformed bar, spaced not more than 0.9m on centers, both ways

5. Plaster bond:

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

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

C. METAL FABRICATION

1. Materials

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

2. Fabrication:

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

3. Metal Surfaces.

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

4. Construction

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

5. Welding:

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

IV. ARCHITECTURAL WORKS

A. FLOOR FINISHES

1. 300mm x 300mm Non-Skid Homogeneous Tiles including tile adhesive
2. 400mm x 400mm Non-Skid Homogeneous Tiles including tile adhesive
3. 50mm concrete Topping with Plain Cement Finish

B. WALL FINISHES

1. 300mm x 300mm Homogeneous Tiles including tile adhesive
2. 50mm concrete Topping with Plain Cement Finish

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 alkyd 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**
 - b. **Exterior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats elastomeric paint finish
 - c. **Interior Masonry Wall** (plain cement plastered finish to be painted)
 - i. 1 coat skim coating, 1 coat primer, 2 coats latex paint finish
 - d. **Interior Dry Wall**
 - i. 1 coat primer, 2 coats latex paint finish
 - e. **Ceiling Boards**
 - i. 1 coat primer, 2 coats latex paint finish
 - f. **Slab Soffit**
 - i. 1 coat primer, 2 coats latex paint finish
 - g. **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 flushed with surrounding surfaces
- b. Matted 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.
- i. Application. Paints when applied by brush shall become non-fluid, thick enough to lay down an 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.

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

D. DOORS & WINDOWS

Follow as per approved plan and specifications

E. FABRICATED MATERIALS

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 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 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.



RALPH GREGOR M. MANALO
Planning and Programming Division



JOCELYN A. NAONG
Planning and Programming Division



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1106 Quezon City
Trunk Line: +63 2 8988 4242



TECHNICAL SPECIFICATIONS **QUEZON CITY INFRASTRUCTURE PROJECT**

PROJECT TITLE : PROPOSED REHABILITATION OF UNIT IV DAYCARE CENTER /
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY /

1. 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

- iv. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
 - v. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 - vi. Temporary enclosure shall be provided within the construction site with adequate guard lights, railings and proper signages.
 - vii. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 - viii. 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 silt, 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 whatever 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 ½" 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 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 80 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 be 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 (CHB):**
100mm thick for all interior walls and 125mm thick for all exterior walls unless otherwise indicated.
- Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required
- 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 band:**
- Apply plaster band 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 Practices for Steel Buildings and Bridges; Specification for Architecturally Exposed Structural Steel.
 2. **AMERICAN WELDING SOCIETY (AWS):** Standard Welding Symbols A2.058; 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, 1.4mm in thickness.

D. 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 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.
- 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 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.
- c. All roofing sheets adjacent to concrete hollow block and other masonry walls such as property line firewalls, shall be provided with Gauge 28 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.

E. WATERPROOFING**a. Waterproofing:**

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.

F. Testing:

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

Note: Thickness should be as per Manufacturers Specifications and Installation depending on the Areas to be applied with.

IV. ARCHITECTURAL WORKS**A. WALLS AND FLOOR FINISHES**

- a. 300mm x 300mm Unglazed Ceramic Tiles including tile adhesive
- b. 50mm Concrete Topping for Tiles
- c. 300mm x 300mm Ceramic Wall Tiles

B. CEILING FINISHES

- a. 12mm thk gypsum board on metal furring
- b. 12mm thk moisture resistant gypsum board on metal furring

C. DOORS & WINDOWS

- a. Follow as per approved plan and specifications

D. 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.
- 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/storays 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 4 Extra-Capacity Neutral Bus: Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


VERGEL JEROME A. MAPILI
 Planning and Programming Division


JOCELYN A. NAONG
 Planning and Programming Division



Republic of the Philippines
Quezon City

CITY ENGINEERING DEPARTMENT

Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Trunk line: +63 2 8988 4242



TECHNICAL SPECIFICATIONS **QUEZON CITY INFRASTRUCTURE PROJECT**

PROJECT TITLE : PROPOSED REHABILITATION OF UNIT V DAYCARE CENTER /
LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

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

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 whatever 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 ½" waterproof plywood and form lumber.
- ii. Cleaning of Forms - before placing the concrete, the contact surfaces of the formed half 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 be 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 or finished appearance except for minor defects which can be easily repaired with patching with cement mortar. or can be ground to a smooth surface to remove all joint marks of the form works
- 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 (CHB):**
100mm thick for all interior walls and 125mm thick for all exterior walls unless otherwise indicated.

Use 400 psi for non-load bearing blocks and 700 psi for load bearing blocks where required.

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 A2.06B; 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, 1.4mm in thickness.

IV. ARCHITECTURAL WORKS

A. CEILING FINISHES

- a. 12mm thk moisture resistant gypsum board on metal furring

B. DOORS & WINDOWS

- r. Follow as per approved plan and specifications

C. PAINTING WORKS

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

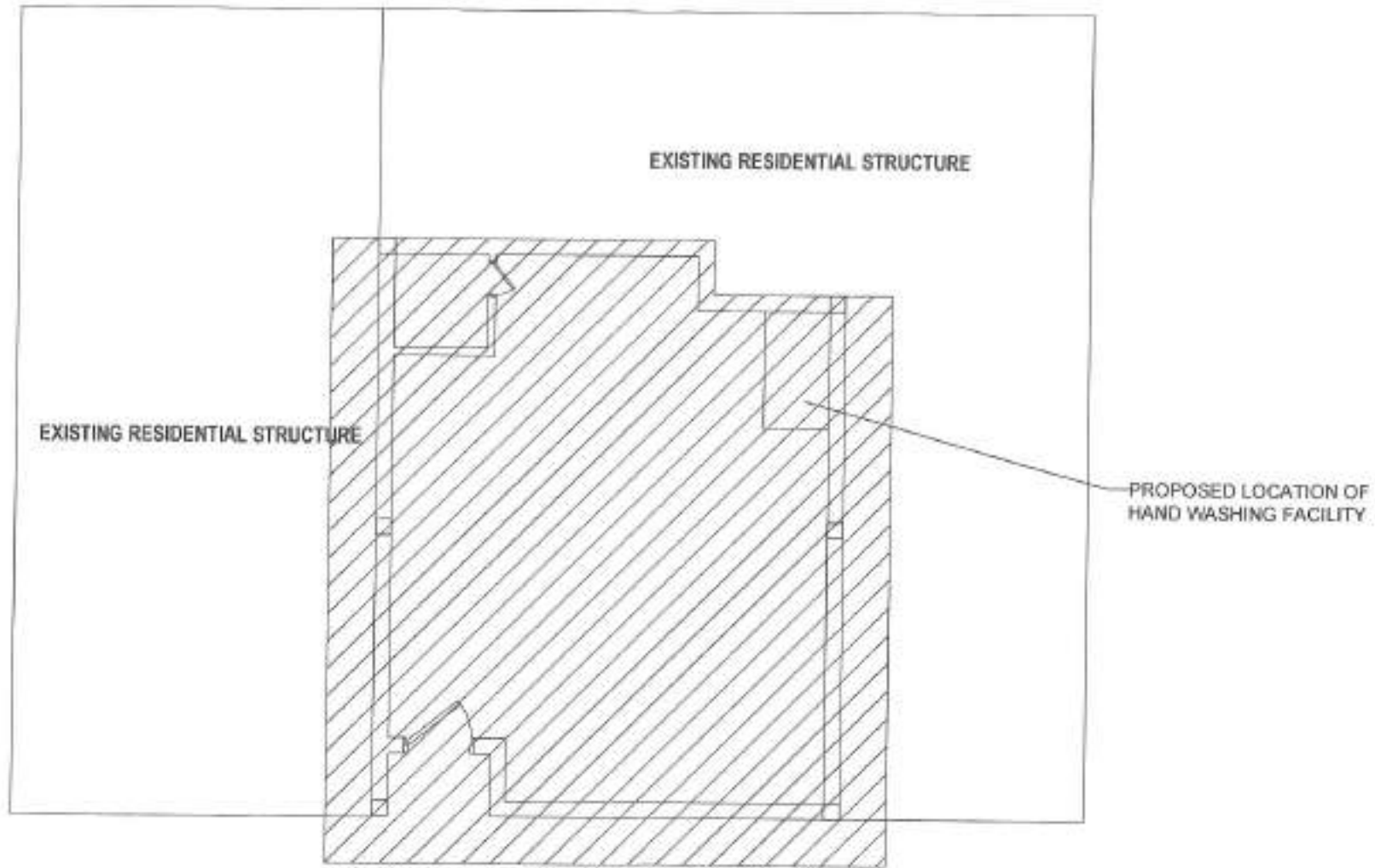
- F.4.2 Equipment Ground Bus Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box.
- F.4.3 Neutral Bus: 100 percent of phase bus 4 Extra-Capacity Neutral Bus. Neutral bus rated 200 percent of phase bus and UL listed as suitable for nonlinear loads.


VERGEL JEROME A. MAPILI
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.]



1 | SITE DEVELOPMENT PLAN

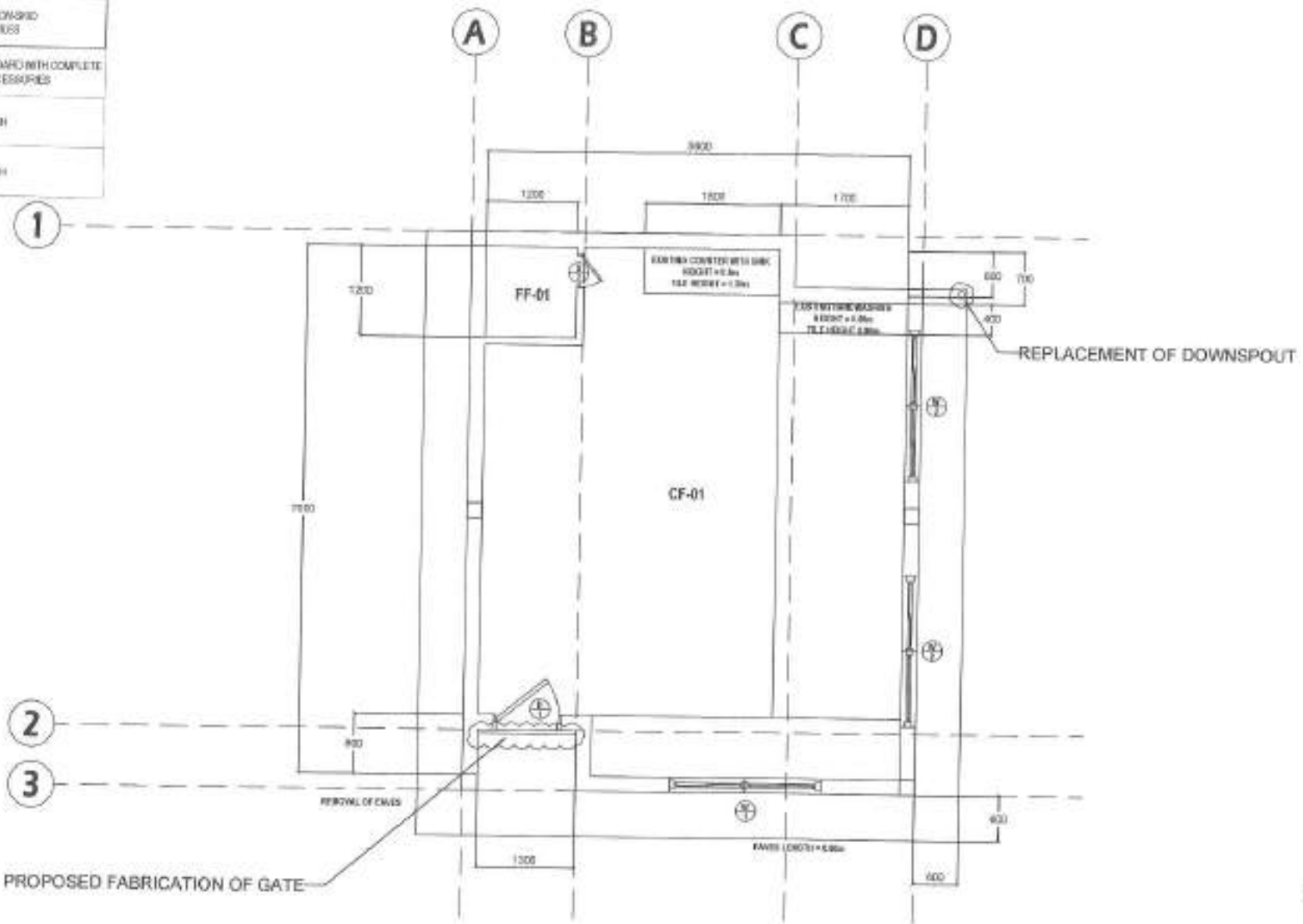
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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	ONE				SITE DEVELOPMENT PLAN	AR-2 213
LOCATION: SARAWAY COMMONWEALTH DISTRICT 2, QUEZON CITY	REVISION NO.	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PRECONSTRUCTION DIVISION	ENGR. HAGANI R. VERZOSA, JR. CHIEF ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR		

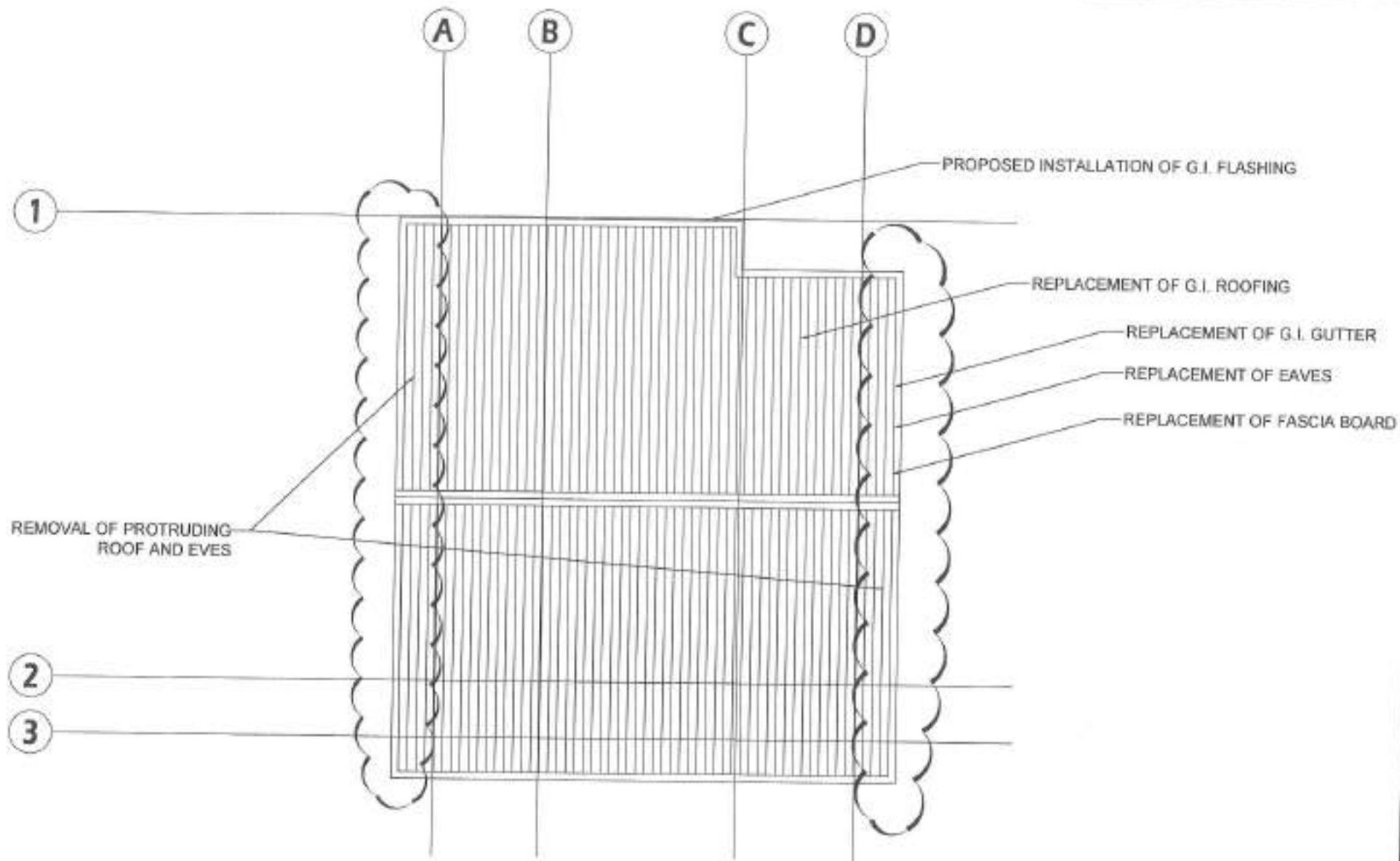
FINISHES	
FF-01	30MM x 30MM DIMENSIONED HOMOGENEOUS TRUSS
CF-01	FIBER CEMENT BOARD WITH COMPLETE FRAMING AND ACCESSORIES
INTERIOR WALL	LATEX PAINT FINISH
EXTERIOR WALL	LATEX PAINT FINISH



1 GROUND FLOOR PLAN

SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER EXAMINER: BARANGKY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: <i>JAY</i> REVISIONS:	ENGR. LEO S. DEL ROSARIO CIVIL ENGINEER	ENGR. ISAGAN R. VERZOSA, JR. CIVIL ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	GROUND FLOOR PLAN	AR-3 3 13



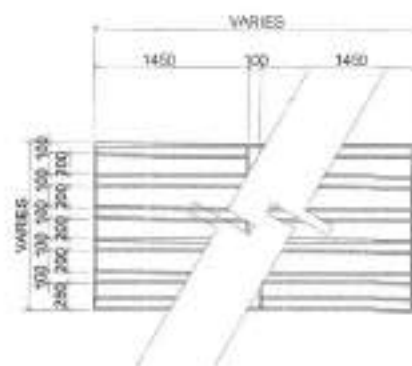
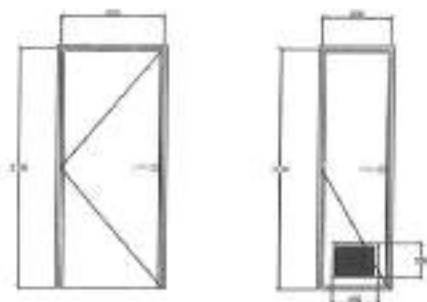
1 ROOF PLAN

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	ENR	ENGR. LEO S. DEL ROSARIO VEN. PLANNING AND DESIGN CONSULTANT	ENGR. ISAGANI M. VERZOSA, JR. C.E. CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY SAVER	ROOF PLAN	AR-4 4 13
LOCATION: BARANGAY COMMONWEALTH TR, DISTRICT 2, QUEZON CITY	REVISOR NO.					



TYPICAL DRILL FOR SUBMERSIBLE PUMP
300mm x 300mm x 300mm TUBULAR

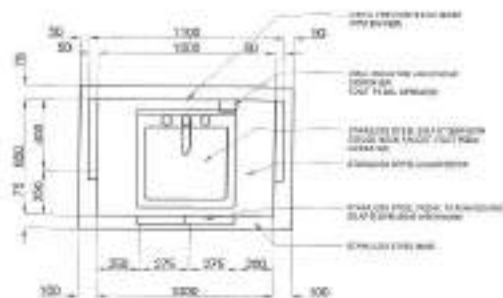
DESIGNATION		
SPECS	SWING TYPE FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITEN WHITE)	SWING TYPE, PVC DOOR, WITH 400mm x 300mm LOUVER, PAINTED FINISH (KITEN WHITE)
HARDWARE/BLADES	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH

DESIGNATION		
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/BLADES	PROVIDE WITH COMPLETE ACCESSORIES AND GRILLES	PROVIDE WITH COMPLETE ACCESSORIES AND GRILLES

1 SCHEDULE OF DOORS AND WINDOWS

SCALE: NTS

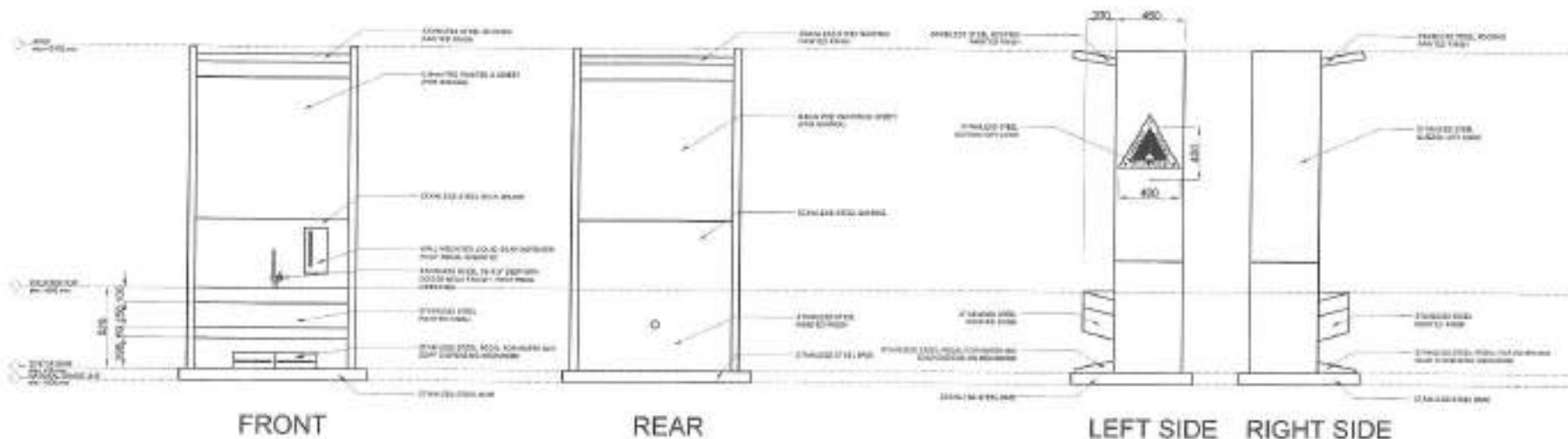
<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DESIGNED BY: REVISIONS:	ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER	ENGR. ISAGANI R. VERZOSA, JR. REG. PROFESSIONAL ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MGR.	SCHEDULE OF DOORS AND WINDOWS	AR-5 5 13



PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30mts



FRONT

REAR

LEFT SIDE RIGHT SIDE

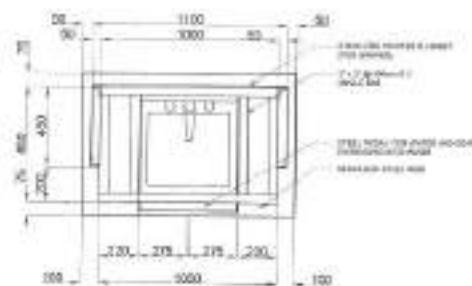
2 ELEVATIONS

SCALE: 1:30mts

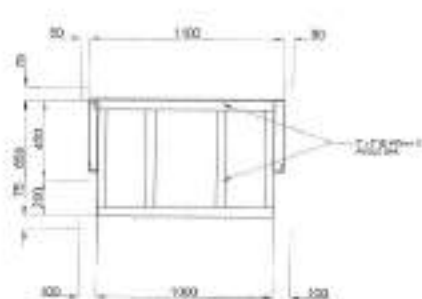


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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	R/R: August 2021 CHECKED BY: Jn	ENGR. LEO S. DEL ROSARIO REG. PLUMBING & MECHANICAL ENGINEER	ENGR. ISABAW R. VERZOSA, JR. REG. CIVIL ENGINEERING SUPERVISOR	HON. MA. JOSEFINA G. BELMONTTE CITY ENGINEER	SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS	AR-6 613
LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISION NO.:					



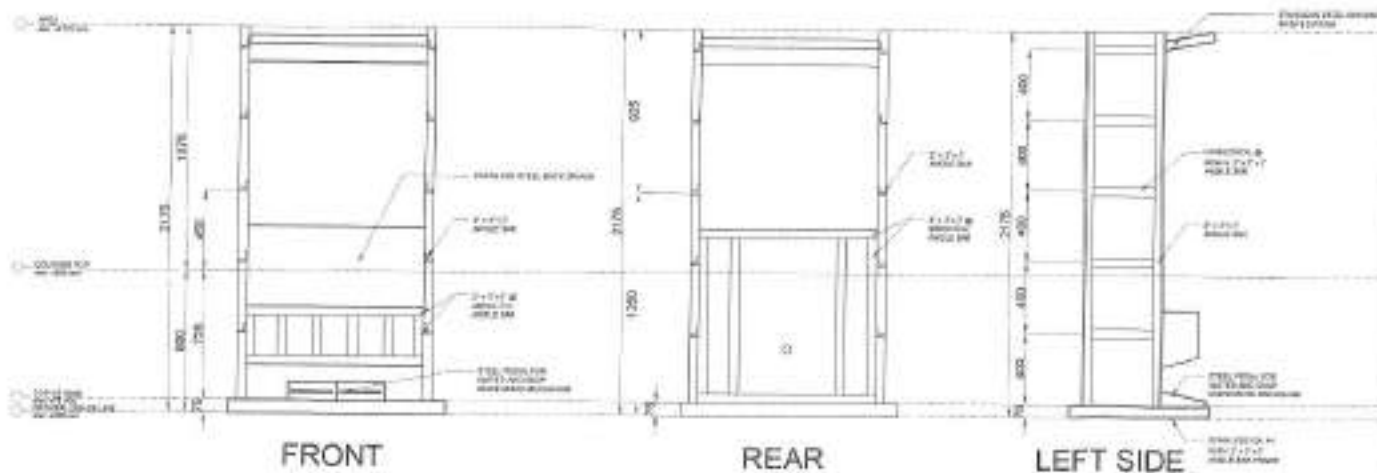
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

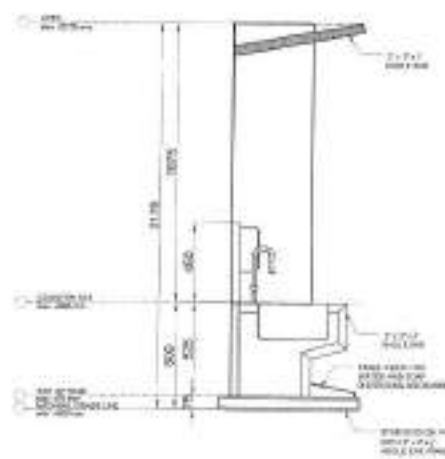
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FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:30mts

3 TYPICAL SECTION

SCALE: 1:30mts



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CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER
DATE: August 11, 2021
DRAWN BY: JMA
CHECKED BY: JMA
REVISIONS:

DATE: August 11, 2021
DRAWN BY: JMA
CHECKED BY: JMA
REVISIONS:

SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
1600 JUAN DELA RIVERA HIGHWAY

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

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:
SINGLE SINK PORTABLE HAND WASHING STALL PLAN
ELEVATIONS
TYPICAL SECTIONS

SHEET NO.
ST-2
8 13

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, 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.

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 pipes/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 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.

10 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.

11 Provide vent stack and vent pipe thru roof of cast iron service weight 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 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

16 All hose bibbs shall be 19 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 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.

I. FIXTURES AND OTHER LEGEND



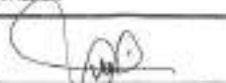
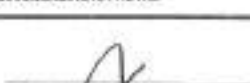
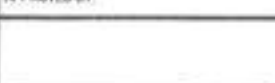

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHO	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
URI	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
COO	CEILING CLEANOUT
FCD	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
BHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW
	GREASE TRAP

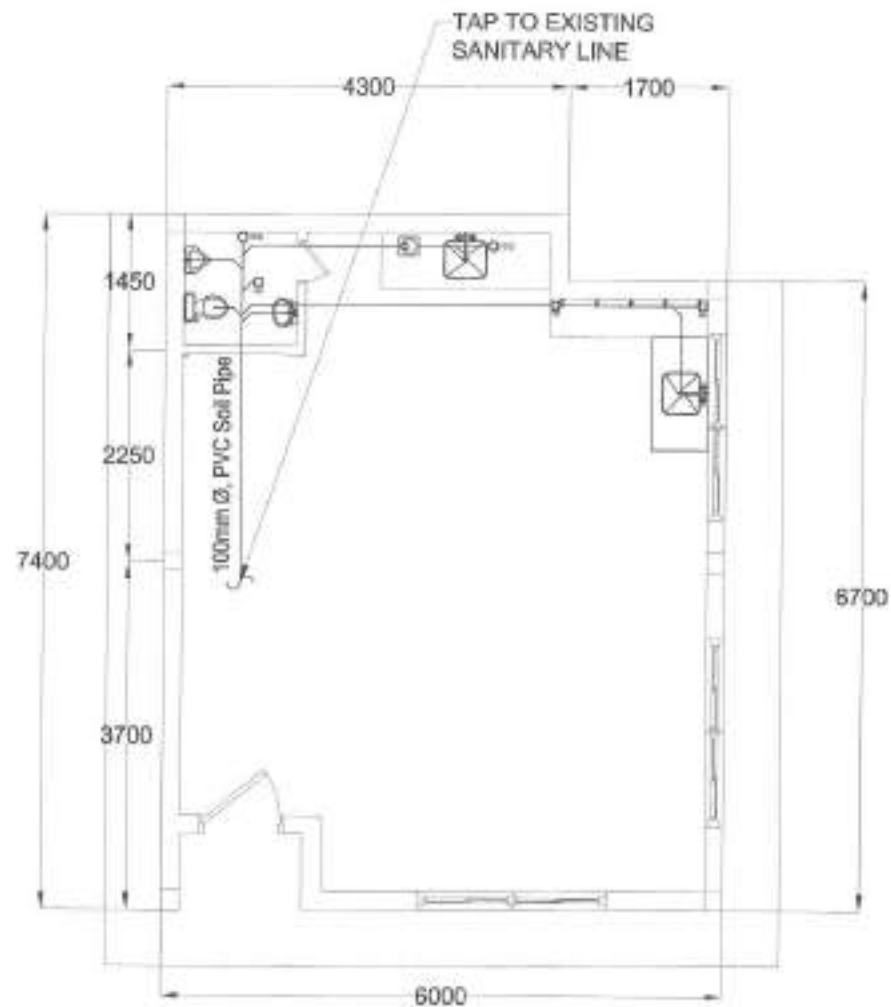
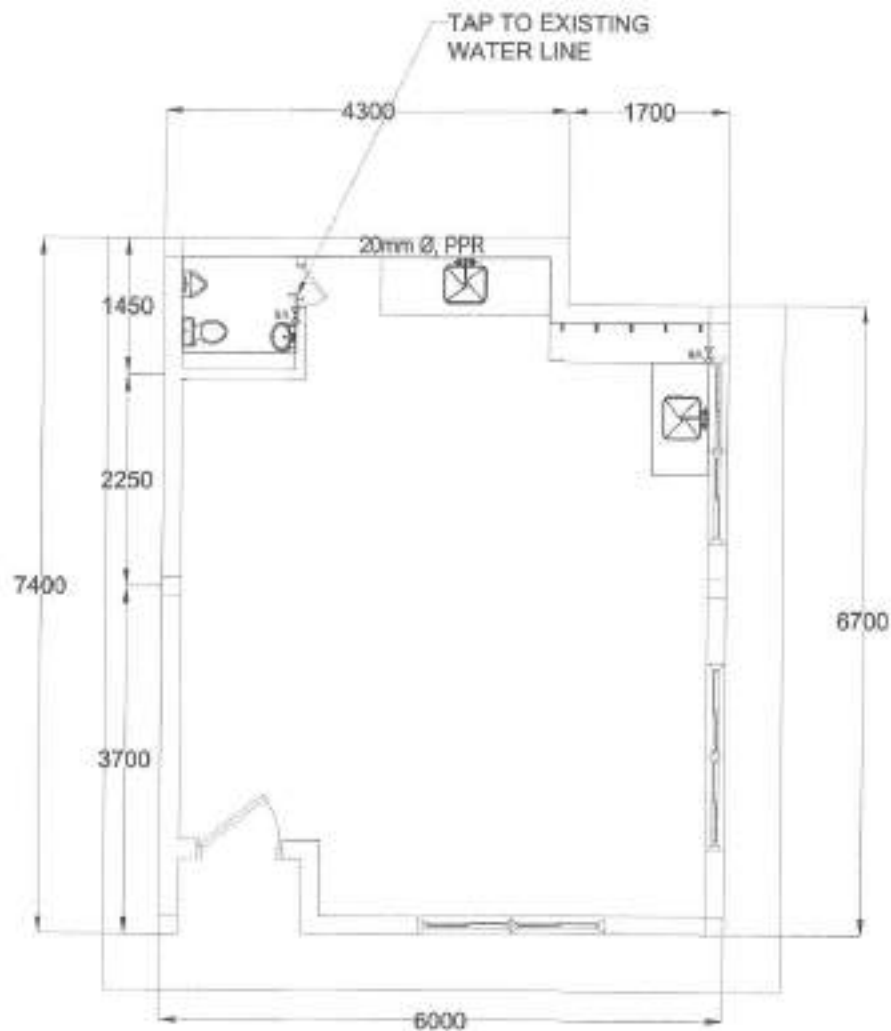
	UMDN PATENT
	CHECK VALVE
	BUILDING SEWER
	BUILDING DRAIN
	WASTE LINE
	AREA DRAIN / CATCH BASIN
	FLOOR DRAIN
	DIAMETER
	WASTE LINE
	WATER LINE
	GATE VALVE
	DECK DRAIN
	CLEANOUT
	PIPE DOWN
	PIPE UP
	MILLIMETER
	GATE VALVE
	AREA DRAIN / CATCH BASIN
	WATER CLOSET
	LAVATORY
	MANHOLE
	HOSE BIBB
	STORM DRAIN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

1 GENERAL NOTES

2 LEGENDS

SCALE: NTS

 República ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT	PROJECT TITLE:	DRAWN BY: 	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER LOCATION: BARANGAY COMMOANHEALTH, DISTRICT II, QUEZON CITY	DATE: DESIGNED BY: APPROVED BY:	 ENGR. LEO S. DEL ROSARIO HEAD PLUMBER & MECHANICAL ENGINEER	 ENGR. ISAGANI R. VERZOSA, JR. D.C. CITY ENGINEERING DIVISION	 HON. MA JOSEFINA G. BELMONTE CITY MARCH	GENERAL NOTES LEGENDS	



1 GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:50 MTS

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:50 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF DON FABIAN DAY CARE CENTER

LOCATION:
BARANGAY COMMONWEALTH, DISTRICT 8, QUEZON CITY

DRAWN BY: GUM

DATE: April 11, 2021

DESIGNED BY:

REVISIONS:

SUBMITTED BY:

[Signature]
ENGR. LEO S. DEL ROSARIO
C.E. PLANNING & RECONSTRUCTION

RECOMMENDING APPROVAL:

[Signature]
ENGR. WADANI R. VERZOSA, JR.
C.E. CITY ENGINEERING SERVICES

APPROVED BY:

[Signature]
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT

GROUND FLOOR PLAN

SHEET NO.

PL-2
10/13

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 REGULATION 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 FT. 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

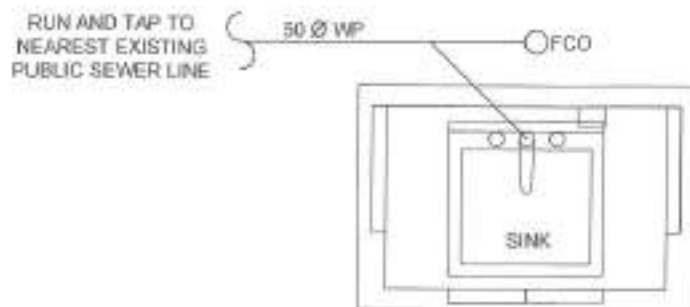
I. SEWER/WASTE AND VENT SYSTEM:

- SP / WP - SOIL PIPE / WASTE PIPE
- VP / VAC - VENT PIPE / VENT AT CEILING
- DP - STORM DRAIN PIPE
- FCCO / GCO - 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 - GATCH BASIN
- AD - AREA DRAIN
- ST - STALL TYPE URINAL
- GT - GREASE TRAP

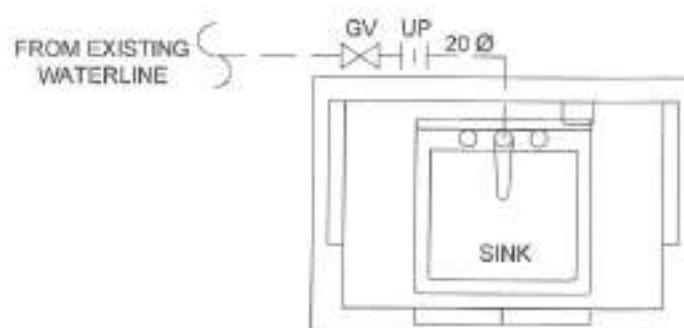
II. WATER DISTRIBUTION SYSTEM:

- CWL - COLD WATER LINE
- CWR - COLD WATER RISER
- GV - GATE VALVE
- CV - CHECK VALVE
- WM - WATER METER
- BD - BALCONY DRAIN


2 LEGENDS AND SYMBOLS

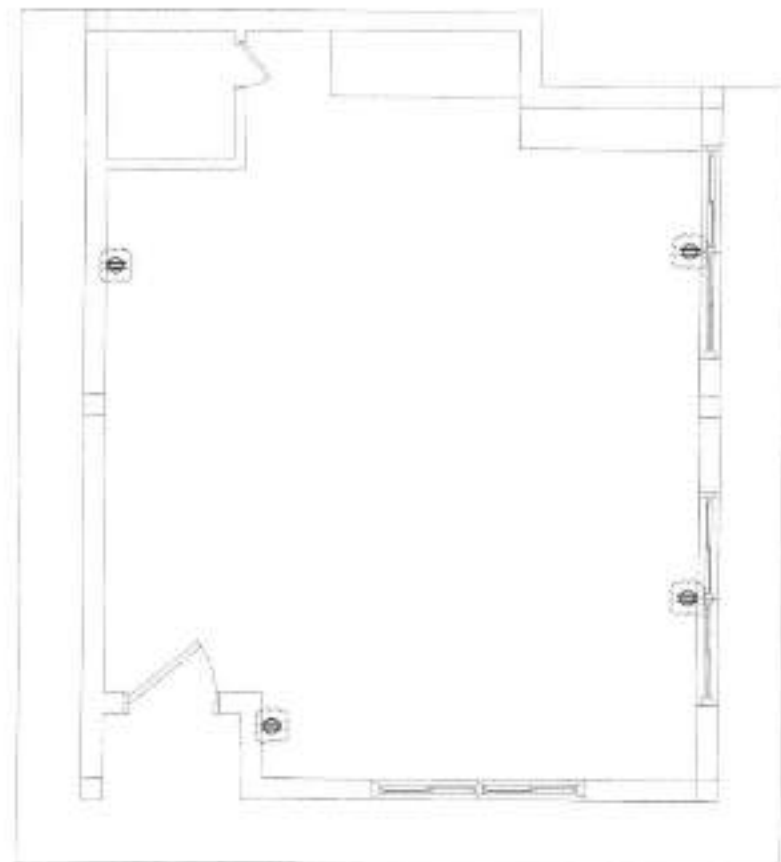
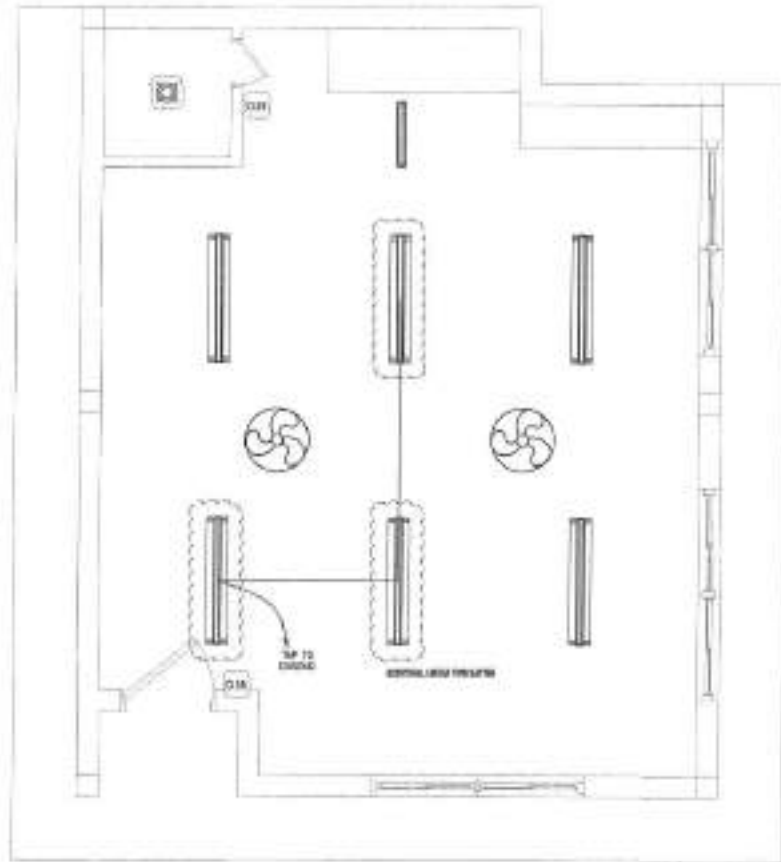


3 SINGLE SINK PORTABLE HANDWASHING SANITARY LINE SCALE: NTS



4 SINGLE SINK PORTABLE HAND WASHING WATER LINE SCALE: NTS

 Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:	
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	DATE: August 11, 2021	DESIGNED BY: J.A.M.	ENGR. LEO S. DEL ROSARIO HEAD PLUMBING PROGRAM DIVISION	ENGR. ISAGAMP. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	LEGENDS AND SYMBOLS SINGLE SINK PORTABLE HAND WASHING SANITARY LINE SINGLE SINK PORTABLE HAND WASHING WATER LINE	PL-3 1113
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DESIGN NO.:						



1 LIGHTING LAYOUT

SCALE: 1:50 MTS

2 POWER LAYOUT

SCALE: 1:50 MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	DATE:	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGANI R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTE	LIGHTING LAYOUT POWER LAYOUT	EL-2 13 13
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DESIGNED BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO CITY ENGINEER	ENGR. ISAGANI R. VERZOSA, JR. CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MACE		
		REVISION NO.:					

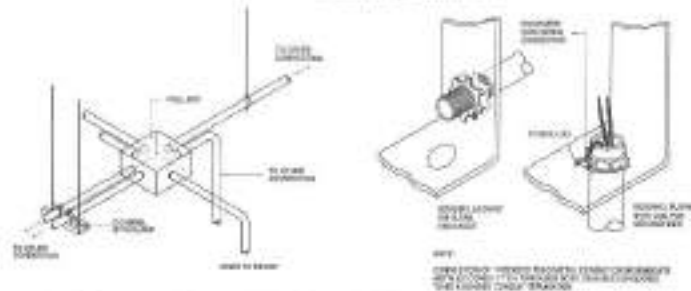
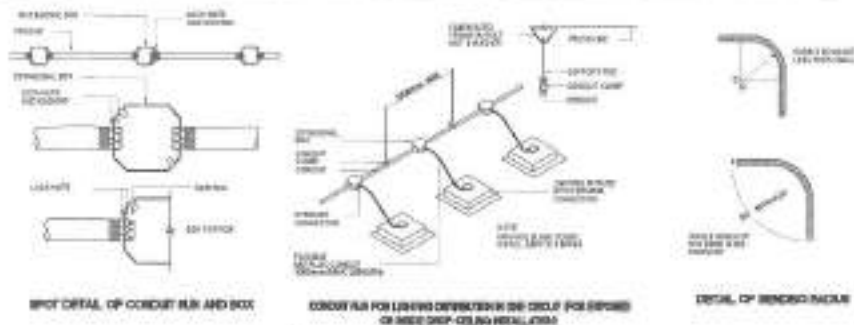
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS 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 BE SECURELY SUPPORTED BY CONDUIT CLAMPS EVERY 900 MILLIMETERS.
- 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 PULL BOXES 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 PARALLEL SLOTS FOR 250V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOWER VOLTAGE TYPE ON THE PLAN.
- ALL METALLIC CONDUITS, CASINGS 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, 150MM ABOVE WORKING CLEARANCE
 TELEPHONE OUTLET - 300MM AFF
 GATE OUTLET - 300 MM AFF
 LIGHTING SWITCH - 1000MM AFF
 PANELED BOARD - 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, BRANDS NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BRING OUT, UNDERSCRIBER OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DIMENSIONS, 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 BEFORE.
- ALL LIGHTING AND COMMUNICATION OUTLET CIRCUITS SHALL BE 3.1 SQ. MM THICK COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 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, SWITCHES, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WEIR SURFACE STEEL
 UP TO 100MM (100-40 MM) GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 100MM BUT NOT OVER 157.30 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 157.30MM BUT NOT OVER 192 MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 192 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 SINGLE PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 250V AC 60MMAL.
- 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 INCLUSIVE OF 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. COMMUNICATION WORKING RESISTANCE SHALL NOT EXCEED 2 OHMS.



2 MISCELLANEOUS DETAILS

NOT TO SCALE

	SWITCH (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)
	EXISTING LINEAR SINGLE BATTEN
	EXISTING LINEAR TWIN BATTEN WITH 2X18W LED TUBE LIGHT
	ADDITIONAL LINEAR TWIN BATTEN WITH 2X18W LED TUBE LIGHT
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	EXISTING CEILING FAN

1 GENERAL NOTES

NOT TO SCALE

3 LEGENDS AND SYMBOLS

NOT TO SCALE



Republic of the Philippines
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	OWNER:	SUBMITTED BY:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER	DATE:	ENGR. LEO S. DEL ROSARIO
LOCATION:	DESIGNED BY:	REVISION NO.:
BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	JAY	

RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. LEO S. DEL ROSARIO <small>REG. PROFESSIONAL ENGINEER</small>	HON. NA. JOSEFINA G. BELANCHE <small>CITY ENGINEER</small>

RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. ISABELA M. VERZOSA, JR. <small>REG. PROFESSIONAL ENGINEER</small>	HON. NA. JOSEFINA G. BELANCHE <small>CITY ENGINEER</small>

RECOMMENDING APPROVAL:	APPROVED BY:
ENGR. ISABELA M. VERZOSA, JR. <small>REG. PROFESSIONAL ENGINEER</small>	HON. NA. JOSEFINA G. BELANCHE <small>CITY ENGINEER</small>

SHEET CONTENT:	SHEET NO.:
GENERAL NOTES MISCELLANEOUS DETAILS LEGENDS AND SYMBOLS	EL-1 12 13



1 LOCATION MAP



2 VICINITY MAP

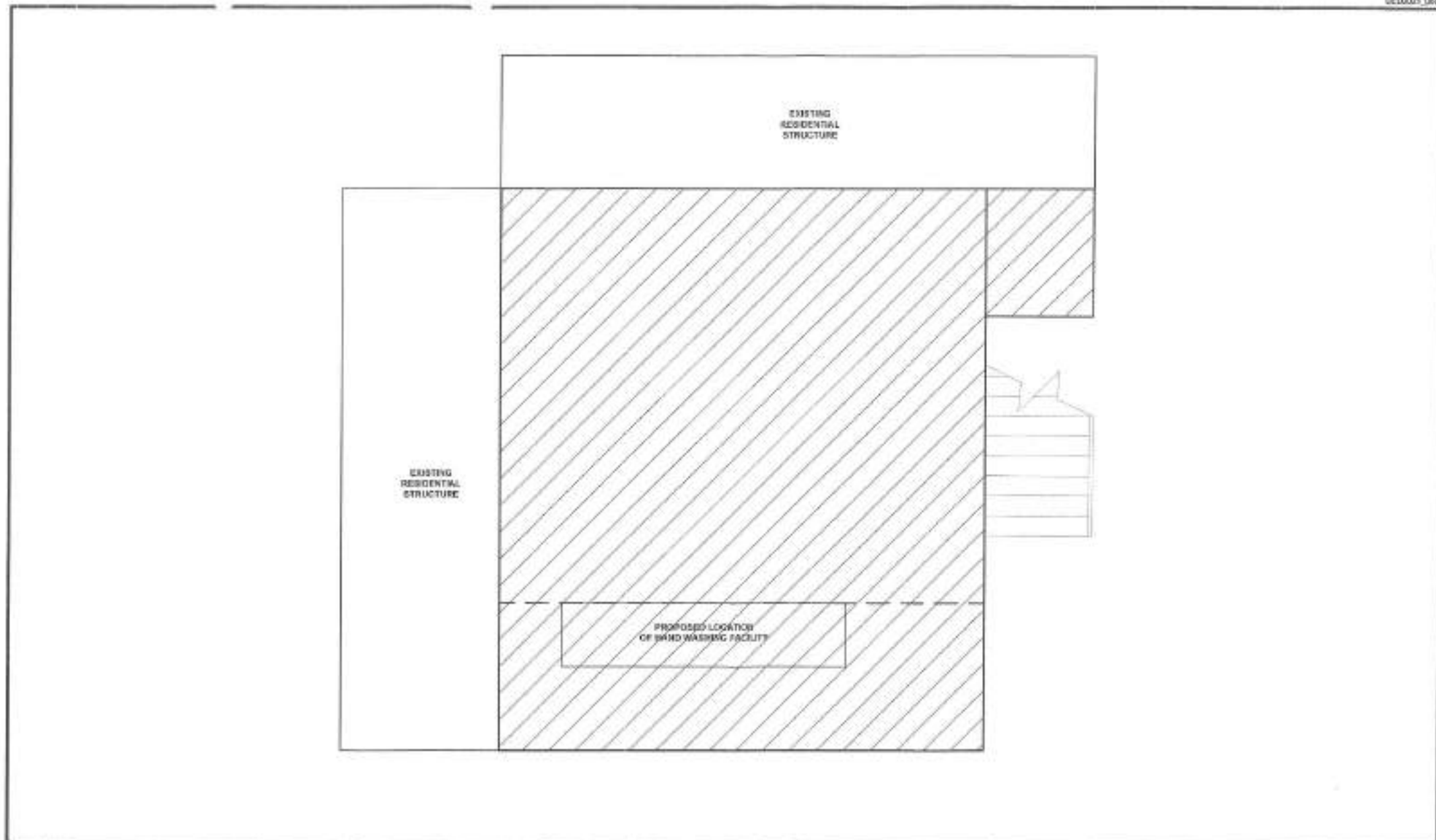
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ARCHITECTURAL	
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AR-02	FLOOR PLAN
AR-03	SECTION AND ELEVATION
AR-04	EXTERIOR ELEVATION
AR-05	EXTERIOR ELEVATION AND DETAILS
AR-06	EXTERIOR ELEVATION AND DETAILS
AR-07	EXTERIOR ELEVATION AND DETAILS
AR-08	EXTERIOR ELEVATION AND DETAILS
AR-09	EXTERIOR ELEVATION AND DETAILS
AR-10	EXTERIOR ELEVATION AND DETAILS
STRUCTURAL	
SR-01	STRUCTURAL PLAN
PLUMBING	
PL-01	PLUMBING PLAN
PL-02	PLUMBING PLAN
PL-03	PLUMBING PLAN
ELECTRICAL	
EL-01	ELECTRICAL PLAN
EL-02	ELECTRICAL PLAN



3 PERSPECTIVE

SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER	DATE: <i>Jan 14</i>	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGAN P. VERZOSA, JR.	HON. MA JOSEFINA G. BELMONTE	LOCATION MAP SCHEMATIC PERSPECTIVE	AR-01 1 13
	LOCATION: BARANGAY COMMONWEALTH DISTRICT 2, QUEZON CITY	DESIGNED BY:					



1

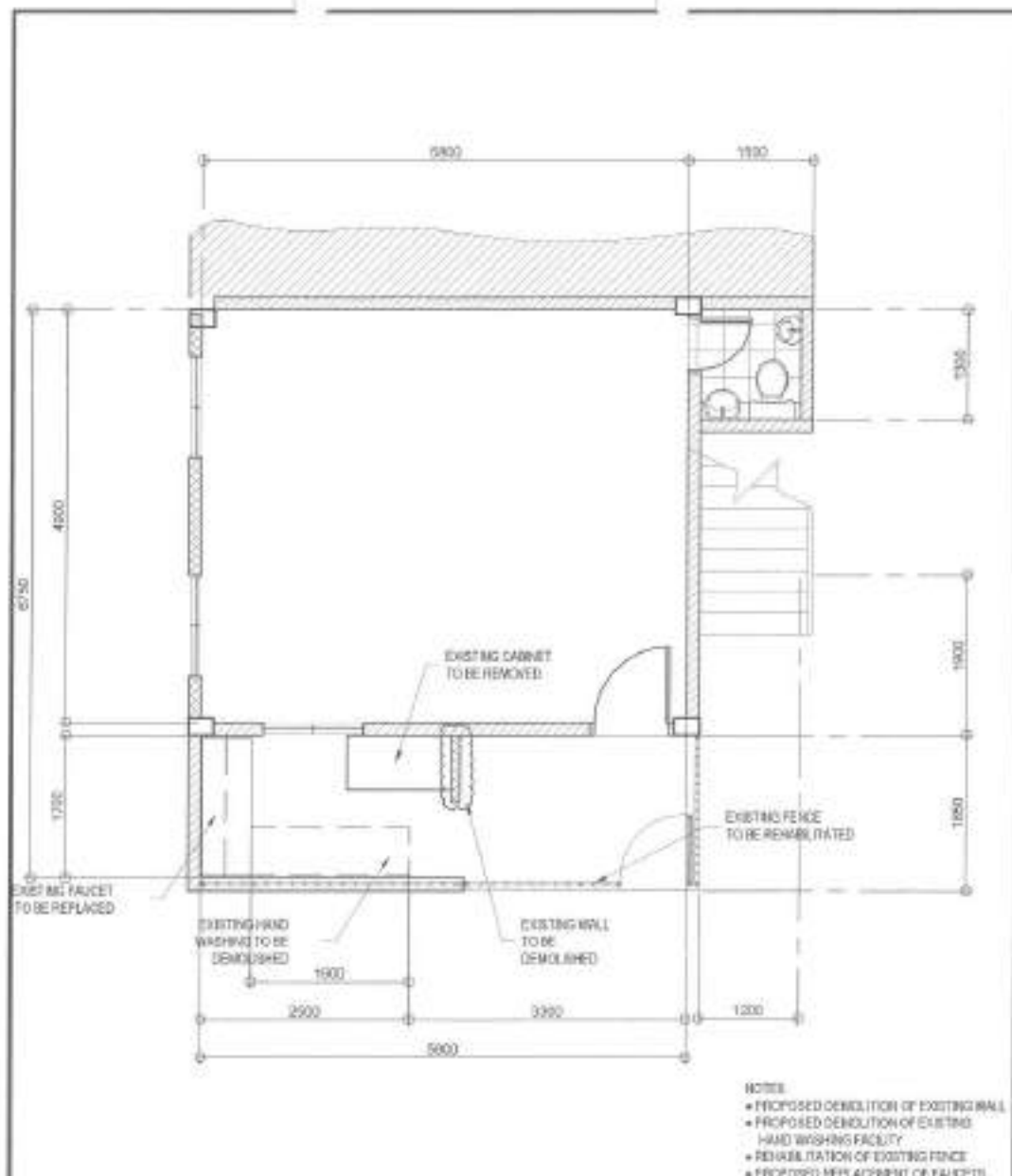
SITE DEVELOPMENT PLAN

SCALE: N/A

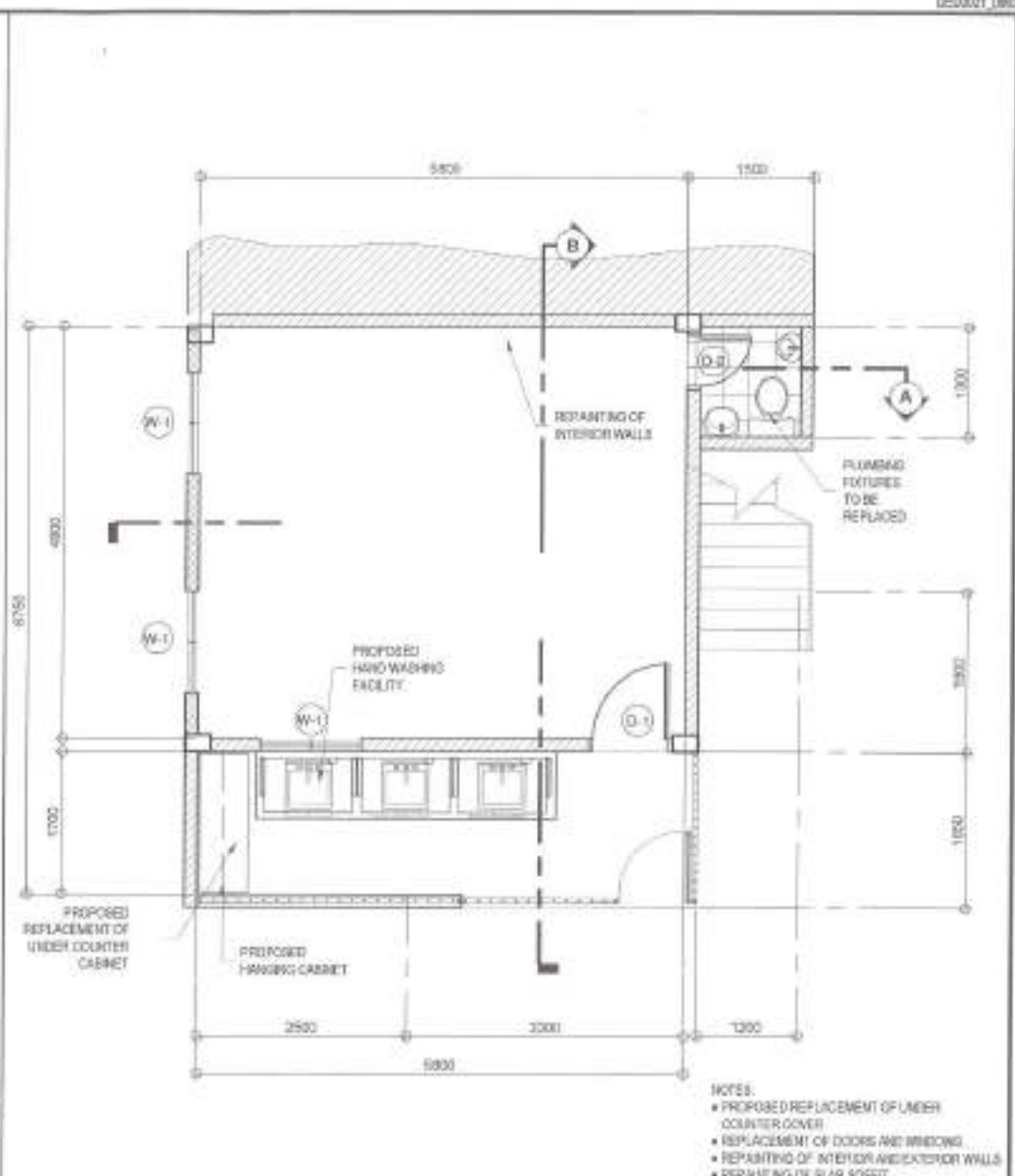


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER	DATE: DESIGNED BY: REVISION NO.:	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	 ENGR. MARVIN R. VERZOSA, JR. DE. OF SANITATION & WASTE MGMT.	 HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	SITE DEVELOPMENT PLAN	AR-02 2 13



- NOTES:
- PROPOSED DEMOLITION OF EXISTING WALL
 - PROPOSED DEMOLITION OF EXISTING HAND WASHING FACILITY
 - REHABILITATION OF EXISTING FENCE
 - PROPOSED REPLACEMENT OF FLOOR

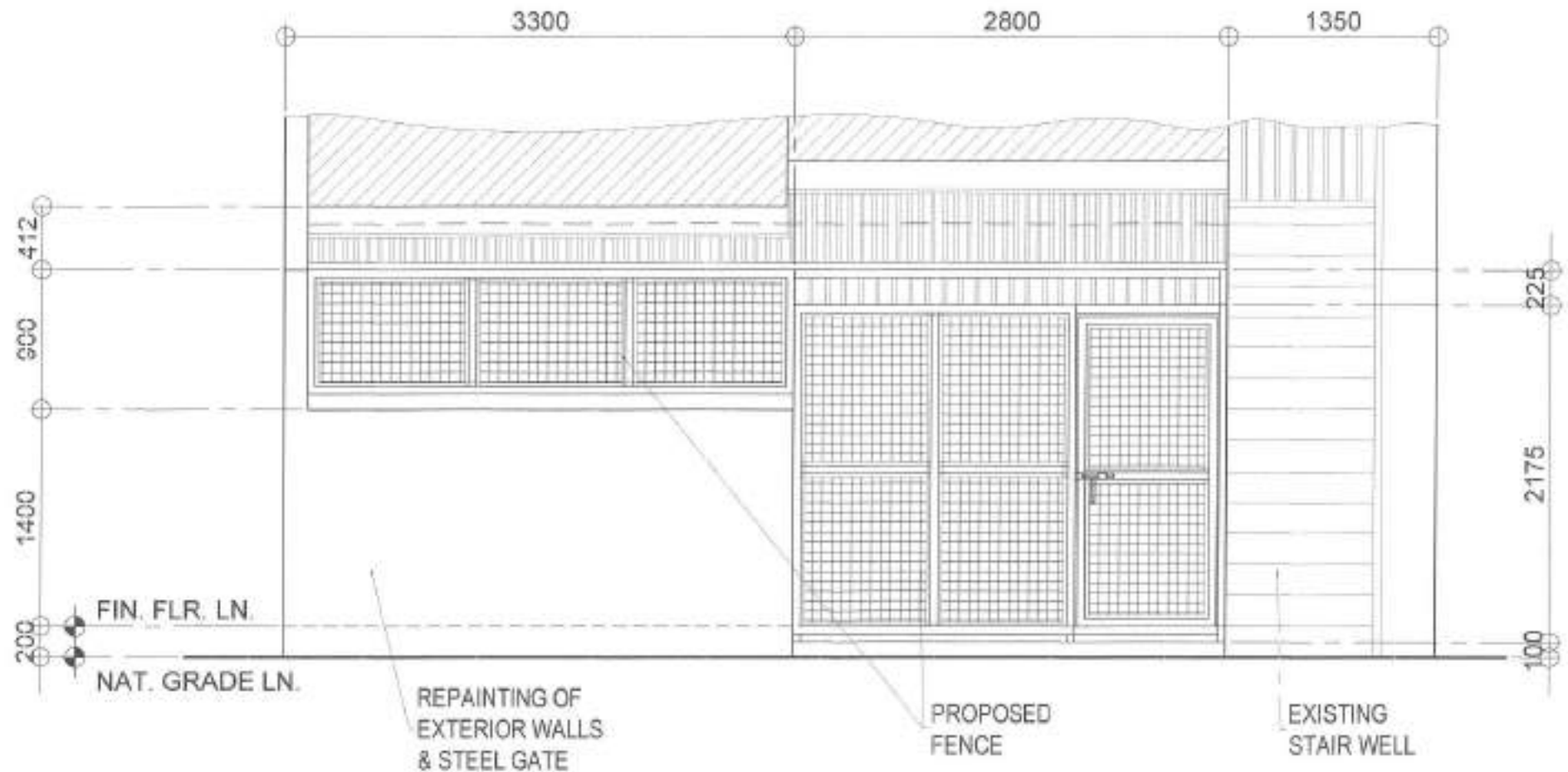


- NOTES:
- PROPOSED REPLACEMENT OF UNDER COUNTER COVER
 - REPLACEMENT OF DOORS AND WINDOWS
 - REPAIRING OF INTERIOR EXTERIOR WALLS
 - REPAIRING OF SLAB SOFFIT

1 EXISTING GROUND FLOOR PLAN


2 PROPOSED GROUND FLOOR PLAN

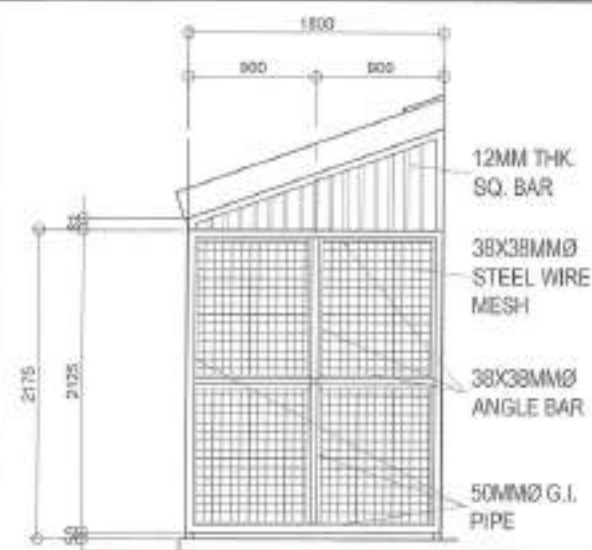
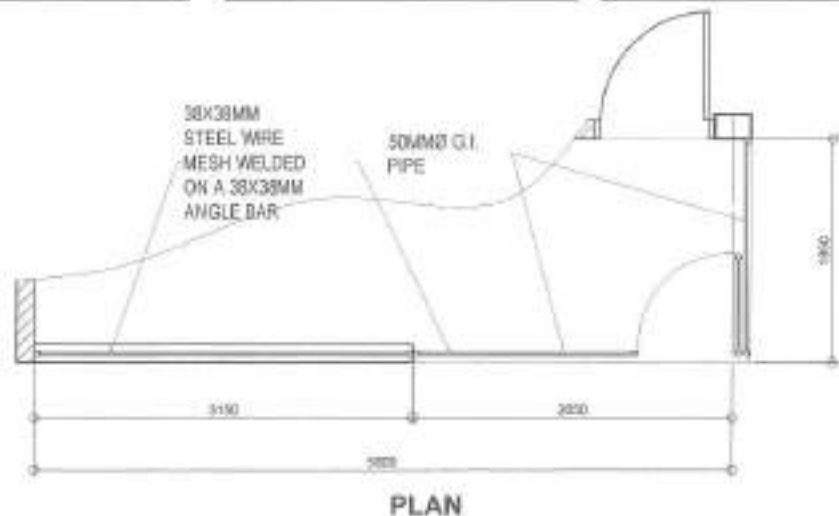
<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER	DATE:	ENGR. LEO S. DEL ROSARIO	ENGR. ISABIAN R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTE	EXISTING GROUND FLOOR PLAN PROPOSED GROUND FLOOR PLAN	AR-03 3 13
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DECIDED BY:	ENGR. LEO S. DEL ROSARIO LOCAL PUBLIC WORKS ENGINEER	ENGR. ISABIAN R. VERZOSA, JR. LOCAL PUBLIC WORKS ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAJOR		



1 EXISTING GROUND FLOOR PLAN

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER ✓	DECIDED BY: <i>JAS</i>	ENGR. LEO S. DEL ROSARIO RSC, RABIGS/PL/REHAB/STRICT ✓	ENGR. ISAGANI R. VERZOSA, JR. RSC, RABIGS/PL/REHAB/STRICT ✓	HON. MA JOSEFINA G. BELMONTE CITY MAYOR	EXISTING GROUND FLOOR PLAN ✓	AR-04 4 13
	DATE: BAWANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY ✓	REVISION:					

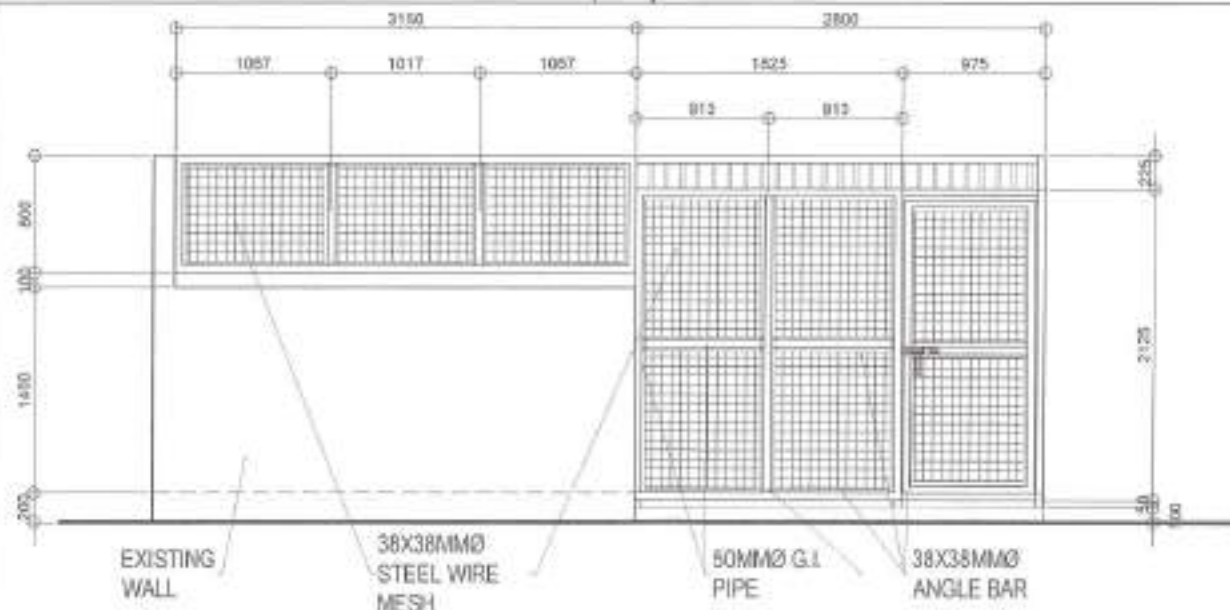


1 FENCE PLAN

SCALE: NTS

2 FENCE RIGHT SIDE ELEVATION AND DETAILS

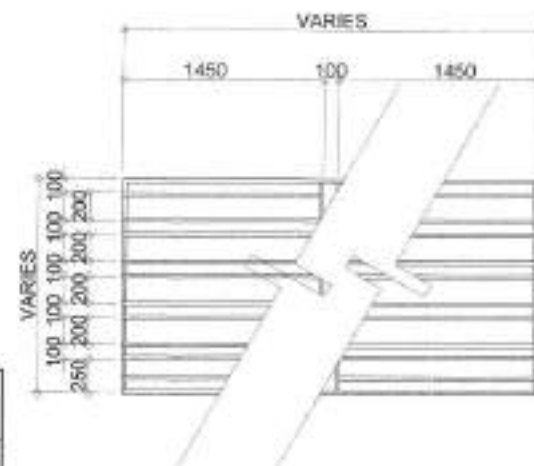
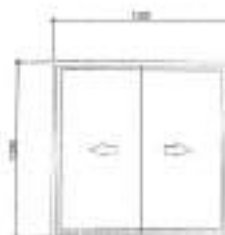
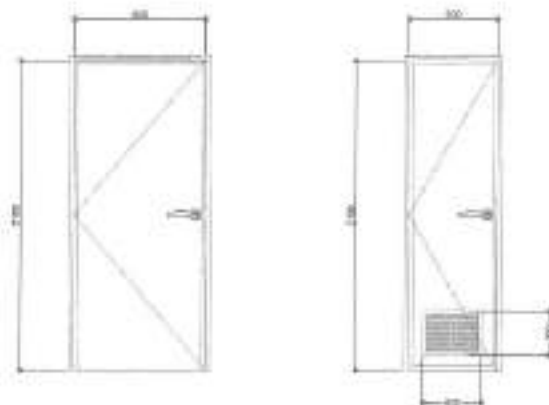
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

3 FENCE FRONT ELEVATION AND DETAILS

SCALE: NTS

 <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 F. CASTILLO DAY CARE CENTER	DATE:				FENCE PLAN FENCE RIGHT SIDE ELEVATION AND DETAILS FENCE FRONT ELEVATION AND DETAILS	AR-05 5 13
	LOCATION: SARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DESIGNER:	REVISIONS:	ENGR. LEO S. DEL ROSARIO H.C. PLANNING & PROGRAMMING DIVISION	ENGR. SARANI R. VERZOSA, JR. C.E. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	



TYPICAL DRILLES FOR SLIDING WINDOWS
25mm x 25mm x 2mm TUBULAR

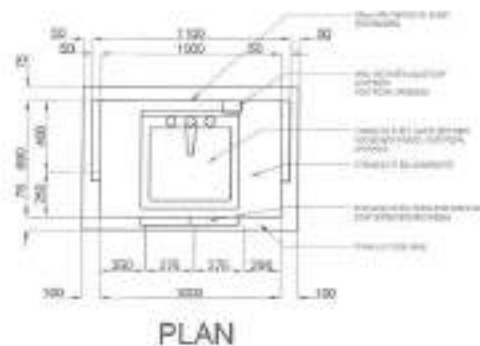
DESIGNATION		
SPECS	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITEN WHITE)	SWING TYPE, PVC DOOR, WITH 400mm x 300mm LOUVER, PAINTED FINISH (KITEN WHITE)
HARDWARE/ GLAZING	COMPLETE ACCESSORIES. DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.	COMPLETE ACCESSORIES. DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.
NO. OF SETS	1 SET	1 SET

DESIGNATION	
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/ GLAZING	PROVIDE WITH COMPLETE ACCESSORIES
NO. OF SETS	3 SETS

1 SCHEDULE OF DOORS AND WINDOW

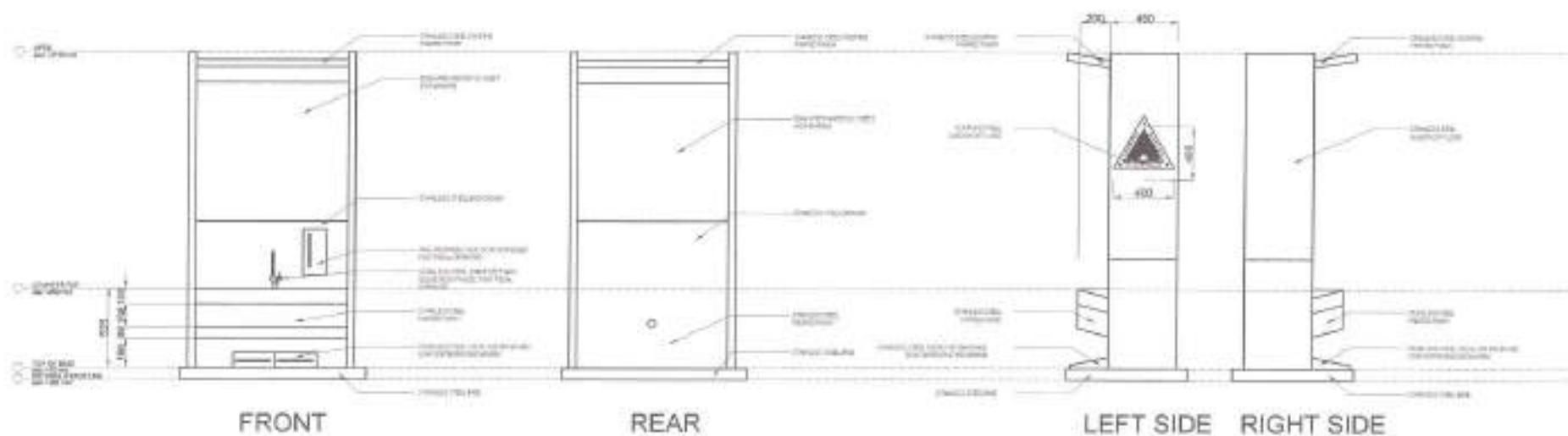
SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE:	DESIGNED BY:	REVISIONS:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER		J. J. J.		ENGR. LEO S. DEL ROSARIO LOCAL PLANNING & PARTICIPATION DIVISION	ENGR. SAGANI R. VERZOSA, JR. DIC CITY ENGINEERING DEPARTMENT	HON. MA JOSEFINA G. BELMONTE CITY MAYOR	SCHEDULE OF DOORS AND WINDOW	AR-06 6 13
	LOCATION:								
	BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY								



1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30M



2 ELEVATIONS

SCALE: 1:30M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER
LOCATION:
BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DESIGNED BY:
JFM
CHECKED BY:
JFM
ENGINEER NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
REG. CIVIL ENGINEER

RECOMMENDING APPROVAL:

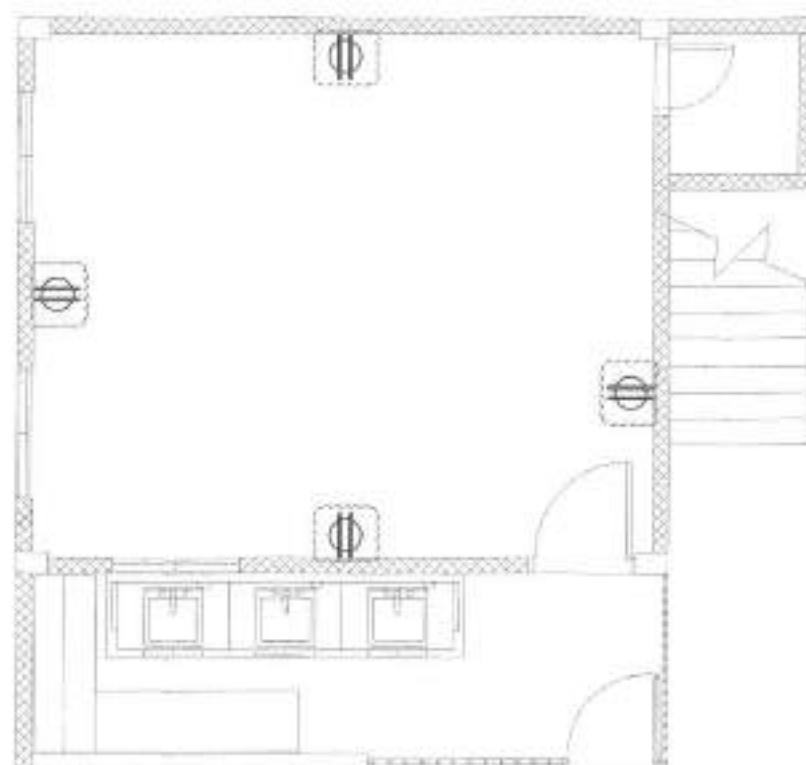
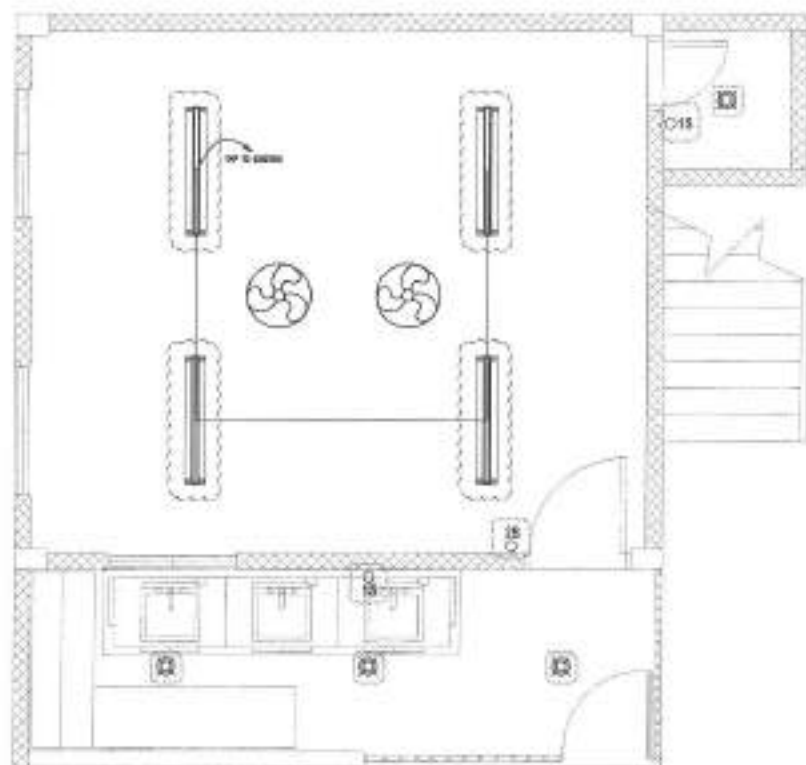
ENGR. ISAGANI R. VERZOSA, JR.
REG. CIVIL ENGINEER

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
DTY. MGR.

SHEET CONTENT:
SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS

SHEET NO.
AR-07
7 | 13



1 LIGHTING LAYOUT

2 POWER LAYOUT

SCALE: 1:50M

SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER

LOCATION:
BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY:

SKD

DESIGNED BY:

REVISOR NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & RECONSTRUCTION

RECOMMENDING APPROVAL:

ENGR. SAGANI R. VERZOSA, JR.
CITY ENGINEER

APPROVED BY:

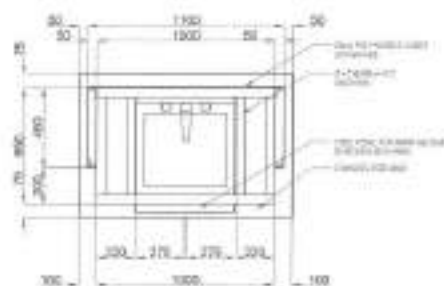
HON. MA. JOSEFINA G. BELMONTE
CITY MNGR

SHEET CONTENT

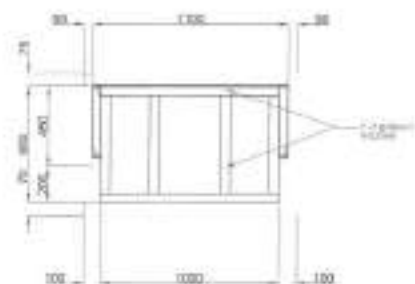
LIGHTING LAYOUT
POWER LAYOUT

SHEET NO.

EL-02
13 13



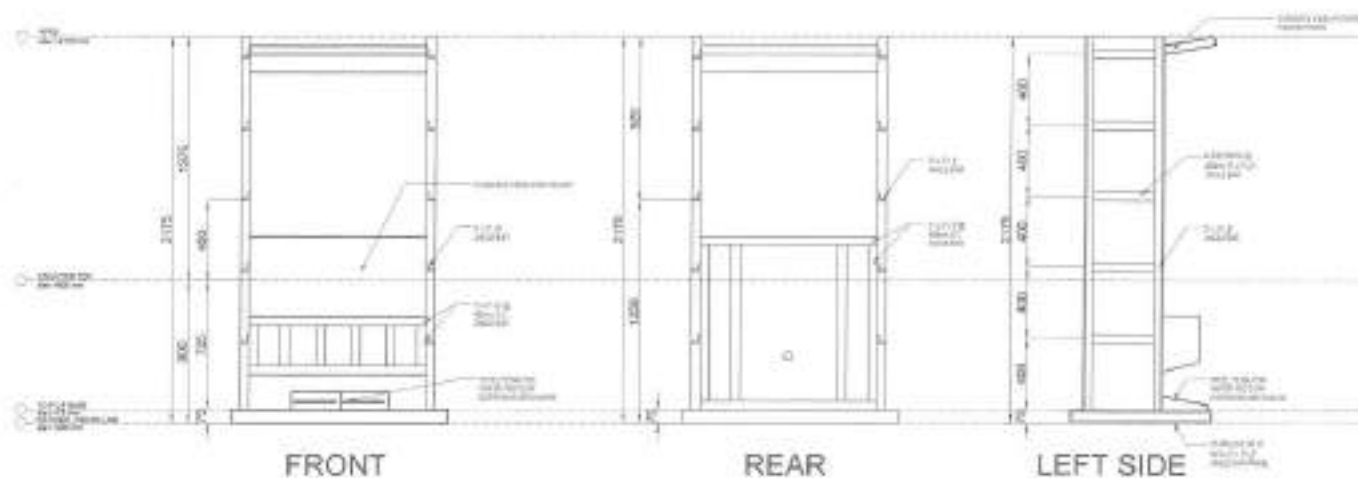
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

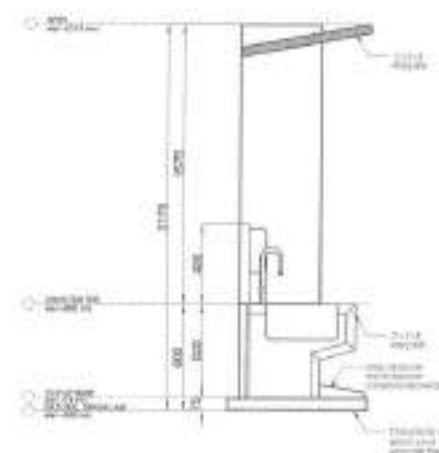
SCALE: 1:300



FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:300

3 TYPICAL SECTIONS

SCALE: 1:300



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF F. CASTILLO DAY CARE CENTER

LOCATION:

BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

OWNER: *DA*

DATE: August 2011

DESIGNER: *Jin*

REVISIONS:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
D.C. ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT

SINGLE SINK PORTABLE
HAND WASHING
STALL PLAN
ELEVATIONS
TYPICAL SECTIONS

SHEET NO.

ST-01
8 / 13

1. All plumbing work and materials installed hereon shall be subject to the provisions of the Code of Ordinances of Quezon City, the rules and regulations of the Department of Health, the rules and regulations of the Department of Water Resources, the rules and regulations of the Department of Environment and Natural Resources and the provisions of the local building codes and rules and regulations.

2. The plumbing work shall be done in accordance with the approved plans and specifications and shall conform to the provisions of the Code of Ordinances of Quezon City, the rules and regulations of the Department of Health, the rules and regulations of the Department of Water Resources, the rules and regulations of the Department of Environment and Natural Resources and the provisions of the local building codes and rules and regulations.

3. The plumbing contractor shall verify all existing conditions in the site and shall coordinate them with the other trades.

4. Pipes shall not be embedded in masonry or masonry unless otherwise specified.

5. Minimum slope for horizontal sewer lines shall be 1% and for water lines 1/8%.

6. Proposed plumbing fixtures shall conform with the actual location, height and level elevation of all existing conditions.

7. Connection of fixtures to pipes and fittings shall be according to manufacturer's specifications.

8. All floor drains shall be vented externally.

9. All traps and floor drains that are not provided by manufacturer shall be provided with integral clean-out. On-site cast iron traps shall be provided with clean-out and traps shall be subject to code.

10. All underground D.I. pipes to street connection shall be provided with 2" (50mm) of protection for every underground pipe. All D.I. shall be thoroughly tested as per code.

11. Provide vent stack and vent pipe from roof of each floor service weight designed.

12. All cast iron pipes shall be chipped inside and D.I. pipes for water distribution lines shall be Schedule 40 U.S. Standard weight.

13. Provide gas valves to all water supply lines in kitchen.

14. All hot water lines shall be provided with proper insulation where required.

15. All valves at risers and/or valves or group of valves and/or equipment shall be provided with a minimum 2" copper or galvanized steel pipe and fittings.

16. 45mm dia. 1/2" and 3/4" size

17. 30mm dia. 1/2" and 3/4" size

18. All 1/2" and 3/4" size 1/2" and 3/4" size valves shall be provided.

19. All pipes of cast iron shall be 1/2" or 3/4" size from the floor to the roof and 1/2" or 3/4" size for the other size.

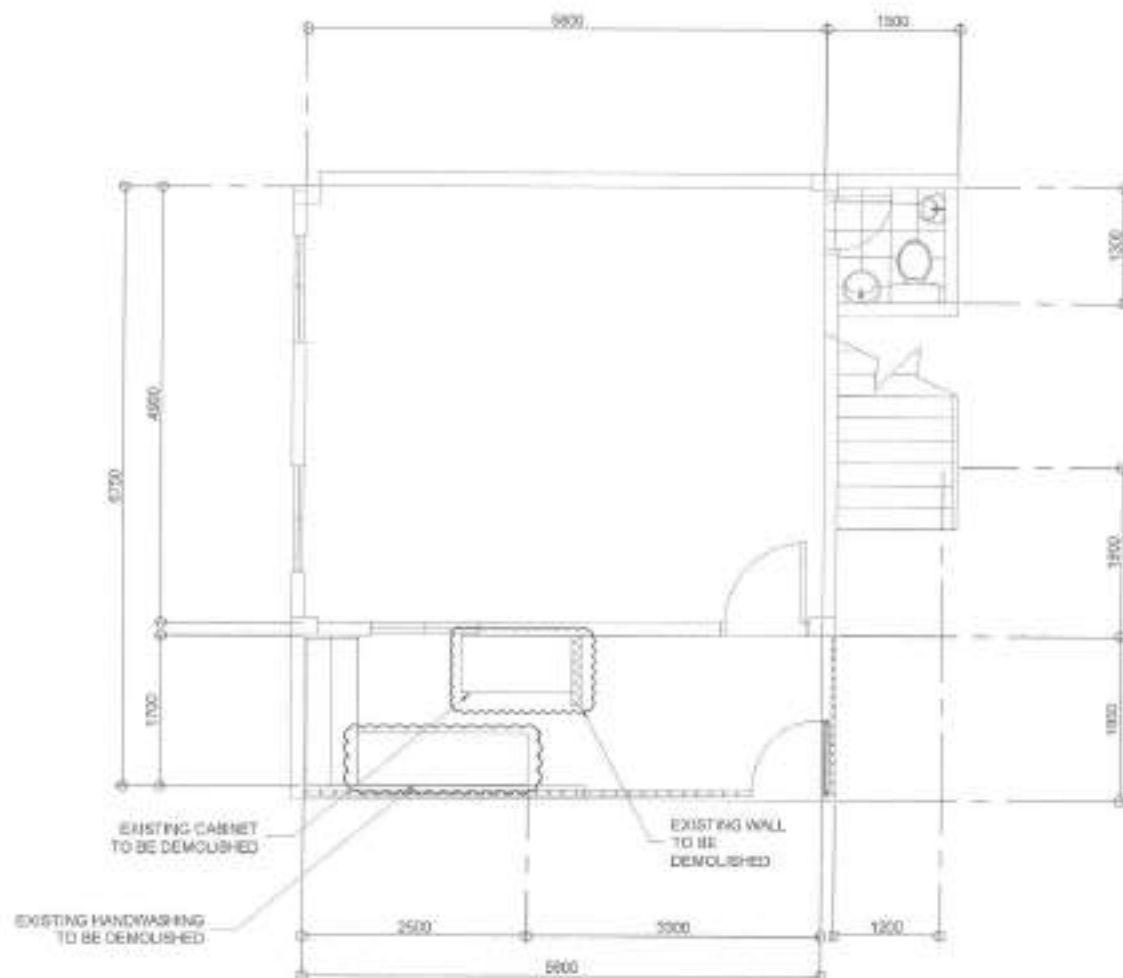
20. All plumbing work and materials installed hereon shall be subject to the provisions of the Code of Ordinances of Quezon City, the rules and regulations of the Department of Health, the rules and regulations of the Department of Water Resources, the rules and regulations of the Department of Environment and Natural Resources and the provisions of the local building codes and rules and regulations.

I. FIXTURES AND OTHER LEGEND

- FD FLOOR DRAIN
- RD ROOF DRAIN
- SHO SHOWER
- WC WATER CLOSET
- LAV LAVATORY
- URV URINAL
- KB KITCHEN SINK
- BD BUILDING DRAIN
- GD GARDEN DRAIN
- CCD CEILING CLEANOUT
- FGD FLOOR/GROUND CLEANOUT
- DS DOWNSPOUT
- WH WIRELINE
- Ø INCH DIAMETER
- SHD SHOWER DRAIN
- CB CATCH BASIN
- NH NIPPLE
- DIRECTION OF FLOW
- ☑ GREASE TRAP

II. SEWER WASTE AND VENT SYSTEM

- SP / WP SOIL PIPE / WASTE PIPE
- VS / VAC VENT STACK / VENT AT CEILING
- DP STORM DRAIN PIPE
- DS DRAINAGE STACK / DOWNSPOUT
- SVER STACK VENT/EXTENDED THROUGH ROOF
- SS SOIL STACK
- FCO / GCO FLOOR CLEANOUT / GROUND CLEANOUT
- CCO CEILING CLEAN-OUT
- SPDR SUMP PIT DISCHARGE RISER
- SPDP SUMP PIT DISCHARGE PIPE
- AD/CB AREA DRAIN/CATCH BASIN



1 GENERAL NOTES AND LEGENDS

2 EXISTING GROUND FLOOR PLAN

SCALE: 1/8"=1'-0"

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: G.M.F.	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	<p>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER</p> <p>DESIGNER: BAYANGAT COMMONWEALTH, DISTRICT 2, QUEZON CITY</p>	DATE: 11/15/2023	<p>ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING & PIPEfitTING DIVISION</p>	<p>ENGR. ISAGANI R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY MAYOR</p>	<p>GENERAL NOTES & LEGENDS EXISTING GROUND FLOOR PLAN</p>	<p>PL-01 9/13</p>

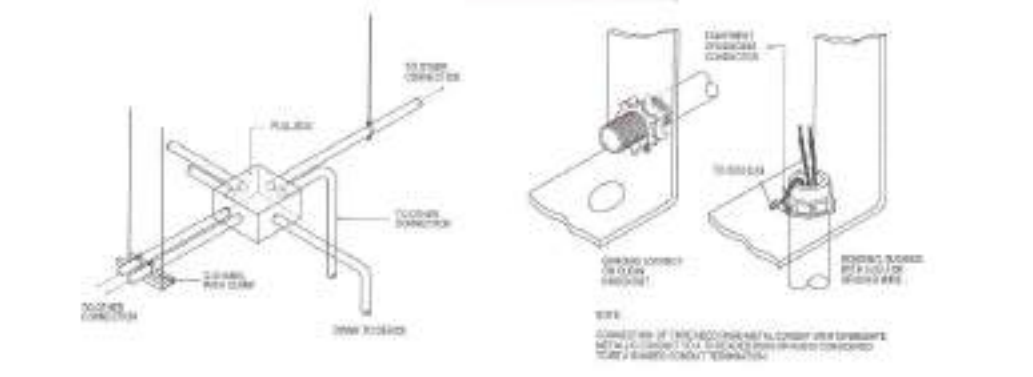
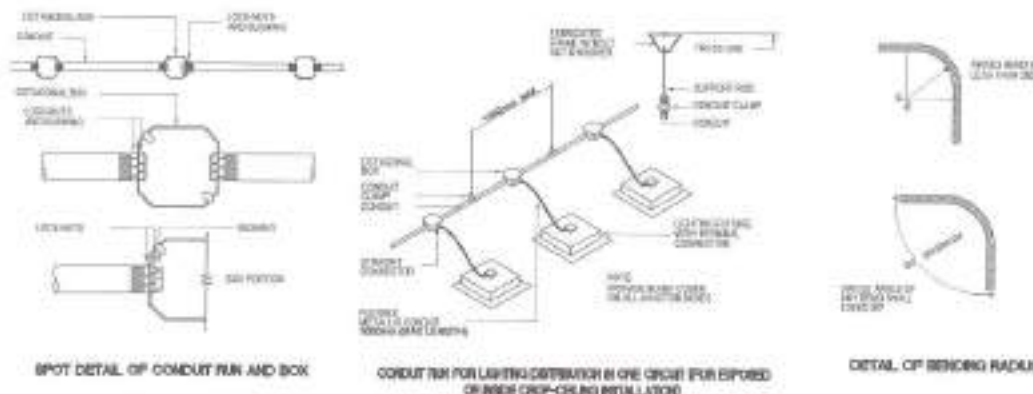
1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE EMPORERS AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
2. THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATION OF ELECTRICAL INSPECTION AND APPROVAL FROM PROPER GOVERNMENT AUTHORITIES FOR COMPLETION OF WORK.
3. ALL MAIN AND BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE NIC SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS.
4. PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULLBOXES SHALL BE COMPLETED 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.
5. ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 250 V.
6. PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
7. ALL METALLIC CONDUITS, CABLES AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
8. UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF, 150MM ABOVE FINISHING COUNTERTOP
 TELEPHONE OUTLET - 300 MM AFF
 DATA OUTLET - 300MM AFF
 LIGHTING SWITCH - 1400 MM AFF
 FIRE ALARMS - 1600 MM AFF

9. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, SEQUENCING AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
10. ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND AND AS SPECIFIED.
11. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND GENERAL DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVEL AND DISTANCES OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUESTED TO MAKE SUCH ADJUSTMENT AT THE JOBSITE AS LOCATION, DISTANCES AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
12. ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE WORK.
13. ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 3.0 SQ. MM. THINWALL COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.0-SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

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

14. BARS, WIRE, CUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WEAR SURFACE STEEL:
 UP TO 100.0MM 10.0MM OR IF PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 100.0MM BUT NOT OVER 150.0MM 12.0MM OR 14.0MM PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 150.0MM BUT NOT OVER 200.0MM 14.0MM OR 16.0MM PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 200.0MM 16.0MM OR 18.0MM PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
15. ALL ELECTRICAL WORK HEREON SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A FULLY ACCREDITED ELECTRICAL CONTRACTOR BY POOR. WORK SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
16. TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC NOMINAL.
17. CONDUITS IN RIGID CASE SHALL HAVE NO 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.
18. UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAIL (IN 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 1 OHM.



2 MISCELLANEOUS DETAILS

SCALE: NTC

	SWITCH (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)
	ADDITIONAL LINEAR TWIN BATTEN WITH 2X18W LED TUBE LIGHT
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	EXISTING CEILING FAN

1 GENERAL NOTES

SCALE: NTC

3 LEGENDS AND SYMBOLS

SCALE: NTC

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER	DATE: JFA	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGANI R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTE	GENERAL NOTES (MISCELLANEOUS DETAILS) LEGENDS AND SYMBOLS	EL-01
	LOCATION: BALUNGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISION NO.:	1800 PLUMBING (1800-PLUMBING-0001)	10.00 ELECTRICAL (10.00-ELECTRICAL-0001)	CITY ENGINEER		12 13

1 All working terms and materials indicated herein shall be compared to their respective listed edition of National Plumbing Code, their other regulations about plumbing, their related regulations of local utility companies and the provisions of the local developer when and where applicable.

2 The plumbing layout is only for general purpose. It does not include details of fixtures and fixtures in the development of fixtures and fixtures shall be provided as and where required. Any modification will require proper consultation with other trades.

3 The plumbing contractor shall verify all existing utilities of the site and shall coordinate with other trades.

4 Pipes shall not be connected to structural members unless otherwise specified or allowed.

5 Minimum edge to finished floor level shall be 150 millimeter from finished floor.

6 Proposed plumbing utilities shall conform with the actual location, depth and level elevation of all existing utilities.

7 Connection of fixtures and other fittings shall be according to manufacturer's specifications.

8 All work is to be done in accordance with the local codes.

9 All pipes and fittings shall be installed in accordance with the local codes. All work shall be done in accordance with the local codes and standards.

10 All underground pipes and fittings shall be installed in accordance with the local codes. All work shall be done in accordance with the local codes and standards.

11 Drains shall be installed in accordance with the local codes.

12 All cast iron pipes shall be of approved quality and 150 pipes for water distribution shall be Schedule 40 U.S. standard weight.

13 Provide gas valves for all water supply lines.

14 All hot water lines shall be insulated with proper insulation when required.

15 All electrical conduits to fixtures or group of fixtures and/or equipment shall be provided with at least one (1) ground wire with sufficient cross-section of aluminum or steel.

16 1/2" diameter 1/2" thick stainless steel

17 1/2" diameter 1/2" thick stainless steel

18 1/2" diameter 1/2" thick stainless steel

19 All pipes of 1/2" and 3/4" shall be installed in accordance with the local codes.

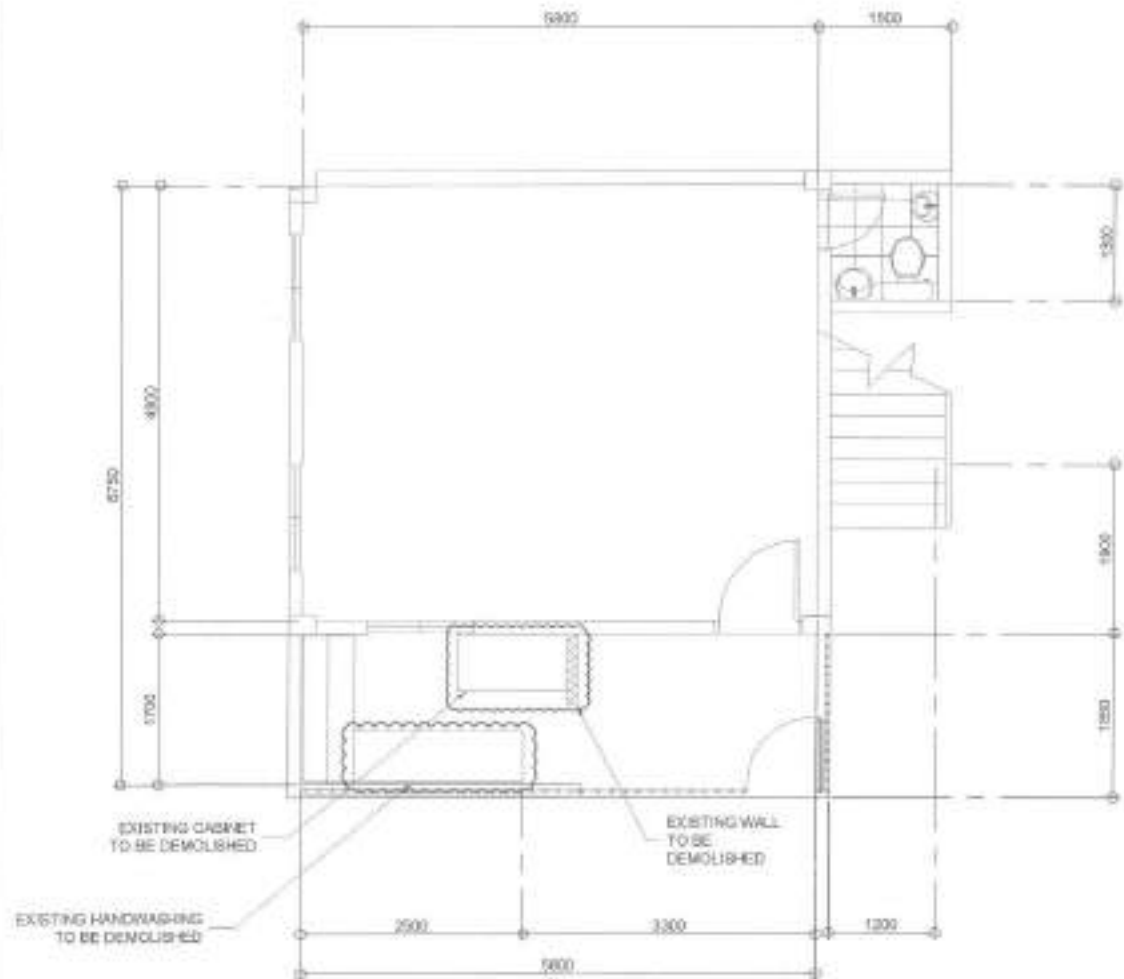
20 All plumbing work shall be done in accordance with the local codes and standards. All work shall be done in accordance with the local codes and standards.

I. FIXTURES AND OTHER LEGEND




- FD FLOOR DRAIN
- RD ROOF DRAIN
- SHD SHOWER
- WC WATER CLOSET
- LAV LAVATORY
- URI URINAL
- KD KITCHEN SINK
- BD BUILDING DRAIN
- DD DRAIN
- CCO CEILING CLEANOUT
- FCO FLOOR/CORNER CLEANOUT
- DC DOWNSPOUT
- mm millimeter
- Ø INCH DIAMETER
- SHD SHOWER DRAIN
- CB CATCH BASIN
- MH MANHOLE
- DIRECTION OF FLOW
- ☒ GREASE TRAP

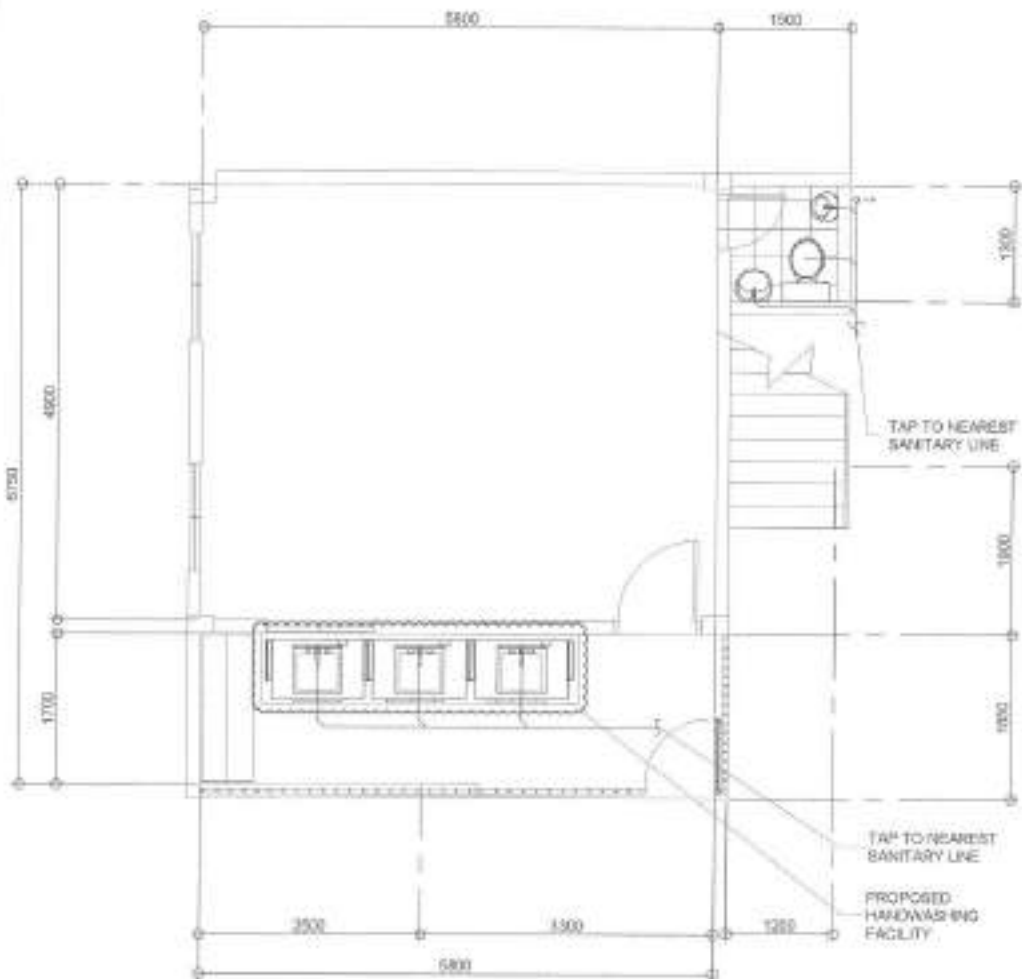
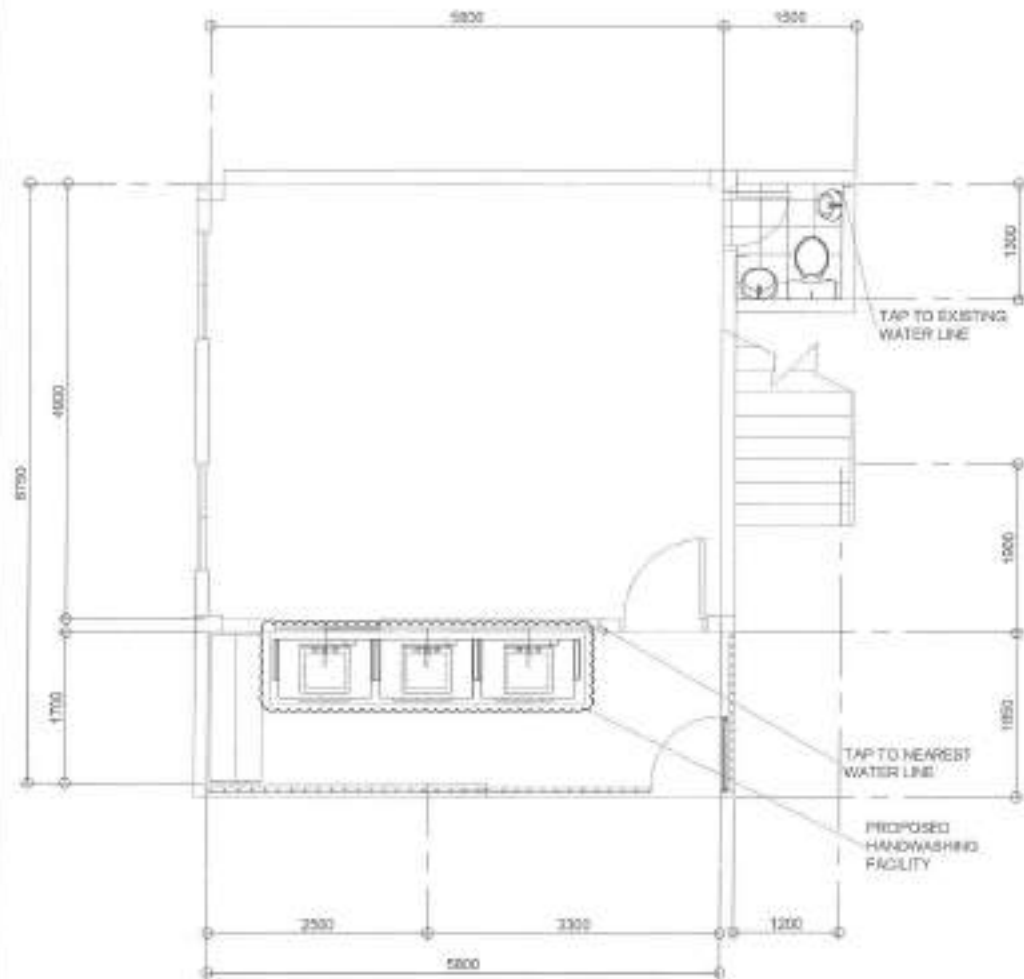
II. SEWER, WASTE AND VENT SYSTEM

- SP / WP SOIL PIPE / WASTE PIPE
- VS / VAC VENT STACK / VENT AT CEILING
- DP STORM DRAIN PIPE
- DS DRAINAGE STACK / DOWNSPOUT
- SVTR STACK VENT/EXTENDED THROUGH ROOF
- SS SOIL STACK
- FCO/ GCO FLOOR CLEANOUT / GROUND CLEANOUT
- CCO CEILING CLEAN-OUT
- SPDR SUMP PIT DISCHARGE RISER
- SPOP SUMP PIT DISCHARGE PIPE
- AD/CB AREA DRAIN/CATCH BASIN



1 GENERAL NOTES AND LEGENDS 2 EXISTING GROUND FLOOR PLAN SCALE: 1:50M

 <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 F. CASTILLO DAY CARE CENTER	DATE: 	ENGR. LEO S. DEL ROSARIO REGISTERED PROFESSIONAL ENGINEER	ENGR. ISABANI R. VERZOSA, JR. REGISTERED PROFESSIONAL ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	GENERAL NOTES & LEGENDS	
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISIONS:				EXISTING GROUND FLOOR PLAN	



1 PROPOSED GROUND FLOOR WATER LINE LAYOUT SCALE: 1:50M

2 PROPOSED GROUND FLOOR SANITARY LINE LAYOUT SCALE: 1:50M



PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER
 LOCATION:
 BARANGAY COMMONWEALTH DISTRICT 2, QUEZON CITY ✓

DESIGNED BY:
 DATE:
 CHECKED BY: *[Signature]*
 SUBMITTED BY:
 ENGR. LED S. DEL ROSARIO
 RMC REGISTERED PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:
 ENGR. ISAAC R. VERZOSA, JR.
 RMC REGISTERED PROFESSIONAL ENGINEER

APPROVED BY:
 HON. MA. JOSEFINA G. BELMONTE
 CITY ENGINEER

SHEET CONTENT:
 GROUND FLOOR WATER LINE LAYOUT
 GROUND FLOOR SANITARY LINE LAYOUT ✓

SHEET NO.
PL-02
10 / **13**

1. ALL THE PLUMBING/SANITARY WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISION OF THE PHILIPPINE PLUMBING CODE, THE NATIONAL BUILDING CODE, RULES AND REGULATION 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 HYDROCHLORIC 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

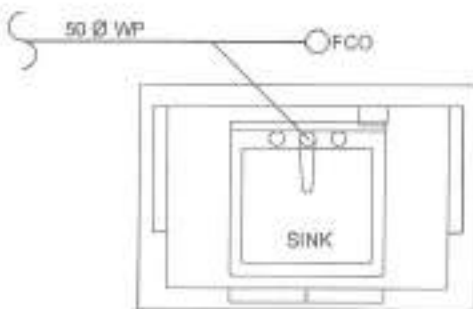
I. SEWER/WASTE AND VENT SYSTEM

- SP / WP - SOIL PIPE / WASTE PIPE
- VP / VAS - VENT PIPE / VENT AT CEILING
- DP - STORM DRAIN PIPE
- FCO / GCO - 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
- STU - STALL TYPE URINAL
- GT - GREASE TRAP

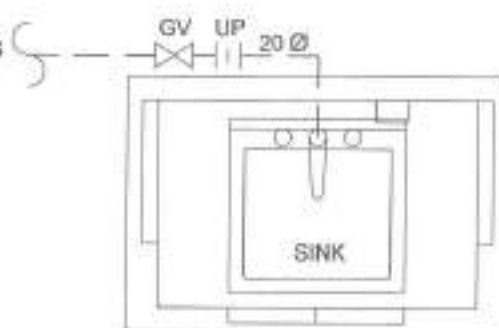
II. WATER DISTRIBUTION SYSTEM

- CWL - COLD WATERLINE
- CWR - COLD WATER RISER
- GV - GATE VALVE
- CV - CHECK VALVE
- WM - WATER METER
- BD - BALCONY DRAIN

RUN AND TAP TO NEAREST EXISTING PUBLIC SEWER LINE



FROM EXISTING WATERLINE



2 LEGENDS AND SYMBOLS

3 SINGLE SINK PORTABLE HANDWASHING SANITARY LINE

SCALE: NTS

4 SINGLE SINK PORTABLE HANDWASHING WATER LINE

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

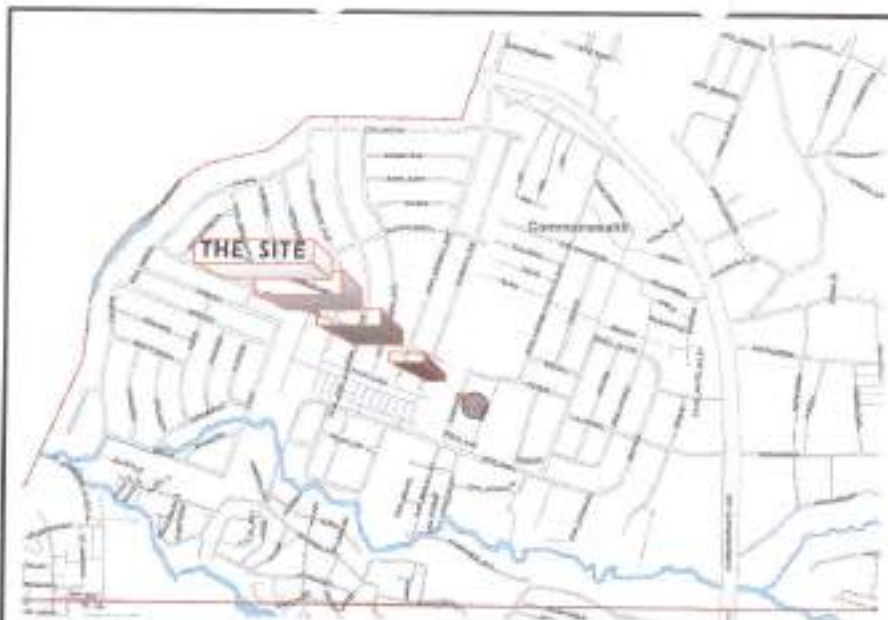
PROJECT TITLE:	DRAWN BY: <i>JR</i>	SUBMITTED BY:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER	DATE: August 2, 2021	<i>[Signature]</i>
DESIGNED BY: <i>JR</i>	REVISION:	
LOCATION: SARAWAY COMMONWEALTH, DISTRICT 2, QUEZON CITY		

RECOMMENDING APPROVAL:	APPROVED BY:
<i>[Signature]</i> ENGR. LEO S. DEL ROSARIO 100, PUNSA 1/2 P. PUNSA CROSS	<i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER

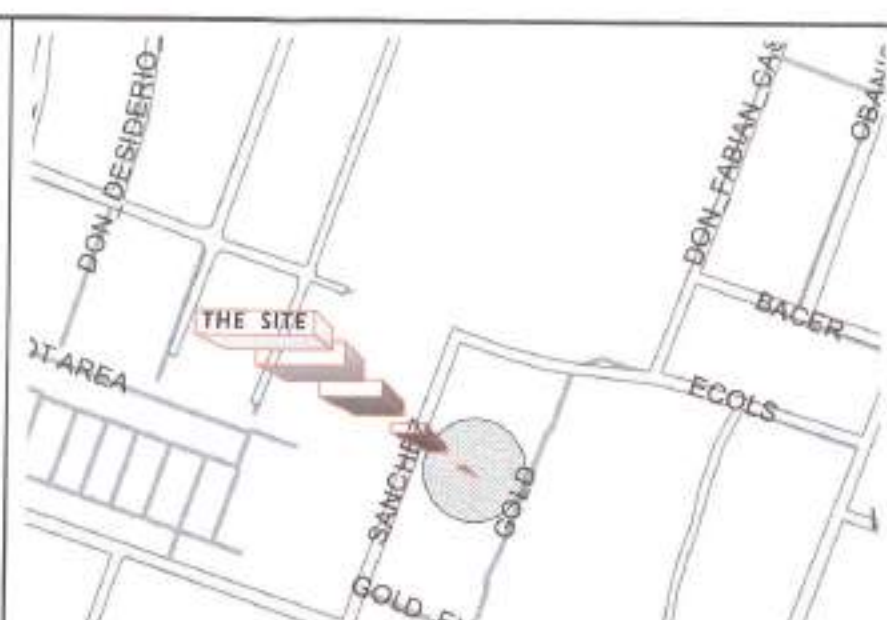
RECOMMENDING APPROVAL:	APPROVED BY:
<i>[Signature]</i> ENGR. SARANI R. VERZOSA, JR. CITY ENGINEER	

RECOMMENDING APPROVAL:	APPROVED BY:
<i>[Signature]</i> ENGR. SARANI R. VERZOSA, JR. CITY ENGINEER	

SHEET CONTENT:	SHEET NO.:
LEGENDS AND SYMBOLS SINGLE SINK PORTABLE HAND WASHING SANITARY LINE SINGLE SINK PORTABLE HAND WASHING WATER LINE	PL-03 11/13



1 LOCATION MAP



2 VICINITY MAP

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AR4	FLOOR FINISHES DOOR SCHEDULE WINDOW SCHEDULE RIGHT AND LEFT HAND SIDE
AR5	SCHEMATIC SECTION AND ELEVATION
AR6	DOOR AND WINDOW SCHEDULES

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PL2	PLUMBING FIXTURE SCHEDULE
PL3	PLUMBING FIXTURE SCHEDULE

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EL2	ELECTRICAL FIXTURE SCHEDULE



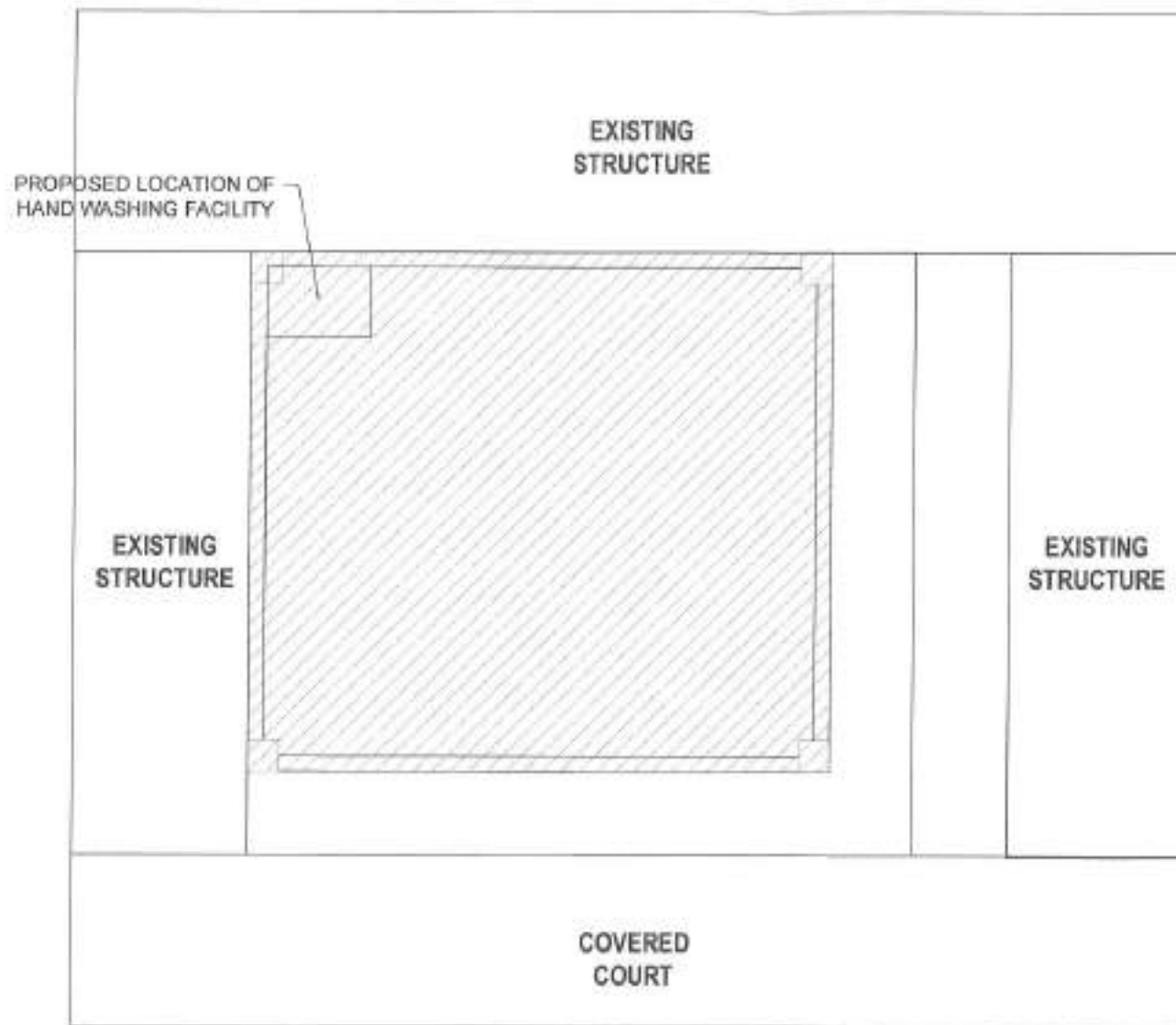
3 PERSPECTIVE

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TYPE:	DRAWN BY: <i>[Signature]</i>	CHECKED BY: <i>[Signature]</i>	DESIGNED BY: <i>[Signature]</i>	RECOMMENDED APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	DATE: <i>[Date]</i>	CHECKED BY: <i>[Signature]</i>	DESIGNED BY: <i>[Signature]</i>			VICINITY MAP PERSPECTIVE	AR-01 01/12
LOCATION: BARANGAY DOMORIVVA, III, DISTRICT 2, QUEZON CITY	REVISION NO.:	ENGR. GEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. ISAAC R. VERZOSA, JR. CIC, CIVIL ENGINEERING DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MAJOR, QUEZON CITY			

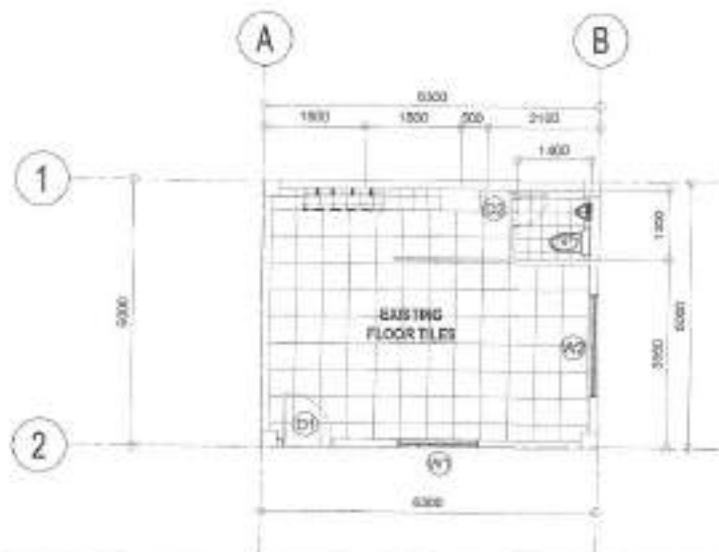


1 SITE DEVELOPMENT PLAN



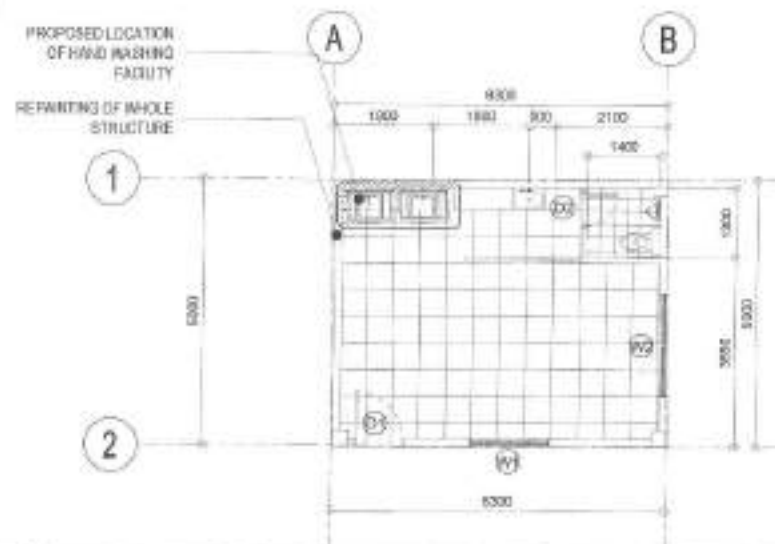
Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DRAWN BY	DATE	CHECKED BY	DESIGNED BY	RECOMMENDING OFFICIAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	LEO S. DEL ROSARIO				ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION	ENGR. ANIL R. VERZOSA, JR. CC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER - QUEZON CITY	AR-02 02/12



1 EXISTING GROUND FLOOR PLAN

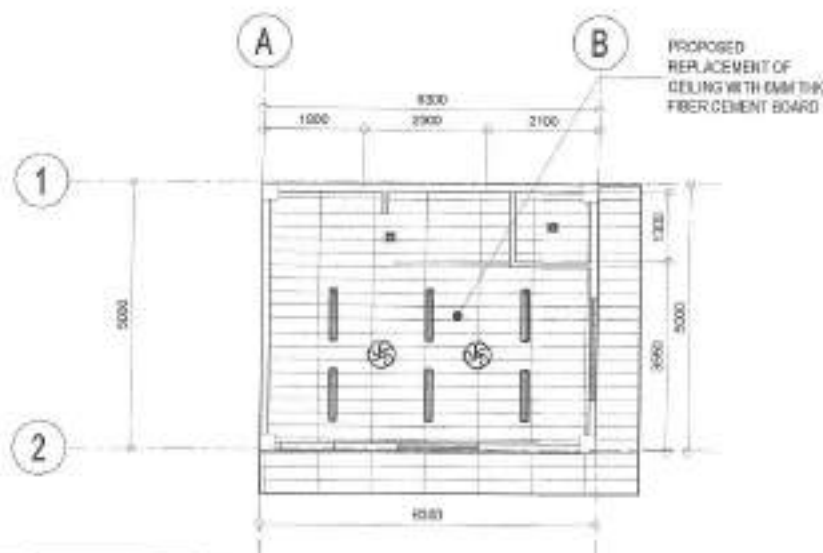
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2 PROPOSED GROUND FLOOR PLAN

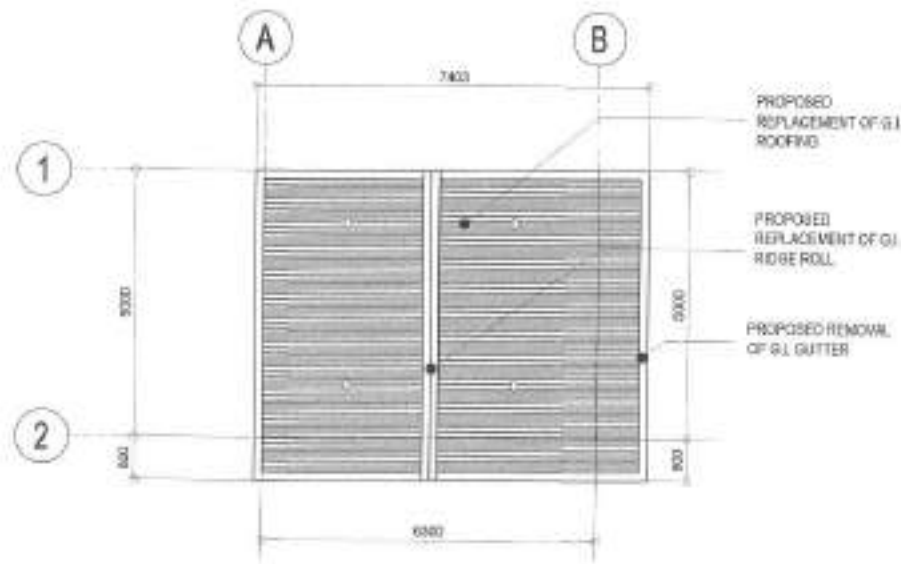
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- NOTES:
- WHOLE STRUCTURE TO BE REPAINTED
 - DOORS AND WINDOWS TO BE REPLACED
 - TOILET FLOOR TILES TO BE REPLACED WITH 300MM X 300MM HORIZONTAL HOMOGENEOUS TILES
 - PLUMBING FIXTURES TO BE REPLACED
 - ELECTRICAL FIXTURES TO BE REPLACED
 - PROVISION OF DAY CARE STORAGE
 - WINDOW GRILLES TO BE REPLACED



3 REFLECTED CEILING PLAN

SCALE: 1:100 M



4 ROOF PLAN

SCALE: 1:100 M



Republika ng Pilipinas
Lungsod ng Cebu
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER

LOCATION:
BAYUNSAW COMMONWEALTH, DISTRICT 3, CEBU CITY

DESIGNED BY:
DATE:
CHECKED BY:
REVISIONS:

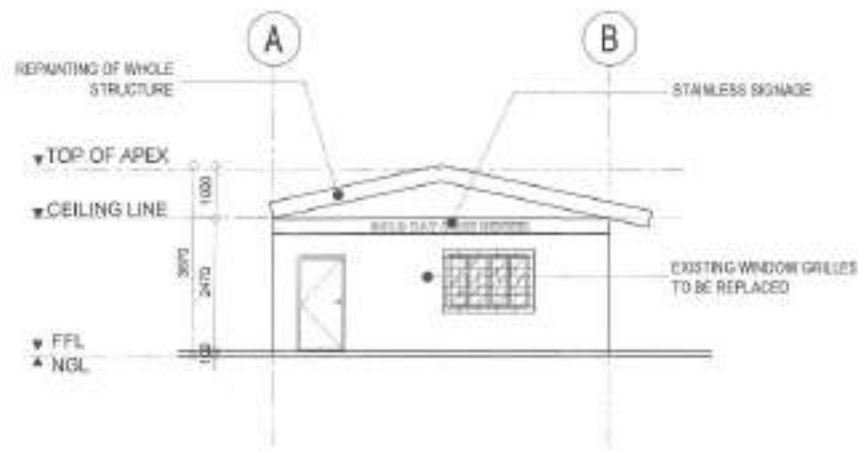
DESIGNED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAT, PLUMBING & PROTECTIVE DEPT.

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISABIAN R. VERZOSA, JR.
C.E. III, REGISTERED ENGINEER

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

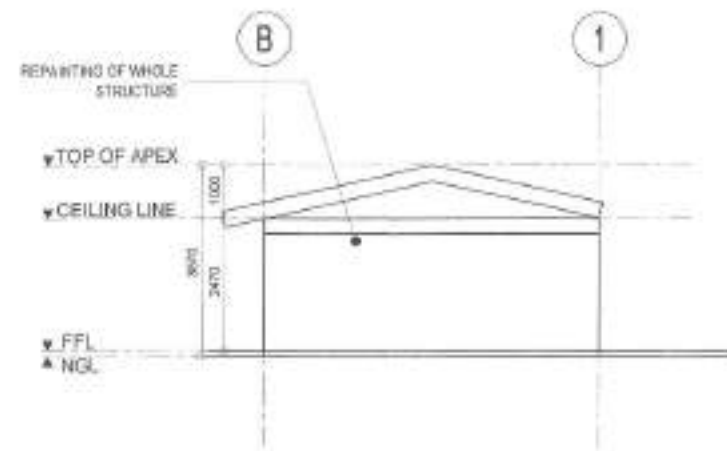
SHEET CONTENT:
EXISTING GROUND FLOOR PLAN
PROPOSED GROUND FLOOR PLAN
REFLECTED CEILING PLAN
ROOF PLAN

SHEET NO:
AR-03
03/12



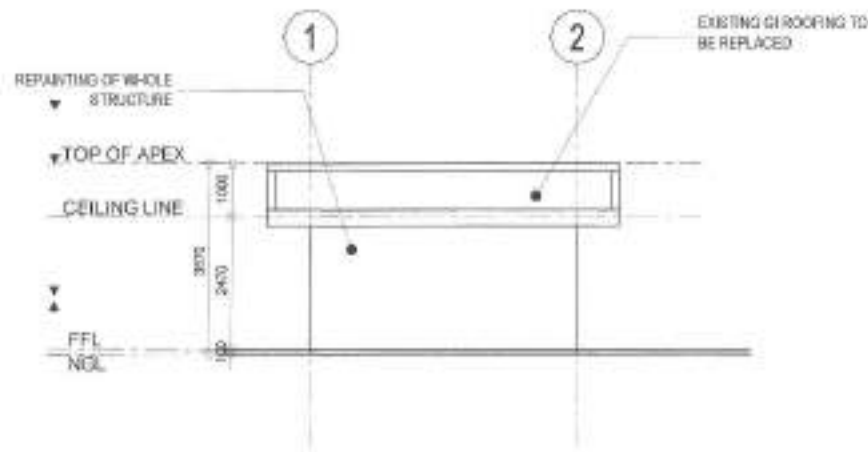
1 FRONT ELEVATION

SCALE : 1:100 M



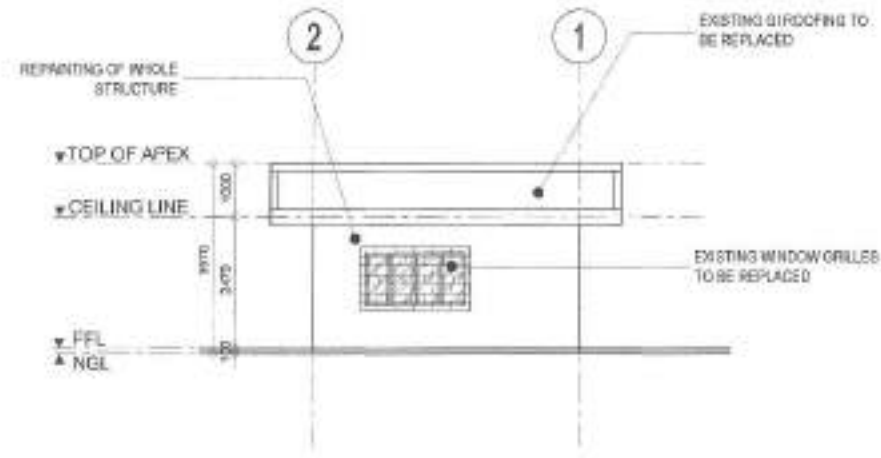
2 REAR ELEVATION

SCALE : 1:100 M





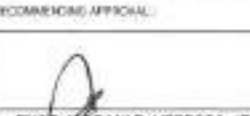

3 LEFT SIDE ELEVATION

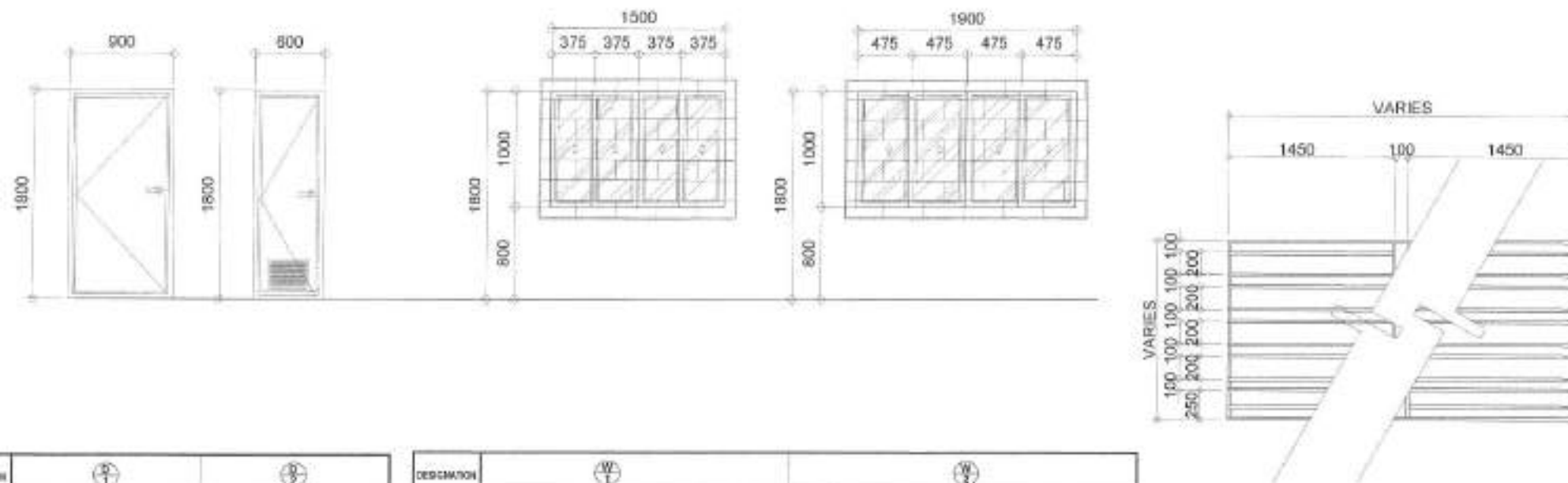
SCALE : 1:100 M



4 RIGHT SIDE ELEVATION

SCALE : 1:100 M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVAL DEPT:	DIRECT CONTACT:	SHEET NO.:
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	DATE:			HON. RA. JOSEFINA S. BELMONTÉ	PROJECT CONSULTANT:	
	LOCATION: BARANGAY COMMONWEALTH DISTRICT 2, QUEZON CITY	CHECKED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & ZONING DIVISION	ENGR. MAGANI R. VERZOSA, JR. D.C. CITY ENGINEERING DEPARTMENT	CITY ENGINEER	PROJECT CONSULTANT:	
		REVISIONS:					



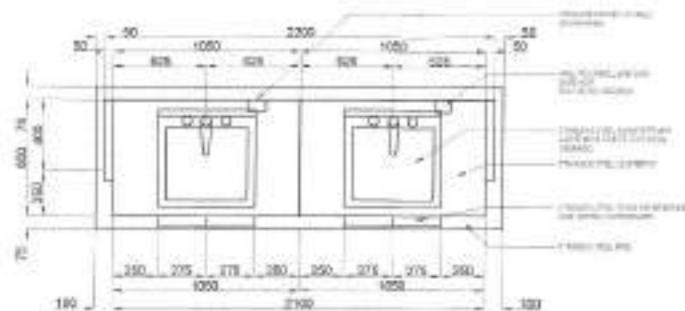
DESCRIPTION		
SPCS	SWING TYPE FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITEN WHITE)	SWING TYPE PVC DOOR, WITH 400mm x 300mm LOUVER, PAINTED FINISH (KITEN WHITE)
HARDWARE BLANDS	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH

DESCRIPTION		
SPCS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE BLANDS	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES

TYPICAL GRILLES FOR SLIDING WINDOWS
25mm x 25mm x 2mm TUBULAR

1 SCHEDULE OF DOORS AND WINDOWS

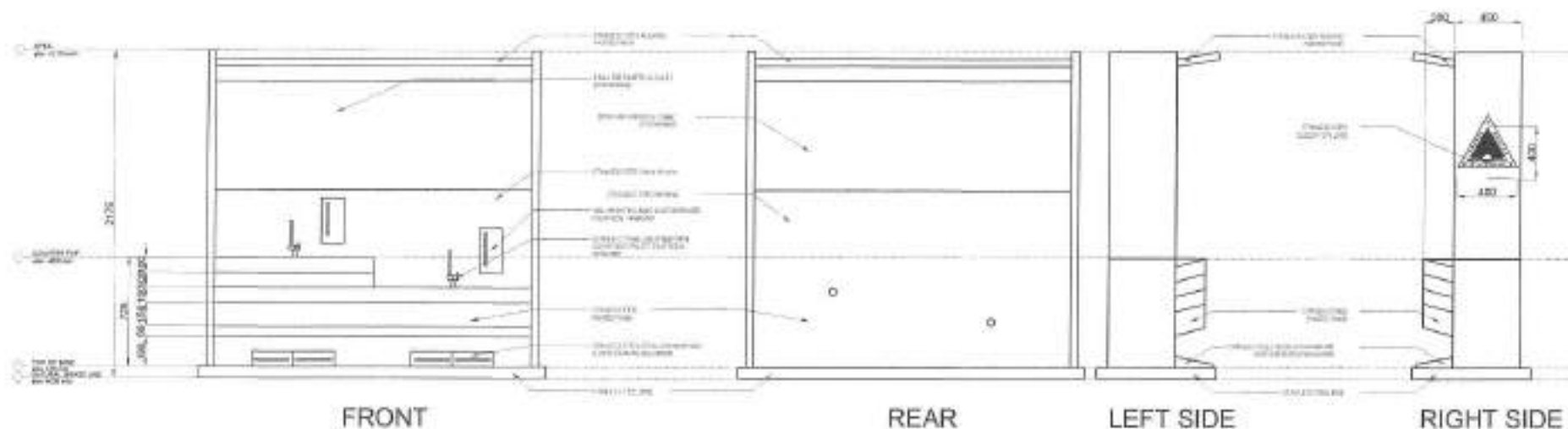
<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	DATE:				SCHEDULE OF DOORS AND WINDOWS	AR-05
	LOCATION: BAYANBY COMMERCE, DISTRICT 2, QUEZON CITY	CHECKED BY:	DESIGNED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAMS DIVISION	ENGR. ISMAEL R. VERZOSA, JR. DCL, CIVIL ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER, QUEZON CITY	



PLAN

1 DOUBLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30 M



FRONT

REAR

LEFT SIDE

RIGHT SIDE

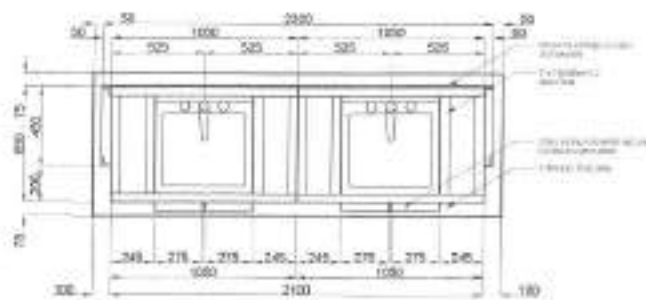
2 ELEVATIONS

SCALE: 1:30 M

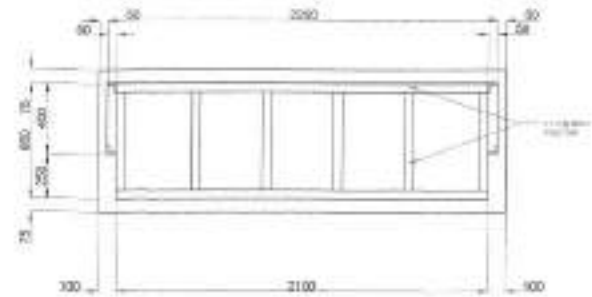


Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i>	RECOMMENDING APPROVAL: <i>[Signature]</i>	APPROVED BY: <i>[Signature]</i>	DRAWING CONTENT: DOUBLE SINK PORTABLE HAND WASHING STALL PLAN SLEW SCALE	DRAWING NO: AR-06 0612
LOCATION: SABANGDAY COMMONWEALTH DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: JHT	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAMS DIVISION	ENGR. MARCANTONIO VERZOSA, JR. CC, CITY ENGINEERING DEPARTMENT	ENR. MA. JOSEFINA G. BELMONTE CITY MANAGER, QUEZON CITY		



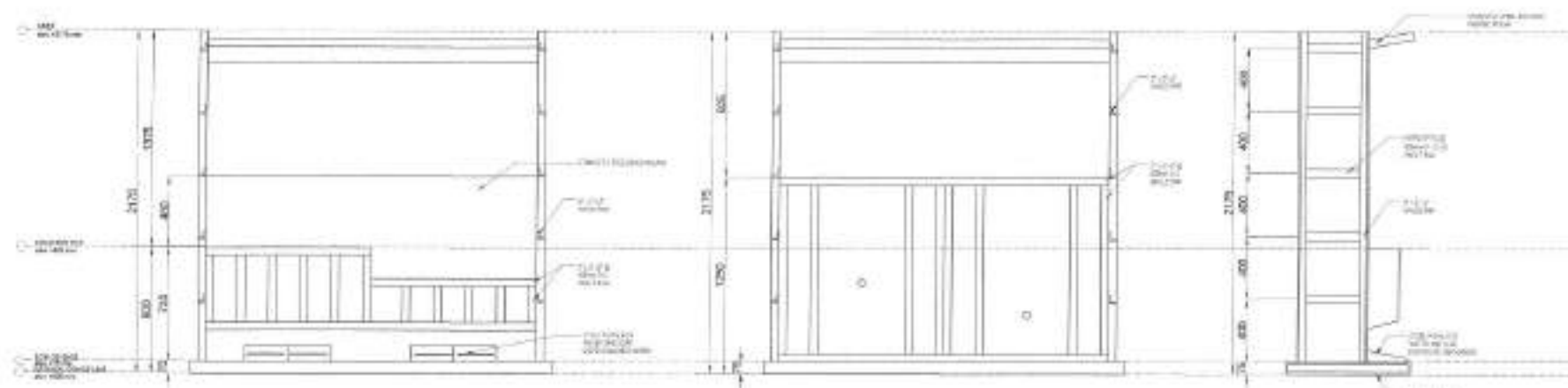
PLAN



ROOF PLAN

1 DOUBLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30 M



FRONT

REAR

LEFT SIDE

2 ELEVATIONS

SCALE: 1:30 M



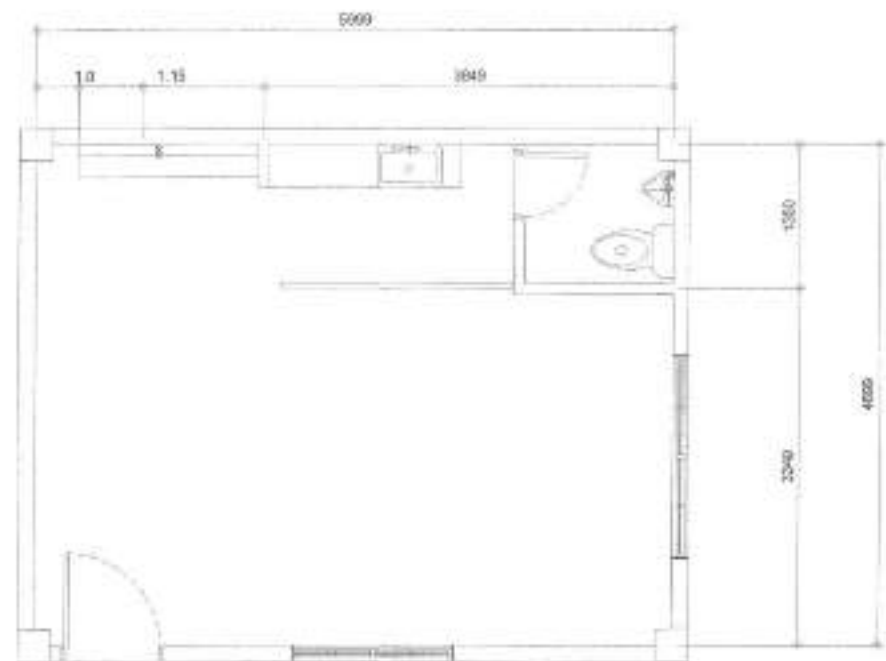
Republika ng Pilipinas
Lungsod ng Guzman
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	DESIGNED BY: <i>JAE</i> DATE: <i>10/12/2021</i> CHECKED BY: <i>JAE</i>	REVISIONS: ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAM DIVISION	RECOMMENDING OFFICIAL: ENGR. SAGAN R. VERZOSA, JR. C.E. DIVISION CHIEF/ENGINEER	APPROVED BY: HON. MA. JOSEFINA G. BELMONTE CITY MAJOR, GUZMAN CITY	REMARKS: DOUBLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS	SHEET NO.: ST-01 07/12
---	--	---	---	--	---	-------------------------------------

- 1 All plumbing works and materials used 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 used where applicable.
- 2 The plumbing layout in every piping schematic, plans, elevations and cross-sections shall be coordinated such as possible. It is not intended to show the actual dimension of the pipes and fixtures if the piping or all the piping and fixtures shall be indicated as and where indicated. Any relocation will require proper location of water and sewer lines.
- 3 The plumbing contractor shall comply with existing utilities at the site and shall coordinate the work with other trades.
- 4 Pipes shall be the indicated or as otherwise noted unless otherwise specified or stated.
- 5 Minimum slope for horizontal sewer lines shall be 1% and for drain lines shall be 1/8%.
- 6 Proposed plumbing fixtures shall conform with the actual bodies, depth and overall dimension of all existing plumbing fixtures.
- 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 water and sewer shall be flush-mounted to wall and shall be provided with plastic covers caps. It is not intended to show any except floor or grade or of service areas not subject to traffic.
- 10 All underground (UG) pipes in direct contact with soil shall be provided with PVC (2) coat of protection for stacking and wrapped with geotextile thoroughly covered in backfill.
- 11 Pools, wet areas and vent pipes thru roof of service areas shall be as required.
- 12 All vent pipes shall be of approved quality and (G) pipes for water distribution lines shall be Schedule 40 U.S. standard weight.
- 13 Plastic pipe when it is of water supply lines to fixtures.
- 14 All hot water lines shall be provided with proper insulation when exposed.
- 15 All individual fixtures or fixtures or group of fixtures and/or appliances shall be provided with an overflow in capped vertical pipe extension of dimensions as shown.
- 16 1/2" = 1/8" for 12 mm Ø and larger.
- 17 1/4" = 3/16" for 12 mm Ø and smaller.
- 18 All floor drains shall be 12 mm Ø (3/4" Ø) unless otherwise indicated.
- 19 All water pipes shall be 50 mm higher than the ceiling pipes which is 30 mm higher than to water pipe.
- 20 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 settled in the same manner.

1 GENERAL NOTES

PARTS AND OTHER LEGEND		SYMBOLS	
FD	FLOOR DRAIN	---	WATER MAIN
RD	ROOF DRAIN	---	WATER SERVICE
SD	SEWER	---	WATER SERVICE
WC	WATER CLOSET	---	WATER SERVICE
UB	URINAL	---	WATER SERVICE
UC	URINAL CUP	---	WATER SERVICE
WD	WASHING DRAIN	---	WATER SERVICE
OD	ODOR DRAIN	---	WATER SERVICE
ODD	ODOR DRAIN DUCT	---	WATER SERVICE
FD	FLOOR DRAIN	---	WATER SERVICE
SD	SEWER	---	WATER SERVICE
W	WATER SERVICE	---	WATER SERVICE
WD	WASHING DRAIN	---	WATER SERVICE
CD	CATCH BASIN	---	WATER SERVICE
MA	MANHOLE	---	WATER SERVICE
---	DIRECTION OF FLOW	---	WATER SERVICE
---	ORIENTATION	---	WATER SERVICE



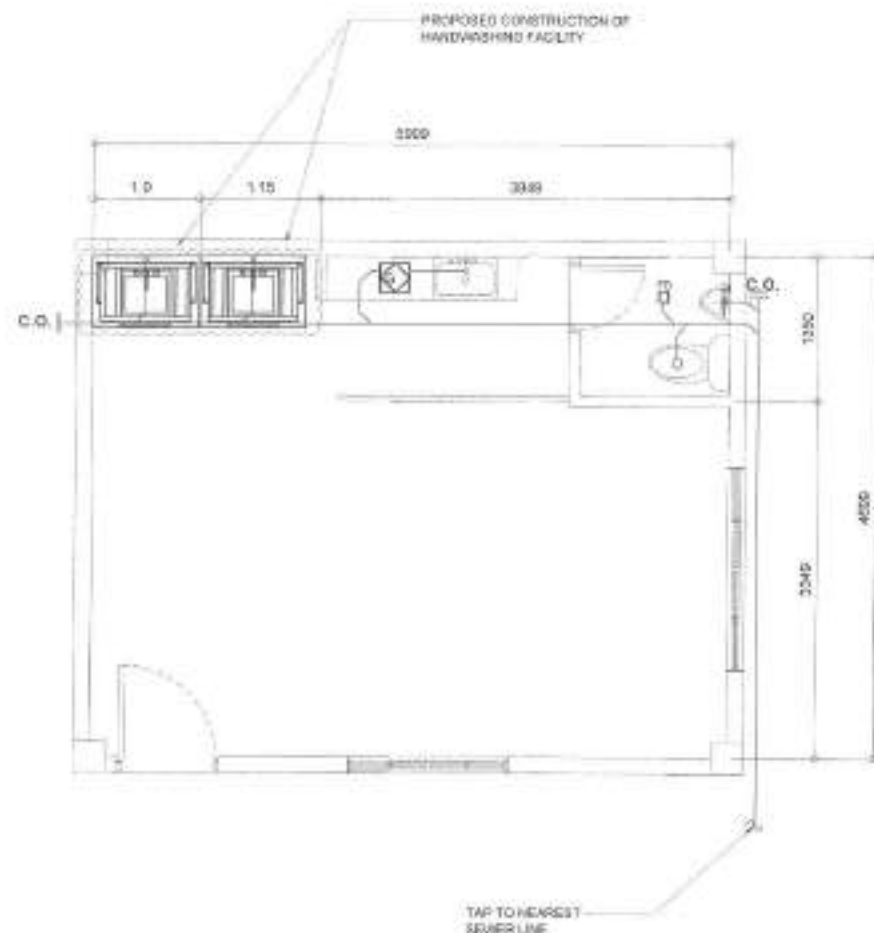
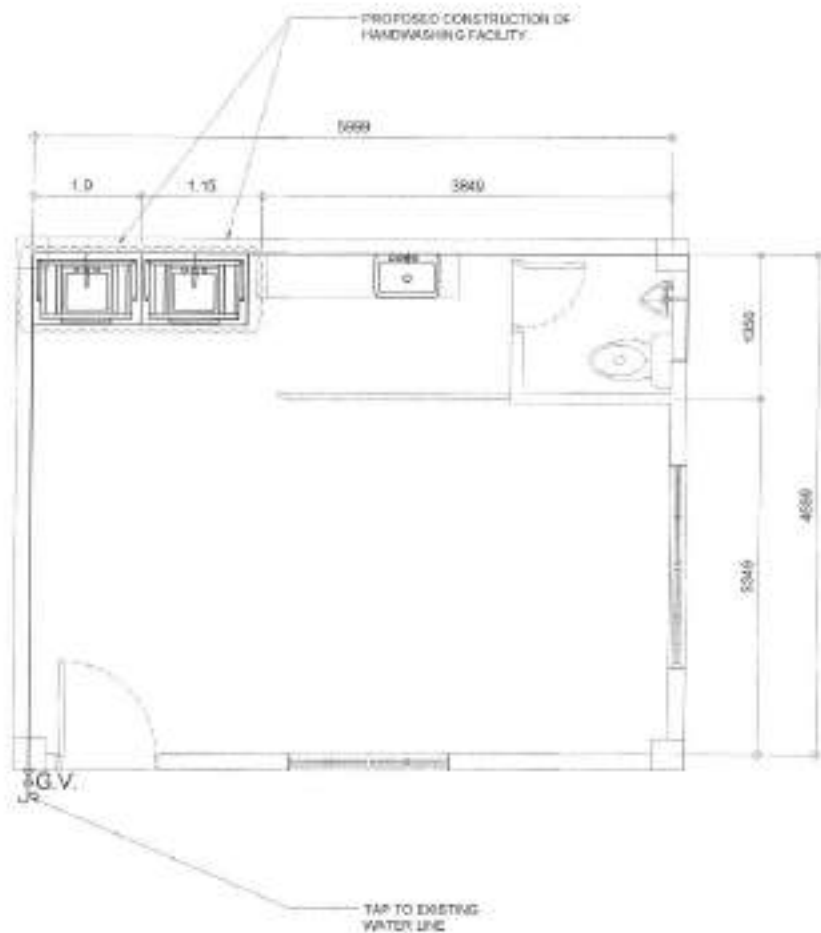
2 LEGENDS

SCALE: NTS

3 EXISTING GROUND FLOOR PLAN

SCALE: 1:50 M

 <p>Republic of the Philippines Luzon, Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE:	CHECKED BY: JAM	<i>[Signature]</i> ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & DESIGN DIVISION	<i>[Signature]</i> ENGR. ISABELA R. VERZOSA, JR. DE. CITY ENGINEER	NON. NA. JOSEFINA G. BELMONTE CITY MAYOR, QUEZON CITY	GENERAL NOTES EXISTING EXISTING GROUND FLOOR PLAN


1 PROPOSED GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:50M

2 PROPOSED GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:50M



Rehabilitang Pilipinas
Laging na Osa
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	DATE:	CHECKED BY:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER	JAM		JAM		PROPOSED GROUND FLOOR WATER LINE LAYOUT PROPOSED GROUND FLOOR SANITARY LINE LAYOUT	PL-02 09/12
LOCATION: BAMANGAY COMMUNITY, DISTRICT 2, GUZON CITY	ENGINEER:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING PROGRAM DIVISION	RECOMMENDING APPROVAL:	ENGR. RAFAEL R. VERZOSA, JR. D.C. OFFICE ENGINEERING DEPARTMENT	APPROVED BY:	HOW. NA. JOSEFINA G. BELMONTE CITY ENGINEER, GUZON CITY

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 REGULATION 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 HYPOCHLORITE 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 DRAIN DRAINAGE PIPES SHALL BE HYDROSTATICALLY TESTED AT LEAST 30 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

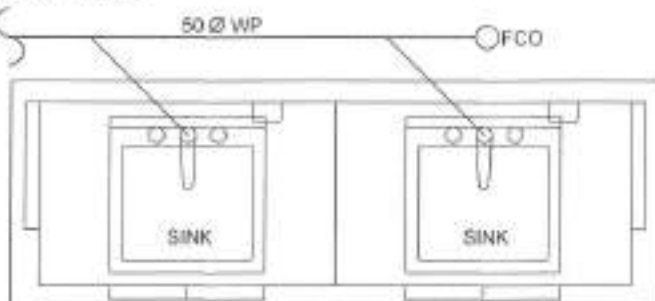
1. SEWER/WASTE AND VENT SYSTEM:

- SP | WP - SOIL PIPE / WASTE PIPE
- VP | VAC - VENT PIPE / VENT AT CEILING
- DP - STORM DRAIN PIPE
- FCO | GCO - FLOOR CLEANOUT / GROUND CLEANOUT
- CCO - CEILING CLEAN-OUT
- DS - DRAINAGE STACK / DOWNSPOUT
- VSTR - VENT STACK EXTENDED THROUGH ROOF
- BS - SOIL STACK
- FD - FLOOR DRAIN
- CS - CATCH BASIN
- AD - AREA DRAIN
- STU - STALL TYPE URINAL
- GT - GREASE TRAP

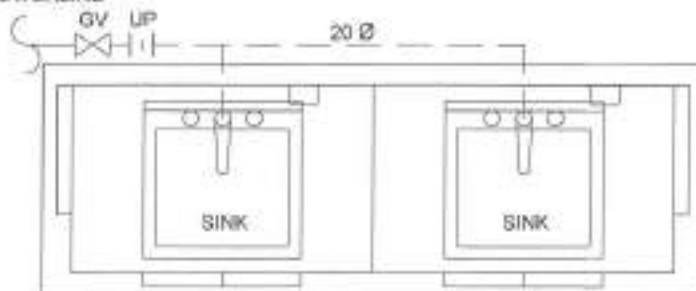
2. WATER DISTRIBUTION SYSTEM:

- CWL - COLD WATER LINE
- CWR - COLD WATER RISER
- GV - GATE VALVE
- CV - CHECK VALVE
- WM - WATER METER
- BD - BALCONY DRAIN

RUN AND TAP TO NEAREST EXISTING PUBLIC SEWER LINE



FROM EXISTING WATERLINE



2 LEGENDS AND SYMBOLS

3 DOUBLE SINK PORTABLE HAND WASHING SANITARY LINE

SCALE: NTS

4 DOUBLE SINK PORTABLE HAND WASHING WATER LINE

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF GOLD DAYCARE CENTER

LOCATION:
BARANAYAN 224M (DWS) BL. TH, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE:
CHECKED BY: *[Signature]*
REVISION NO.:

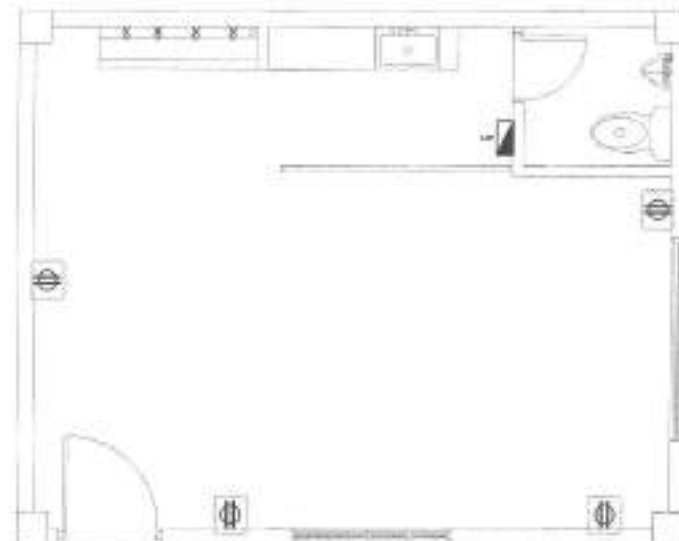
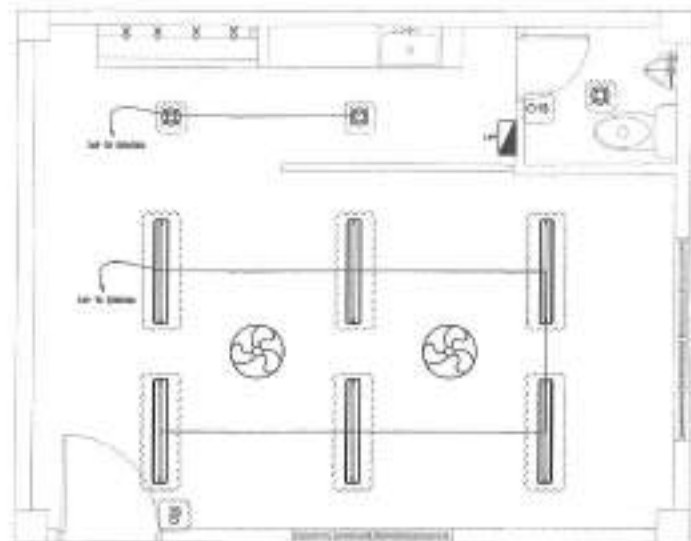
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING AND PROGRAMMING DIVISION

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

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

SHEET CONTENT:
GENERAL NOTES
LEGENDS AND SYMBOLS
DOUBLE SINK PORTABLE
HAND WASHING SANITARY
AND WATERLINE LAYOUT

SHEET NO.:
PL-03
10/12



1 LIGHTING LAYOUT

SCALE: 1:50 M

2 POWER LAYOUT

SCALE: 1:50 M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF GOLD DAYCARE CENTER

LOCATION:

SARANGAY COMMONWEALTH, DISTRICT 3, QUEZON CITY

DRAWN BY:

DATE:

CHECKED BY:

REVISION NO.:

DESIGNED BY:

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

RECOMMENDING OFFICER(S):

ENGR. SARAH R. VERZOSA, JR.
DIR. CITY ENGINEERING DEPARTMENT

APPROVED BY:

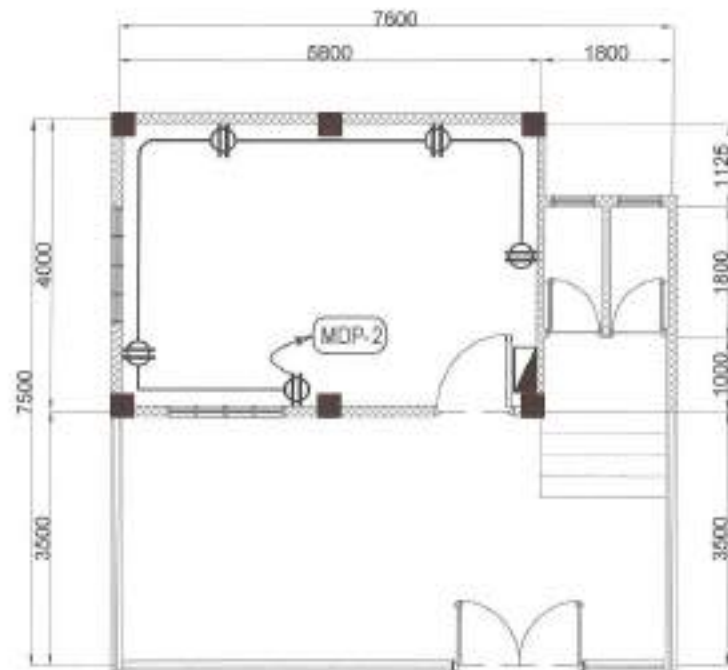
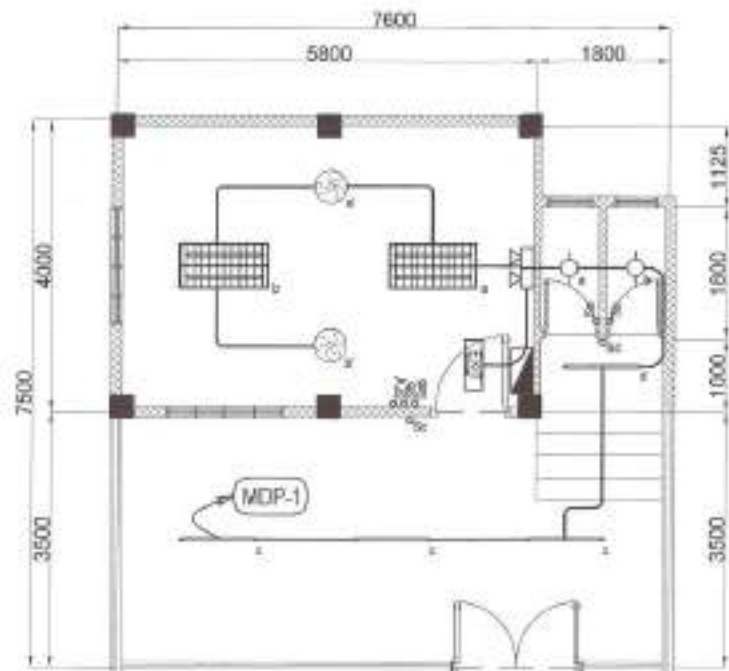
HON. MA. JOSEFINA G. BELMONTÉ
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

LODRCLAYET
POWER LAYOUT

SHEET NO.:

EL-02
12 | 12



1 PROPOSED LIGHTING LAYOUT

SCALE 1:750A

2 PROPOSED POWER LAYOUT

SCALE 1:750A



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAY CARE CENTER /

LOCATION:
BRGY. COMMONWEALTH DISTRICT 2, QUEZON CITY

DESIGNED BY: *[Signature]*
DATE: 8-14-2021
CHECKED BY: *[Signature]*

REVISION NO.:

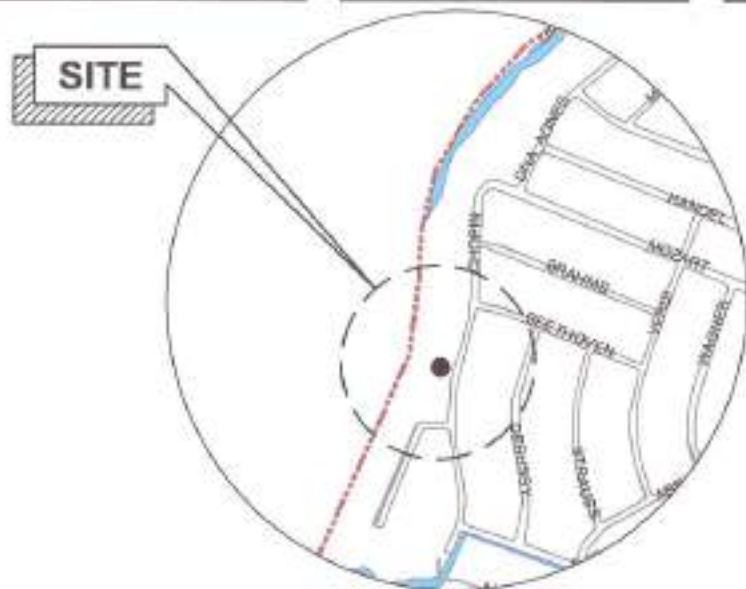
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISAAC R. VERZOSA, JR.
CHIEF, CITY ENGINEERING DEPARTMENT

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

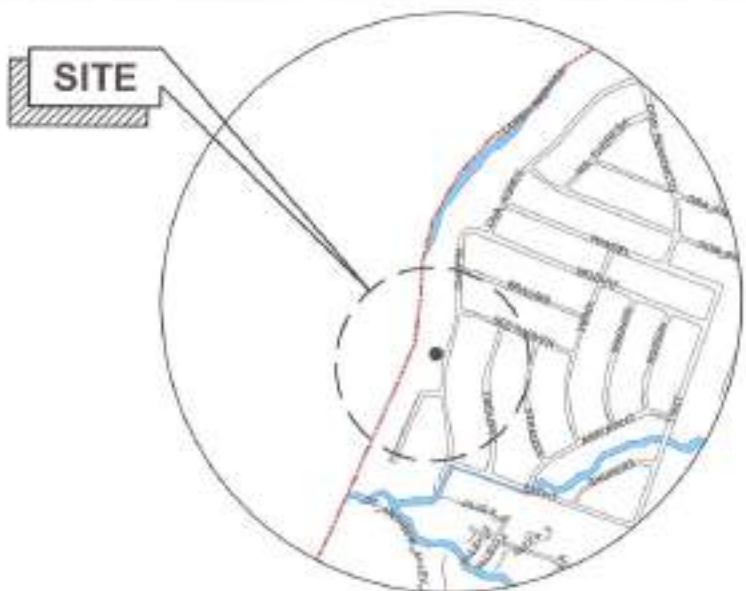
SHEET CONTENT:
PROPOSED LIGHTING LAYOUT
PROPOSED POWER LAYOUT

SHEET NO.
EL-2
11/11



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

SCALE: NTS



3 PERSPECTIVE

SCALE: NTS

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STRUCTURAL

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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

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

LOCATION:

DRY, COMMONWEALTH DISTRICT 3, QUEZON CITY

DRAWN BY:

DATE: 6/11/2021
CHECKED BY: JM

REVISION NO.:

SUBMITTED BY:

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

RECOMMENDED APPROVAL:

ENGR. BAGANI R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

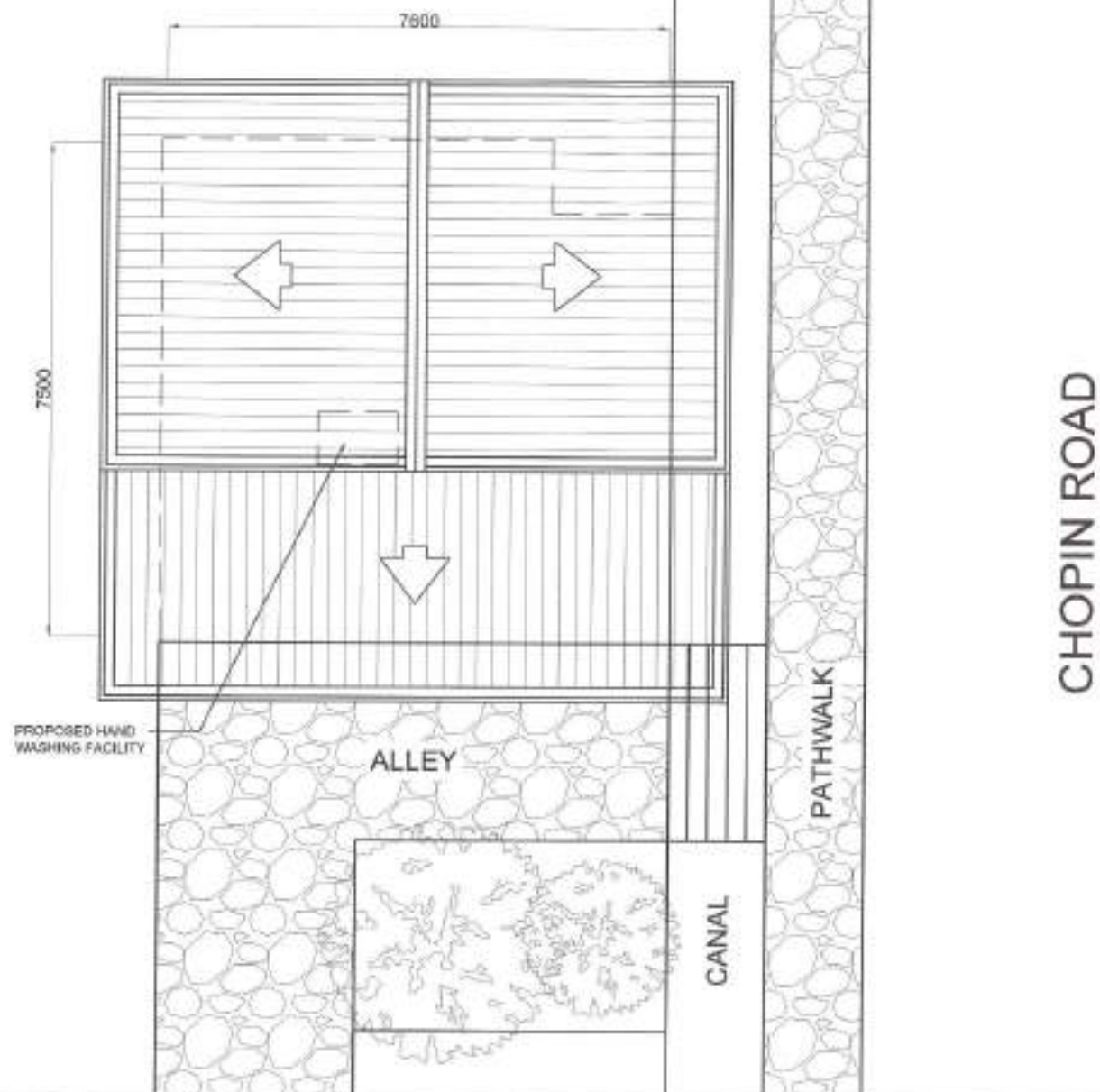
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT

LOCATION MAP
VICINITY MAP
PERSPECTIVE

SHEET NO.

AR-1
01/11



1 SITE DEVELOPMENT PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF LOWER NAWASA
DAY CARE CENTER

LOCATION:

8707, COMBOMALITH DISTRICT 2, CHOPIN CTY

DRAWN BY:

DATE: 8/18/2021

CHECKED BY:

REVISOR NO:

SUBMITTED BY:

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

RECOMMENDING OFFICIAL:

[Signature]
ENGR. MAGAN R. VERZOSA, JR.
DEPT. CITY ENGINEERING DEPARTMENT

APPROVED BY:

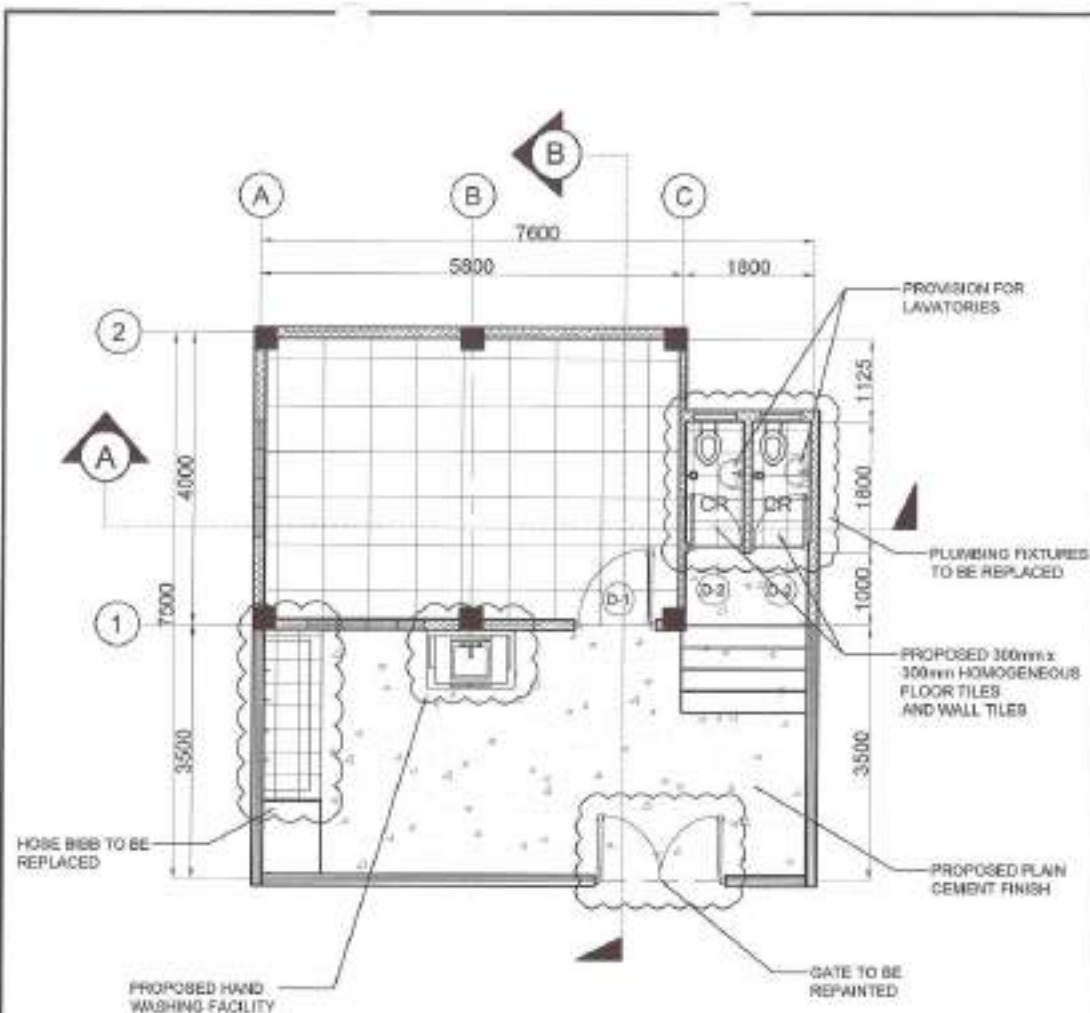
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT:

SITE DEVELOPMENT
PLAN

SHEET NO.:

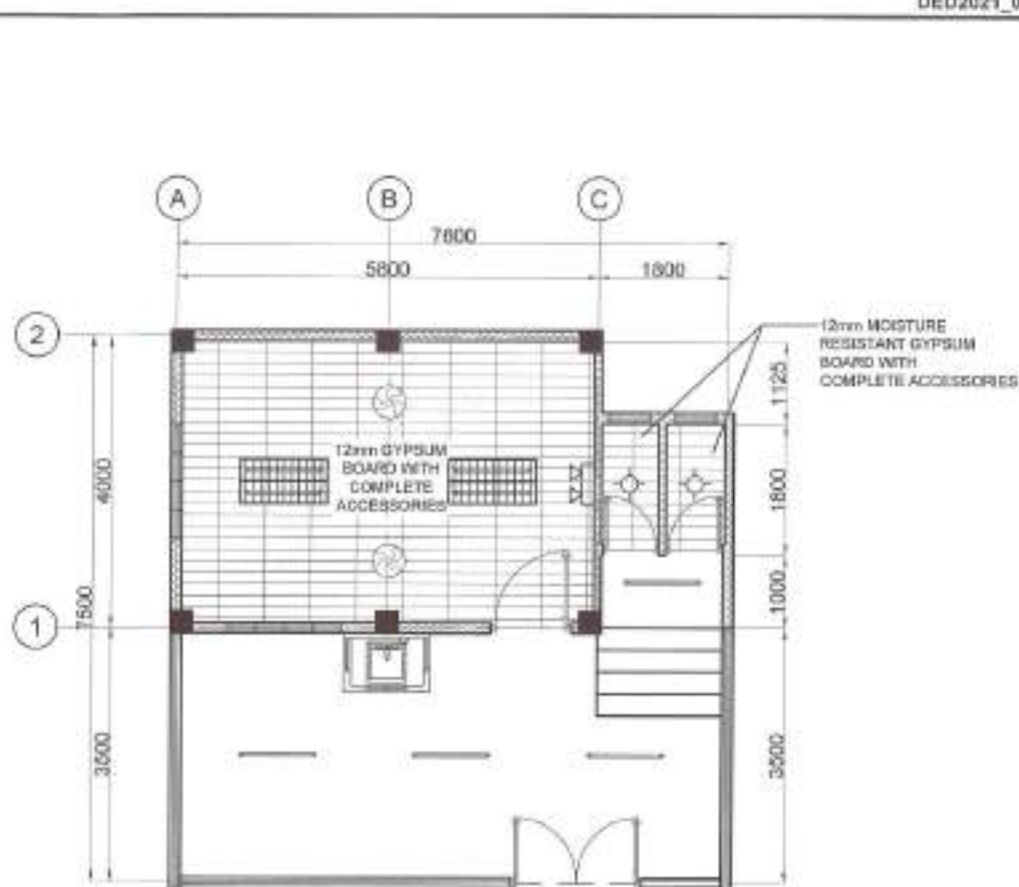
AR-2
02/11



- NOTE:
- WHOLE STRUCTURE TO BE REPAINTED
 - DOORS TO BE REPLACED
 - TOILET FLOOR AND WALL TILES TO BE REPLACED

1 FLOOR PLAN

SCALE: 1:75M



- NOTE:
- EXISTING CEILING TO BE REPLACED

2 REFLECTED CEILING PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAY CARE CENTER

LOCATION:
BAGYONG COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 6/14/2021
CHECKED BY: *[Signature]*
REVISION NO.:

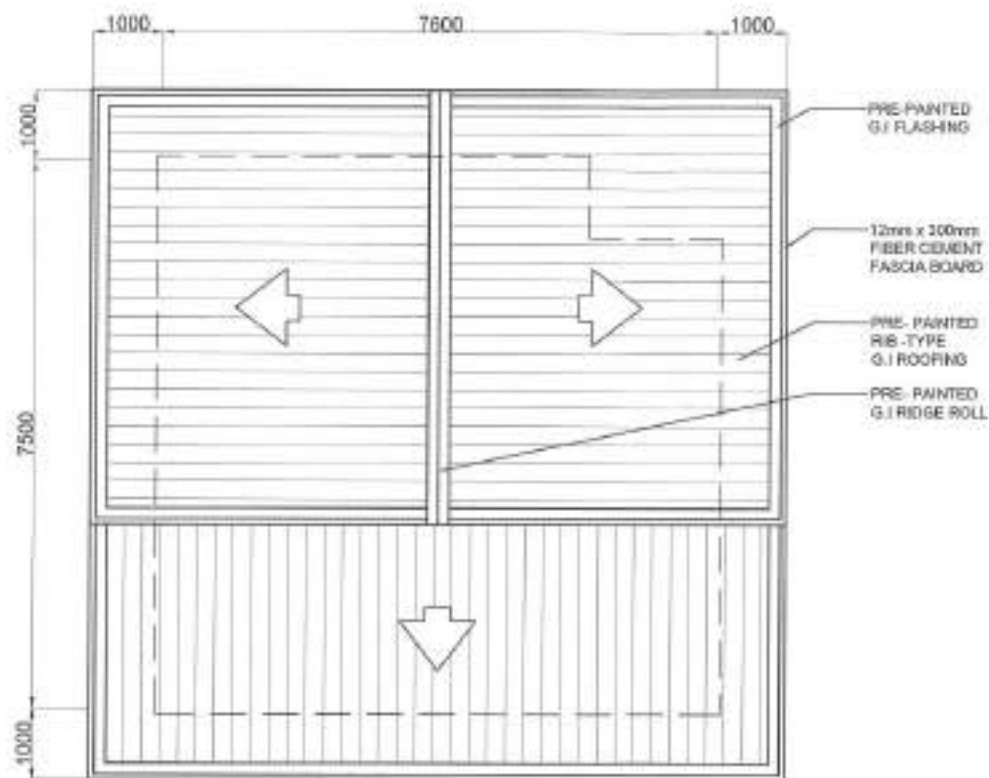
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

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

APPROVED BY:
[Signature]
HON. MA. JOSEFINA O. BELMONTTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
FLOOR PLAN
REFLECTED CEILING
PLAN

SHEET NO.
AR-3
03/11



NOTE:

- EXISTING ROOFING TO BE REPLACED

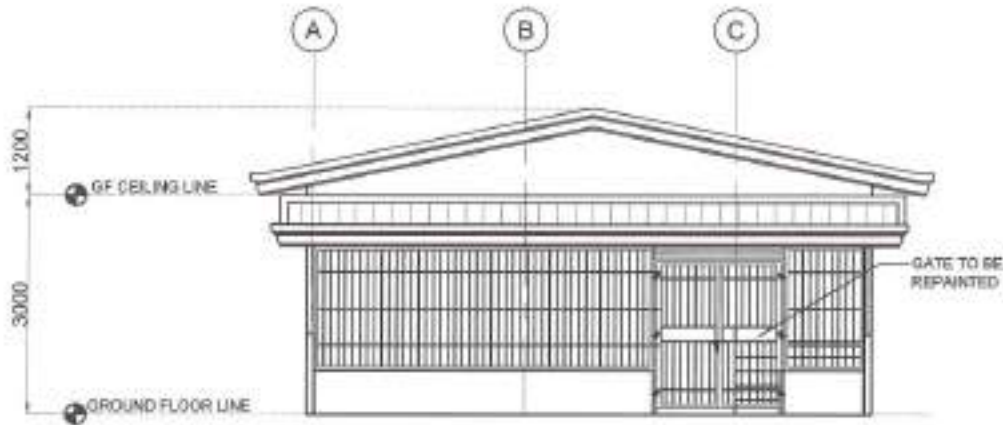
1 ROOF PLAN

SCALE: 1/25M



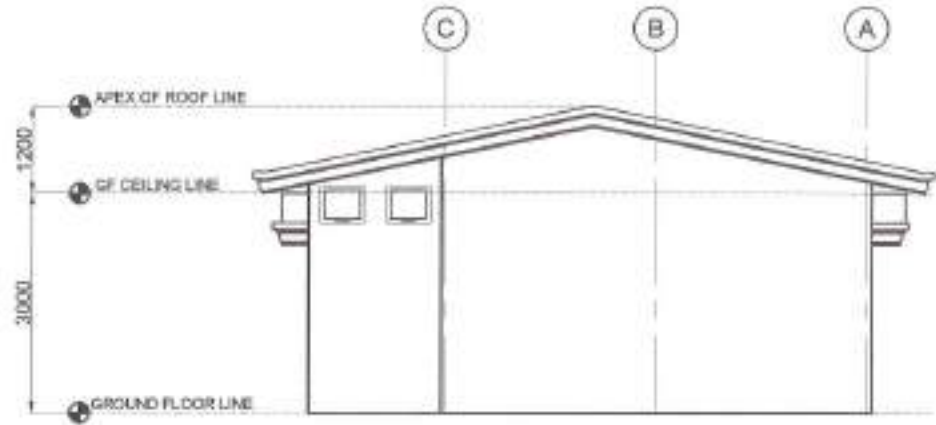
Republika ng Pilipinas
Lungsod ng Ozam
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDING OFFICIAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAY CARE CENTER	DATE: 8/11/2021 CHECKED BY: JM	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM MANAGEMENT DIVISION	 ENGR. SAGAR R. VERZOSA, JR. OIC, CITY ENGINEERING DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY MAYOR, OZAM CITY	ROOF PLAN	AR-4 04/11
LOCATION: GRSF, COMMERCE HEALTH DISTRICT 2, OZAM CITY	REVISION NO.:					



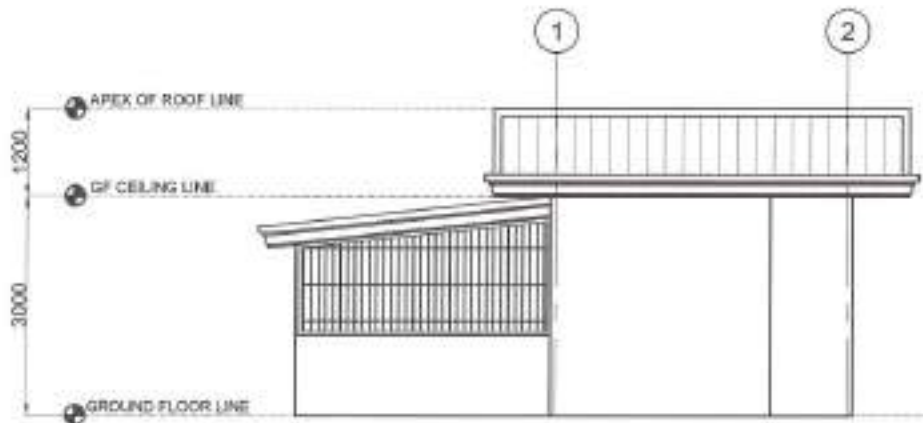
1 FRONT ELEVATION

SCALE: 1:75M



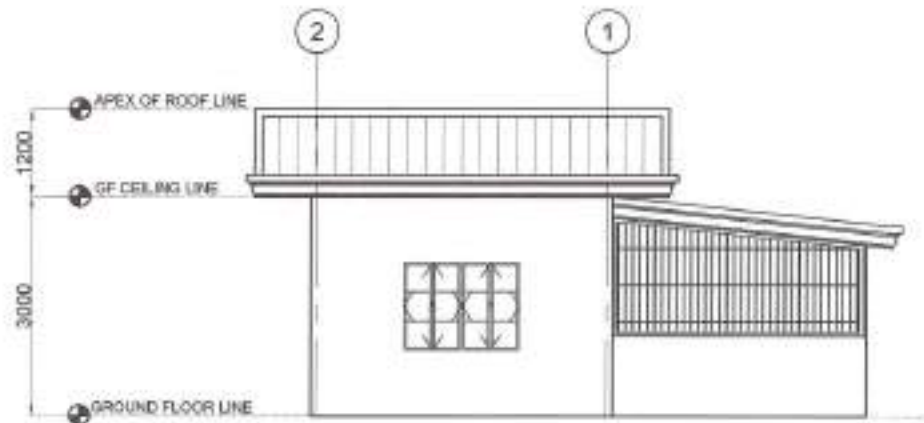
2 REAR ELEVATION

SCALE: 1:75M



3 RIGHT SIDE ELEVATION

SCALE: 1:75M



4 LEFT SIDE ELEVATION

SCALE: 1:75M

NOTE:
• WHOLE STRUCTURE TO BE REPAINTED



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER HAWASA DAY CARE CENTER

LOCATION:
8947, COMMERCEWALK DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 8/14/2021
CHECKED BY:
REVISION NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

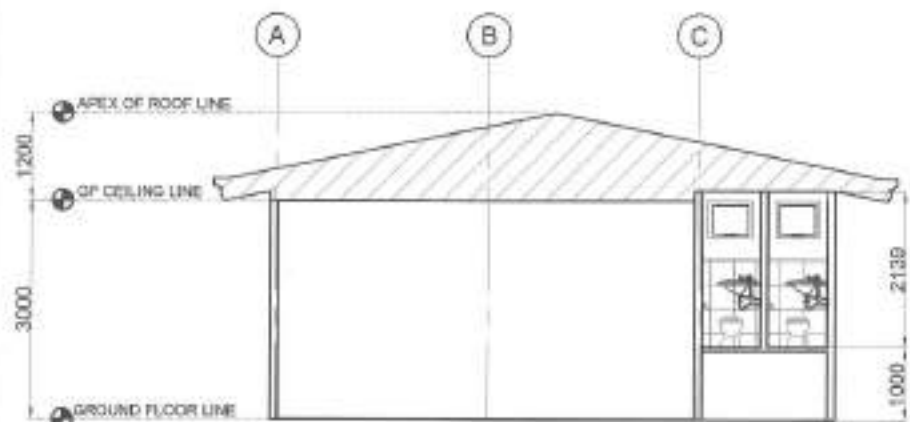
ENGR. ISAGA M. VERZOSA, JR.
CC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

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

SHEET CONTENT:
FRONT ELEVATION
REAR ELEVATION
RIGHT SIDE ELEVATION
LEFT SIDE ELEVATION

SHEET NO.:
AR-5
05/11



1 SECTION THRU "A"

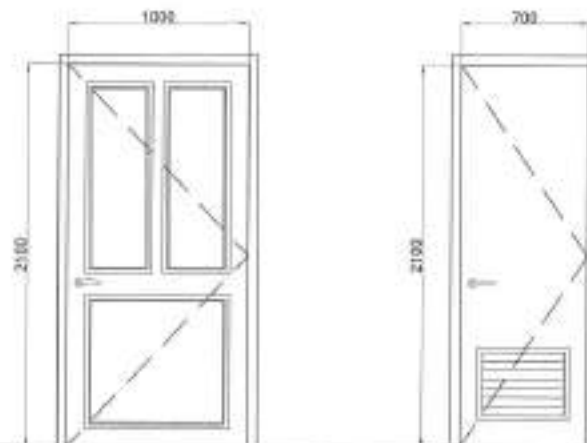
SCALE: 1/75M



2 SECTION THRU "B"

SCALE: 1/75M

NOTE:
 * WHOLE STRUCTURE TO BE REPAINTED



	D-1	D-2
LOCATION	DAY CARE CENTER	COMFORT ROOM
SPECIFICATIONS	PANEL DOOR	PVC DOOR WITH LOUVER
HARDWARE / GLAZING	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES
NO. OF SETS	1	2

3 SCHEDULE OF DOORS

SCALE: 1/30M



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

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

LOCATION:
 BIDDY COMMONWEALTH DISTRICT 2, QUEZON CITY

DESIGNED BY: *[Signature]*
 DATE: 8/14/2021
 CHECKED BY: *[Signature]*
 REVISION NO:

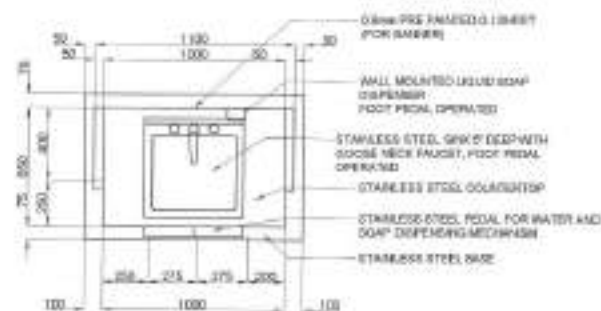
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING PROGRAMS DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISIDORO R. VERZOSA, JR.
 DE, CITY ENGINEERING DEPARTMENT

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

SHEET CONTENT:
 SECTION THRU "A"
 SECTION THRU "B"
 SCHEDULE OF DOORS

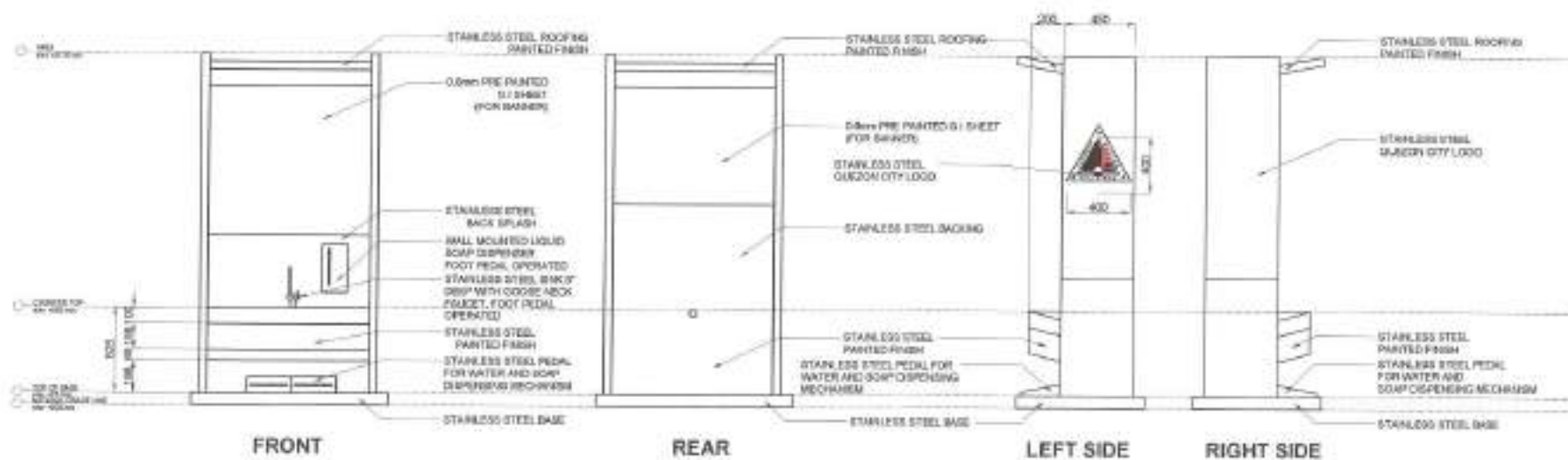
SHEET NO.
AR-6
06/11



PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30M.



FRONT

REAR

LEFT SIDE

RIGHT SIDE

2 ELEVATIONS

SCALE: 1:30M.



Republikang Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
SPEY, COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 8/14/2021
CHECKED BY: *[Signature]*
REVISION NO.

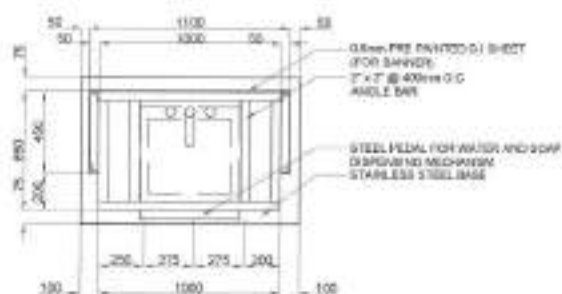
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMS DIVISION

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

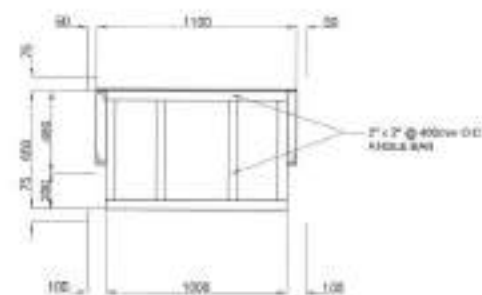
APPROVED BY:
[Signature]
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR, QUEZON CITY

SHEET CONTENT
SINGLE SINK PORTABLE
HAND WASHING
STALL PLAN
ELEVATIONS

SHEET NO.
AR-7
07/11



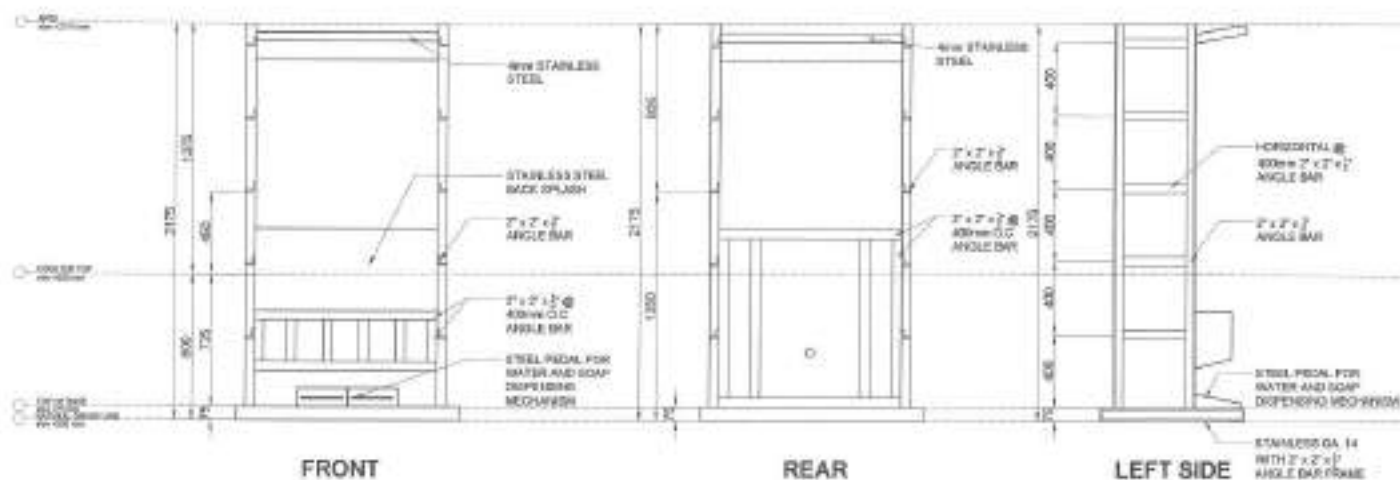
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

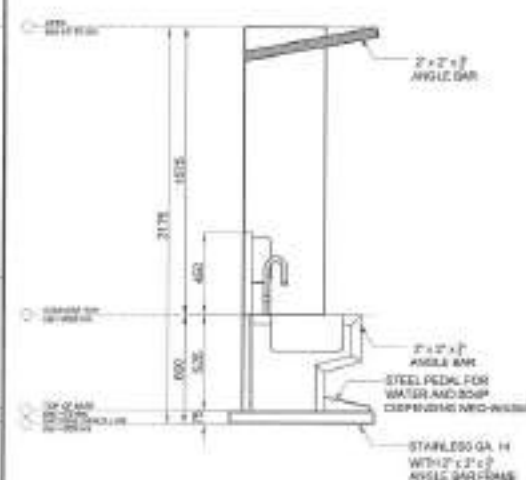
SCALE: 1:30M.



FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:30M.

3 SECTION

SCALE: 1:30M.



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
6907 COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 8/15/2021
CHECKED BY: *[Signature]*
REVISION NO.:

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

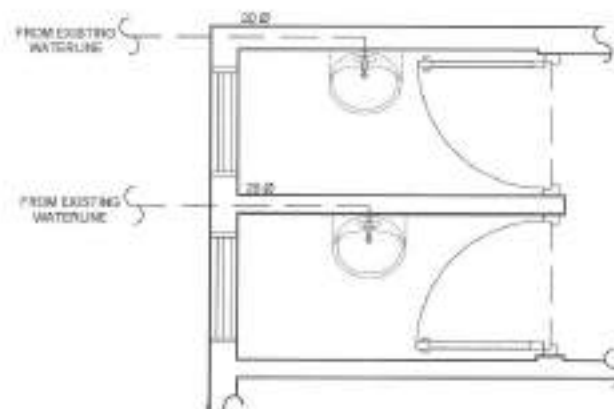
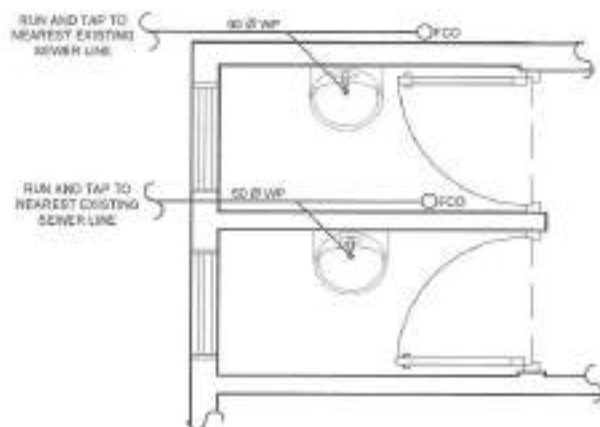
RECOMMENDING OFFICIAL:
[Signature]
ENGR. MAGNIN R. VERZOSA, JR.
CC, CITY ENGINEERING DEPARTMENT

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

SHEET CONTENT:
SINGLE SINK PORTABLE
HAND WASHING
STALL PLAN
ELEVATIONS

SHEET NO.
ST-2
08/11

- 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 REGULATION OF QUEZON CITY.
- COORDINATE THE DRAWINGS WITH OTHER RELATED DRAWINGS AND SPECIFICATION REQUIRED. THE ENGR/ARCH. SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
- 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.
- 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.
- ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 1% MIN. UNLESS OTHERWISE SPECIFIED.
- SIZES OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
- 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.
- ALL WATER PIPE AND WATER TANKS SHALL BE THOROUGHLY FLUSHED AND DISINFECTED WITH LIQUID CHLORINE OR HYDROCHLORIDE SOLUTION.
- ALL WATER PIPES SHALL BE HYDROSTATICALLY TESTED TO A PRESSURE 1-1/2 THE DESIGNED WORKING PRESSURE OF THE SYSTEM.
- ALL SANITARY AND STORM DRAINAGE PIPES SHALL BE HYDROSTATICALLY TESTED AT LEAST 3.0 METERS HEAD TO ENSURE THAT THE SYSTEM ARE WATER TIGHT.
- ALL DIMENSIONS ARE IN METERS AND ALL PIPES SIZES ARE IN MILLIMETER UNLESS OTHERWISE SPECIFIED.
- ALL PIPES INDICATED ON PLANS REFER TO PIPES INSIDE DIAMETER.



1 GENERAL NOTES

SCALE: NTS

3 SANITARY LINE LAYOUT

SCALE: 1:30M

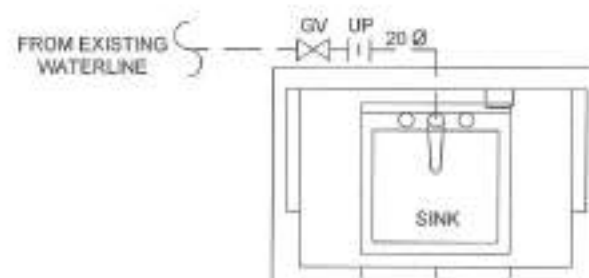
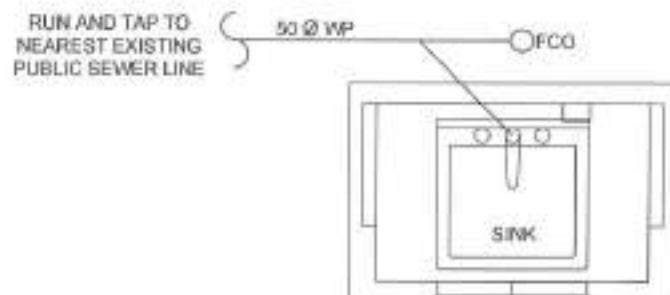
4 WATERLINE LAYOUT

SCALE: 1:30M

I. SEWER/WASTE AND VENT SYSTEM



II. WATER DISTRIBUTION SYSTEM:



2 LEGENDS AND SYMBOLS

SCALE: NTS

5 SINGLE SINK PORTABLE HAND WASHING SANITARY LINE

SCALE: 1:20M

6 SINGLE SINK PORTABLE HAND WASHING WATER LINE

SCALE: 1:20M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAY CARE CENTER

LOCATION:
8707, COMMERCIAL HEALTH DISTRICT 2, QUEZON CITY

DESIGNED BY:
DATE: 8-14-2021
CHECKED BY:
REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING AND PROJECT MANAGEMENT DIVISION

RECOMMENDING APPROVAL:

ENGR. ISADOR R. VERZOSA, JR.
DIV. CITY ENGINEERING DEPARTMENT

APPROVED BY:

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

SHEET CONTENT:
GENERAL NOTE
LEGENDS AND SYMBOLS
SANITARY LINE LAYOUT
WATERLINE LAYOUT
SINGLE SINK PORTABLE
HAND WASHING SANITARY
AND WATERLINE LAYOUT

SHEET NO.

PL-1
09.11

GENERAL NOTES:

- ALL ELECTRICAL WORKING SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ORDINANCES OF THE LOCAL GOVERNMENT AND THE RELEVANT PARTS OF THE LOCAL POWER AND TELEPHONE utility COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL OBTAIN THE SERVICE THROUGH THE APPROPRIATE PUBLIC UTILITIES OF ELECTRICAL INSPECTION AND APPROVAL FROM THE COMPETENT AUTHORITIES FOR COMPLETION OF WORK.
- ALL EXPOSED BRANCH CIRCUITS SHALL BE IN CONDUITS AND FOR EXPOSED WIRING THROUGH ALUMINUM CLAMPING OR CONDUIT CLAMPING EVERY 100MM CENTER.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED TO FACILITATE WIRE PULLING EVEN IF THERE ARE NOT INDICATED ON THE PLANS. NONE OF ALL PULLBOXES SHALL BE CONSIDERED AS THE COORDINATION POINT. 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 WORK PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE OF STANDARD TYPE WITH FINISHED OUTLET FOR 20A.
- INDIVIDUAL BRANCH CIRCuits SHALL BE PROVIDED WITH CIRCUIT BREAKERS OR CIRCUIT BREAKER EQUIPMENT OF THE SAME RATING AND TYPE AS THE MAIN FEEDER.
- ALL METALLIC EQUIPMENT, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDING.
- HEIGHTS OF WIRING SHALL BE AS FOLLOWS:
 - HEIGHTS OF WIRING SHALL BE AS FOLLOWS:
 - RECEPTACLE OUTLET - 90 MM ABOVE WORKING SURFACE
 - TELEPHONE OUTLET - 50 MM ABOVE
 - DATA OUTLET - 90 MM ABOVE
 - LIGHTING SWITCH - 180 MM ABOVE
 - RECEPTACLE - 90 MM ABOVE

- REFER TO MECHANICAL DRAWINGS FOR THE PROTECTION OF WIRING AND LOCATION OF EQUIPMENT AS WELL AS THE POSITION, SIZE AND TYPE OF WIRING AND OF WIRING UNITS IN THE PROTECTIVE DEVICES.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, SPECIFIED AS SPECIFIED.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT EXISTING UTILITIES AND SHALL OBTAIN PERMISSION OF THE PROJECT AND DO NOT NECESSARILY REPAIR EXISTING UTILITIES LOCATIONS LEVEL AND DEPTH OF THE EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THE WIRING OF THE WIRING IS PROTECTED AND SHALL BE COVERED BY THE WIRING CONCEALMENT.
- ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION IMMEDIATELY.
- ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 20A, 250V, 1PH, 3WIRE WITH GROUND. THE WIRING SHALL BE AS FOLLOWS:
 - LINE 1 - RED
 - LINE 2 - YELLOW
 - NEUTRAL - WHITE
 - GROUND - GREEN

- WIRING SYSTEMS (WIRING) SHALL BE FABRICATED FROM STEEL WITH FINISHES AS FOLLOWS:
 - WIRING IN 25% OF THE WIRING SURFACES SHALL BE PAINTED WITH METAL PRIMER GLOSS AND TOPCOAT
 - OVER 25% TO 50% SHALL BE PAINTED WITH METAL PRIMER GLOSS AND TOPCOAT
 - OVER 50% TO 75% SHALL BE PAINTED WITH METAL PRIMER GLOSS AND TOPCOAT
 - OVER 75% TO 100% SHALL BE PAINTED WITH METAL PRIMER GLOSS AND TOPCOAT
- ALL ELECTRICAL WORKING SHALL BE EXECUTED BY QUALIFIED PERSONNEL UNDER THE DIRECT SUPERVISION OF A QUALIFIED ELECTRICIAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND SHALL OBTAIN PERMISSION OF THE PROJECT AND DO NOT NECESSARILY REPAIR EXISTING UTILITIES LOCATIONS LEVEL AND DEPTH OF THE EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THE WIRING OF THE WIRING IS PROTECTED AND SHALL BE COVERED BY THE WIRING CONCEALMENT.
- CONDUITS IN THE SAME SHALL HAVE A MORE THAN THE 40% HEIGHT OF FOUR QUARTERS IN THE SAME. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRANTIC BENDERS. WIRING CONCEALMENT SHALL BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND CONTINUITY TEST SHALL BE PERFORMED BY THE CONTRACTOR IN CLAUSE OF THE INSTALLATION TO BE APPROVED BY THE COMPETENT AUTHORITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND SHALL OBTAIN PERMISSION OF THE PROJECT AND DO NOT NECESSARILY REPAIR EXISTING UTILITIES LOCATIONS LEVEL AND DEPTH OF THE EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THE WIRING OF THE WIRING IS PROTECTED AND SHALL BE COVERED BY THE WIRING CONCEALMENT.

	100MM X 100MM LED TYPE LIGHT
	100MM x 100MM LED TYPE LIGHT
	100MM x 100MM LED TYPE LIGHT
	2 X 20W LED RECESSED TROFFER TYPE
	EMERGENCY LIGHT
	DOT LIGHT
	SINGLE POLE SWITCH (LIGHTS)
	TWO POLE SWITCH (LIGHTS)
	SELECTOR SWITCH (FAN)
	DUPLEX CONVENIENCE OUTLET
	CEILING FAN
	PANEL BOARD
	KILO-WATT METER

MDP

CIRCUIT NO.	LOAD DESCRIPTION	VOLT	POWER	CURRENT (AMPERE)	CIRCUIT BREAKER			WIRING AND SCHEMATIC		
					AT	AF	F	UNGROUND	GROUND	WIRE
1	2 - TROFFER, 2 - FANLIGHT, 4 - TS, 2 - FAN	220	1000	4.57	20	30	2	2 - 3.5mm ²	1 - 3.5mm ²	20 mm ² PVC
2	1 - CONVENIENCE OUTLET	220	100	0.45	20	30	2	2 - 3.5mm ²	1 - 3.5mm ²	20 mm ² PVC
3	SPARE	220	1000	4.57	20	30	2	-	-	-
4	SPARE	220	1000	4.57	20	30	2	-	-	-
TOTAL CONNECTED LOAD			2000	11.77						

CIRCUIT PROTECTION COMPUTATION:

$$I_1 = (4088 / 220 V) * 225\%$$

$$I_1 = 22.22 \text{ ampere}$$

OVER CURRENT PROTECTION:

USE: 60 AT, 2P CB BOLT-ON

MAIN FEEDER:

USE: 2 - 14mm² THIN COPPER WIRE & 1 - 8.0mm² TW GROUND WIREIN 25mm² IMC TYPE

2 LEGEND

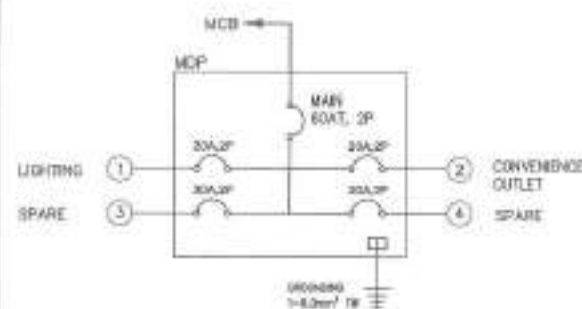
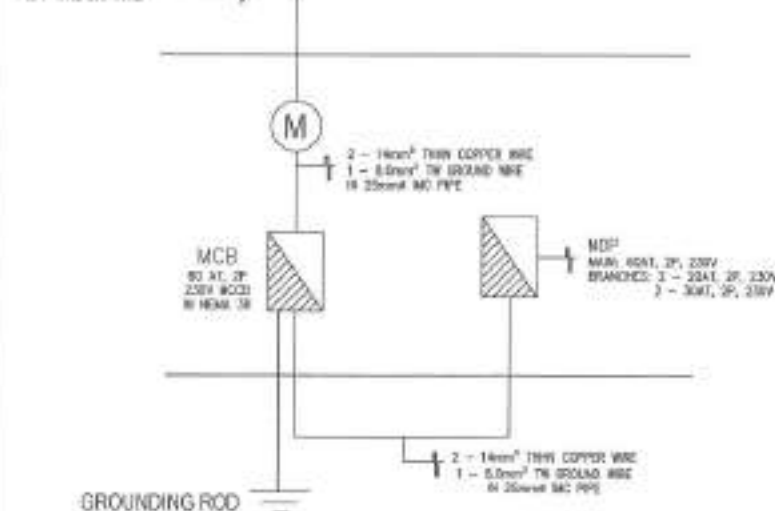
SCALE: NTS

3 LOAD SCHEDULE

SCALE: NTS

SERVICE ENTRANCE

SMITH COMPANY
OVERHEAD LINE
250 VAC, 3P, 3W, 3G



1 GENERAL NOTES

SCALE: NTS

4 SINGLE LINE DIAGRAM

SCALE: NTS

5 RISER DIAGRAM

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
BPOY, COMMONWEALTH DISTRICT 2, QUEZON CITY

DESIGNED BY:

DATE: 4/14/2021

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROJECT MANAGEMENT

RECOMMENDING APPROVAL:

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

APPROVED BY:

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

SHEET CONTENT:
GENERAL NOTES
LEGEND
LOAD SCHEDULE
SINGLE LINE DIAGRAM
RISER DIAGRAM

SHEET NO.:

EL-1
10/11

THE SITE



1 LOCATION MAP

THE SITE



2 VICINITY MAP

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AR-7	SUMMARY OF MATERIALS SPECIFICATIONS

PLUMBING

PL-1	MECHANICAL ELECTRICAL PLUMBING
PL-2	MECHANICAL ELECTRICAL PLUMBING
PL-3	MECHANICAL ELECTRICAL PLUMBING

ELECTRICAL

EL-1	MECHANICAL ELECTRICAL PLUMBING
EL-2	MECHANICAL ELECTRICAL PLUMBING
EL-3	MECHANICAL ELECTRICAL PLUMBING



3 PERSPECTIVE

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF PINADAMA DAY CARE CENTER

LOCATION:

BARANGAY COMMERCIAL/4, DISTRICT 2, QUEZON CITY

DRAWN BY:

DMS

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
REG. PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:

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

APPROVED BY:

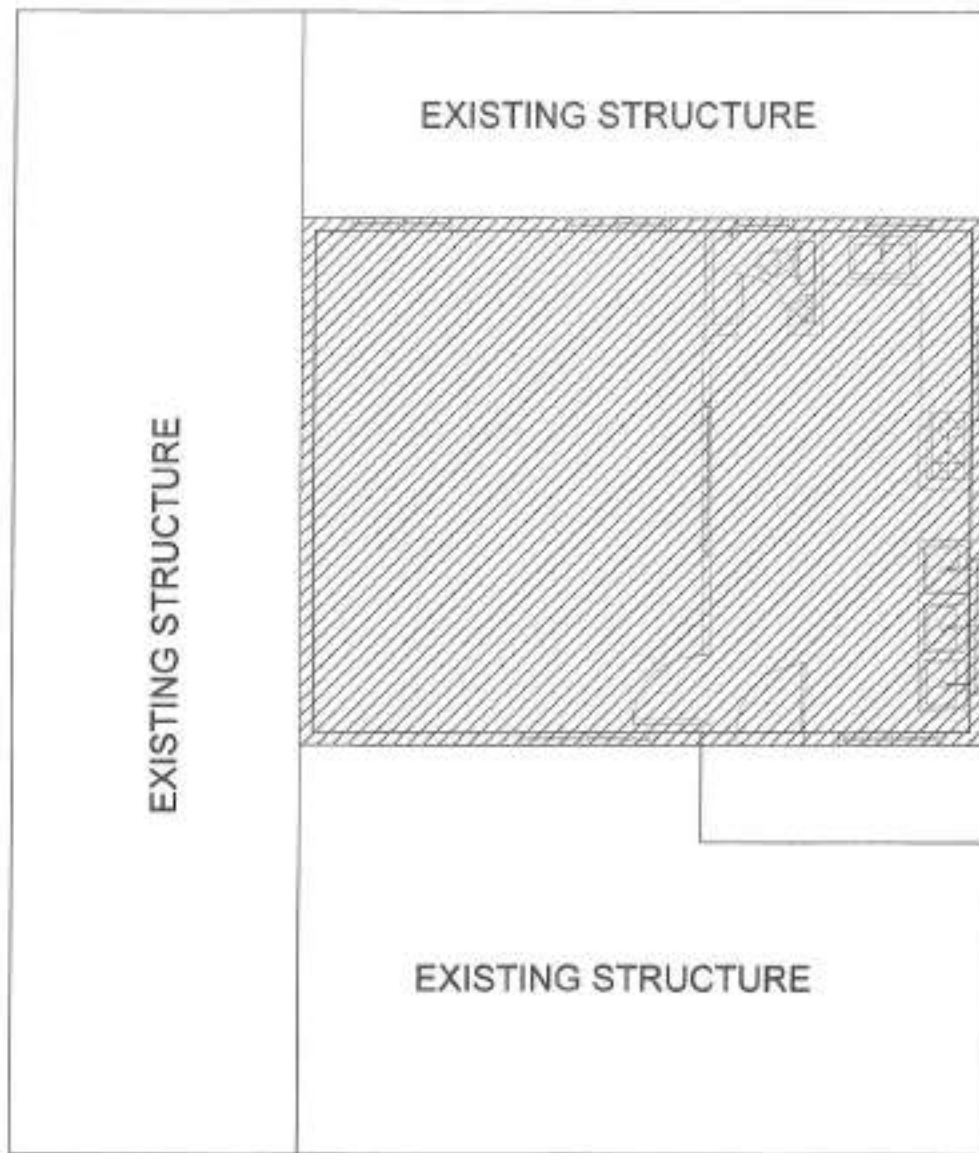
HON. MA. JOSEFINA G. BELMONTE
CITY MGR

SHEET CONTENT

LOCATION MAP
VICINITY MAP
PERSPECTIVE




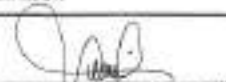

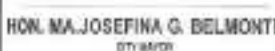
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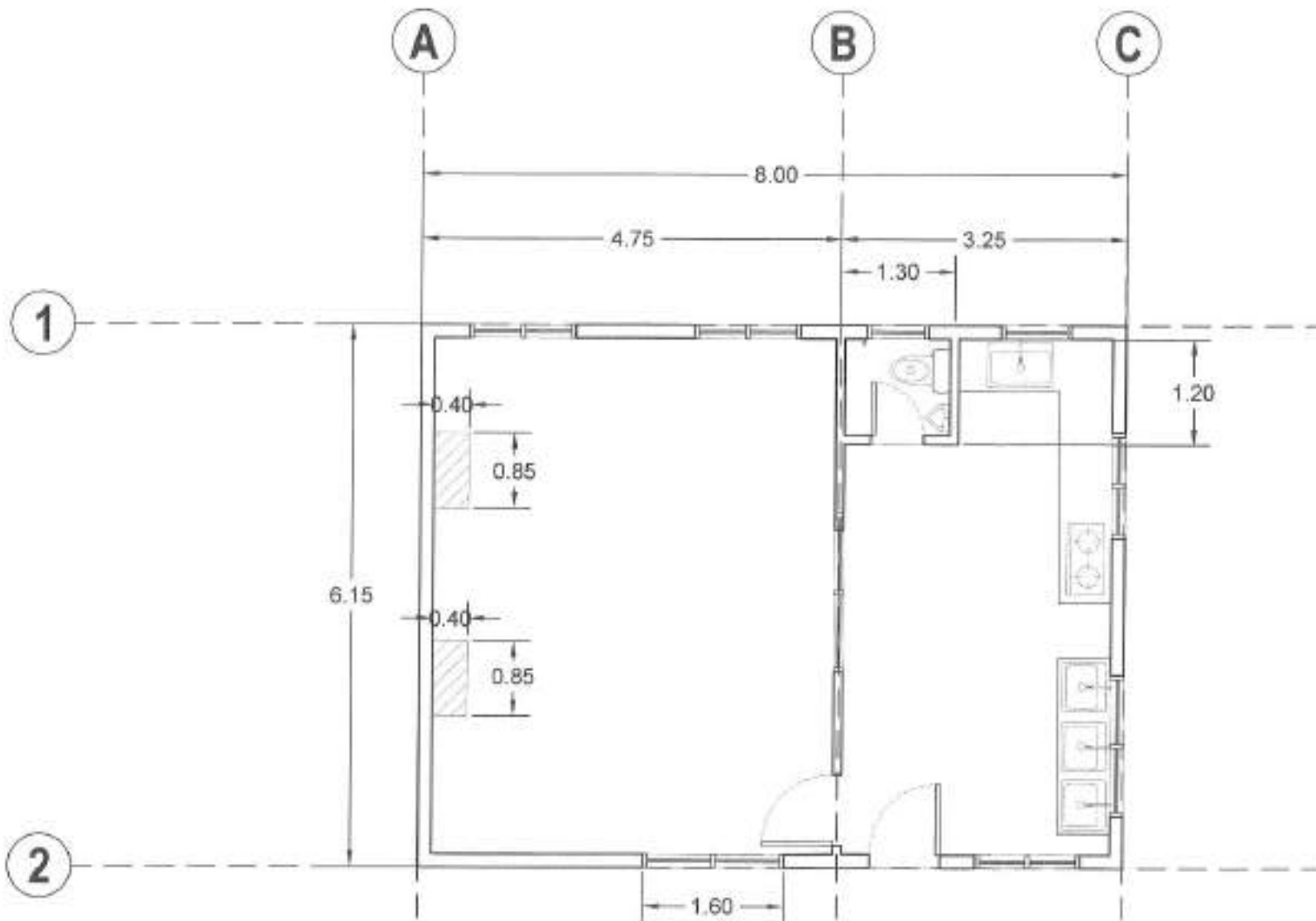
AR-1
1/1



1 | SITE DEVELOPMENT PLAN

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER	DRAWN BY:  DATE: CHECKED BY: 	SUBMITTED BY:  ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER	RECOMMENDING APPROVAL:  ENGR. SAMSON R. VERZOSA, JR. REG. PROFESSIONAL ENGINEER	APPROVED BY:  HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	SHEET CONTENT: SITE DEVELOPMENT PLAN	SHEET NO. AR-2 211
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISION NO.:					

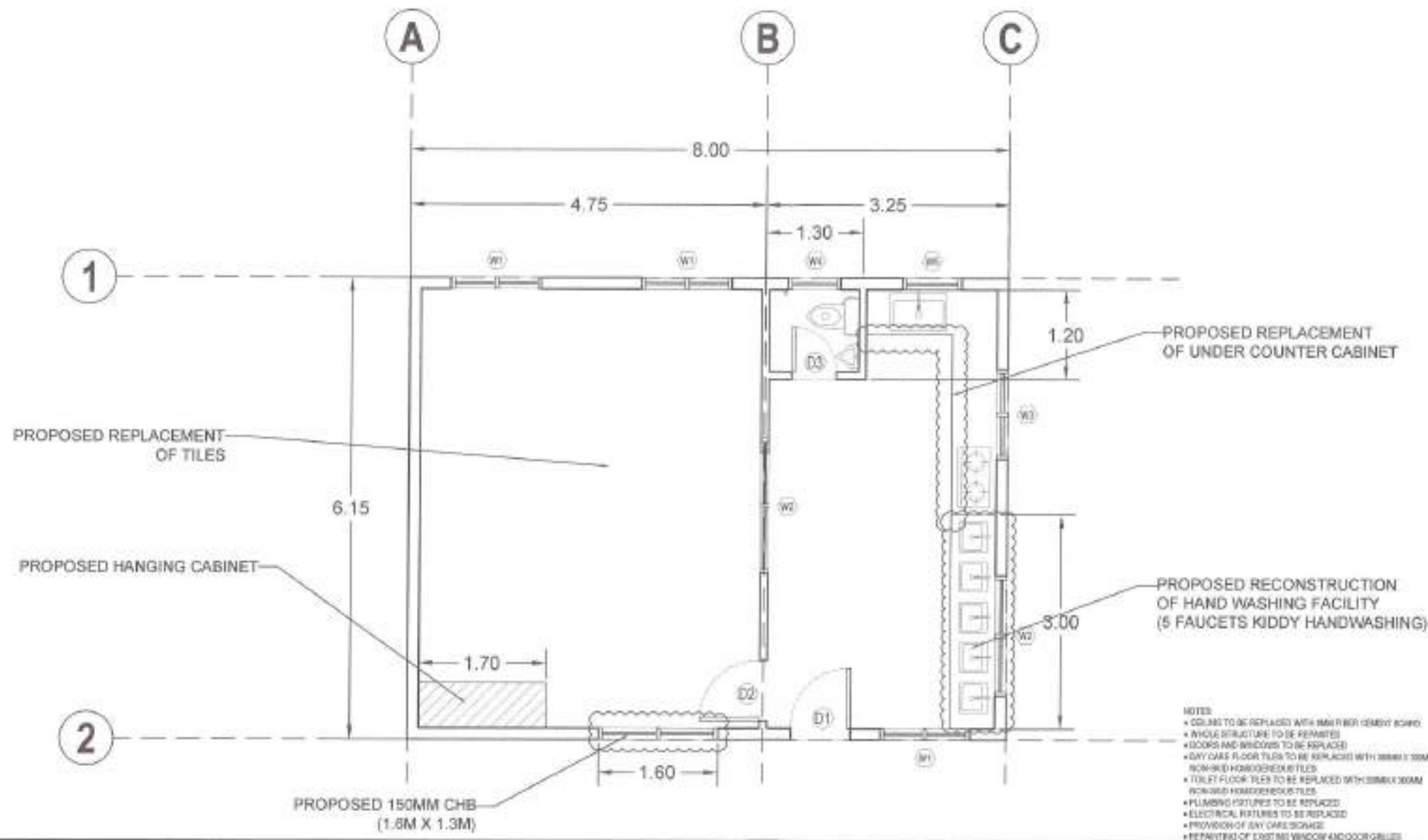


- NOTES
- CEILING TO BE REPLACED WITH 1/2" PLYWOOD BOARD
 - WHOLE STRUCTURE TO BE REPAIRED
 - DOORS AND WINDOWS TO BE REPLACED
 - DAY CARE FLOOR TILES TO BE REPLACED WITH 300MM X 300MM NON-SKID HOMOGENEOUS TILES
 - TOILET FLOOR TILES TO BE REPLACED WITH 300MM X 300MM NON-SKID HOMOGENEOUS TILES
 - PLUMBING FIXTURES TO BE REPLACED
 - ELECTRICAL FIXTURES TO BE REPLACED
 - PROVISION OF DAY CARE SEWAGE
 - REPAIRING OF EXISTING WINDOW AND DOOR GRILLS

1 EXISTING GROUND FLOOR PLAN

SCALE: 1:50M/T

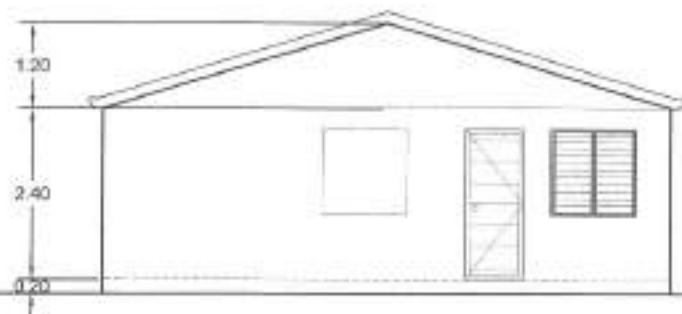
<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	OWNER BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: JAM REVISIONS:	<p>ENGR. LEO S. DEL ROSARIO ICAP, PLUMBING AND DRAINAGE ENGINEER</p>	<p>ENGR. SAGANI R. VERZOSA, JR. ICP, CITY ENGINEER</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER</p>	GROUND FLOOR PLAN	AR-3 3 11



1 PROPOSED GROUND FLOOR PLAN

SCALE: 1:50MTS

 <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 PINADAMA DAY CARE CENTER</p> <p>LOCATION: SARAWOK COMMONWEALTH, DISTRICT 2, QUEZON CITY</p>	DATE:	DECOR BY:	<p>ENGR. LEO S. DEL ROSARIO REG. PLANNER & RECOMMENDING OFFICER</p>	<p>ENGR. ISAGANI R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER</p>	<p>GROUND FLOOR PLAN</p>



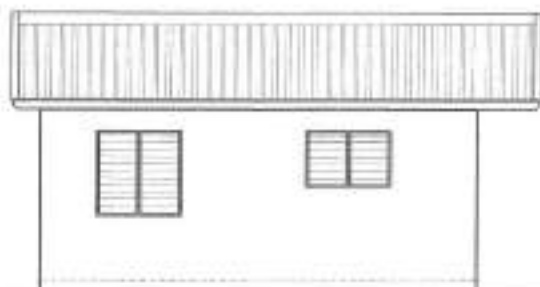
1 FRONT ELEVATION

SCALE: 1:75MTS



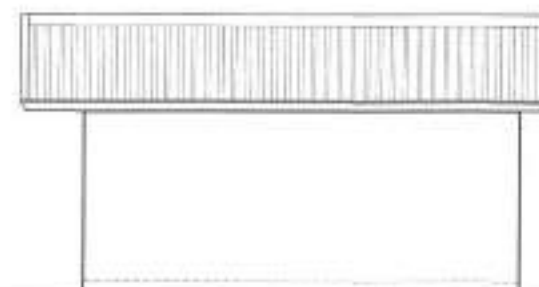
2 REAR ELEVATION

SCALE: 1:75MTS



3 RIGHT SIDE ELEVATION

SCALE: 1:75MTS



4 LEFT SIDE ELEVATION

SCALE: 1:75MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF PINADAMA DAY CARE CENTER ✓

LOCATION:

BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY ✓

DRAWN BY:

DATE:

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
REAL PLANNING PROFESSIONAL

RECOMMENDING APPROVAL:

ENGR. MAGANI R. VERZOSA, JR.
CITY ENGINEERING DEPARTMENT

APPROVED BY:

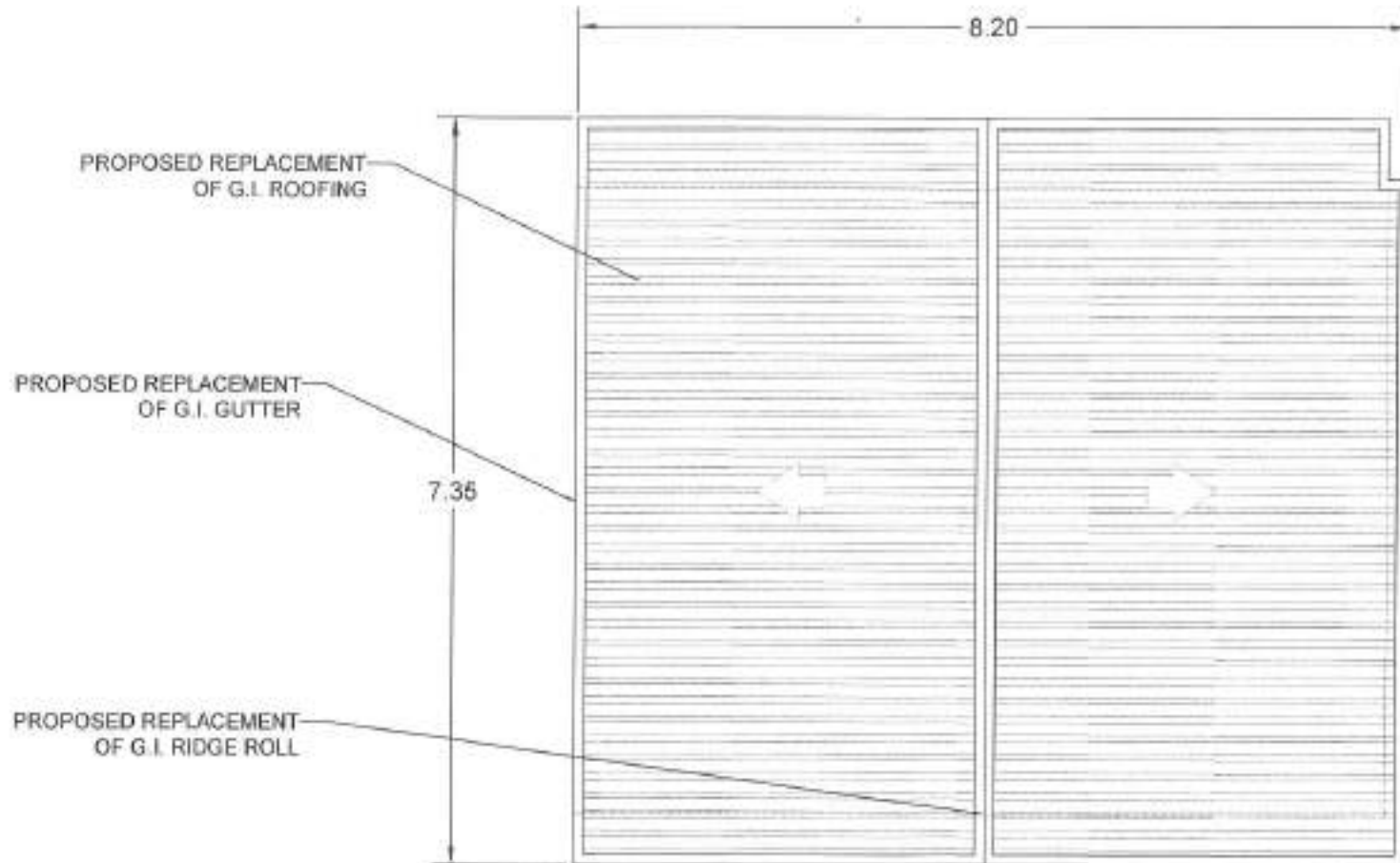
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT


FRONT ELEVATION
REAR ELEVATION
RIGHT SIDE
ELEVATION
LEFT SIDE
ELEVATION

SHEET NO.

AR-6
6 11

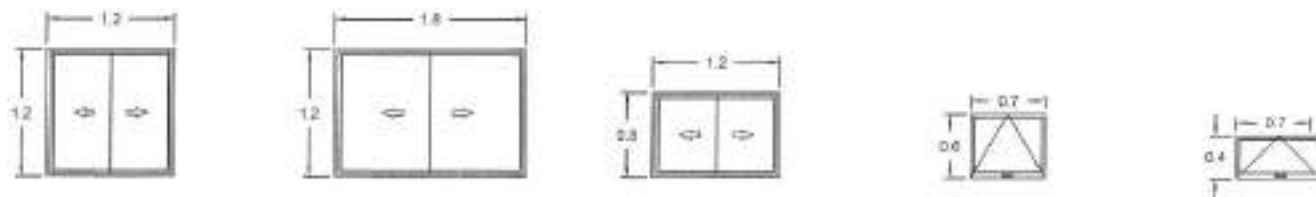


1 ROOF PLAN

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER DESIGN: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: _____ DESIGNED BY: <i>JAR</i>	ENGR. LEO S. DEL ROSARIO (E.C. PLUMBING & PIPING CONTRACTOR)	ENGR. ISMAEL R. VERZOSA, JR. (E.C. CIVIL ENGINEER)	HON. MA JOSEFINA G. BELMONTE CITY ENGINEER	ROOF PLAN	AR-5 511



DESIGNATOR	⊕	⊕	⊕
DOOR	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEN WHITE)	DOUBLE SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEN WHITE)	SWING TYPE, PVC DOOR, WITH 40mm x 30mm LOUVER, PAINTED FINISH (KITTEN WHITE)
HARDWARE/SLASING	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE, SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE, SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE, SATIN STAINLESS FINISH



DESIGNATOR	⊕	⊕	⊕	⊕	⊕
DOOR	SLIDING WINDOW, 5mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 5mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 5mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 5mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 5mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/SLASING	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES

1 SCHEDULE OF DOORS AND WINDOWS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	OWNER:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER SOURCE: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: JRS REVISION:	ENGR. LEO S. DEL ROSARIO LOCAL PUBLIC WORKS ENGINEER	ENGR. SACANI R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	SCHEDULE OF DOORS AND WINDOWS	AR-7 7 11

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, 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.

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 pipes/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 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.

10 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.

11 Provide vent stack and vent pipe thru roof of cast iron service weight 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 branches to fixtures or group of fixtures and/or equipments shall be provided with air chambers or capped vertical pipe extensions of dimension as shown.

H = 450 mm for 19 mm \varnothing and larger

H = 300 mm for 12 mm \varnothing and smaller

16 All hose bibbs shall be 19 mm \varnothing (3/4" \varnothing) 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 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.

I. FIXTURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHO	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
URI	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCO	CEILING CLEANOUT
FCO	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
\varnothing	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
\rightarrow	DIRECTION OF FLOW
	GREASE TRAP

	URINAL FEMALE
	CHECK VALVE
	BUILDING SEWER
	BUILDING DRAIN
	WASTE LINE
	AREA DRAIN / CATCH BASIN
	FLOOR DRAIN
	DIAMETER
	WASTE LINE
	WATER LINE
	GATE VALVE
	DECK DRAIN
	CLEANOUT
	PIPE DOWN
	PIPE UP
	MILLIMETER
	GATE VALVE
	AREA DRAIN / CATCH BASIN
	WATER CLOSET
	LAVATORY
	MANHOLE
	ROSE BEE
	STORM DRAIN LINE
	VENT LINE
	VENT ABOVE CEILING
	CONCRETE PIPE / REINF. CONC. PIPE
	VENT THRU ROOF
	DIRECTION OF FLOW / SCOPE

1 GENERAL NOTES

2 LEGENDS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND REHABILITATION
OF PINADAMA DAY CARE CENTER

Location:

BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY: D.J.W.

DATE:

CHECKED BY: J.A.H.

REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
and J. ANTONIO RODRIGUEZ

RECOMMENDING APPROVAL

ENGR. ISMAANI R. VERZOSA, JR.
and J. ANTONIO RODRIGUEZ

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

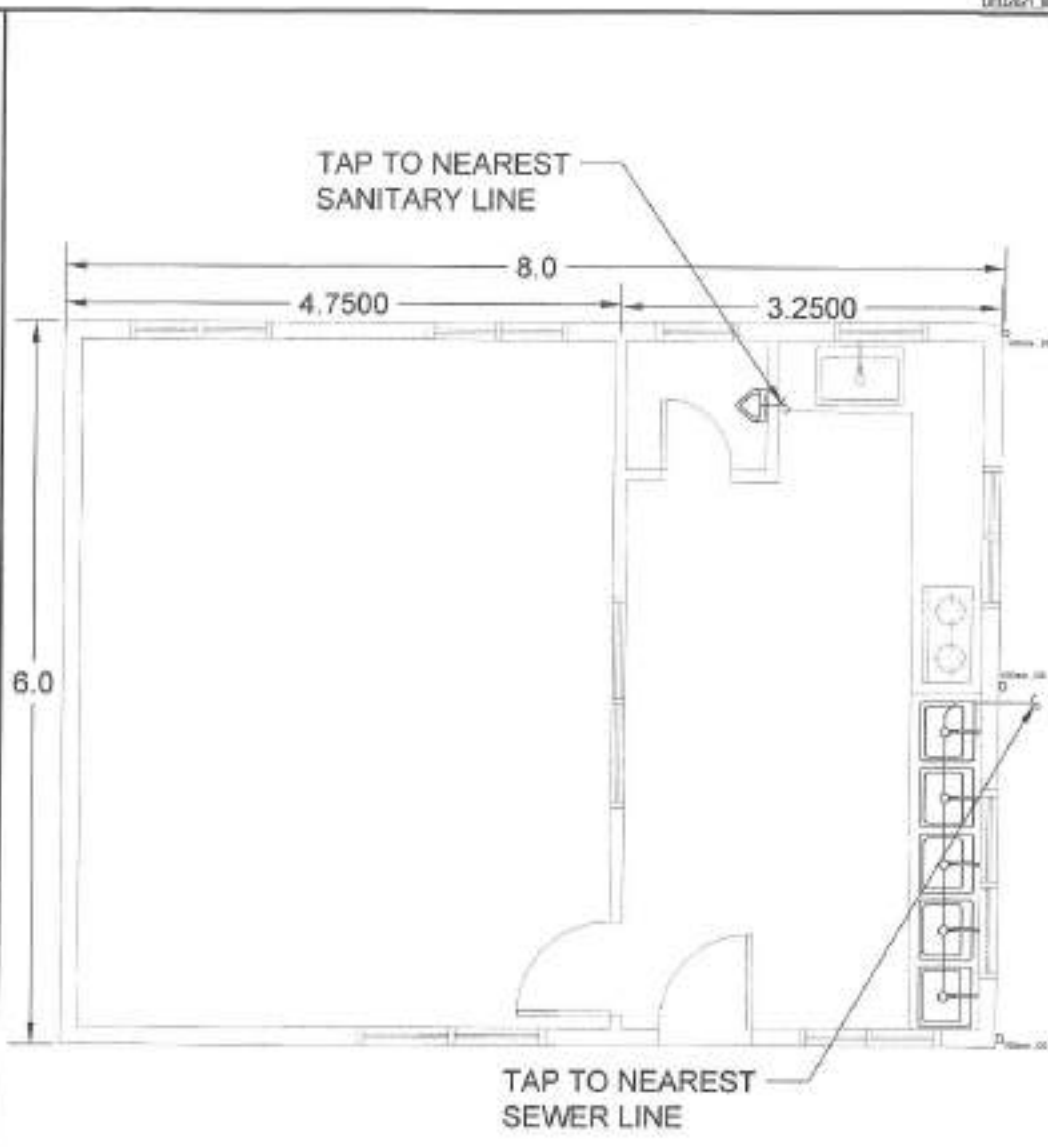
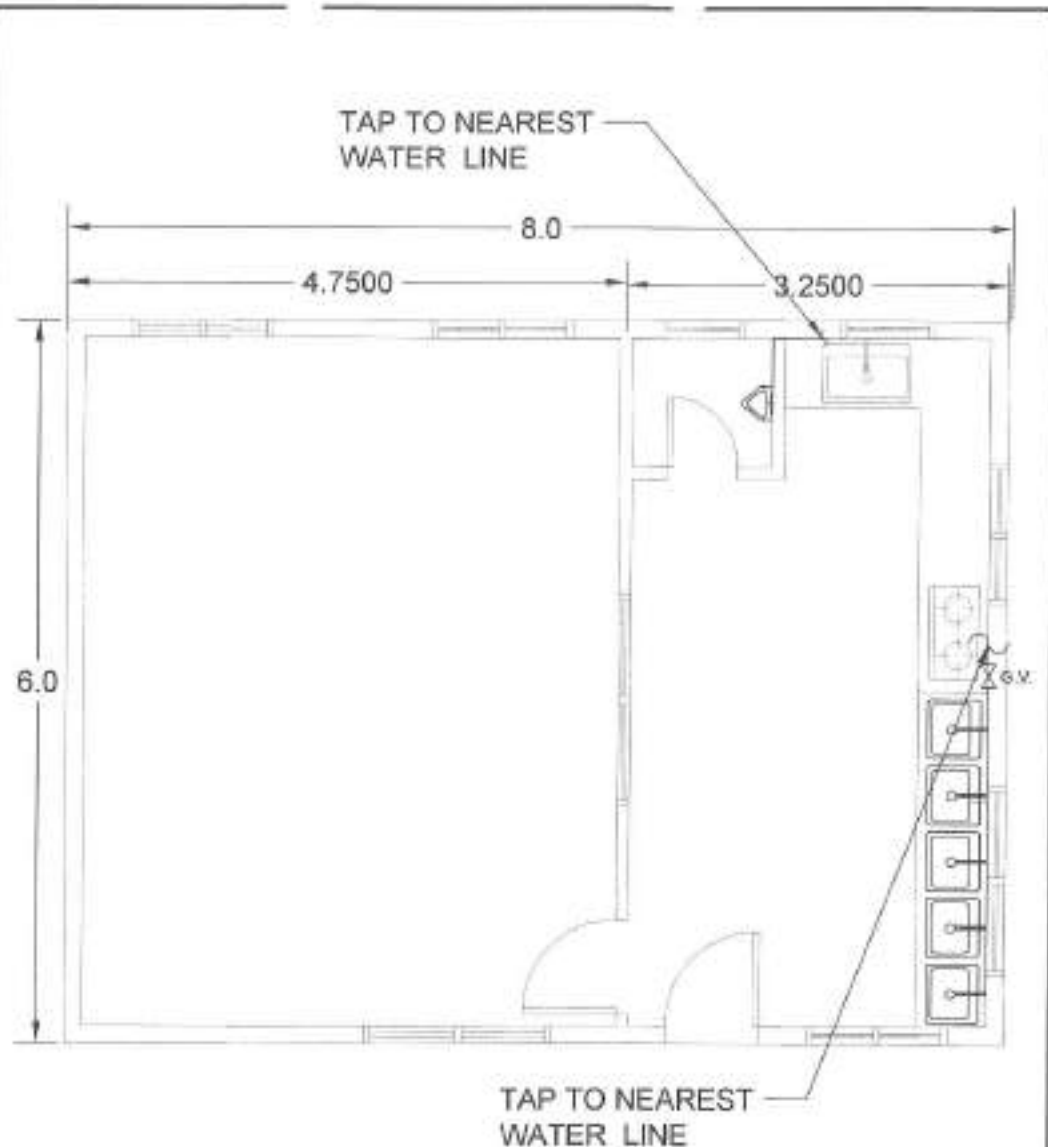
SHEET CONTENT

GENERAL NOTES

LEGENDS

SHEET NO.

PL-1
8 11



NOTE: ALL NEW HANDWASHING FACILITY FAUCETS SHALL BE SINGLE-HANDLE, LEVER TYPE, STAINLESS STEEL.

NOTE: ALL NEW HANDWASHING FACILITY FAUCETS SHALL BE SINGLE-HANDLE, LEVER TYPE, STAINLESS STEEL.

1 GROUND FLOOR WATER LINE LAYOUT

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PINADAMA DAY CARE CENTER LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: RECEIVED BY:	 ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING PROGRAMS DIVISION	 ENGR. J. GANI R. VERZOSA, JR. CITY ENGINEERING OFFICER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	GROUND FLOOR WATER LINE LAYOUT GROUND FLOOR SANITARY LINE LAYOUT	PL-2 9 11

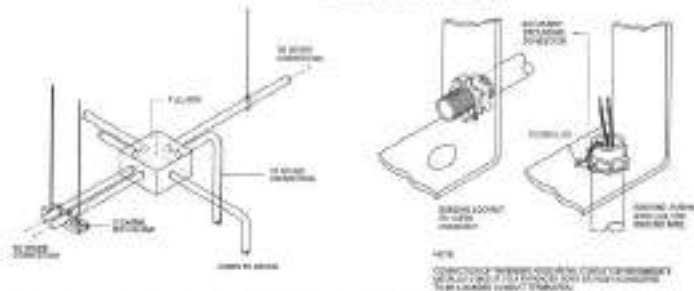
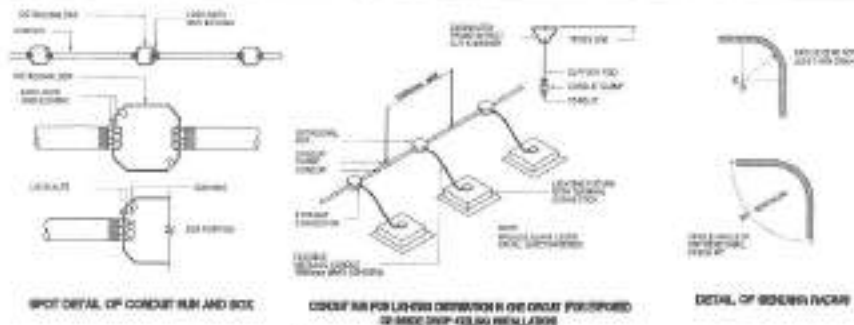
1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
2. THE CONTRACTOR SHALL SECURE ALL PERMITS 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.
3. ALL OVERHEAD BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE ADO SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETERS.
4. 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 PULL BOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS TO BE MET. SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. PRIOR TO FABRICATION, LOCATION OF PULL BOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
5. ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PPM/UL RATED FOR 208 V.
6. PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
7. ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDED.
8. UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF, 10MM ABOVE WORKING COUNTER
 TELEPHONE OUTLET - 300 MM AFF
 DATA OUTLET - 300 MM AFF
 LIGHTING SWITCH - 1400 MM AFF
 PANEL BOARD - 1600 MM AFF

9. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR MATERIAL AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, REQUIREMENTS, SPECIFICATIONS AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
10. ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. BRAND NAMES AND SPECIFICATIONS.
11. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PROVIDE GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVELS 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.
12. ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION OR CORRECTION.
13. ALL LIGHTING AND CONVEYANCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM. THW-2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM. COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

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

14. BOND WIRE, CLIPPING, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE ROOF SURFACE STEEL:
 UP TO 150.00MM - 152.40 MM GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 152.40 MM BUT NOT OVER 487.50 GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 487.50 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
15. 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 PCB. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
16. TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 40 AMP/125, 200V AC ROMMIAL.
17. CONDUITS AND 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.
18. UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAIL ON FORMS APPROVED BY THE CUSTOM 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

	SWITCH (FOR REPLACEMENT)		DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)		ADDITIONAL CEILING FAN
	EXISTING TUBE LIGHT BOX TYPE		WALL-MOUNTED EXHAUST FAN (FOR REPLACEMENT)
	ADDITIONAL TUBE LIGHT BOX TYPE		PANEL BOARD

1 GENERAL NOTES

NOT TO SCALE

3 LEGENDS AND SYMBOLS

NOT TO SCALE



Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

OWNER:
 DESIGNED BY: *JAN*

LOCATION:
 BARANGAY DOMINOWEALTH, DISTRICT 2, QUEZON CITY

DATE:
 DESIGNED BY: *JAN*

REVISION NO.:

OWNER: *Genly*

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

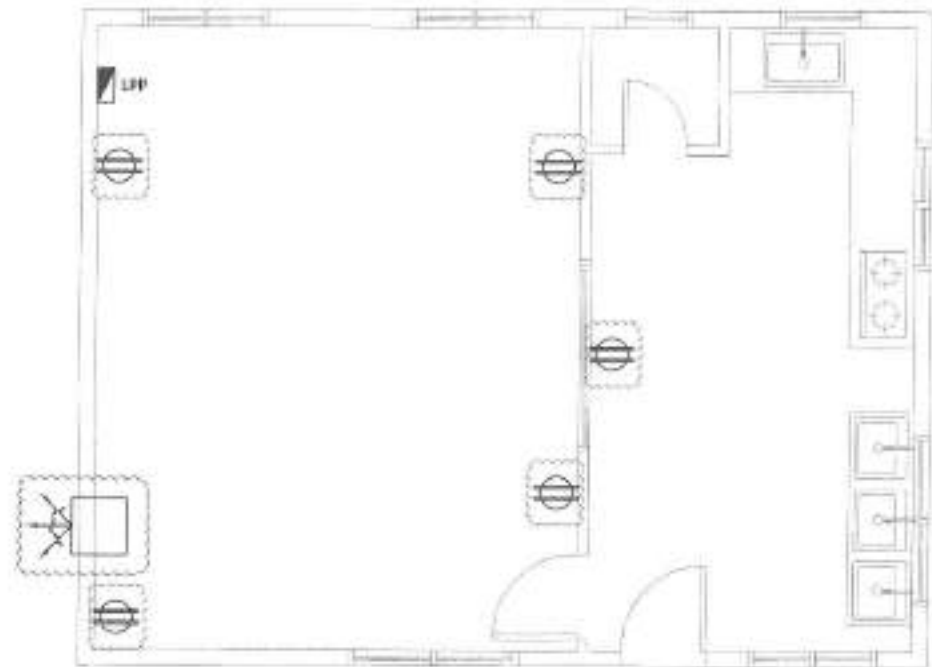
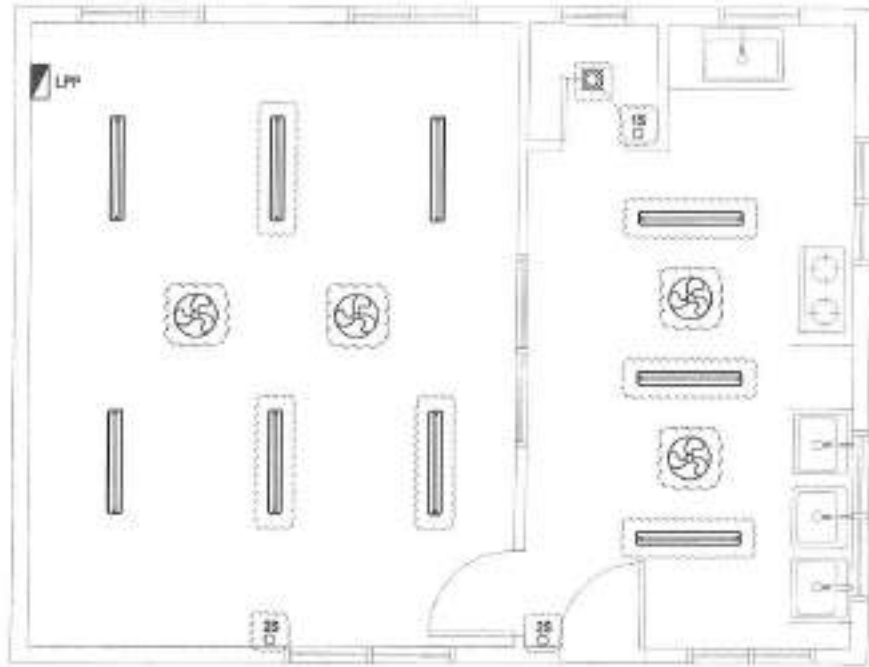
ENGR. SABANI R. VERZOSA, JR.
 CHIEF, ELECTRICAL DIVISION

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY MAYOR

SHEET CONTENT:
 GENERAL NOTES
 LEGENDS AND
 SYMBOLS

SHEET NO.
**EL-1
 1011**



1 LIGHTING LAYOUT

SCALE : 1 : 50 MTS

2 POWER 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 PINADAMA DAY CARE CENTER
LOCATION:
BARANGAY COMMONWEALTH, DISTRICT 3, QUEZON CITY

DESIGNER: *led*
DATE:
CHECKED BY: *Jo*
REVISION:

SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAD PLUMBING DIVISION

RECOMMENDING APPROVAL:
[Signature]
ENGR. ISMAEL R. VERZOSA, JR.
CITY ENGINEER

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY MAOR

SHEET CONTENT:
LIGHTING LAYOUT
POWER LAYOUT

SHEET NO.:
EL-2
1111

THE SITE



1 VICINITY MAP

SCALE: NTS

THE SITE



2 LOCATION MAP

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 PUROK 15
DAYCARE CENTER

LOCATION

BIPOY COMMONWEALTH DISTRICT 4, QUEZON CITY

DRAWN BY

DATE: 08/18/21

CHECKED BY: JZ

REVISION NO.

SUBMITTED BY

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

ENGR. ISAAC M. R. VERZOSA, JR.
DIVISION CHIEF, ELECTRICAL DEPARTMENT

RECOMMENDING APPROVAL

ENGR. ISAAC M. R. VERZOSA, JR.
DIVISION CHIEF, ELECTRICAL DEPARTMENT

ENGR. ISAAC M. R. VERZOSA, JR.
DIVISION CHIEF, ELECTRICAL DEPARTMENT

APPROVED BY

HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR

HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR

PROJECT CONTENT

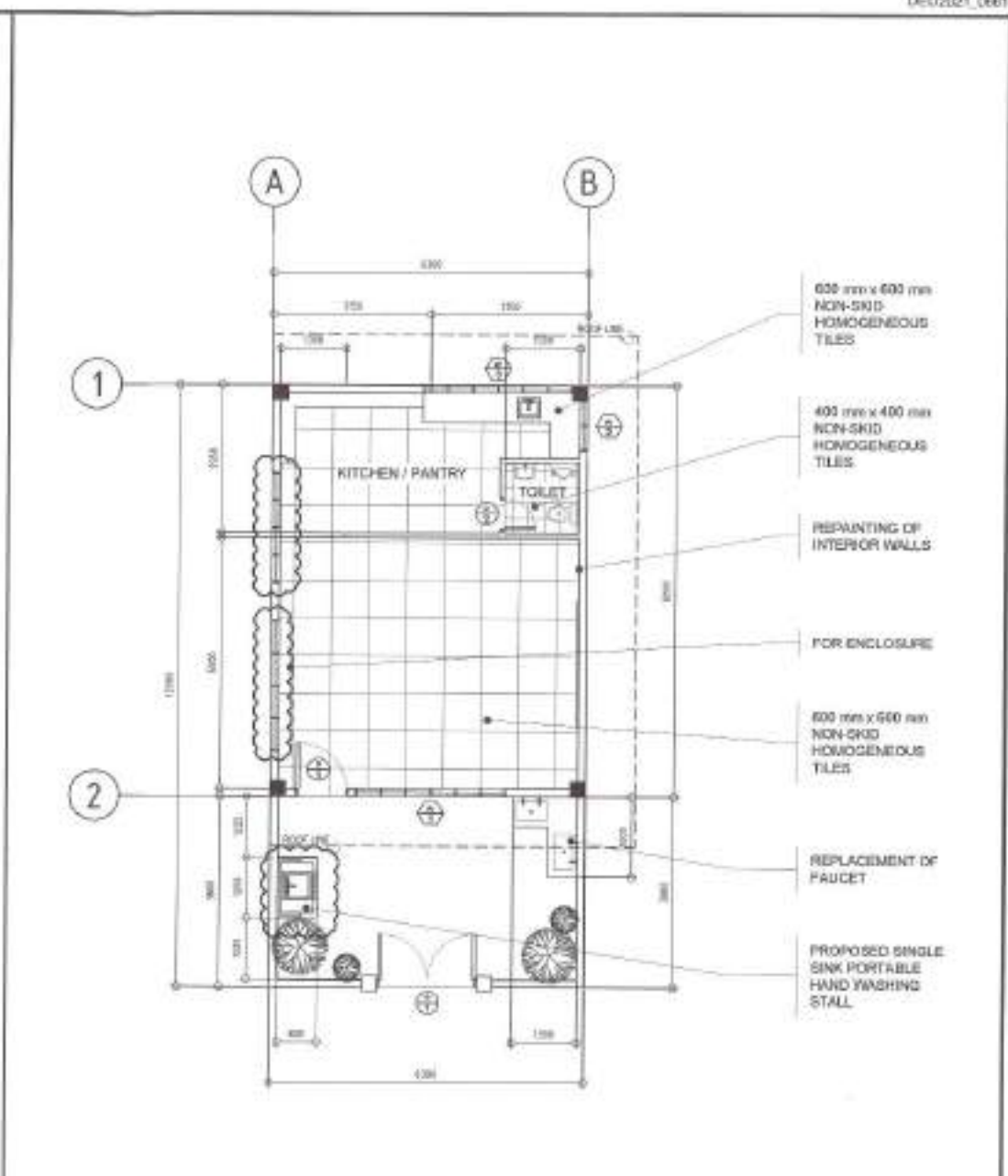
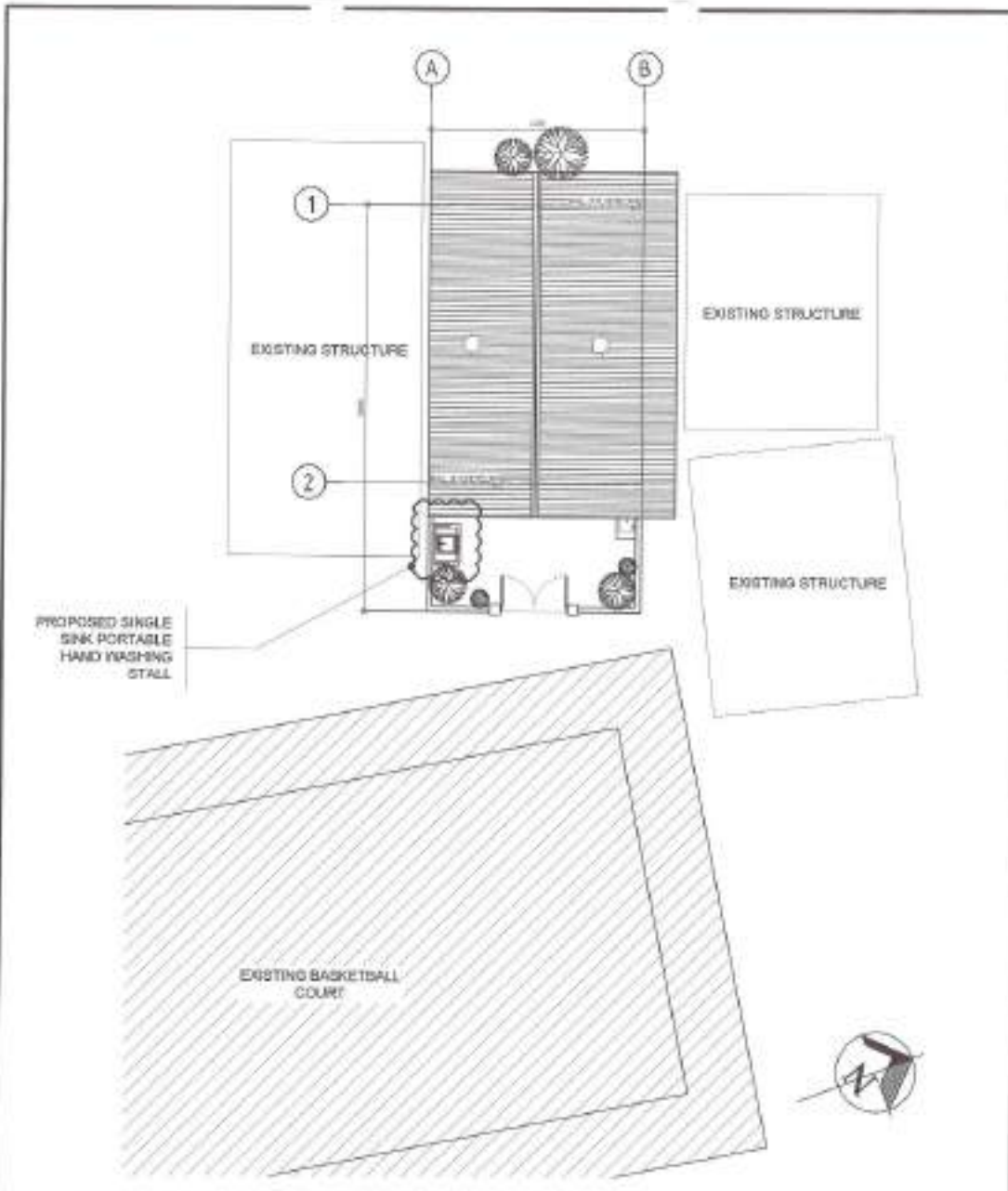
VICINITY MAP
LOCATION MAP
HAND WASHING
PERSPECTIVE

VICINITY MAP
LOCATION MAP
HAND WASHING
PERSPECTIVE

SHEET NO.

AR-01
01/10

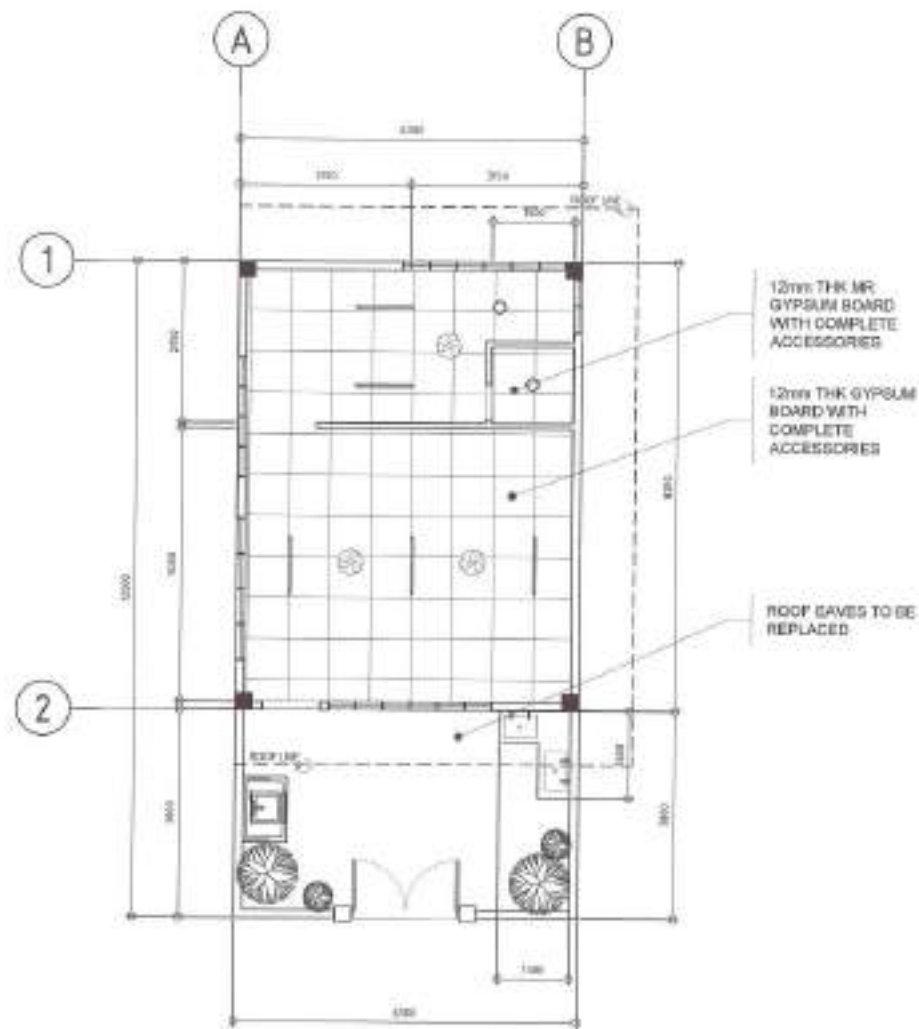
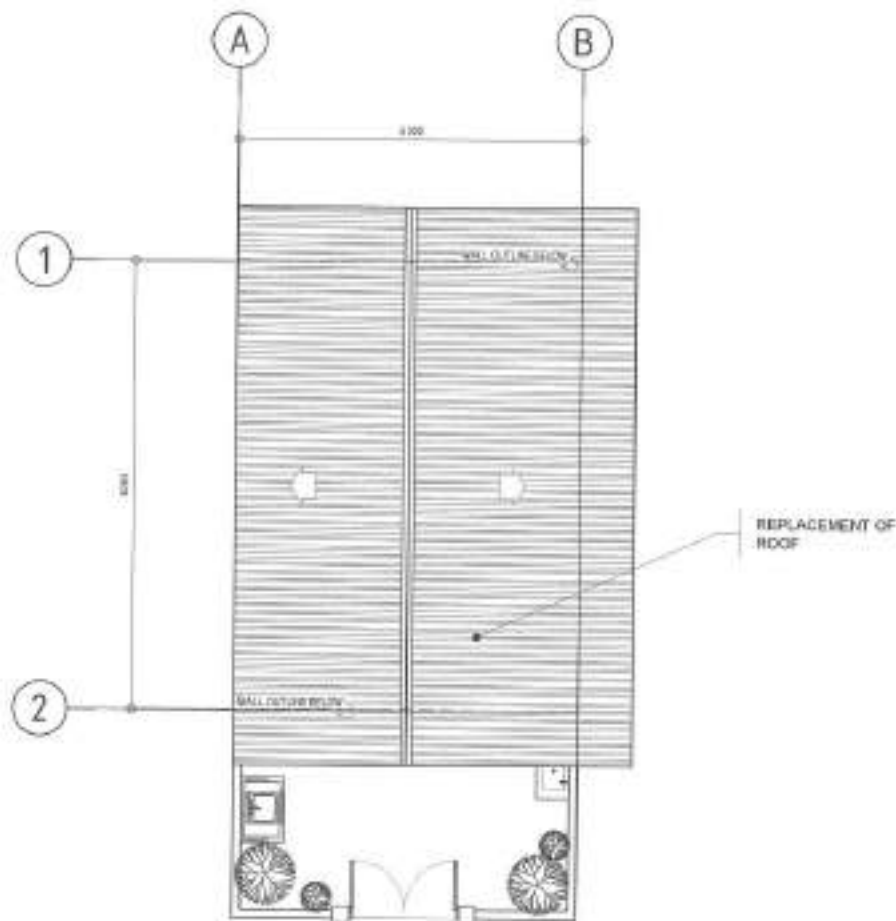
AR-01
01/10



1 SITE DEVELOPMENT PLAN SCALE 1:150M

2 GROUND FLOOR PLAN SCALE 1:100M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	DESIGNED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	<p>PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAYCARE CENTER</p> <p>LOCATION: Brgy. Commonwealth, District 2, Quezon City</p>	DATE: 08/30/21	CHECKED BY:	<p>ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMS DIVISION</p>	<p>ENGR. MAGAN R. VERZOSA, JR. OIC, CITY ENGINEERING DEPARTMENT</p>	<p>HON. RA. JOSEFIMA G. BELMONTE CITY MAYOR</p>	<p>SITE DEVELOPMENT PLAN GROUND FLOOR PLAN</p>



1 ROOF PLAN

SCALE 1:100M

2 REFLECTED CEILING PLAN

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAYCARE CENTER

LOCATION:
SRGV, COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 08/02/21
CHECKED BY: *[Signature]*
REVISION NO.:

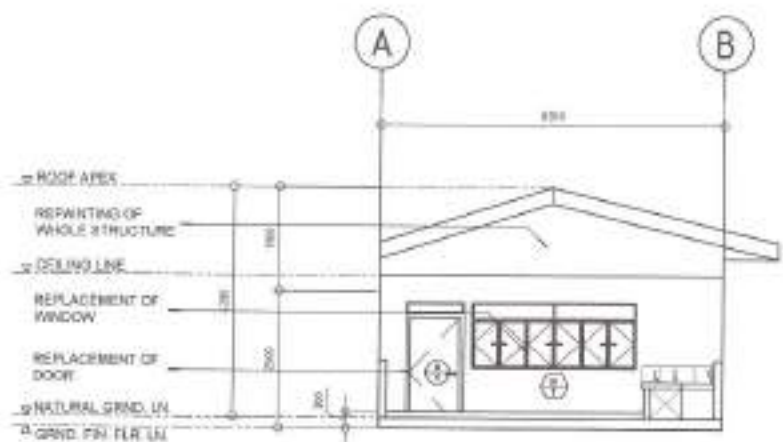
SUBMITTED BY:
[Signature]
ENGR. LED B. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

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

APPROVED BY:
[Signature]
HON. RA. JOSEFINA G. BELMONTTE
CITY MAJOR

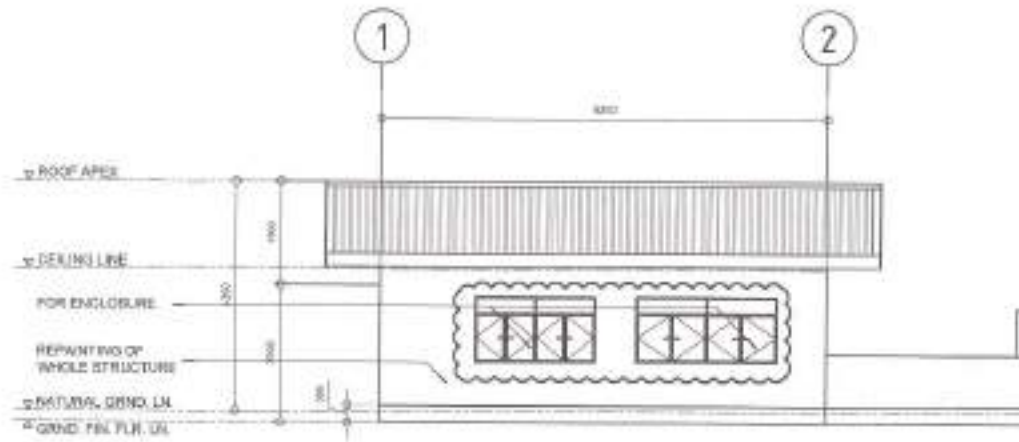
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ROOF PLAN
CEILING PLAN

SHEET NO.:
AR-03
03/10



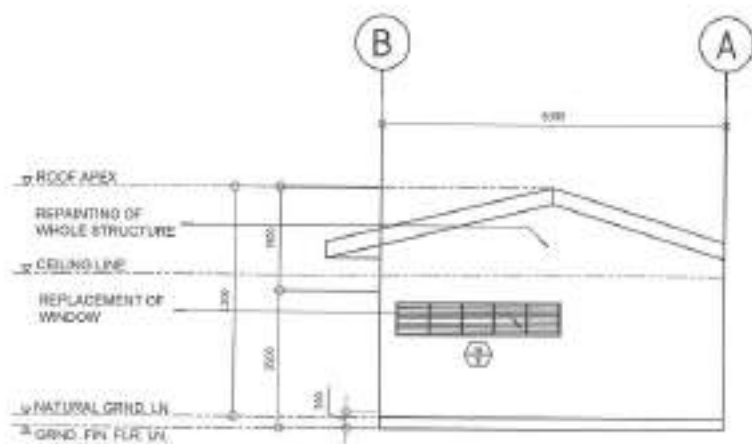
1 FRONT ELEVATION

SCALE 1:100 M



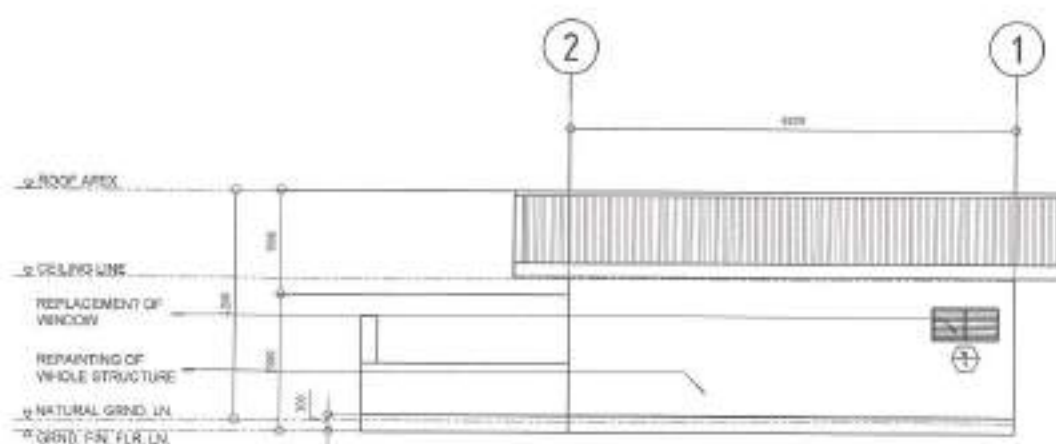
2 LEFT SIDE ELEVATION

SCALE 1:100 M



3 REAR ELEVATION

SCALE 1:100 M



4 RIGHT SIDE ELEVATION

SCALE 1:100 M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF PUKOK 15
DAYCARE CENTER**

LOCATOR:
8907, COMMONWEALTH, DISTRICT 7, QUEZON CITY


DRAWN BY - WMD
DATE - 08/01/21
CHECKED BY - J
REVISION NO.

SUBMITTED BY:

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

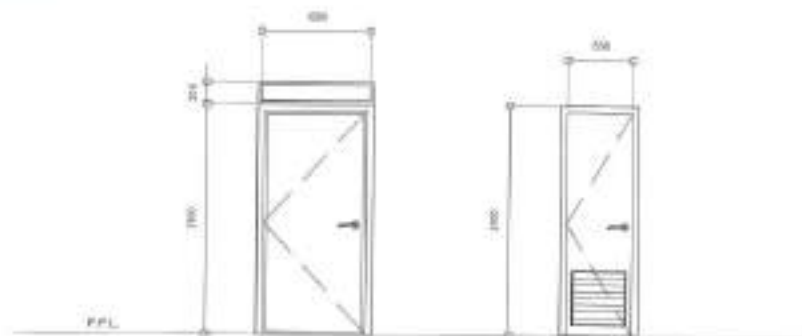
RECOMMENDING APPROVAL:

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

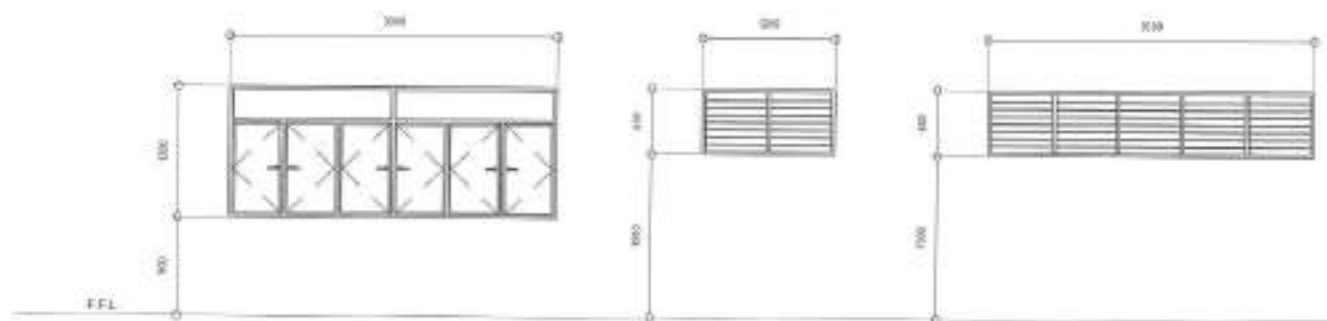
APPROVED BY:

HON. NA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT
FRONT ELEVATION
REAR ELEVATION
LEFT SIDE ELEVATION
RIGHT SIDE ELEVATION

SHEET NO.
AR-04
04/10



NAME	⊕	⊕
NO. OF SETS	1	1
DESCRIPTION	PLAIN DOOR	PVC DOOR WITH LOUVER
LOCATION	ENTRANCE	TOILET



NAME	⊕	⊕	⊕
NO. OF SETS	1	1	1
DESCRIPTION	ALUMINUM FRAME POWDER COATED CASEMENT WINDOW WITH 5MM THK CLEAR GLASS	ALUMINUM FRAME POWDER COATED JALOUSIE WINDOW	ALUMINUM FRAME POWDER COATED JALOUSIE WINDOW
LOCATION	CLASSROOM	KITCHEN	KITCHEN

1 SCHEDULE OF DOORS AND WINDOWS

SCALE 1:50 M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAYCARE CENTER

LOCATION:
BWSY, CORMINDUALTI, DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 08.19.21
CHECKED BY: *[Signature]*
REVISION NO.:

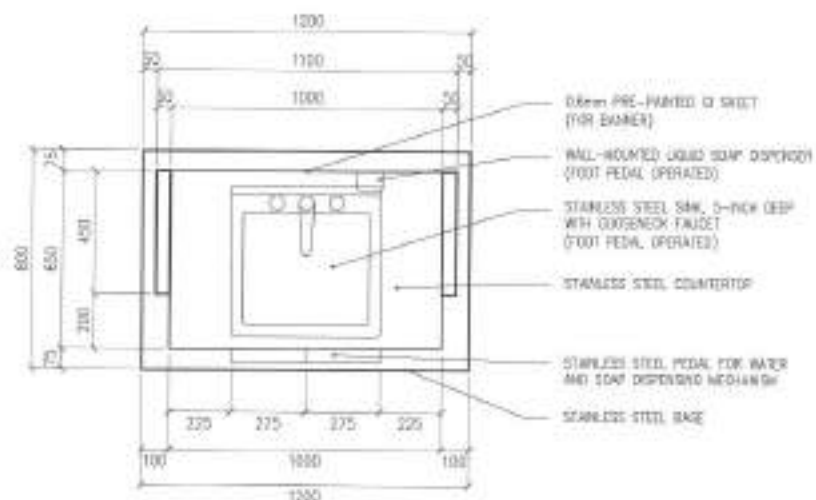
SUBMITTED BY: *[Signature]*
ENGR. LEO S. DEL ROSARIO
REG. PROFESSIONAL ENGINEER

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

APPROVED BY: *[Signature]*
HON. RA. JOSEFINA G. BELMONTE
CITY MAYOR

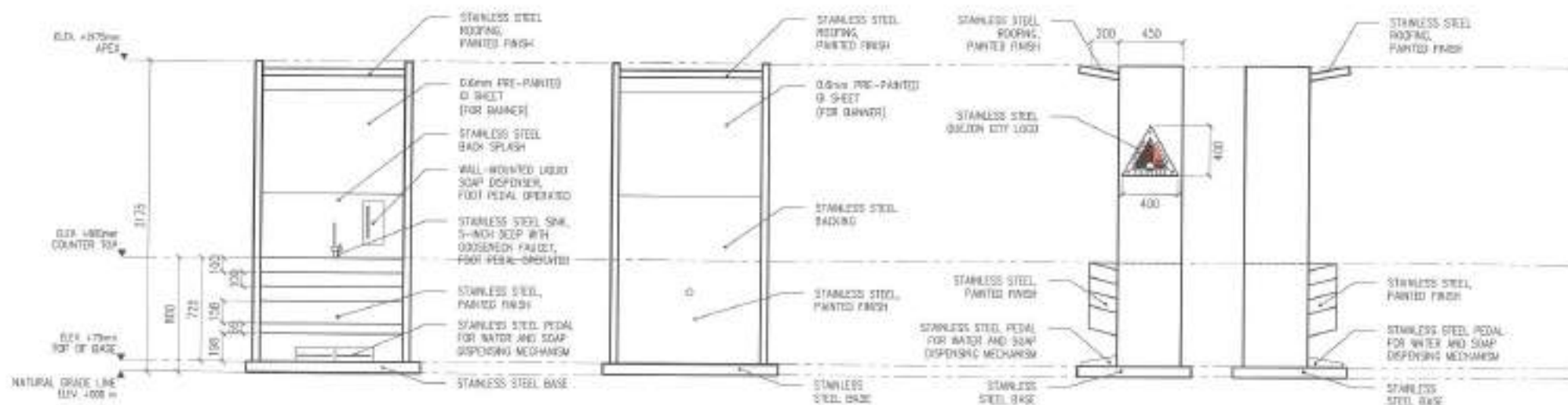
SHEET CONTENT:
SCHEDULE OF DOORS
SCHEDULE OF WINDOWS

SHEET NO.:
AR-05
05/10



1 SINGLE SINK PORTABLE HAND WASHING PLAN

SCALE 1:20M



2 SINGLE SINK PORTABLE HAND WASHING ELEVATIONS

SCALE 1:20M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF PUROK 15
DAYCARE CENTER**

LOCATION:
BVDY. COMMONWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 06/03/21
CHECKED BY: JM

REVISION NO.:

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

REVISION NO.:

RECOMMENDED BY APPROVAL:
ENGR. JOYDANI R. VERZOSA, JR.
D.C. STAFF SUPERVISOR/SECTION CHIEF

REVISION NO.:

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTTE
CITY MARCH

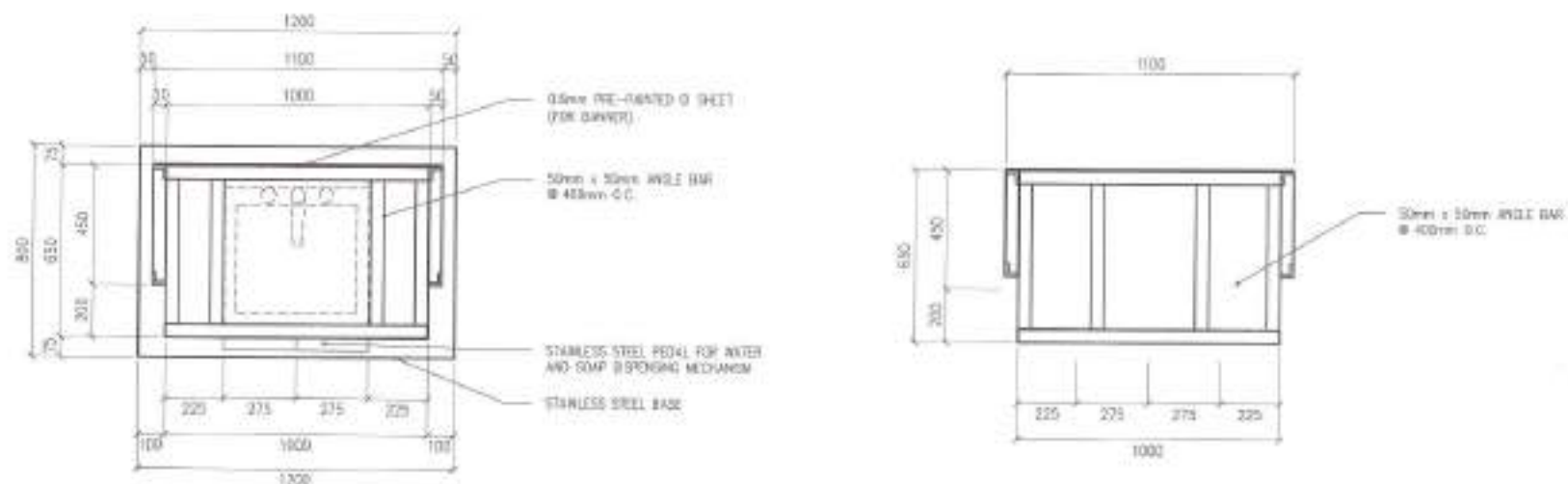
REVISION NO.:

WHAT'S NEW:
SINGLE SINK PORTABLE
HAND WASHING PLAN
SINGLE SINK PORTABLE
HAND WASHING
ELEVATIONS

REVISION NO.:

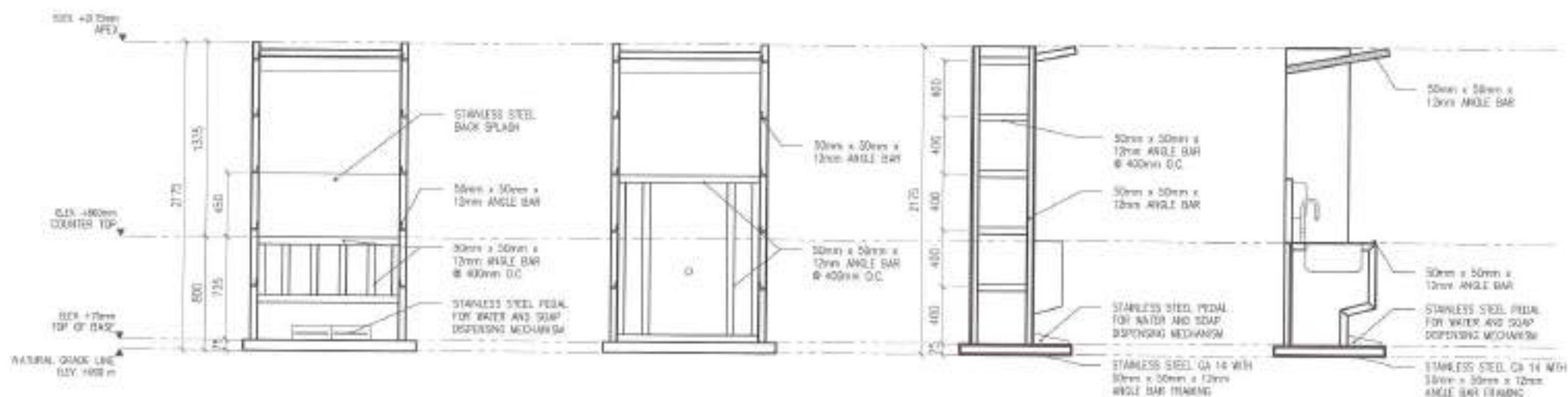
SHEET NO.
AR-06
06/10

REVISION NO.:







1 SINGLE SINK PORTABLE HAND WASHING PLAN

SCALE 1:20 M



2 SINGLE SINK PORTABLE HAND WASHING ELEVATIONS

SCALE 1:20 M

 <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 PUROK 15 DAYCARE CENTER	DATE: 08/31/21 CHECKED BY: J.R.	 ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING PROGRAM OFFICE	 ENGR. ISAGANI R. VERZOSA, JR. O.C. CITY ENGINEERING DEPARTMENT	 HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	SINGLE SINK PORTABLE HAND WASHING PLAN SINGLE SINK PORTABLE HAND WASHING ELEVATIONS	ST-01 07/10
	LOCATION:	REVISION NO.:					
	BRGY. COMMONWEALTH, DISTRICT 2, QUEZON CITY						

1. ALL THE PLUMBING/SANITARY WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISION OF THE PHILIPPINE PLUMBING CODE, THE NATIONAL BUILDING CODE, RULES AND REGULATION 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.

I. SEWER/WASTE AND VENT SYSTEM:

- SF / WP - SOIL PIPE / WASTE PIPE
- - - - - VP / VAC - VENT PIPE / VENT AT CEILING
- - - - - DP - STORM DRAIN PIPE
- FCO / GCO - 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:

- CML - COLD WATER LINE
- CWR - COLD WATER RISER
- ⊗ GV - GATE VALVE
- ⊘ CV - CHECK VALVE
- ⊙ WM - WATER METER
- BD - BALCONY DRAIN

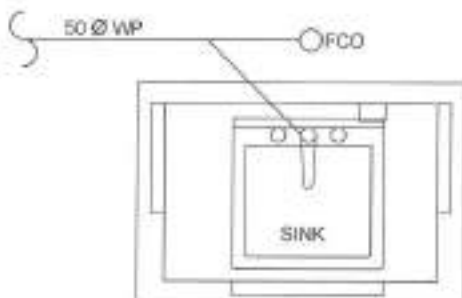
1 GENERAL NOTES

SCALE: NTS

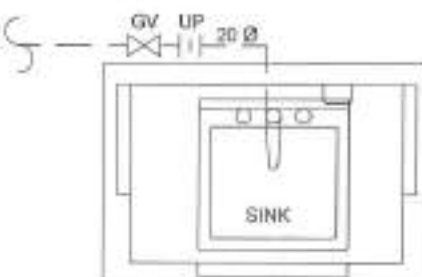
2 LEGENDS AND SYMBOLS

SCALE: NTS

RUN AND TAP TO NEAREST EXISTING PUBLIC SEWER LINE



FROM EXISTING WATERLINE



3 SINGLE SINK PORTABLE HAND WASHING SANITARY LINE AND WATER LINE

SCALE: 1:20 M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAYCARE CENTER

LOCATION:
BDOY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DATE: 08/10/21
DRAWN BY: JRS
CHECKED BY: JRS
REVISION NO.

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

ENGR. ISAGANI R. VERZOSA, JR.
CH. CITY ENGINEER/PLANNING DIVISION

HON. MA. JOSEFINA O. BELMONTE
CITY MAYOR

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

SHEET NO. **PL-1**
08/10

GENERAL NOTES

- ALL ELECTRICAL WORK 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 ENFORCED AND/OR REGULATING 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 INSURANCE FIRM, CERTIFICATES OF ELECTRICAL INSPECTION AND APPROVAL, INSURANCE GOVERNMENT AUTHORIZED FOR COMPLETION OF WORK.
- ALL EXISTING BRANCH CIRCUITS SHALL BE IN GOOD CONDITION AND FOR EXPOSED INSTALLATION SHALL BE IN GOOD SUPPORTED BY CONDUIT CLAMPED EVERY 100 MILLIMETERS.
- ALL WIRING SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO INCLUDE WIRE PULLING SERVICE. THESE REQUIREMENTS ON THE PLANS AND NO. OF ALL PULLBOXES SHALL BE COMPLIED BASED ON THE CODE REQUIREMENTS. VISUAL CHECK (DRAWING) TO THE CONTRACTOR FOR APPROVAL. WORK TO FABRICATION LOCKS OF PULLBOXES SHALL BE APPROVED BY THE PROJECT ENGINEER AND MUST BE REJECTED ON THE "AS-BUILT" PLANS.
- ALL POWER OUTLETS AND SWITCHES SHALL BE ORGANIZED TOGETHER WITH PARALLEL SLOTS FOR 200V.
- PROTECT AGAINST FAULT CURRENT INTERRUPTER (FCI) BEARING FOR LOADS MARKED "FCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABLES AND CABLE TRAYS SHALL BE PROPERLY GROUNDED AND BONDED.
- UNLESS OTHERWISE NOTED, HEIGHTS FOR ALL MARKED DEVICES SHALL BE AS FOLLOWS:

- RESPONSE OUTLET - 100 MM OFF - (HANGING ABOVE FINISHED FLOOR)
- TELEPHONE OUTLET - 200 MM OFF
- DATA OUTLET - 300 MM OFF
- LIGHTING SWITCH - 1400 MM OFF
- RECEPTACLE - 1400 MM OFF

- NOT IN TO MECHANICAL PLUMBING AND FIRE PROTECTION (SCHEDULES FOR MATERIALS AND LOCATION OF EQUIPMENT AS WELL AS THEIR CONTROL REQUIREMENTS AS PROVIDED 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 IN GENERAL TO INDICATE GENERAL LAYOUT AND BROAD OUTLINE REPRESENTATION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE EXACT ACTUAL LOCATION, LEVEL AND DIMENSIONS OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE SITES AS LOCAL CONDITIONS AND USAGES ARE COVERED 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 CONVEIANCE OUTLET CIRCUITS SHALL BE 18 GA. NM TYPE-1 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 2.0 MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

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

- CONCRETE REINFORCING BARS SHALL BE FABRICATED FROM STEEL WITH THE FOLLOWING:
 - UP TO 12.5MM TO 16MM - SA 41 PATTERNED WITH METAL FINISH SPOKE AND SPOKE
 - OVER 12.5MM BUT NOT OVER 20MM - SA 41 PATTERNED WITH METAL FINISH SPOKE AND SPOKE
 - OVER 20MM BUT NOT OVER 30MM - SA 41 PATTERNED WITH METAL FINISH SPOKE AND SPOKE
 - OVER 30MM - SA 41 PATTERNED WITH METAL FINISH SPOKE AND SPOKE
- ALL ELECTRICAL WORKS HEREON SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICIAN. ENGINEER AND A QUALY ACCREDITED ELECTRICAL CONTRACTOR BY FIVE WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE PHASE, TWO WIRE PLUS GROUND, 200V/120V AC SINGLE.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER SIZES ALONG ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY USING HYDRAULIC BENDING. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUDING THE INSTALLATION TO BE REPORTED IN DETAILS TO FORM APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEM SHALL NOT BE MORE THAN 5 OHMS. GROUND RESISTANCE INCLUDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	LEADER LED TUBE LIGHT BOX TYPE
	RECEPTACLE W/ 10 WATTS LED BULB
	DUPLEX CONVENIENCE OUTLET
	CEILING FAN
	SELECTOR SWITCH
	ONE GANG SWITCH (LIGHTS)
	TWO GANG SWITCH (LIGHTS)
	PANEL BOARD
	KILOWATT-HOUR METER
	SERVICE ENTRANCE

CIRCUIT	LOAD DESCRIPTION	VOLT	POWER	CURRENT (AMPERE)	CIRCUIT BREAKER			WIRE AND CONDUIT		
					AT	AF	A	ENGINEER	GEN/NO	MEM
1	1 - LIGHTING (LED TUBE) - DRIVING (CONCRETE) - 100MM DIA (CONCRETE) - CEILING FAN (CONCRETE)	200	150	0.75	20	20	4	1 - 1.5mm ²	1 - 1.5mm ²	200mm @ 100
2	2 - CONVEIANCE OUTLET (CONCRETE) (CONCRETE) (CONCRETE)	200	200	1.0	20	20	4	1 - 1.5mm ²	1 - 1.5mm ²	200mm @ 100
3	SWITCH	200								
4	SWITCH	200								
5	SWITCH	200								
TOTAL CONCRETE LOAD			350	1.5						

CIRCUIT PROTECTION COMPUTATION:
 $I = (3750 / 230V)$
 $I = 16.30 AMPERE$

OVER CURRENT PROTECTION:
 IRC 50 AT, 1P CB BOLT-ON

MAIN FEEDER:
 IRC 2 - 14mm² THW WIRE & 1 - 8.0mm² THW GROUND WIRE @ 25mm @ 100mm

2 LEGEND

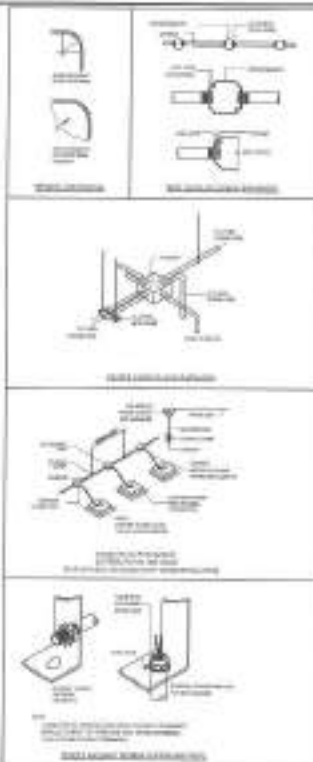
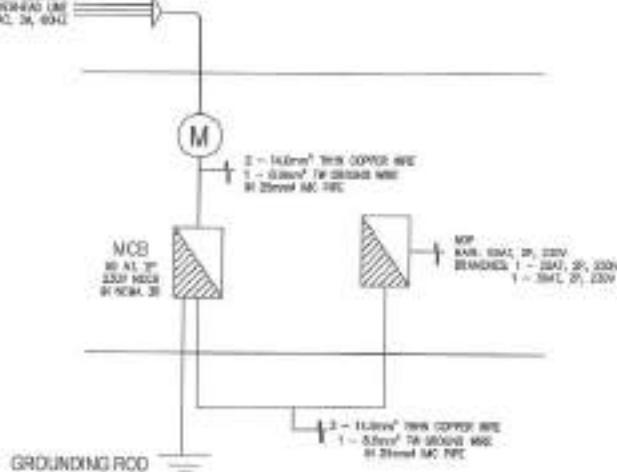
SCALE: NTS

3 LOAD SCHEDULE

SCALE: NTS

SERVICE ENTRANCE

UTILITY COMPANY OVERHEAD LINE 120 MLC, 34, 60A



1 GENERAL NOTES

SCALE: NTS

4 SINGLE LINE DIAGRAM

SCALE: NTS

5 MISCELLANEOUS DETAILS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED REHABILITATION OF PUROK 15 DAYCARE CENTER

LOCATION:
Bldg. Commonwealth, District 2, Quezon City

DRAWN BY:

DATE: 08.03.21

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

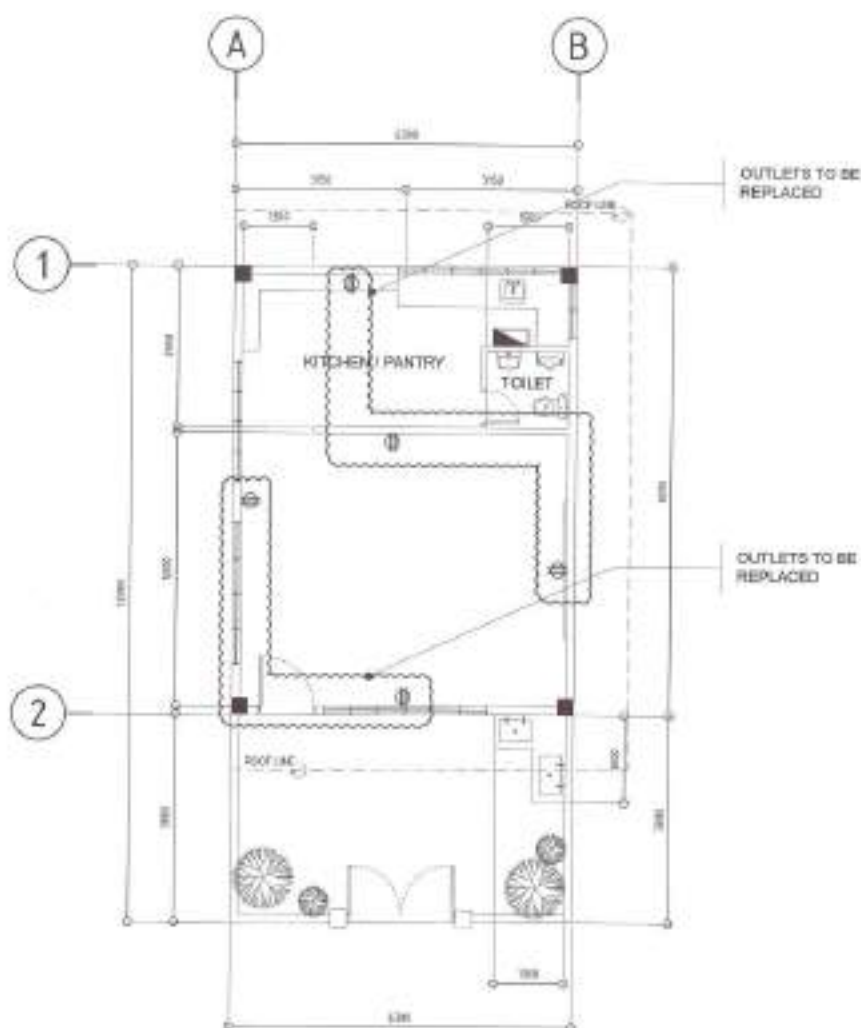
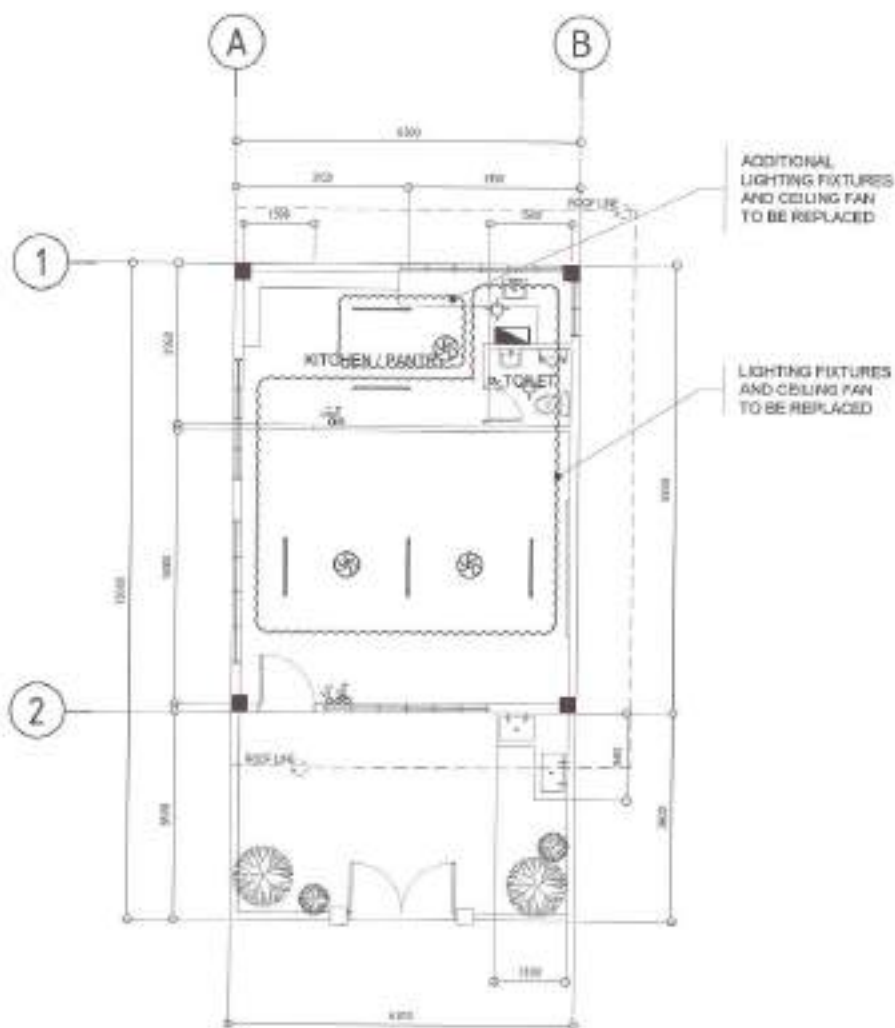
ENGR. ISAGANI R. VERZOSA, JR.
CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA O. BELMONTE
CITY MAOR

SHEET CONTENT:
GENERAL NOTES, LEGEND AND SYMBOLS, SCHEDULE OF LOADS, SINGLE LINE DIAGRAM, MISCELLANEOUS DETAILS

SHEET NO.
EL-01
09/10



1 GROUND FLOOR LIGHTING LAYOUT

SCALE 1:100M

2 GROUND FLOOR POWER LAYOUT

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
PUROK 15 DAYCARE CENTER**

LOCATION:
NWSF, COMMFWALTH, DISTRICT 5, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 06/20/21
CHECKED BY: *[Signature]*
REVISION NO.:

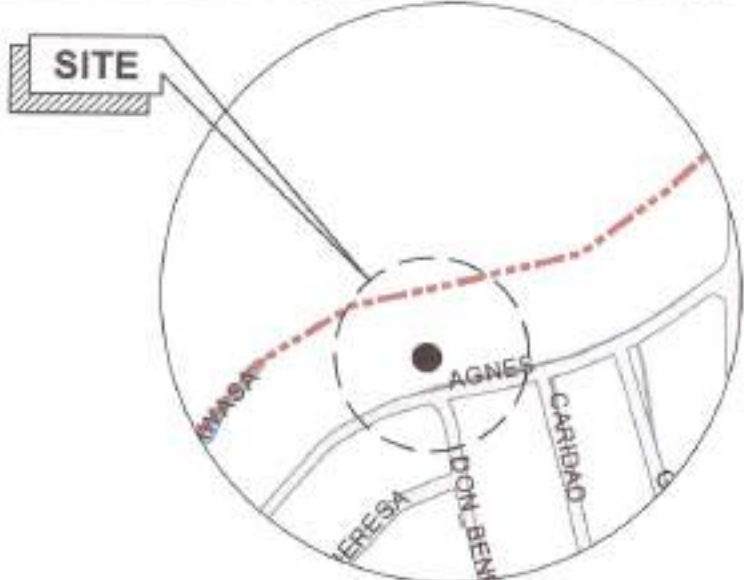
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
HEAT, PLANNING & PROGRAMMING DIVISION

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

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

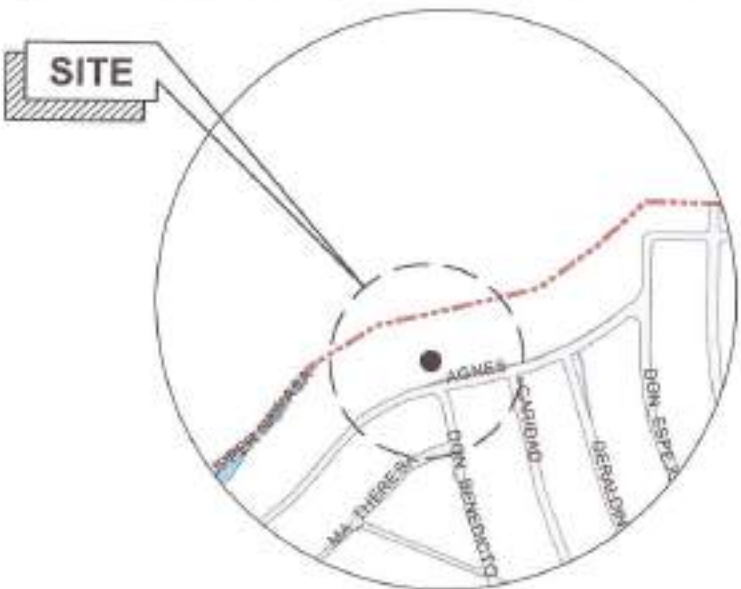
SHEET CONTENT:
GROUND FLOOR LIGHTING
LAYOUT
GROUND FLOOR POWER
LAYOUT

SHEET NO.
EL-02
10/10



1 LOCATION MAP

SCALE: NTS



2 VICINITY MAP

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 UPPER NAWASA
DAY CARE CENTER**

LOCATION:
ORDY COMARONWALSH DISTRICT 2, QUEZON CITY

DRAWN BY: *L*
DATE: 03/08/2021
CHECKED BY: *JK*
REVISION NO:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
MEMO PLANNING & PROGRAMMING DIVISION

RECOMMENDING APPROVING:

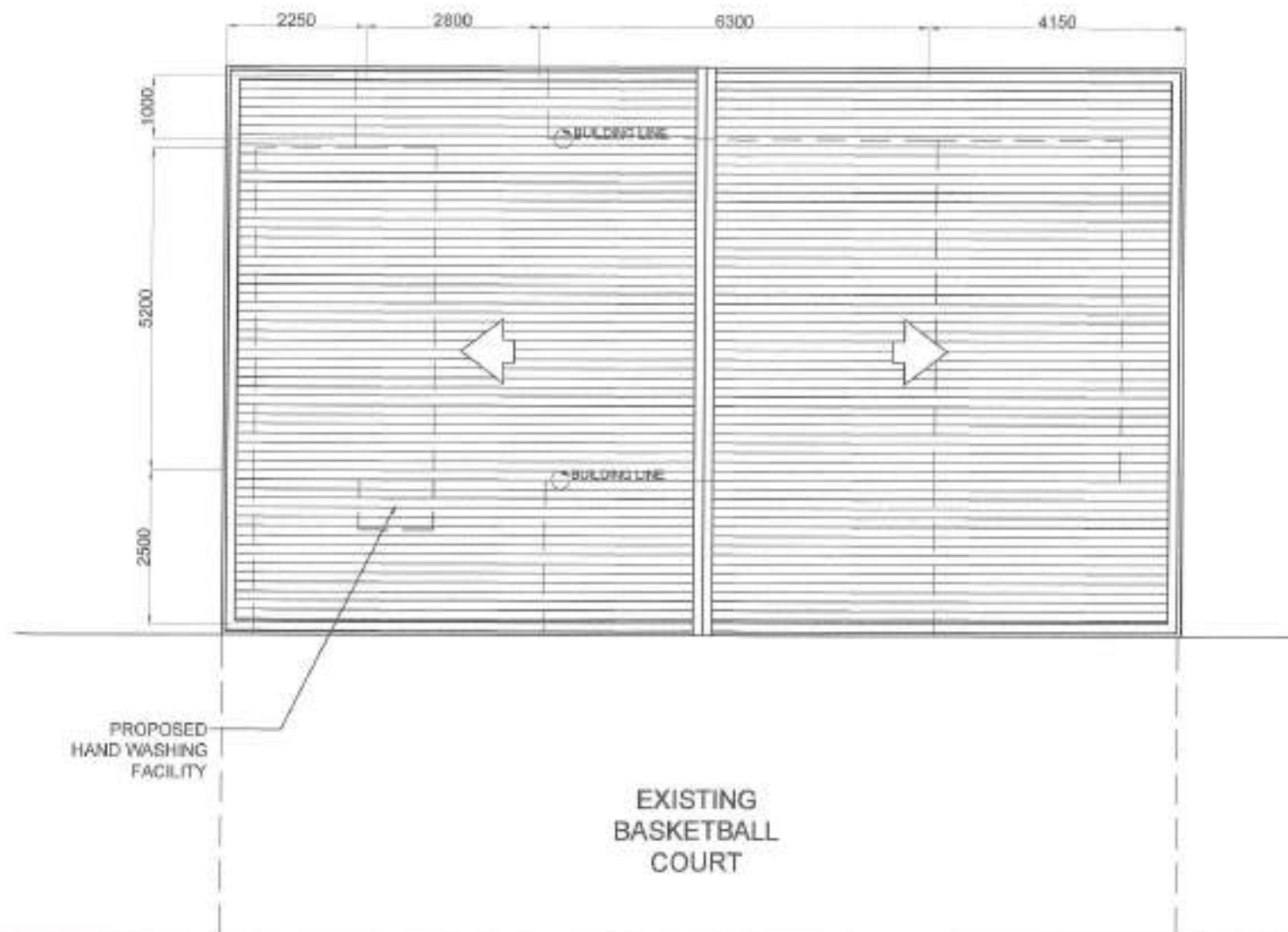
ENGR. ISAGUWIL VERZOZA, JR.
SAC, CITY ENGINEERING DEPARTMENT

APPROVED BY:

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

SHEET CONTENT:
LOCATION MAP
VICINITY MAP
PERSPECTIVE

SHEET NO:
AR-1
01/11



1 SITE DEVELOPMENT PLAN

SCALE: 1:75M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
BPOV COMMINGWALD DISTRICT 2, BUZZON CITY

DESIGN BY: *LS*

DATE: 6/14/2021

CHECKED BY: *JM*

REVISION NO:

SUBMITTED BY: *[Signature]*

ENGR. LEO S. DEL ROSARIO
SENIOR PLANNING PROGRAMMING DIVISION

RECOMMENDING APPROVAL: *[Signature]*

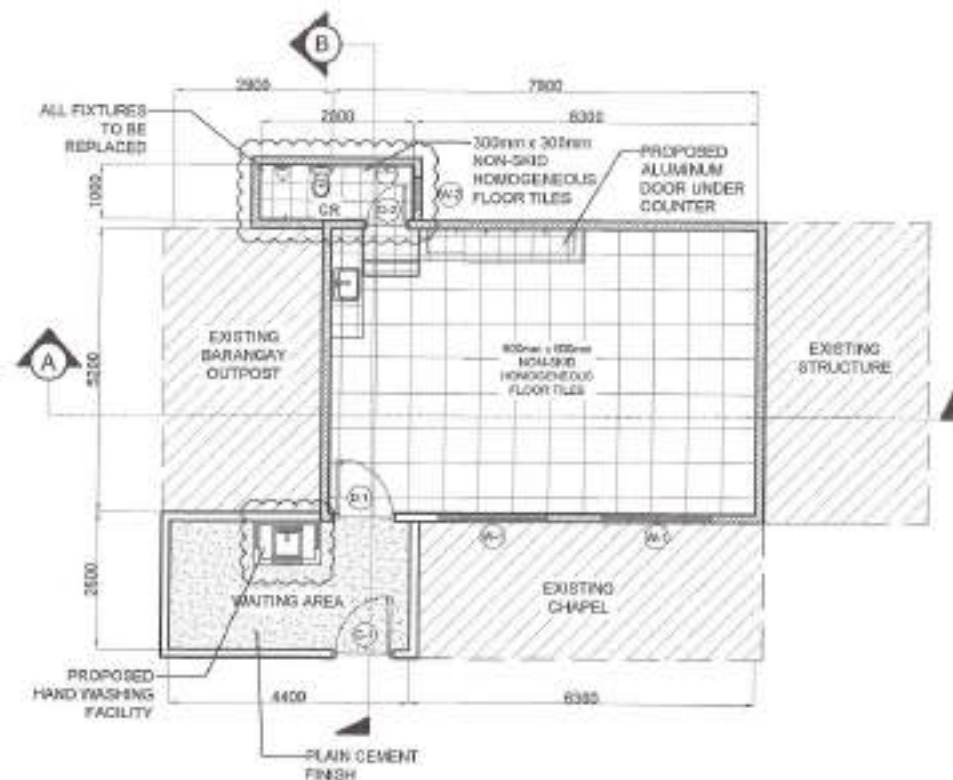
ENGR. MAGNUS R. VERZOSA, JR.
DIR. OF COMMUNITY ENGINEERING DEPARTMENT

APPROVED BY: *[Signature]*

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

SHEET CONTENT:
SITE DEVELOPMENT
PLAN

SHEET NO.
AR-2
02/11

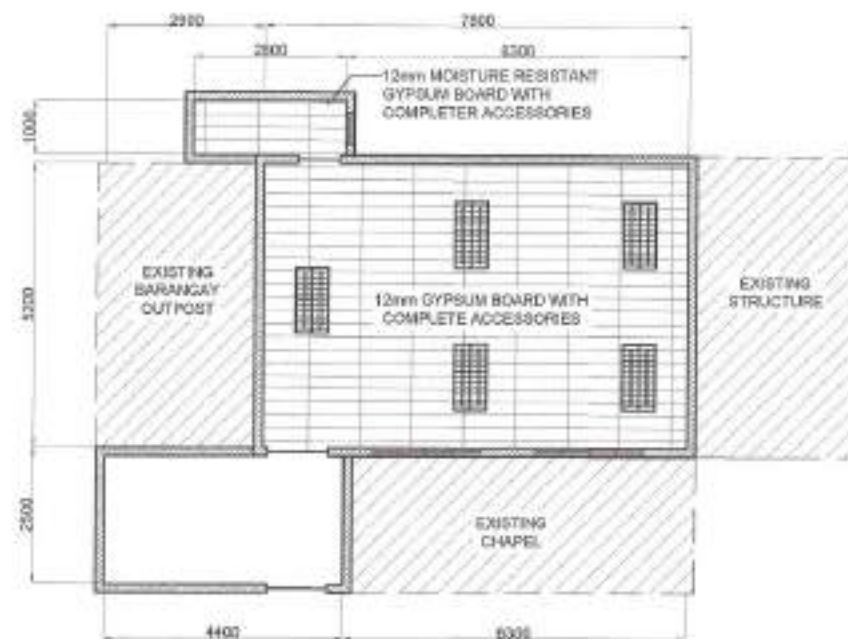


NOTE

- WHOLE STRUCTURE TO BE REPAINTED
- DOORS AND WINDOWS TO BE REPLACED
- GATE TO BE REPAINTED
- FLOOR TILES TO BE INSTALLED

NOTE

- CEILING TO BE REPLACED



1 GROUND FLOOR PLAN

SCALE: 1:100N

2 GROUND FLOOR REFLECTED CEILING PLAN

SCALE: 1:100N



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER
DATE:	8/11/2021
CHECKED BY:	JM
LOCATION:	DRY, COMMONWEALTH DISTRICT 2, QUEZON CITY
REVISION NO.:	

DESIGNED BY:	JM
CHECKED BY:	JM
REVISION NO.:	

SUBMITTED BY:	JM
RECOMMENDING OFFICER:	JM
APPROVED BY:	JM
ENGR. LEO S. DEL ROSARIO	1621, PLANNING PROGRAM COORDINATOR

RECOMMENDING OFFICER:	JM
APPROVED BY:	JM
ENGR. ISIDORO R. VERZOSA, JR.	011, CITY ENGINEERING DEPARTMENT

RECOMMENDING OFFICER:	JM
APPROVED BY:	JM
HON. NA. JOSEFINA G. BELMONTTE	CITY MAJOR, QUEZON CITY

SHEET COUNT:	GROUND FLOOR PLAN SECOND FLOOR REFLECTED CEILING PLAN
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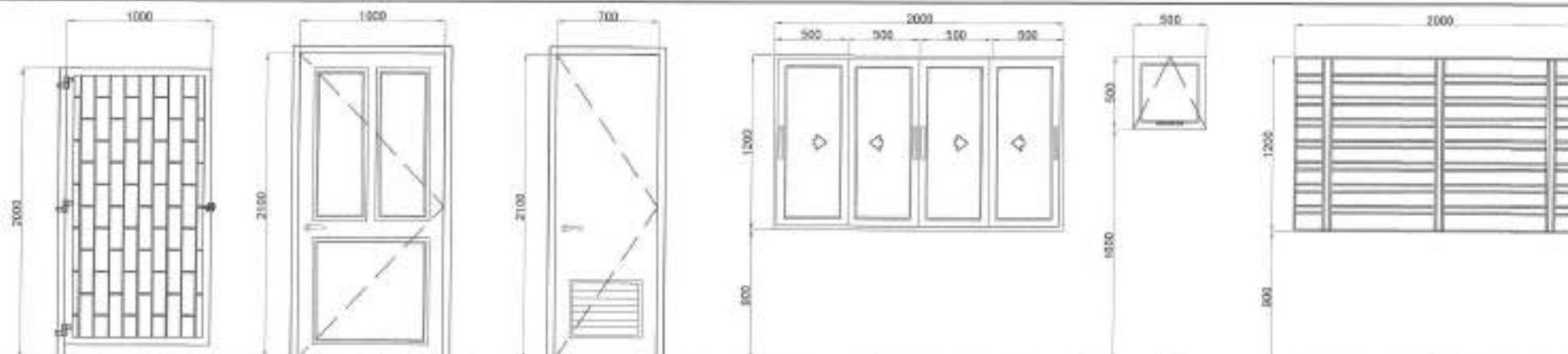
SHEET NO.:	AR-3 03/11
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NOTE:
• ROOFING TO BE REPLACED

1 ROOF PLAN


SCALE: 1:100M

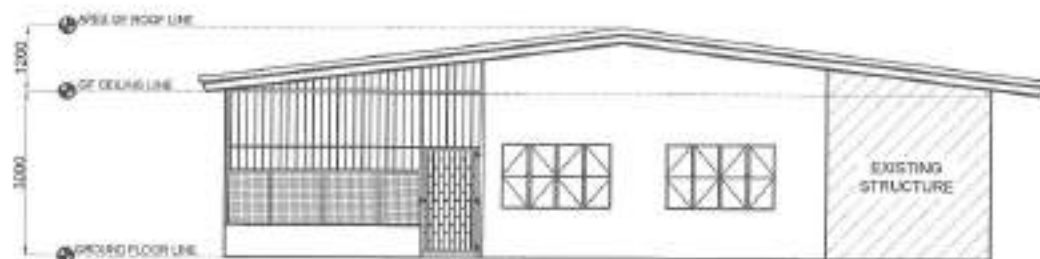


	G-1	D-1	D-2	W-1	W-2	GR-1
LOCATION	WAITING AREA	DAY CARE CENTER	COMFORT ROOM	DAY CARE CENTER	COMFORT ROOM	GRILLES FOR W-1
SPECIFICATIONS	50mm x 50mm x 2mm THICK TUBULAR BAR WITH 10mm x 10mm VERTICAL AND HORIZONTAL SQUARE BAR	PANEL DOOR	PVC DOOR WITH LOUVER	ALUMINUM CASEMENT WINDOW	ALUMINUM FRAMED AWNING WINDOW	25mm x 25mm HORIZONTAL AND VERTICAL TUBULAR BAR
HARDWARE / GLAZING	HEAVY DUTY HINGES AND BARREL BOLT	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES	COMPLETE ACCESSORIES
NO. OF SETS	1	1	1	2	1	2

2 SCHEDULE OF DOORS AND WINDOWS

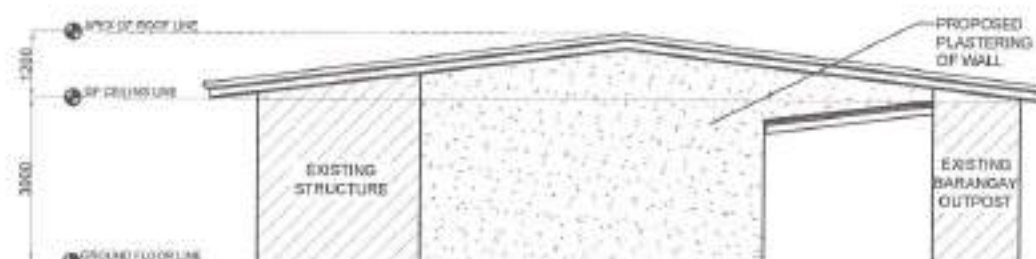
SCALE: 1:30M

 <p>Republic of the Philippines 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 UPPER NAWASA DAY CARE CENTER LOCATION: BRGY. COMMONWEALTH DISTRICT 3, QUEZON CITY	DATE: 8/14/2021 CHECKED BY: [Signature] REVIEWER NO.:	[Signature] ENGR. LEO S. DEL ROSARIO LEAD PLANNER & PROJECT MANAGER	[Signature] ENGR. ISAGOR R. VERZOSA, JR. DIC, CITY ENGINEERING DEPARTMENT	[Signature] HOW. MA. JOSEFINA G. BELMONTÉ CITY ENGINEER - QUEZON CITY	ROOF PLAN SCHEDULE OF DOORS AND WINDOWS	AR-4 0411



1 FRONT ELEVATION

SCALE: 1:100M



2 REAR ELEVATION

SCALE: 1:100M



3 RIGHT SIDE ELEVATION

SCALE: 1:100M



4 LEFT SIDE ELEVATION

SCALE: 1:100M



NOTE:

- WHOLE STRUCTURE TO BE REPAINTED

5 SECTION THRU "A"

SCALE: 1:100M

6 SECTION THRU "B"

SCALE: 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
DRGV. COMMERCIAL 111 DISTRICT 2, QUEZON CITY

DESIGNED BY:
DATE: 6-14-2021
CHECKED BY: JG
REVISION NO:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. OSAMBA R. VERZOSA, JR.
DC, CIVIL ENGINEERING DIVISION

APPROVED BY:

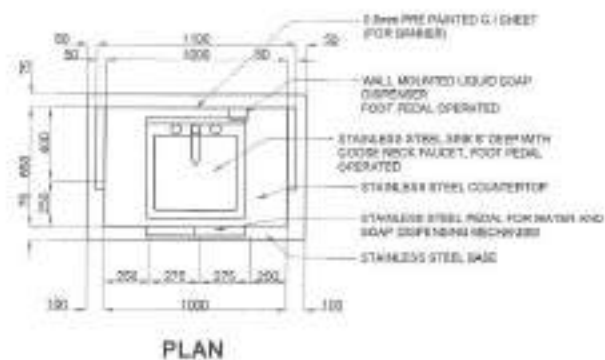
HON. MA. JOSEFINA G. BELMONTTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:

FRONT ELEVATION
REAR ELEVATION
RIGHT SIDE ELEVATION
LEFT SIDE ELEVATION
SECTION THRU "A"
SECTION THRU "B"

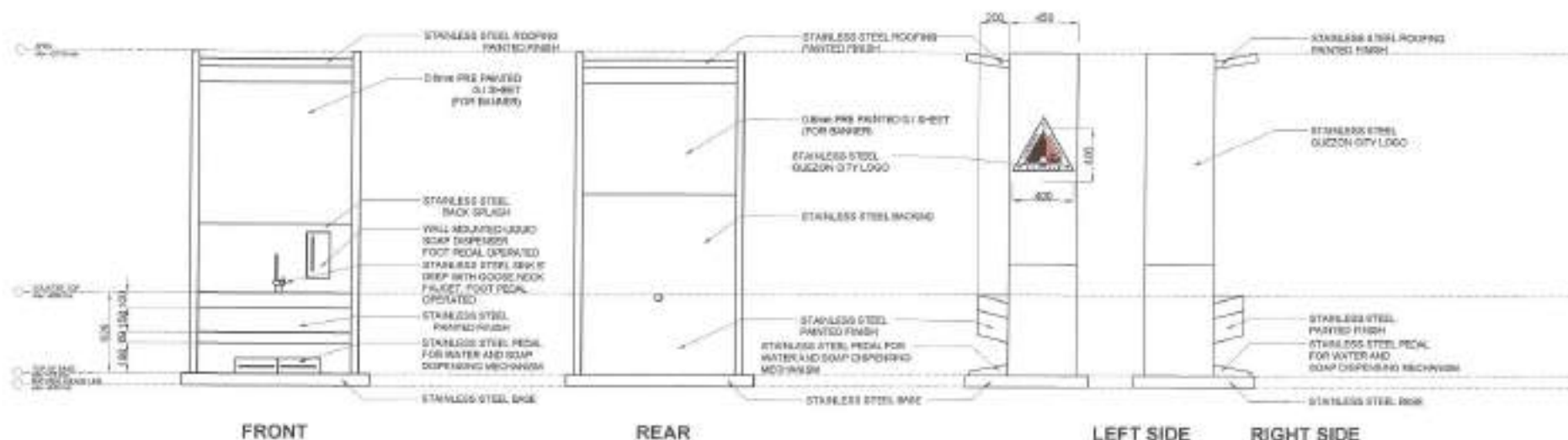
SHEET NO:

AR-5
05/11



1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

SCALE: 1:30M



2 ELEVATIONS

SCALE: 1:30M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER.

LOCATION:
ENJOY COMMONWEALTH DISTRICT 3, QUEZON CITY

DATE: 8-14-2021

DESIGNED BY: JRS

PROVISION NO.

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

RECOMMENDING APPROVAL: [Signature]
ENGR. ISMAEL R. VERZOSA, JR.
CH. CITY ENGINEERING DEPARTMENT

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

SHEET CONTENT:
SINGLE SINK PORTABLE HAND WASHING STALL PLAN ELEVATIONS

SHEET NO.
AR-6
06/11

GENERAL

- CONSTRUCTIVE FACTORS AND TYPICAL DETAILS APPLICABLE TO DRAWINGS UNDER THIS SCOPE SHALL BE SHOWN BY TYPICAL DETAILS AS SPECIFIED IN THE GENERAL CONDITIONS.
- WORKMANSHIP WITH CRECTIONS AND PLACINGS OF ALL STRUCTURAL FORMS SHALL BE APPROVED BY THE ARCHITECT BEFORE PROCEEDING.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BEGIN. CHECK WITH ARCHITECT AND ELECTRICAL CONTRACTORS FOR CONDUIT, PIPE SIZES, ETC. TO BE INSTALLED IN CONCRETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT FORMS AND BRACKETS OF THE STRUCTURE FOR ALL LOADS THAT MAY BE APPLIED. CHECK WITH ARCHITECT.
- IN CASE OF DISCREPANCIES FROM THE INFORMATION OF THE CONTRACT DOCUMENTS, THE ATTENTION OF THE ARCHITECT SHALL BE CALLED IMMEDIATELY.

CONCRETE & REINFORCEMENT

- ALL MIXTURES AND REINFORCEMENT SHALL COMPLY WITH THE LATEST BUILDING CODE OF PHILIPPINES (CONCRETE STRUCTURES AND STEEL).
 - ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT THE END OF TWENTY (20) DAYS WITH CORRESPONDING MAXIMUM ALLOWABLE SHRINKAGE AS FOLLOWS:
- | LOCATION | STRENGTH | MAX. SIZE OF AGGREGATES | MAX. SHRINK |
|--|-------------------|-------------------------|-------------|
| 1. SLAB ON GRADE, CURBS, FOOTINGS, POSTS, WALL FOOTING | 28 MPa (4080 PSI) | 19 (3/4") | 4% (100%) |
| 2. BEAMS, COLUMNS, SUSPENDED SLAB | 35 MPa (5075 PSI) | 9.5 (3/8") | 3% (75%) |
| 3. LEAN CONCRETE | 28 MPa (4080 PSI) | 19 (3/4") | 4% (100%) |

- ALL REINFORCING BARS SHALL CONFORM TO PHILIPPINE STANDARD SPECIFICATION FOR STEEL BARS AND SMALLER BARS AND WIRE REINFORCING BARS AND WIRE FABRIC.
- IN GENERAL, THE LATEST EDITIONS OF ACI 308, MANUAL OF CONCRETE REINFORCEMENT, REINFORCED CONCRETE STRUCTURES SHALL BE REFERRED TO UNLESS OTHERWISE INDICATED OR NOTED.

MINIMUM MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

CONCRETE REINFORCED DIRECTLY AGAINST GROUND	75 mm
SUSPENDED SLAB	25 mm
SLAB ON GROUND	25 mm
WALL ABOVE GROUND	25 mm
BEAMS & COLUMNS	25 mm

- REINFORCING BARS SHALL BE BOUND TOGETHER AND SHALL LAP OR EXTEND ACCORDING TO TABLE 1 (TABLE OF LAP SPACING AND DEVELOPMENT LENGTH) UNLESS OTHERWISE SPECIFIED. DIMENSIONS SHALL BE STAGGERED WHENEVER POSSIBLE.
- ALL REINFORCING BARS, BENDS, AND OTHER FIXTURES SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL NECESSARY CURBS, WALLS, EQUIPMENT, AND MECHANICAL BARS THAT ARE REQUIRED BY THE ARCHITECT, ELECTRICAL, AND MECHANICAL DRAWINGS.
- ALL CONCRETE SHALL BE SET BACK FOR A MINIMUM OF SEVEN (7) CONCRETE DAYS IMMEDIATELY AFTER POURING OR THE USE OF WET BURLAP TO SPRAYING CURING COMPOUND OR OTHER APPROVED METHOD.

FINISHES OF FORMS AND JOINTS:

CONCRETE	CURING
FOUNDATION	30 DAYS
SUSPENDED SLAB EXPOSED FINISH	60 DAYS
ADDITIONAL CURING ABOVE	30 DAYS
RESTRICTION COLUMNS, WALLS	30 DAYS
BEAMS	21 DAYS

- DEVELOPMENT LENGTH FOR ALL BARS SHALL BE 30 DIAMETER UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL AND PLATE

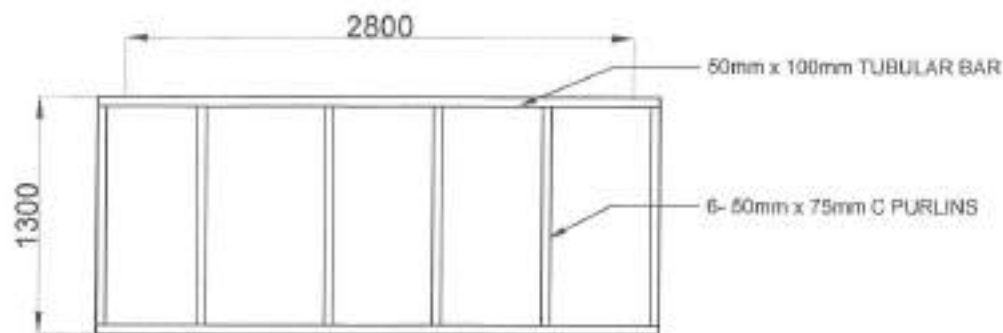
- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A 36 UNLESS OTHERWISE SPECIFIED IN DRAWINGS AND CONTRACT DOCUMENTS. ALL BOLTS SHALL CONFORM TO ASTM A 307 UNLESS OTHERWISE SPECIFIED.
- WELDING RODS & WELDING PROCESSES SHALL BE AS SPECIFIED IN CONTRACT DOCUMENTS UNLESS OTHERWISE SPECIFIED.

FOUNDATION

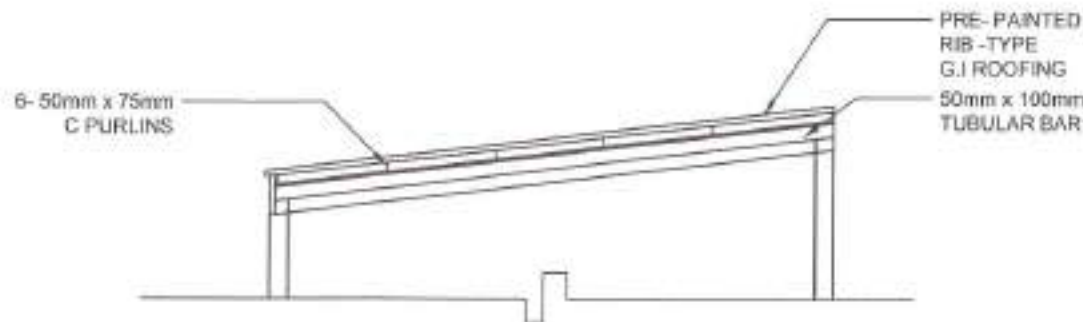
- FOUNDATION IS DESCRIBED BASED ON HORIZONTAL SECTION ONE OF THE DRAWINGS FOR AN ALLOWABLE SOIL BEARING CAPACITY OF 2000 kPa.
- FOUNDATION SHALL REST ON NATURAL SOIL UNLESS OTHERWISE SPECIFIED IN DRAWINGS. NO PART OF THE FOUNDATION SHALL REST ON FILL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER UPON COMPLETION OF SUBMITTALS AND FOR APPROVAL OF FOUNDATION CONDITIONS AND BEFORE ANY CONSTRUCTION BEGINS.

MASONRY WALLS

- ALL MASONRY & REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE SPECIFIED STANDARD & SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES (CONCRETE AND STEEL).
- MORTAR MIXTURE FOR ALL CONCRETE AND STEEL SHALL CONFORM TO ASTM C 111 TYPE III. SHALL HAVE A MINIMUM OF 20 MPa COMPRESSIVE STRENGTH AT 28 DAYS.
- ALL JOINTS SHALL BE MADE-UP WITH THE CELLS IN UNBLENDED HORIZONTAL JOINTS. ALL JOINTS ESPECIALLY THOSE WITH REINFORCEMENT SHALL FOLLOW WITH MORTAR.
- REINFORCEMENT NOT INDICATED BELOW SHALL BE PROVIDED UNLESS OTHERWISE SPECIFIED IN DRAWINGS.
- ALL MASONRY WALL SHALL BE PROVIDED WITH 100mm x 100mm x 100mm REINFORCING BARS FOR EACH WALL & EVERY 1000mm x 1000mm CENTER TO CENTER.
- FOR 200mm x 100mm x 100mm REINFORCING BARS, UNLESS OTHERWISE SPECIFIED IN DRAWINGS.



ROOF FRAMING PLAN



SECTION

1 GENERAL NOTES

SCALE: NTS

2 ROOF DETAILS

SCALE: 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
BARO, COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
DATE: 8/14/2021
CHECKED BY: *[Signature]*
REVISIONS:

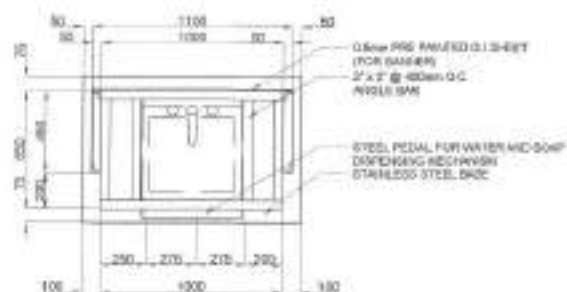
SUBMITTED BY: *[Signature]*
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROJECT MANAGEMENT DIVISION

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

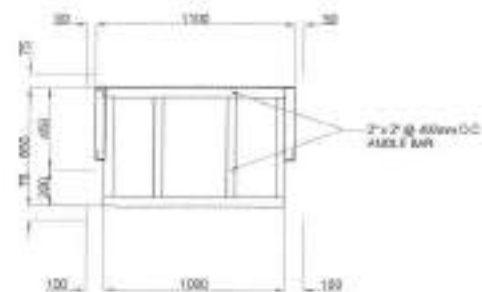
APPROVED BY: *[Signature]*
HON. MA. JOSEFINA G. BELMORTE
CITY ENGINEER, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES
ROOF DETAILS

SHEET NO:
ST-1
07/11



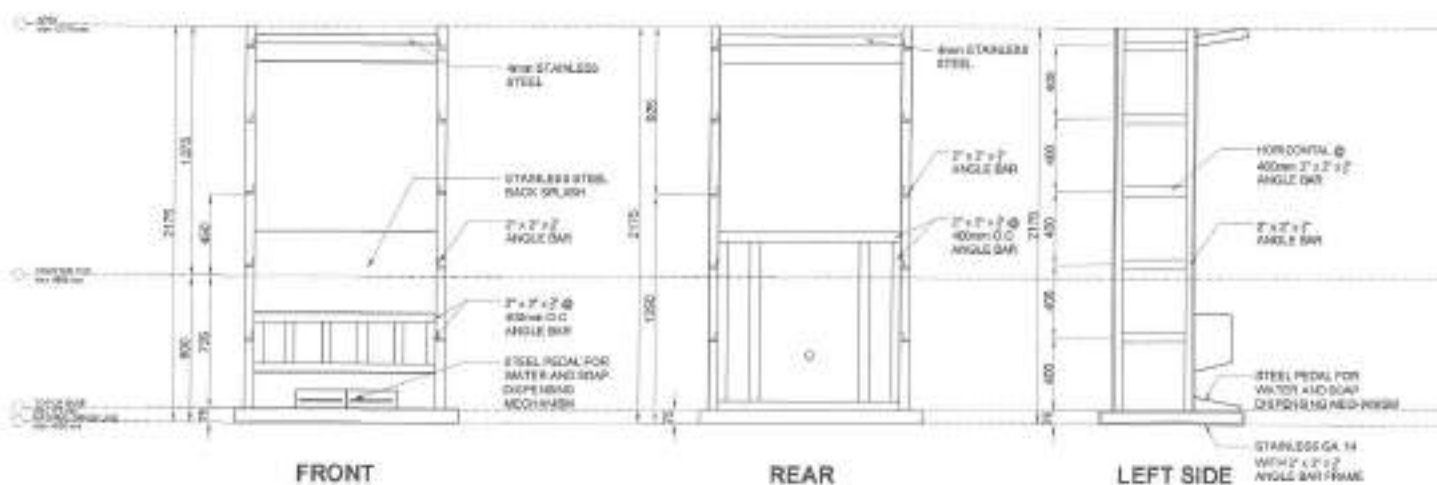
PLAN



ROOF PLAN

1 SINGLE SINK PORTABLE HAND WASHING STALL PLAN

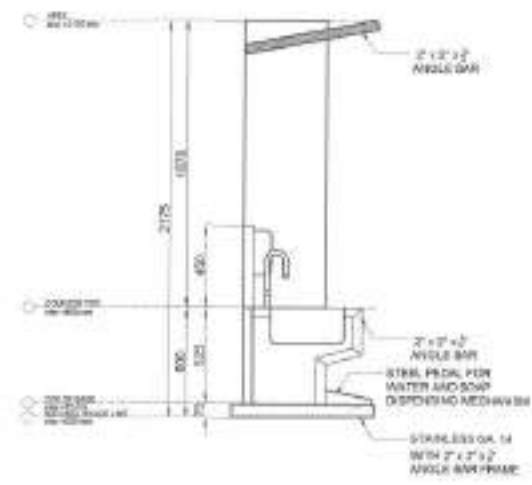
SCALE: 1:30M.



FRONT

REAR

LEFT SIDE



2 ELEVATIONS

SCALE: 1:30M.

3 TYPICAL SECTION

SCALE: 1:30M.



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.	
PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER	DATE: 04/02/2021	CHECKED BY: [Signature]	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECTS DIVISION	ENGR. SARAH R. VERZOSA, JR. DC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTTE CITY MAJOR, QUEZON CITY	ENGL. SINK PORTABLE HAND WASHING STALL PLAN & ELEVATIONS TYPICAL SECTIONS	ST-2 08/11
LOCATION: GRDY. COMMUNAL HEALTH DISTRICT 2, QUEZON CITY	REVISION NO.:						

DESIGNED BY: [Signature]

SUBMITTED BY: [Signature]

RECOMMENDING APPROVAL: [Signature]

APPROVED BY: [Signature]

SHEET CONTENT:

SHEET NO.:

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.

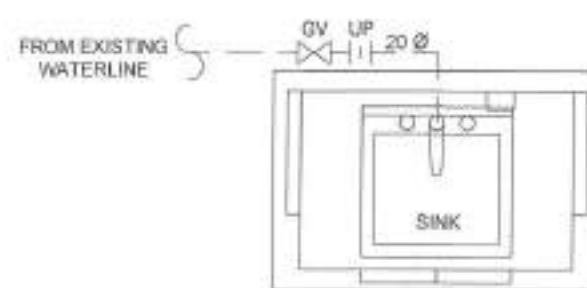
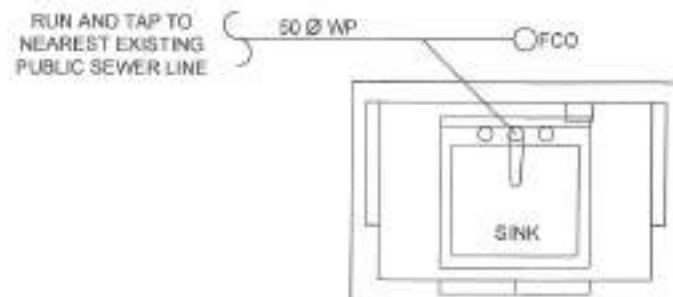
1 GENERAL NOTES

I. SEWER/WASTE AND VENT SYSTEM:

—	SP / WP	- SOIL PIPE / WASTE PIPE
---	VP / VAC	- VENT PIPE / VENT AT CEILING
---	SP	- STORM DRAIN PIPE
—	FCO / GCO	- 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
○	BD	- BALCONY DRAIN



2 LEGENDS AND SYMBOLS

3 SINGLE SINK PORTABLE HAND WASHING SANITARY LINE

SCALE 1:200

6 SINGLE SINK PORTABLE HAND WASHING WATER LINE

SCALE 1:200



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER	DESIGNED BY: DATE: 03/10/2021 CHECKED BY: JG	SUBMITTED BY: ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	RECOMMENDING APPROVAL: ENGR. SAGANI R. VERZOSA, JR. OC, CITY ENGINEERING DEPARTMENT	APPROVED BY: HON. MA. JOSEFINA G. BELMONTTE CITY MAJOR, QUEZON CITY	SHEET CONTENT: GENERAL NOTE, LEGENDS AND SYMBOLS, SINGLE SINK PORTABLE HAND WASHING SANITARY AND WATERLINE LAYOUT	SHEET NO.: PL-1 09/11
LOCATION: Bldg. COMMO/HEALTH DISTRICT 2, QUEZON CITY	PERSON NO.:					

GENERAL NOTES:

- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL GOVERNMENT AS APPLICABLE 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 SAME THROUGH THE ENGINEER. FINAL VERIFICATION OF ELECTRICAL INSTALLATION AND APPROVAL THEREAFTER SHALL BE SUBMITTED FOR COMPLETION OF WORK.
- ALL DANGEROUS WORKS SHALL BE PROHIBITED AND FOR EXPOSED INSTALLATIONS SHALL BE AND SUPPORTED BY CONDUIT TO MEN EVERY 90 MILLIMETER.
- ALL WORK SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NECESSARY TO FACILITATE THE UTILITIES WHICH SHALL BE PROVIDED BY THE UTILITIES. BEFORE ALL PULLBORES SHALL BE COMPLETED BASED ON THE CODE REQUIREMENTS. SUBMIT BLUE DRAWINGS TO THE ENGINEER FOR APPROVAL. WORK TO INDICATED LOCATION OF PULLBORES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "JOB-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE INSTALLED WITH VERTICAL 0.90 METERS FROM FINISHED FLOOR TO CENTER OF THE SWITCH OR OUTLET. ALL ELECTRICAL WORK SHALL BE INSTALLED WITH VERTICAL 0.90 METERS FROM FINISHED FLOOR TO CENTER OF THE SWITCH OR OUTLET.
- ALL METALLIC CONDUIT, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND THE CODE.
- UNLESS OTHERWISE NOTED, ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING:

EMERGENCY LIGHT	3000 MHZ	1500 MHZ
TELEPHONE OUTLET	3000 MHZ	
CITY OUTLET	3000 MHZ	
LIGHTING SYSTEM	1500 MHZ	
HANDLINGS	1500 MHZ	

- REFER TO MECHANICAL DRAWINGS AND FIELD PROCEEDING DRAWINGS FOR DETAILS AND LOCATION OF EQUIPMENT TO ALL AS HIGH CONTROL REQUIREMENTS AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, UNLESS NOTED OTHERWISE.
- THE ENGINEER HAS SPECIFICATIONS AND STANDARDS TO PROTECT GENERAL LAYOUT AND WORK QUALITY. MODIFICATION OF THE PROJECT MAY BE NECESSARY TO ACCOMMODATE ACTUAL CONDITIONS, LEVELS AND DIMENSIONS OF THE EXISTING. THE CONTRACTOR SHALL BE REQUIRED TO MAKE SUCH ADJUSTMENT AT THE DESIGNER'S LOCATION, DISTANCE AND LEVELS ARE GOVERNED BY ACTUAL FIELD CONDITIONS.
- THE COORDINATION BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE.
- ALL LIGHTING AND CONDUIT OUTLET CIRCuits SHALL BE TO BE INSTALLED WITH CONDUIT UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 1.5 MM. ALL CONDUIT SHALL BE INSTALLED AS FOLLOWS:

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

- WIRE WIRE, PATTERNS (ENCLOSURE) SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 WIDTH: 1.5 MM
 LINE 2: YELLOW
 NEUTRAL: WHITE
 GROUND: GREEN
- WIRE WIRE, PATTERNS (ENCLOSURE) SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 WIDTH: 1.5 MM
 LINE 2: YELLOW
 NEUTRAL: WHITE
 GROUND: GREEN
- TYPE OF SERVICE ENTRANCE SHALL BE: SINGLE-PHASE, TWO-WIRE PLUS GROUND, 120V/240V AC, 60 HZ.
- CONDITIONS AND CONDITIONS THEREAFTER SHALL BE GOVERNED BY THE NATIONAL ELECTRICAL CODE AND ANY OTHER ALL CODES WHICH SHALL BE FILED BASED BY LOCAL GOVERNMENT. WORK SHALL BE INSTALLED IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A TEST REPORT AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR AND WORK OF THE INSTALLATION TO BE REPORTED IN DETAILS OR FORM APPROVED BY THE QUALITY CONTROL AND QUALITY ASSURANCE. THE CIRCULAR REPORT FOR ELECTRICAL SYSTEM SHALL NOT BE MORE THAN 1000 WORDS. ALL INFORMATION PROVIDED HEREIN SHALL NOT BE SUBJECT TO CHANGE.

	1200MM TS, 1 X 20W LED, TUBE LIGHT
	150MM FLUORESCENT LED
	60MM X 120MM, 3 X 20W LED RECESSED TROFFER
	EMERGENCY LIGHT
	EXIT LIGHT
	SINGLE POLE SWITCH (LIGHTS)
	TWO POLE SWITCH (LIGHTS)
	SELECTOR SWITCH (FAN)
	SUPER CONDENSER OUTLET
	CBLAC TM
	PANEL BOARD
	KVA-WATT METER

MDP

CIRCUIT NO.	LOAD DESCRIPTION	VOLT	POWER	CURRENT (AMPERE)	CIRCUIT BREAKER			WIRES AND CONDUIT		
					AT	AF	P	UNGROUND THW	GROUND TW	MMB TW
1	1 - TROFFER, 1 - FLUORESCENT, 2 - FLUORESCENT	220	1260	5.88	30	30	2	2 - 5.5mm ²	2 - 5.5mm ²	30 mm Ø PVC
2	3 - CONDUIT OUTLET	220	900	3.91	30	30	2	2 - 5.5mm ²	2 - 5.5mm ²	30 mm Ø PVC
3	SPARE	220	1000	4.55	30	30	2	-	-	-
4	SPARE	220	1000	4.55	30	30	2	-	-	-
TOTAL CONNECTED LOAD			4160	18.89						

CIRCUIT PROTECTION COMPUTATION:

$$I_1 = (4160 / 220 V) * 125\%$$

$$I_1 = 22.61 \text{ amperes}$$

OVER CURRENT PROTECTION:

USE: 60 AT, 2P CB BOLT-ON

MAIN FEEDER:USE: 2 - 14mm² THHN WIRE & 1 - 8.0mm² TW GROUND WIRE

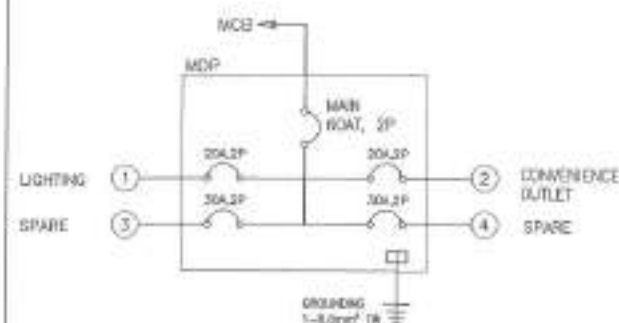
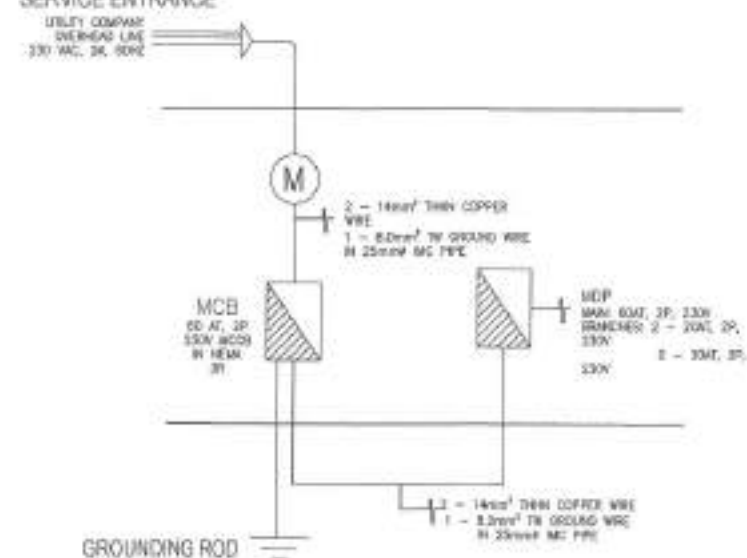
IN 25mm Ø IMC TYPE

2 LEGEND

SCALE: NTS

3 LOAD SCHEDULE

SCALE: NTS

SERVICE ENTRANCE**1 GENERAL NOTES**

SCALE: NTS

4 SINGLE LINE DIAGRAM

SCALE: NTS

5 RISER DIAGRAM

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

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

LOCATION:
DR. JOSE P. COMBAYAN, DISTRICT 2, QUEZON CITY

DRAWN BY:
DATE: 08/10/2021
CHECKED BY:
PERMITTED BY:

SUBMITTED BY:

ENGR. LEE S. DEL ROSARIO
HEAT PLANNING, PROGRAM MANAGER

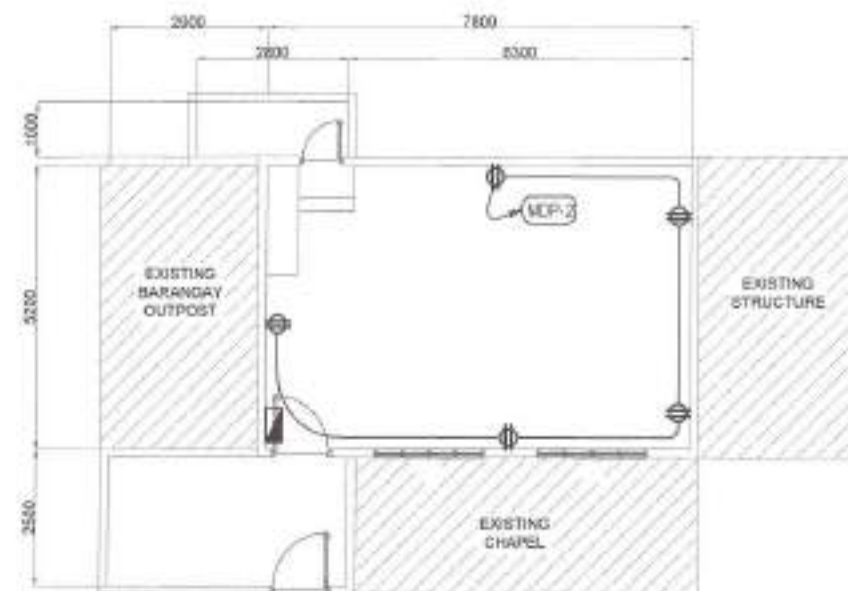
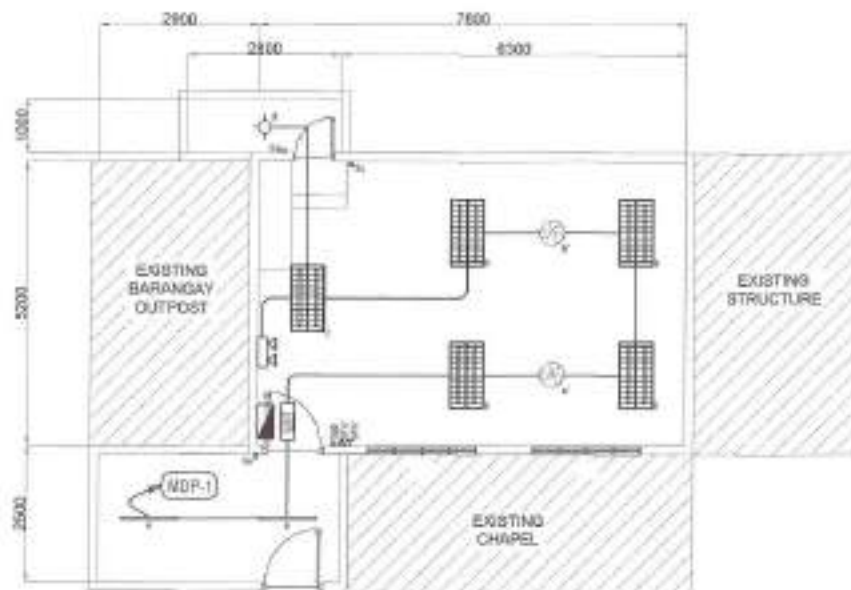
RECOMMENDING APPROVAL:

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

APPROVAL BY:
HON. MA. JOSEFINA G. BELMONTTE
CITY MAJOR, QUEZON CITY

SHEET CONTENT:
GENERAL NOTES
LOAD SCHEDULE
SINGLE LINE DIAGRAM
RISER DIAGRAM

SHEET NO.:
EL-1
10/11



1 PROPOSED LIGHTING LAYOUT

SCALE 1:100M

2 PROPOSED POWER LAYOUT

SCALE 1:100M



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CITY ENGINEERING DEPARTMENT

PROJECT TITLE
**PROPOSED CONSTRUCTION OF HAND
WASHING FACILITY AND
REHABILITATION OF UPPER NAWASA
DAY CARE CENTER**

LOCATION
GRVY, COMMANWEALTH DISTRICT 2, QUEZON CITY

DESIGNED BY
DATE: 8/14/2021

PROJECT NO.

PREPARED BY
SUBMITTED BY
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & ENGINEERING DIVISION

RECOMMENDING APPROVAL
ENGR. ISAAC N. R. VERZOSA, JR.
CHIEF, ELECTRICAL DIVISION

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

SHEET CONTENT
PROPOSED LIGHTING
LAYOUT/
PROPOSED POWER
LAYOUT

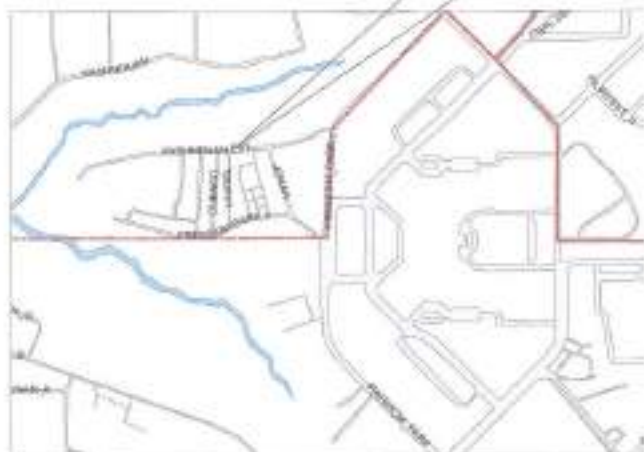
SHEET NO.
EL-2
11/11

THE SITE



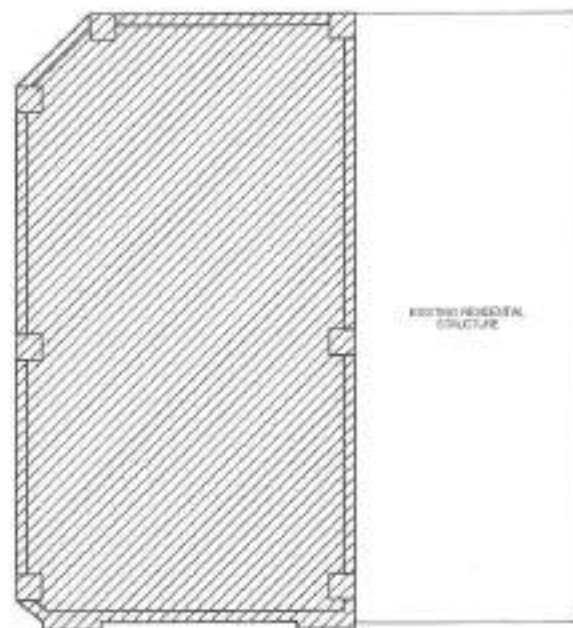
1 VICINITY MAP

THE SITE



2 LOCATION MAP

PEREZ STREET



MARCOS RD

2 SITE DEVELOPMENT PLAN

SCALE:
1:60 METERS

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	SECOND FLOOR CEILING REFLECTED PLAN
	ROOF PLAN
AR-04	FRONT ELEVATION
	REAR ELEVATION
	RIGHT SIDE ELEVATION
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AR-04	CROSS SECTION
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	SCHEDULE OF DOORS AND WINDOWS
PLUMBING	
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	LEGEND AND SYMBOLS
EL-2	GROUND FLOOR LIGHTING LAYOUT
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	SECOND FLOOR POWER LAYOUT



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

**PROPOSED REHABILITATION OF
KASUNDUAN DAY CARE CENTER**

LOCATION:

BARANGAY COMBICHEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY : *EX*

DATE : 7/20/2021

CHECKED BY : *EX*

REVISION NO.:

SUBMITTED BY :

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

RECOMMENDING APPROVAL :

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

APPROVED BY :

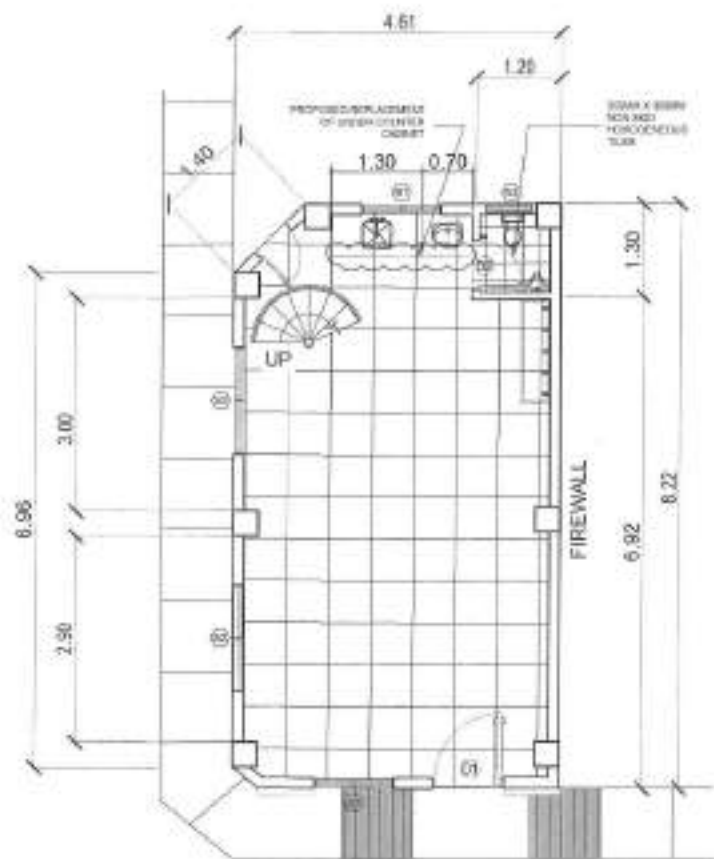
HON. MA. JOSEFINA G. BELMONTTE
CITY MAJOR

SHEET CONTENT

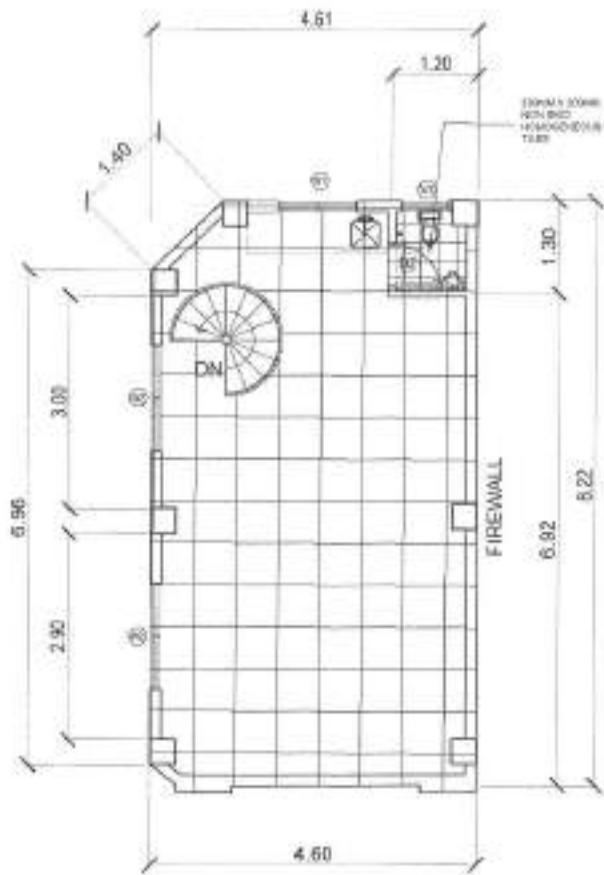
VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT
PLAN

SHEET NO.

AR-1
1/11



- NOTES
- PROPOSED REPLACEMENT OF PLUMBING FIXTURES
 - PROPOSED REPLACEMENT OF DOORS AND WINDOWS
 - TOILET FLOOR TILES TO BE REPLACED WITH 300MM X 300MM NON-SKID HOMOGENEOUS TILES
 - WHOLE STRUCTURE TO BE REPAINTED




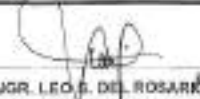

- NOTES
- PROPOSED REPLACEMENT OF PLUMBING FIXTURES
 - PROPOSED REPLACEMENT OF DOORS AND WINDOWS
 - TOILET FLOOR TILES TO BE REPLACED WITH 300MM X 300MM NON-SKID HOMOGENEOUS TILES
 - WHOLE STRUCTURE TO BE REPAINTED

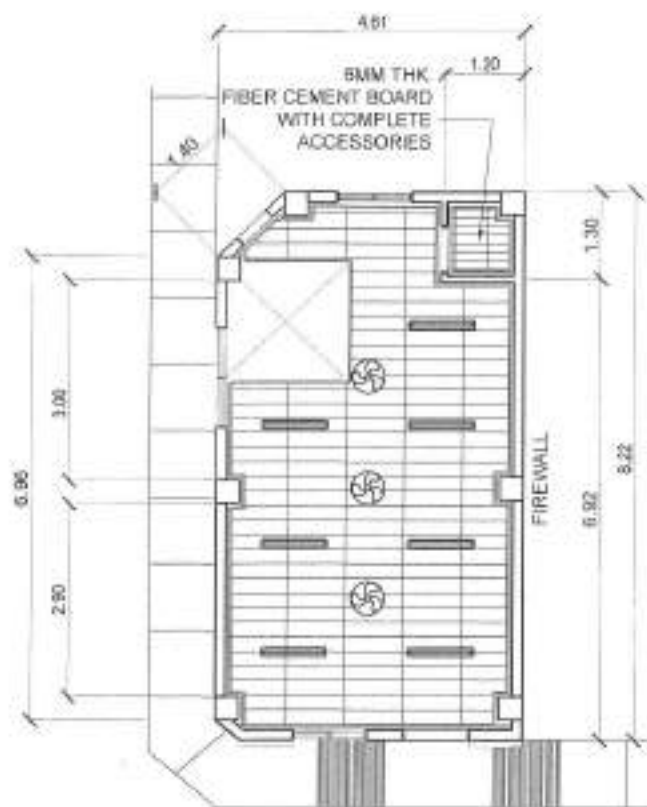
1 GROUND FLOOR PLAN

SCALE:
1:75 METERS

2 SECOND FLOOR PLAN

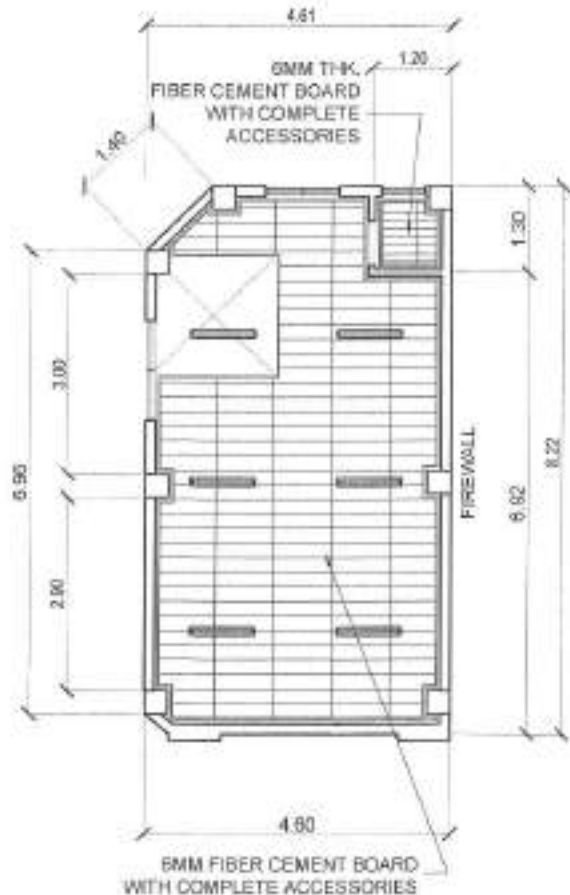
SCALE:
1:75 METERS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: DK	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER	DATE: 10/02/21	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECTS DIVISION	 ENGR. ISAAC M. R. VERZOSA, JR. CHIEF, PLANNING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	GROUND FLOOR PLAN SECOND FLOOR PLAN	AR-2 2 11
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	CHECKED BY: JAA					



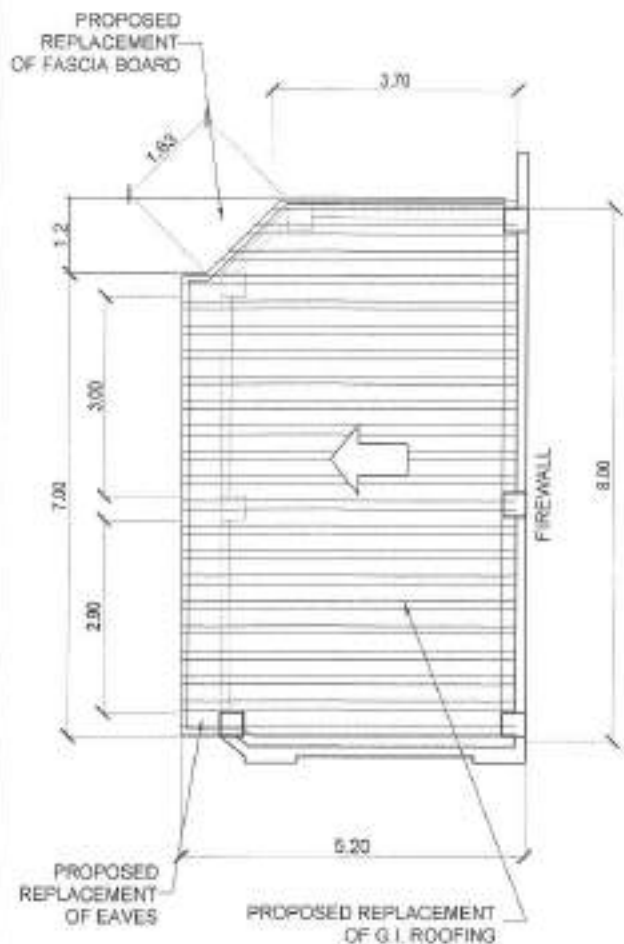
- NOTES:
 • PROPOSED REPLACEMENT OF LIGHTING FIXTURES
 • PROPOSED REPLACEMENT OF CEILING AT TOILET

1 GROUND FLOOR REFLECTED CEILING PLAN SCALE: 1:30 METERS




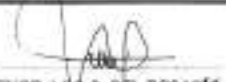


- NOTES:
 • PROPOSED REPLACEMENT OF LIGHTING FIXTURES
 • PROPOSED REPLACEMENT OF CEILING AT SECOND FLOOR

2 SECOND FLOOR REFLECTED CEILING PLAN



- NOTES:
 • PROVISION OF GUTTER AND DOWNSPOUT

3 ROOF PLAN

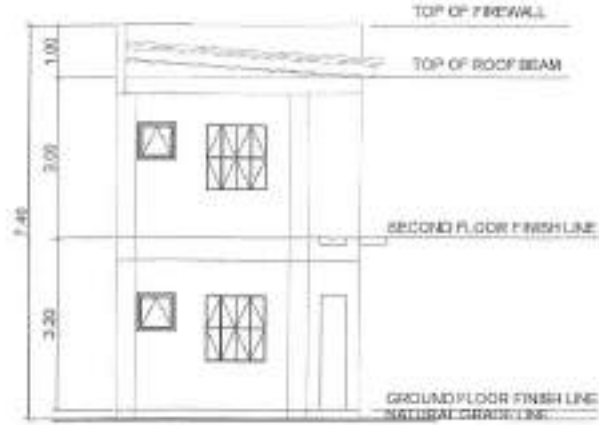
 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: DX	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.	
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER LOCATION: SARAWAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: 11/02/2011	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROVISIONS DIVISION	 ENGR. SABANI R. VERZOSA, JR. CH. CIVIL ENGINEERING DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	GROUND FLOOR REFLECTED CEILING PLAN SECOND FLOOR REFLECTED CEILING PLAN ROOF PLAN		
		CHECKED BY: J44						REVISION NO.:



NOTES:
 • PROPOSED REHABILITATION OF ALUMINUM CLADDING
 • PROPOSED REPAINTING OF EXTERIOR WALLS

1 FRONT ELEVATION

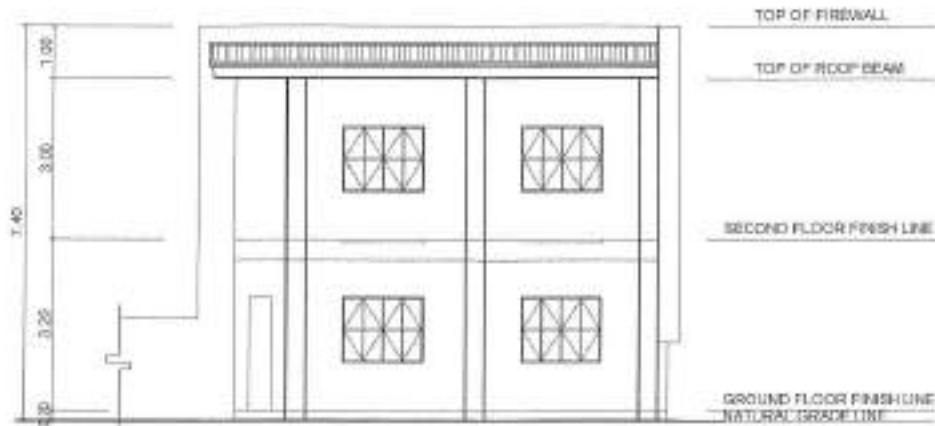
SCALE:
 1:150 METERS



NOTES:
 • PROPOSED REPAINTING OF EXTERIOR WALLS

2 REAR ELEVATION

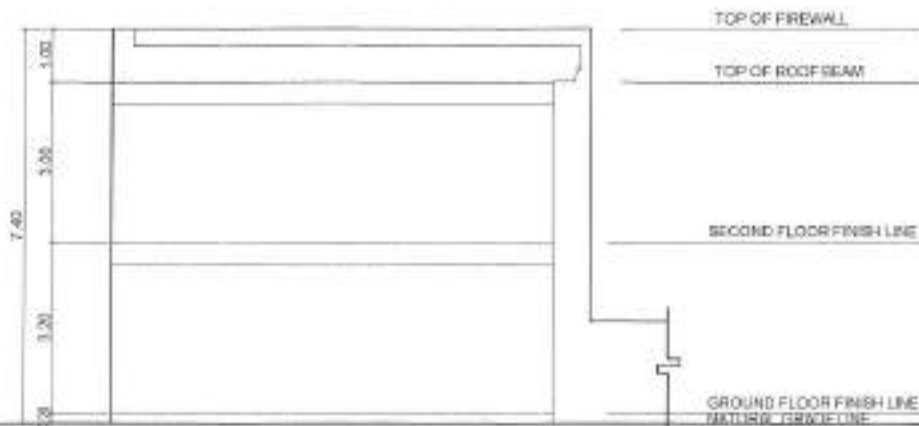
SCALE:
 1:50 METERS



NOTES:
 • PROPOSED REPAINTING OF EXTERIOR WALLS

3 RIGHT SIDE ELEVATION

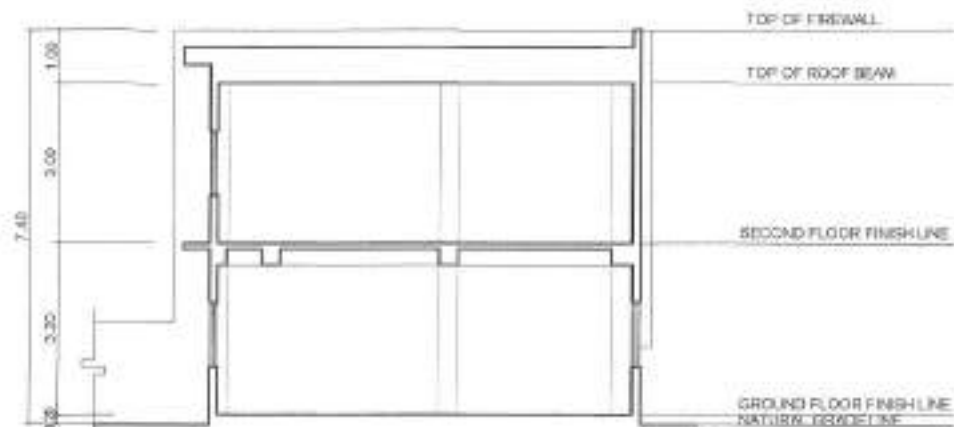
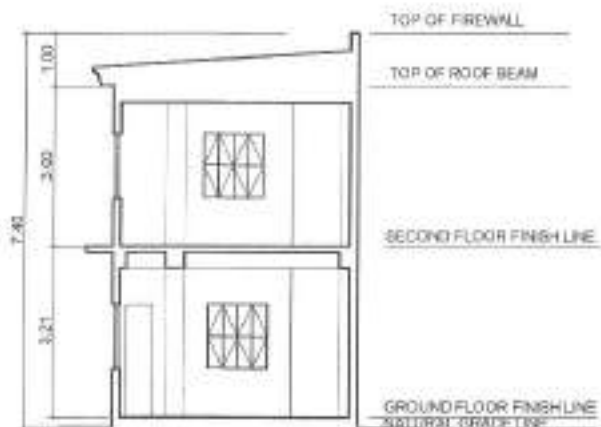
SCALE:
 1:100 METERS



4 LEFT SIDE ELEVATION

SCALE:
 1:50 METERS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: DK	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER	DATE: 10/02/21	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	 ENGR. BASANI R. VERZOSA, JR. OIC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	FRONT ELEVATION REAR ELEVATION RIGHT SIDE ELEVATION LEFT SIDE ELEVATION	
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	CHECKED BY:					
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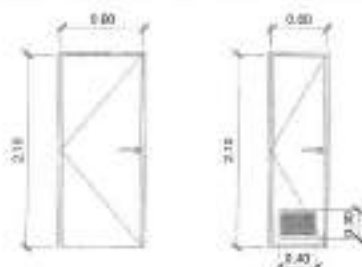


1 CROSS SECTION

SCALE:
1:100 METERS

2 LONGITUDINAL SECTION

SCALE:
1:50 METERS



DESCRIPTION	⊕	⊕
TYPE	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (GITTEN WHITE)	SWING TYPE, PVC DOOR, WITH 400mm x 300mm LUNGER, PAINTED FINISH (GITTEN WHITE)
HARDWARE/ GLAZING	COMPLETE ACCESSORIES DOOR KNOB LEVER-TYPE SATIN STAINLESS FINISH	COMPLETE ACCESSORIES DOOR KNOB LEVER-TYPE SATIN STAINLESS FINISH



DESCRIPTION	⊕	⊕	⊕
TYPE	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/ GLAZING	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES

3 SCHEDULE OF DOORS AND WINDOWS

SCALE:
NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>EX-1</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: 7/30/2021	 ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	 ENGR. BARANI R. VERZOSA, JR. DC, CITY ENGINEERING DEPARTMENT	HOM. MA. JOSEFINA G. BELMONTE CITY MAOR	CROSS SECTION LONGITUDINAL SECTION SCHEDULE OF DOORS AND WINDOWS	AR-5 5 11
		CHECKED BY: <i>JAN</i>					
		REVISION NO.					

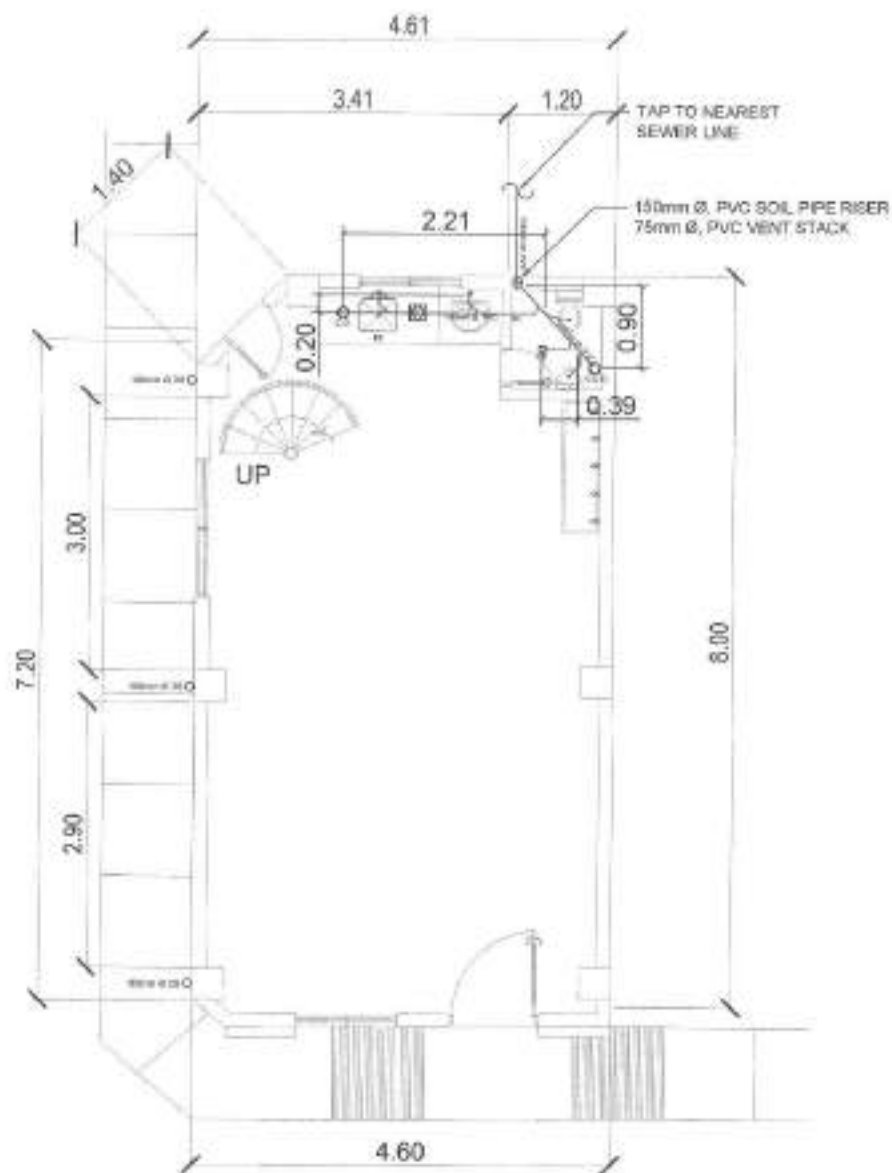
1. All plumbing work and materials installed herein shall be compliant to the provisions of the International Plumbing Code, the rules and regulations of the local health department, the rules and regulations of the city engineer and the provisions of the local developer rules and other applicable.
2. The plumbing level in any diagrammatic plan, elevation and detail shall be consistent with the existing. It is not intended to show the actual elevation of the proposed fixture in the existing level of the floor and below it shall be indicated as per where indicated. Any modification shall require proper structural treatment after field.
3. The existing structure shall verify existing utilities of the site and all conditions shall be shown with clear labels.
4. Pipe shall not be embedded in structural members unless otherwise specified or allowed.
5. Minimum clear height above floor shall be 1.8m and for 2.1m minimum for 2.5m.
6. Proposed piping shall comply with the code books, depth and level elevation of existing conditions.
7. Connection of fixtures to pipe shall be in accordance to manufacturer's specifications.
8. All floor openings shall be adequately sealed.
9. All clean out for any pipe to floor exterior to wall and need be provided with cast-iron cover caps. Cover caps for cleanouts except trap on grade and below area not subject to traffic.
10. All underground pipes in exterior areas shall be laid in trench with two (2) rows of protection covering and supported by well-constructed trench or support.
11. Pipes shall have and vent pipe shall be laid in a trench with support.
12. All hot water pipes shall be of approved quality CPVC pipes for water distribution and cold water shall be of approved weight.
13. Provide pipe schedule of water supply from bottom.
14. All hot water lines shall be provided with proper insulation where exposed.
15. All individual branches to fixture or group of fixtures with supports shall be provided with all fixtures a support unless otherwise indicated.
16. All hot water for 1/2 inch and larger.
17. All hot water for 3/4 inch and larger.
18. All hot water shall be 1/2 inch or 3/4 inch (2) inches otherwise indicated.
19. All pipe shall be laid in 20 mm higher than the actual elevation in 20 mm higher than the actual elevation.
20. All plumbing work shall be done in accordance with the rules and regulations of the local health department and the local engineer. Any discrepancy from the plan shall be indicated in the notes.

I. FIXTURES AND OTHER LEGEND

- FD FLOOR DRAIN
- RD ROOF DRAIN
- SHD SHOWER
- WC WATER CLOSET
- LAV LAVATORY
- UR URINAL
- KS KITCHEN SINK
- BD BUILDING DRAIN
- DD DECK DRAIN
- CCO CEILING CLEANOUT
- FCO FLOOR/ROOF CLEANOUT
- DS DOWNSPOUT
- mm millimeter
- Ø mm DIAMETER
- SHD SHOWER DRAIN
- CS CATCH BASIN
- MH MANHOLE
- DIRECTION OF FLOW
- ☑ GREASE TRAP

II. SEWER/WASTE AND VENT SYSTEM

- SP / WP SOIL PIPE / WASTE PIPE
- - - VS / VAC VENT STACK / VENT AT CEILING
- - - DP STORM DRAIN PIPE
- ⊙ DS DRAINAGE STACK / DOWNSPOUT
- SVTR STACK VENT/EXTENDED THROUGH ROOF
- ⊙ SS SOIL STACK
- ⊙ FCO / GCO FLOOR CLEANOUT / GROUND CLEANOUT
- ⊙ CCO CEILING CLEAN-OUT
- SPDR SUMP PIT DISCHARGE RISER
- SPDR SUMP PIT DISCHARGE PIPE
- AD/CS AREA DRAIN/CATCH BASIN



1 GENERAL NOTES & LEGENDS

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNER:
PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER	ENR. LEO S. DEL ROSARIO
DATE:	REVISIONS:
SARANGANI COMMONWEALTH, DISTRICT 2, QUEZON CITY	

DESIGNED BY:
ENR. LEO S. DEL ROSARIO

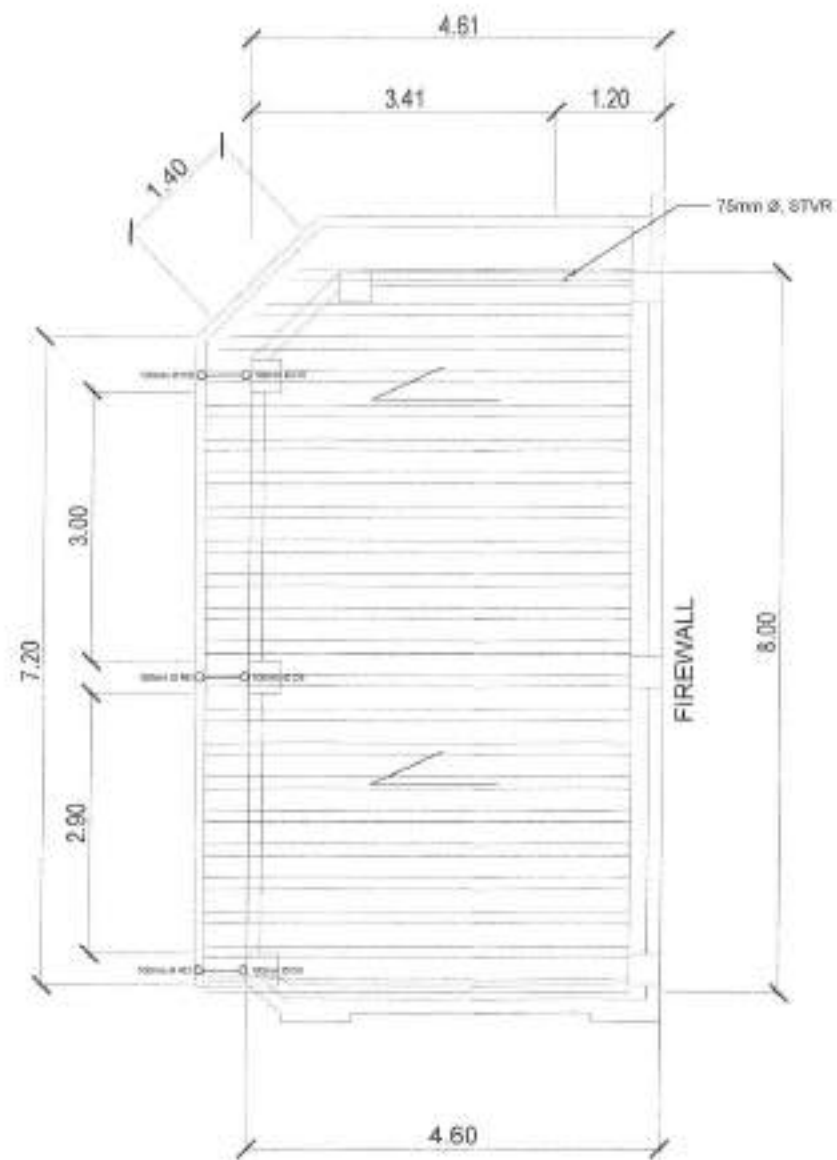
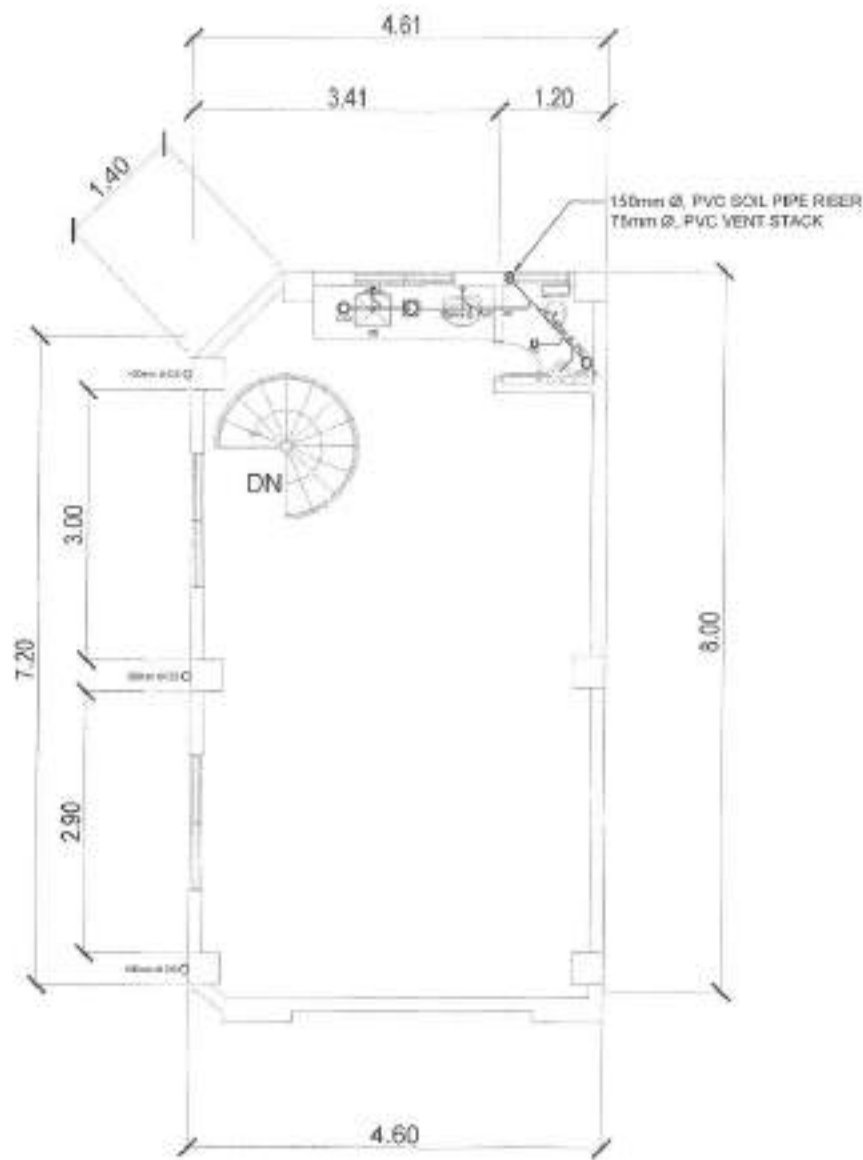
SUBMITTED BY:
ENR. LEO S. DEL ROSARIO

RECOMMENDING APPROVAL:
ENR. ISAGANI R. VERZOSA, JR.

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE

SHEET CONTENT:
GENERAL NOTES LEGENDS AND SYMBOLS GROUND FLOOR SANITARY LINE LAYOUT

SHEET NO.
PL-1 611



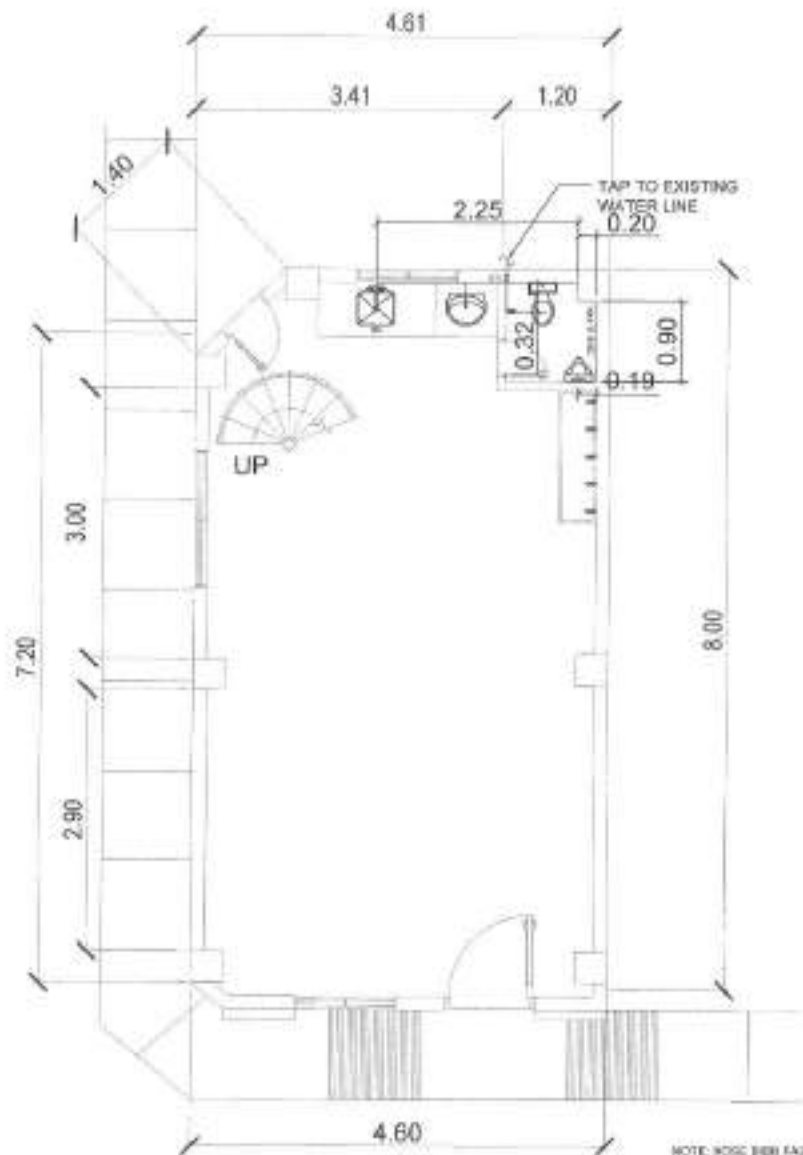
1 SECOND FLOOR SANITARY LINE LAYOUT

SCALE: NTS

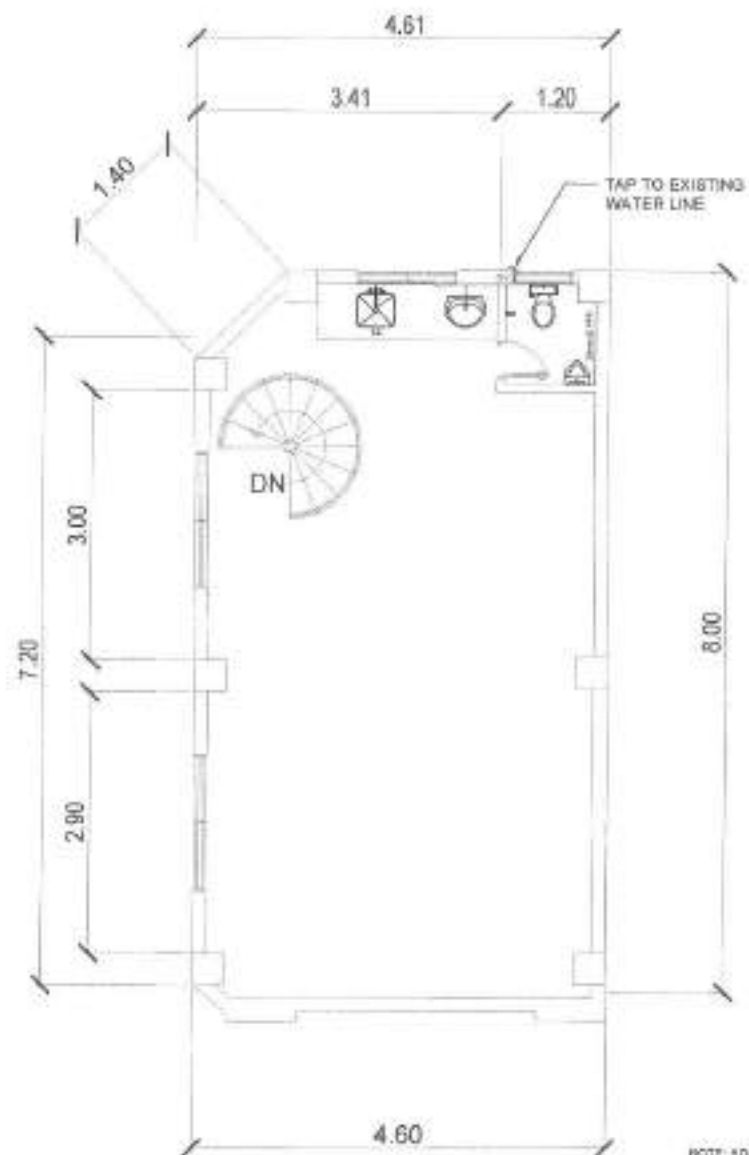
2 ROOF LAYOUT

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: <i>[Signature]</i> REVISIONS:	ENGR. LEO S. DEL ROSARIO SEAL, PLUMBING & MECHANICAL ENGINEER	ENGR. SAMANI R. VERZOSA, JR. SEAL, CIVIL ENGINEER (REGISTERED)	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	SECOND FLOOR SANITARY LINE LAYOUT ROOF LAYOUT	PL-2 7/11



NOTE: ROSE BBR FAUCETS SHALL BE STAINLESS STEEL HEAVY DUTY.



NOTE: ROSE BBR FAUCETS SHALL BE STAINLESS STEEL HEAVY DUTY.

1 GROUND FLOOR WATER LINE LAYOUT

SCALE: NTS

2 SECOND FLOOR WATER LINE LAYOUT

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGNED BY:
PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER	DECIDED BY: <i>[Signature]</i>
DESIGN:	REVISION NO.:
BARANGAY COMMUNITY HEALTH, DISTRICT 2, QUEZON CITY	

DRAWN BY: <i>[Signature]</i>
DATE:

SUBMITTED BY:
<i>[Signature]</i>
ENGR. LEO S. DEL ROSARIO
LEAD PLUMBING & REPAIRS ENGINEER

RECOMMENDING APPROVAL:
<i>[Signature]</i>
ENGR. ISACOR R. VERZOSA, JR.
DC, CITY ENGINEERING DEPARTMENT

APPROVED BY:
<i>[Signature]</i>
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:
GROUND FLOOR WATER LINE LAYOUT
SECOND FLOOR WATER LINE LAYOUT

SHEET NO.:
PL-3
811

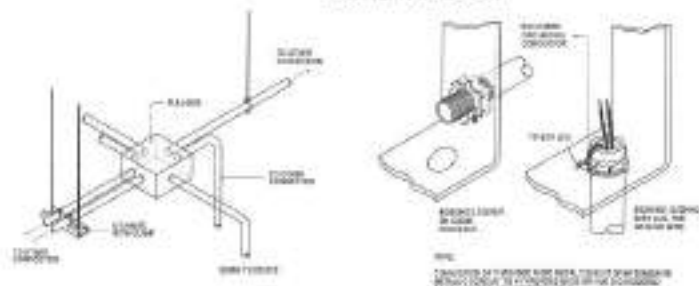
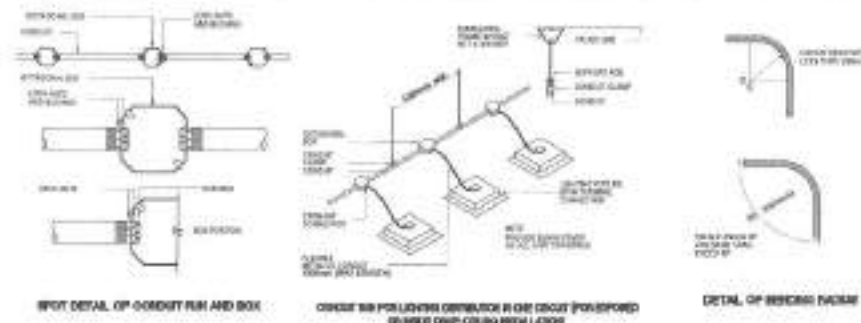
1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
2. THE CONTRACTOR SHALL SECURE ALL PERMITS 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.
3. ALL BRANCHED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPANDED INSTALLATION SHALL BE MC SUPPORTED BY CONDUIT CLAMPS EVERY 750 MILLIMETERS.
4. 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 COMPLETED 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.
5. ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 220V.
6. PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
7. ALL METALLIC ENCLOSURES, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDING.
8. UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF, 180MM ABOVE WORKING COUNTER
 TELEPHONE OUTLET - 300 MM AFF
 DATA OUTLET - 300 MM AFF
 LIGHTING SWITCH - 1400 MM AFF
 PANEL BOARD - 1800 MM AFF

9. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL SEQUENCES AS SPECIFIED AND OR DESCRIBED UNDER THEIR RESPECTIVE SECTIONS.
10. ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
11. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVELS 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.
12. ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE.
13. ALL LIGHTING AND CONDUIT END OUTLET CIRCUITS SHALL BE 1.5 SQ. MM THIN 2 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

14. BRACKETS, WALL OUTLETS, AND LOGS ARE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MINIMUM WIDTH OF THE WOOD SURFACE STEEL
 UP TO INCLUDING 150 MM GA 18 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 457.30 MM BUT NOT OVER 762 MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 762 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
15. ALL ELECTRICAL WORK HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER. AND A DAILY ACCREDITED ELECTRICAL CONTRACTOR BY POOR WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
16. TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 220V AC NOMINAL.
17. 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.
18. UPON COMPLETION OF ELECTRICAL CORRECTION WORK, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAIL ON 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 2 OHMS.



2 MISCELLANEOUS DETAILS

NOT TO SCALE

	SWITCH (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)
	EXISTING TUBE LIGHT BOX TYPE
	TUBE LIGHT BOX TYPE (FOR REPLACEMENT OF LED)
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	ADDITIONAL CEILING FAN
	PANEL BOARD

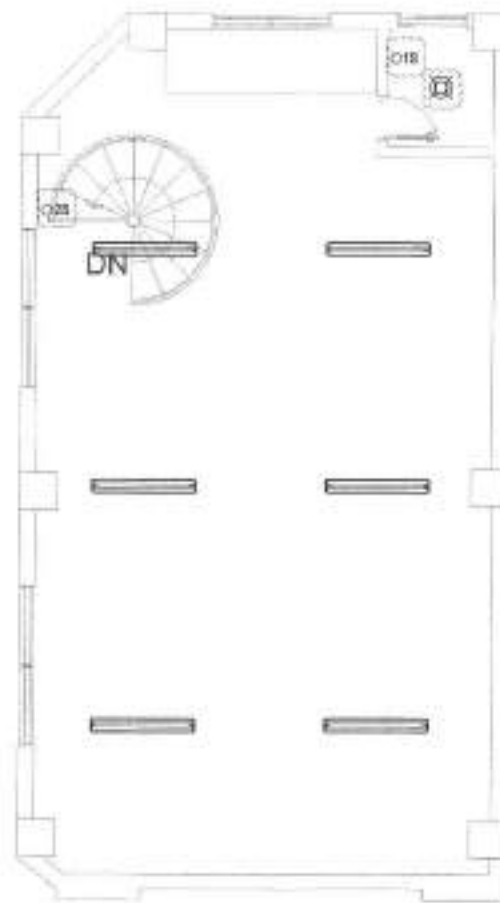
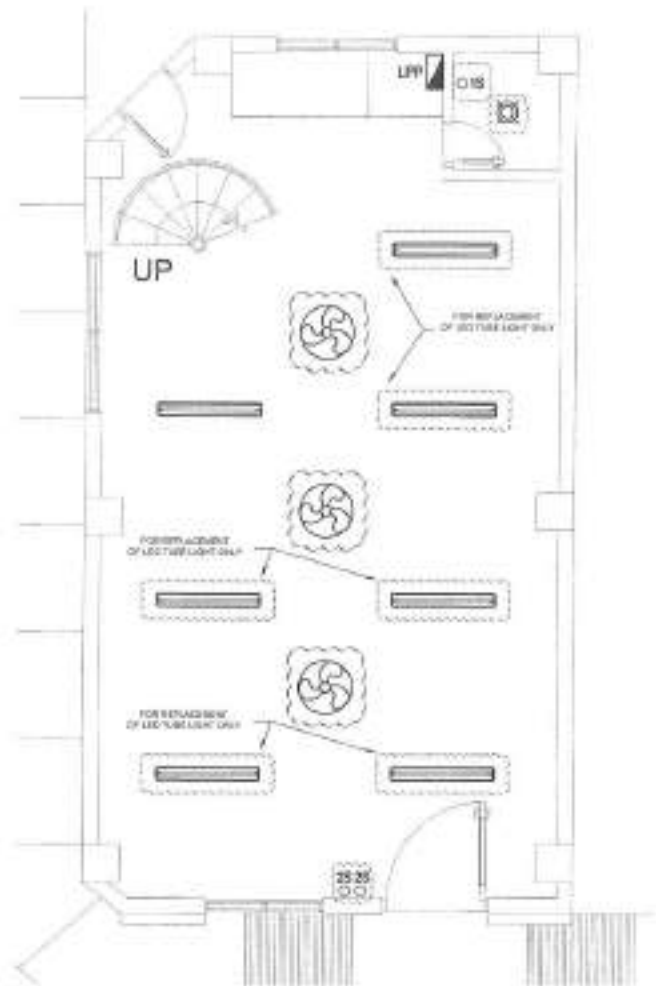
1 GENERAL NOTES

NOT TO SCALE

3 LEGENDS AND SYMBOLS

NOT TO SCALE

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DATE OF SUBMIT:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: _____ CHECKED BY: REVISIONS: _____	_____ ENGR. LEONARDO DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	_____ ENGR. ISAAC R. VERZOSA, JR. CHIEF, ELECTRICAL DIVISION	_____ HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	GENERAL NOTES MISCELLANEOUS DETAILS LEGENDS AND SYMBOLS	EL-1 9 11



1 GROUND FLOOR LIGHTING LAYOUT

SCALE: 1:50 MTS

2 SECOND FLOOR LIGHTING LAYOUT

SCALE: 1:50 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
KASUNDUAN DAY CARE CENTER

LOCATION:

BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY: *GMB*

BAS

CHECKED BY: *JDS*

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
LEAD PLANNING & RECOMMENDATION

RECOMMENDING APPROVAL:

ENGR. ISAGOR R. VERZOSA, JR.
DC. ENGINEERING SUPERVISOR

APPROVED BY:

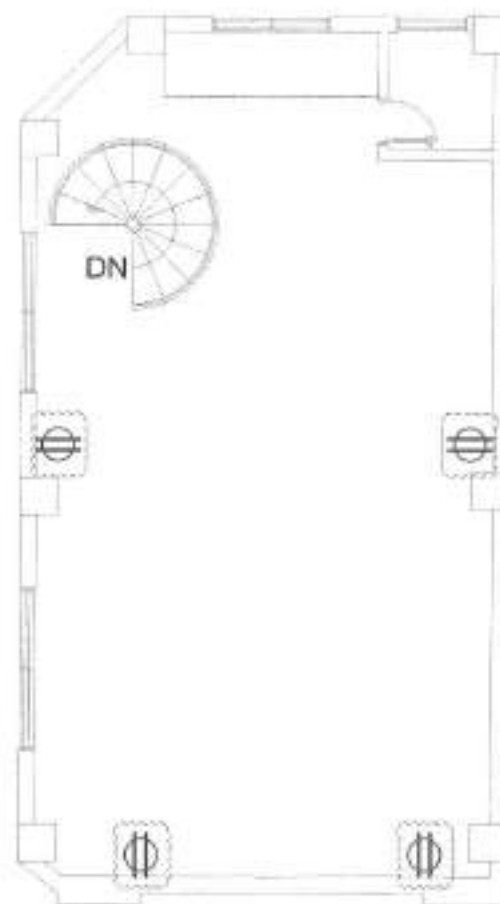
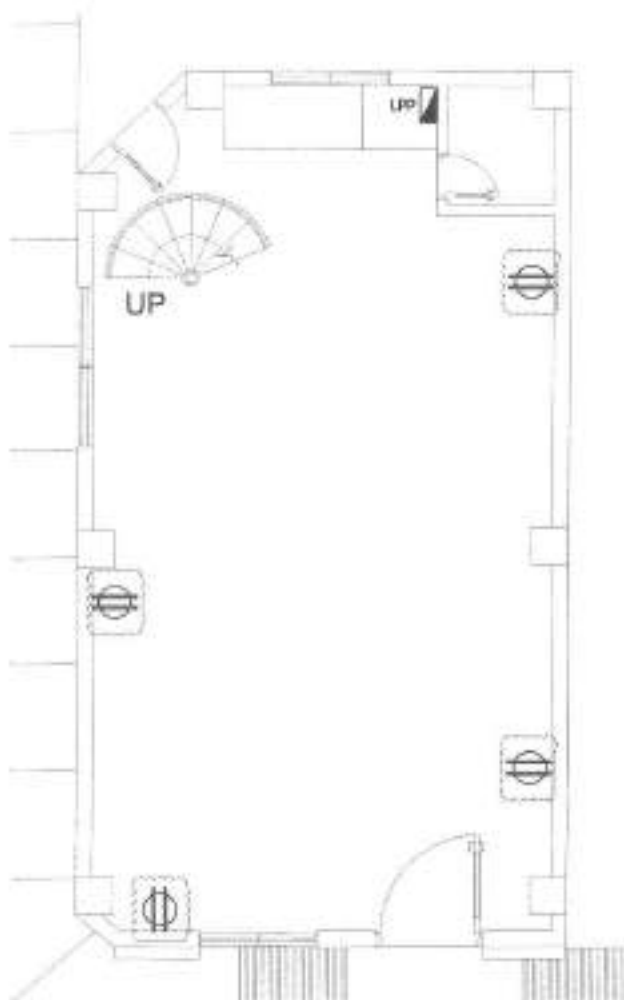
HON. MA. JOSEFINA G. BELMONTE
CITY MAJOR

SHEET CONTENT

GROUND FLOOR LIGHTING
LAYOUT
SECOND FLOOR LIGHTING
LAYOUT

SHEET NO.

EL-2
10 | 11



1 GROUND FLOOR POWER LAYOUT

SCALE : 1 : 50 MTS

2 SECOND FLOOR POWER LAYOUT

SCALE : 1 : 50 MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>ceal/p</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER	DATE:	 ENGR. LEO S. DEL ROSARIO <small>HEAD, PLANNING & PROGRAMS DIVISION</small>	 ENGR. SAGAMI R. VERZOSA, JR. <small>C.E. CITY ENGINEERING DEPARTMENT</small>	HON. MA. JOSEFINA G. BELMONTE <small>CITY MAYOR</small>	GROUND FLOOR POWER LAYOUT SECOND FLOOR POWER LAYOUT	EL-3 11/11
	LOCATION: BARANGAY COMBINATION HEALTH, DISTRICT 2, QUEZON CITY	DESIGNED BY: <i>sto</i>					

THE SITE



1 LOCATION MAP

THE SITE



2 VICINITY MAP



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
KAUNLARAN DAY CARE CENTER

LOCATION:

BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY:

DATE:

CHECKED BY:

REVISIONS:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
HEAD PLUMBING PROGRAMS DIVISION

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
HEAD CITY ENGINEERING DIVISION

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT:

LOCATION MAP
VICINITY MAP
SITE DEVELOPMENT
PLAN

SHEET NO.:

AR-1
1/8

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AR-2	SITE DEVELOPMENT
AR-3	GROUND FLOOR PLAN
AR-4	ELEVATIONS OF EXTERIOR AND INTERIOR

STRUCTURAL

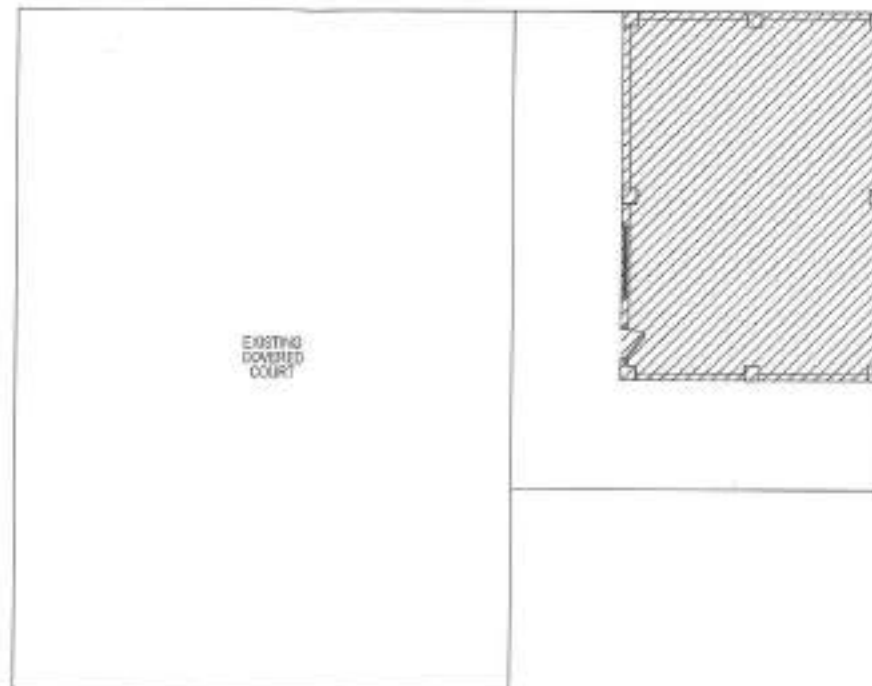
ST-1	FOUNDATION, RETAINING WALL
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PLUMBING

PL-1	GENERAL NOTES, LEGEND
PL-2	GROUND FLOOR WATER SUPPLY SYSTEM
PL-3	GROUND FLOOR SANITARY WASTE SYSTEM

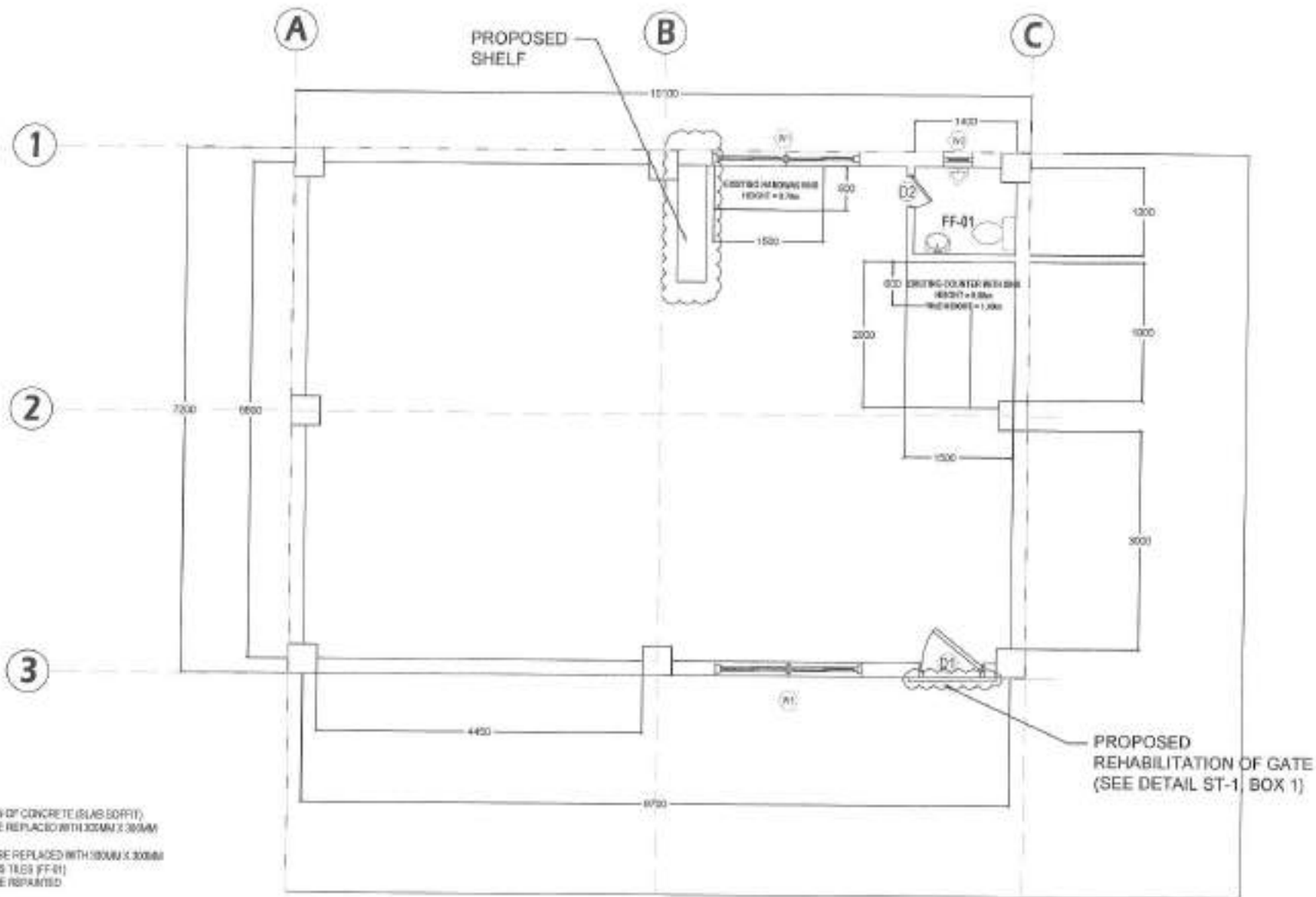
ELECTRICAL

EL-1	GENERAL NOTES, LEGEND, SYMBOLS
EL-2	GROUND FLOOR PLAN
EL-3	POWER LAYOUT



3 SITE DEVELOPMENT PLAN

SCALE: NTS



- NOTE:
- PROPOSED RESTORATION OF CONCRETE (SLAB SOFFIT)
 - TOILET WALL TILES TO BE REPLACED WITH 300MM X 300MM HOMOGENEOUS TILES
 - TOILET FLOOR TILES TO BE REPLACED WITH 300MM X 300MM NON-SKID HOMOGENEOUS TILES (FF-01)
 - WHOLE STRUCTURE TO BE REPAIRED

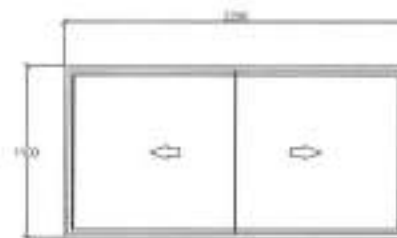
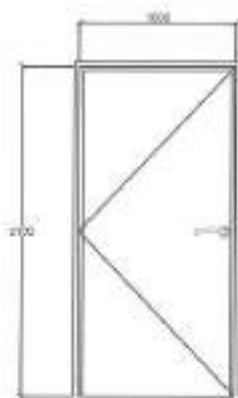
1 GROUND FLOOR PLAN

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE	DESIGNED BY	SUBMITTED BY	RECOMMENDING APPROVAL	APPROVED BY	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER	DATE: _____ CHECKED BY: <i>J.F.S.</i>	<i>[Signature]</i> ENGR. LEO S. DEL ROSARIO SEC. PLANNING & PROGRAMS DIVISION	<i>[Signature]</i> ENGR. ISAGANI R. VERZOSA, JR. SEC. CITY ENGINEERING DEPARTMENT	<i>[Signature]</i> HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	GROUND FLOOR PLAN	AR-2 28
0057006: BANGKAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISIONS:					



DESIGNATION	D1	D2
SPECS	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEN WHITE)	SWING TYPE, PVC DOOR, WITH 400mm x 300mm LOUVER, PAINTED FINISH (KITTEN WHITE)
HARDWARE/ GLAZING	COMPLETE ACCESSORIES. DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.	COMPLETE ACCESSORIES. DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.

DESIGNATION	W1	W2
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/ GLAZING	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES

1 SCHEDULE OF DOORS AND WINDOWS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY: <i>[Signature]</i>	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER	DESIGNED BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER	ENGR. ISAAC R. VERZOSA, JR. REG. PROFESSIONAL ENGINEER	ENGR. MA JOSEFINA G. BELMONTE CITY ENGINEER	SCHEDULE OF DOORS AND WINDOWS	AR-3 38
LOCATION: BAYANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISION:					

GENERAL

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND TYPICAL DETAILS APPLY TO ALL DIMENSIONS UNLESS OTHERWISE SHOWN OR NOTED. VERIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.

2. VERIFY DIMENSIONS AND ELEVATIONS AND PLACE DIMENSIONS ON ALL DIMENSIONS FOR CONTRACTOR'S REFERENCE. VERIFY DIMENSIONS BEFORE ANY WORK IS TO BE COMPLETED.

3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ANY WORK IS TO BE COMPLETED. MECHANICAL AND ELECTRICAL CONTRACTORS FOR CONDUITS, PIPE, SLINGS, ETC. TO BE INSTALLED IN CONCRETE.

4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE PROVISIONS AND PROTECT THE STRUCTURE FROM ALL LOADS THAT MAY BE APPLIED DURING CONSTRUCTION. IN CASE OF QUANTIFICATION FROM THE ANCHORAGE OF CONCRETE WITH OTHER OCCURRENCE, THE ATTENTION OF THE SUPERVISOR SHALL BE CALLED IN WRITING.

CONCRETE & REINFORCEMENT

1. ALL MIXTURES AND PROPORTIONS SHALL CONFORM WITH THE LATEST BUSINESS CODE OF AMERICAN CONCRETE & STEEL INSTITUTE.

2. ALL CONCRETE SHALL BE PLACED IN A SINGLE COMPRESSIVE STRENGTH THAT THE DESIGNER HAS SPECIFIED. THE DATE OF POURING SHALL BE RECORDED AND SHALL BE PLACED IN THE LOCATION.

LOCATION	STRENGTH	MAX. SIZE OF AGGREGATE	MAX. SLUMP
a. SLAB ON GROUND, CURB, CHANGING POSTAGE	300 PSI (20.7 MPa)	1 1/2" (38mm)	4" (100mm)
b. SLAB, COLUMN, SUPPORT SLAB	400 PSI (27.6 MPa)	3/4" (19mm)	4" (100mm)
c. FINISH COURSE	300 PSI (20.7 MPa)	1 1/2" (38mm)	4" (100mm)

3. ALL REINFORCEMENT SHALL CONFORM TO PROVISIONS OF THE 1995 ACI 308. ALL REINFORCEMENT SHALL BE PLACED AS SHOWN IN THE DRAWINGS. THE SIZE AND SPACING OF ALL REINFORCEMENT SHALL BE AS SHOWN IN THE DRAWINGS. REINFORCEMENT SHALL BE PLACED AS SHOWN IN THE DRAWINGS.

4. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCEMENT AS FOLLOWS:

REINFORCEMENT	COVER
CONCRETE DEPOSITED DIRECTLY AGAINST GROUND	75 mm
SLAB ON GROUND	25 mm
SLAB ON GROUND	40 mm
WALLS ABOVE GROUND	25 mm
SLAB ON COLUMN	40 mm

5. SPACING SHALL BE MAINTAINED WITHIN TOLERANCES AND SHALL NOT EXCEED AS INDICATED IN THE TABLE. TOLERANCES OF 1/8" (3.2 mm) AND 1/4" (6.4 mm) SHALL BE MAINTAINED THROUGHOUT THE ENTIRE LENGTH OF THE REINFORCEMENT. SPACING SHALL BE MAINTAINED THROUGHOUT THE ENTIRE LENGTH OF THE REINFORCEMENT.

6. ALL REINFORCEMENT, BARS, AND OTHER DETAILS SHALL BE PROPERLY POSITIONED AND MAINTAINED IN PLACE FROM TOP TO BOTTOM OF CONCRETE.

7. CONTRACTOR SHALL NOT REMOVE ALL REINFORCEMENT, CURB, GULL, STOLE, EQUIPMENT, AND OTHER DETAILS, WHICH ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL CONTRACTORS.

8. ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN (7) DAYS. THE CURING SHALL BE APPROVED BY THE ARCHITECT.

9. STEEL SHALL BE PROTECTED AS FOLLOWS:

STEEL TYPE	COATING
STRUCTURAL STEEL	3000
STEEL PIPE	3000
STEEL PLATE	3000
STEEL ROD	3000

10. DIMENSIONS FOR ALL PARTS SHALL BE A MINIMUM OF 1/8" (3.2 mm) UNLESS OTHERWISE NOTED.

STRUCTURAL STEEL AND PLATE

1. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 SPECIFICATION WITH MINIMUM YIELD STRENGTH OF 36,000 PSI (248 MPa) AND TENSILE STRENGTH OF 58,000 PSI (401 MPa). ALL PARTS SHALL CONFORM TO ALL THE ABOVE SPECIFICATIONS.

2. WELDING SHALL BE DONE IN ACCORDANCE WITH THE LATEST ELECTRODE QUALIFICATION REQUIREMENTS AS SPECIFIED IN THE DRAWINGS.

FOUNDATION

1. FOUNDATION IS DESIGNED BASED ON THE SOIL BEARING CAPACITY OF THE SOILS. THE SOIL BEARING CAPACITY OF SOILS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. THE FOUNDATION SHALL BE DESIGNED TO SUPPORT THE LOADS OF THE STRUCTURE. THE FOUNDATION SHALL BE DESIGNED TO SUPPORT THE LOADS OF THE STRUCTURE. THE FOUNDATION SHALL BE DESIGNED TO SUPPORT THE LOADS OF THE STRUCTURE.

MASONRY WALLS

1. ALL MASONRY WALLS SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES. ALL MASONRY WALLS SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES.

2. MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES. ALL MASONRY WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE STRUCTURAL CODE OF THE PHILIPPINES.

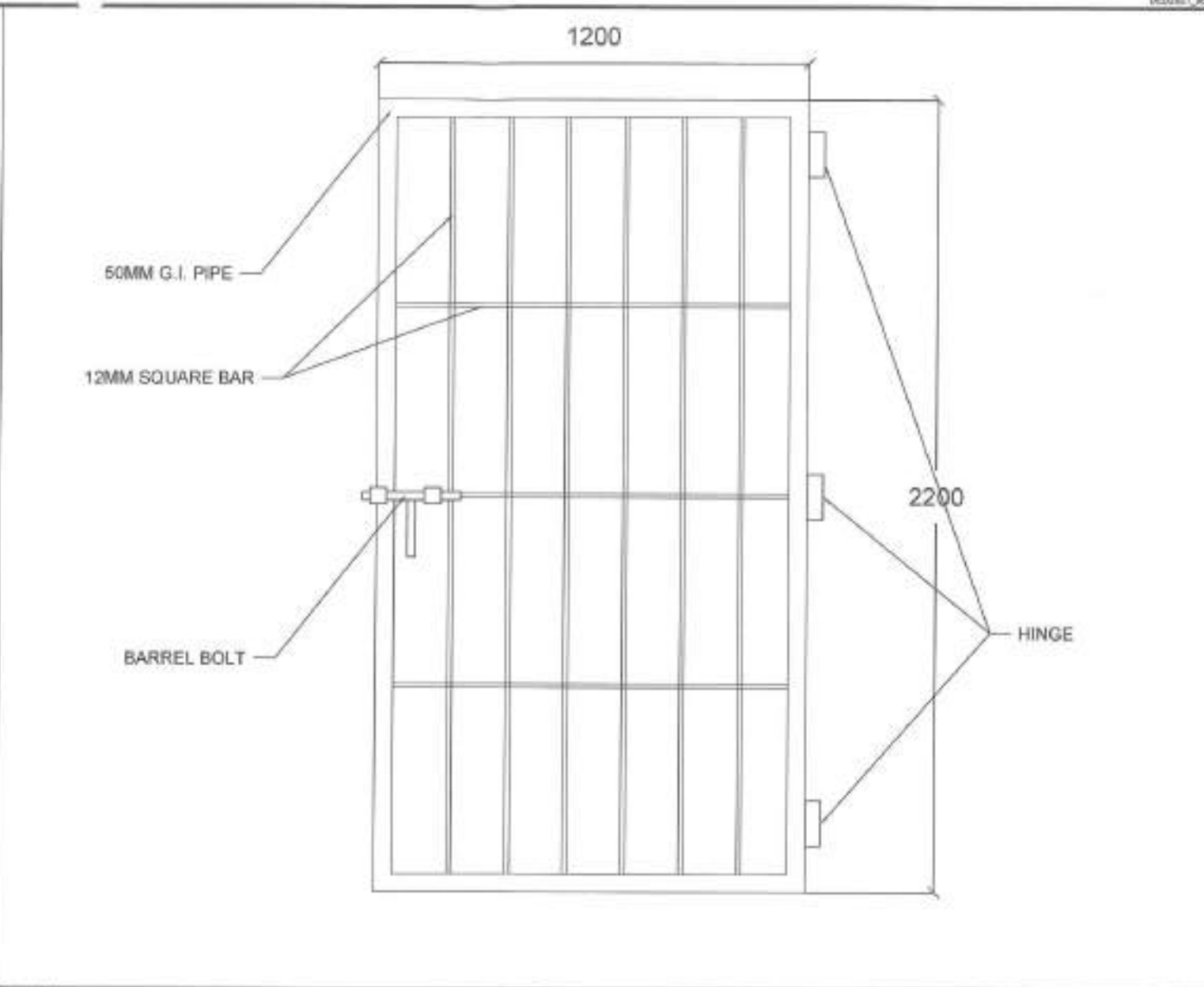
3. ALL WALLS SHALL BE BUILT UP WITH THE CORRECT NUMBER OF COURSES AND COURSE HEIGHTS. ALL WALLS SHALL BE BUILT UP WITH THE CORRECT NUMBER OF COURSES AND COURSE HEIGHTS.

4. REINFORCEMENT AS SPECIFIED SHALL BE PROVIDED AT THE CORNERS AND OPENINGS IN THE WALLS. REINFORCEMENT AS SPECIFIED SHALL BE PROVIDED AT THE CORNERS AND OPENINGS IN THE WALLS.

5. ALL MASONRY WALLS SHALL BE PROTECTED AGAINST WEATHER AND OTHER DAMAGE. ALL MASONRY WALLS SHALL BE PROTECTED AGAINST WEATHER AND OTHER DAMAGE.

6. REINFORCEMENT SHALL BE PROVIDED AT THE CORNERS AND OPENINGS IN THE WALLS. REINFORCEMENT SHALL BE PROVIDED AT THE CORNERS AND OPENINGS IN THE WALLS.

7. ALL MASONRY WALLS SHALL BE PROTECTED AGAINST WEATHER AND OTHER DAMAGE. ALL MASONRY WALLS SHALL BE PROTECTED AGAINST WEATHER AND OTHER DAMAGE.



1 GENERAL NOTES

2 GATE DETAILS SCALE: NTS

Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER

ADDRESS:
BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DESIGNED BY:
CHECKED BY:
REVISION NO.:

DATE:
SUBMITTED BY:
ENGR. LEDYS DEL ROSARIO
HEAD PLANNER & RECOMMENDING OFFICER

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

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

SHEET CONTENT:
GENERAL NOTES
GATE DETAILS

SHEET NO.:
ST-1
48

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, 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 coordination 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 pipes/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 drain cuts except at lines on grates and service areas not subject to traffic.

10 All underground C.I. pipes in direct contact with soil shall be provided with two (2) coats of protective covering and wrapped with jute cloth thoroughly soaked in tar or asphalt.

11 Provide vent stack and vent pipe thru roof of cast iron service weight as required.

12 All cast iron pipes shall be of approved quality and C.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 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 10 mm Ø and larger

H = 300 mm for 12 mm Ø and smaller

16 All hose bibbs shall be 19 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.

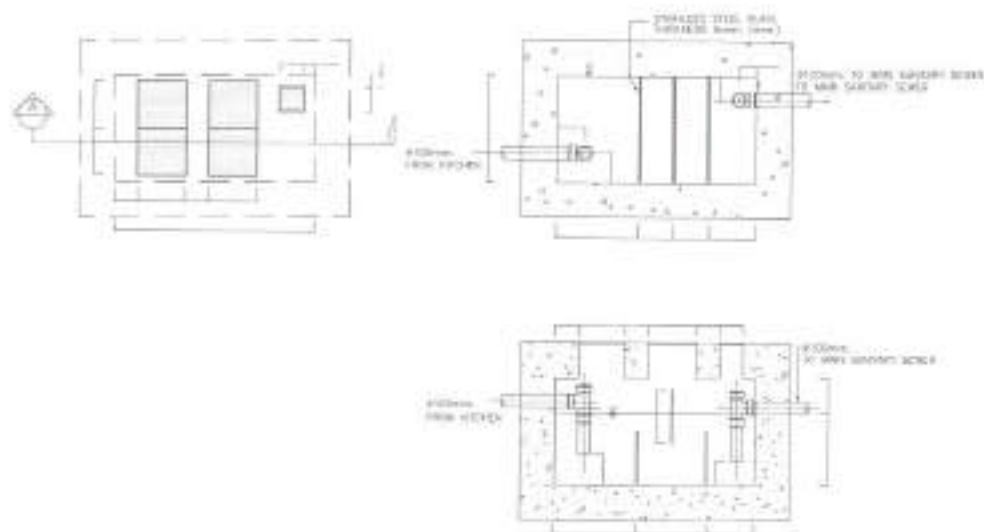
18 All plumbing works and manner of construction shall be under the direct supervision of an able and duly licensed Master Plumber or Registered Sanitary Engineer. Any discrepancies found in plan shall be notified to the same person.

1. FIXTURES AND OTHER LEGEND

FD	FLOOR DRAIN
RD	ROOF DRAIN
SHD	SHOWER
WC	WATER CLOSET
LAV	LAUNDRY
URS	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCD	CeILING CLEANOUT
FCD	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
W	WATER
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MAN-HOLE
→	DIRECTION OF FLOW

→	DRAIN FLOW
→	CHECK VALVE
→	BUILDING SEWER
→	WASTEWATER
→	WASTE LINE
→	WATER DRAIN/CATCH BASIN
→	FLOOR DRAIN
→	SHOWER
→	WASTE LINE
→	WATER LINE
→	GATE VALVE
→	DECK DRAIN
→	CLEANOUT
→	TRIP DOWN
→	TRIP UP
→	WELLETTER
→	GATE VALVE
→	AREA DRAIN/CATCH BASIN
→	WATER CLOSET
→	LAUNDRY
→	MANHOLE
→	TRIP DOWN
→	STORM DRAIN LINE
→	VENT LINE
→	VENT ABOVE CEILING
→	CONCRETE PIPE/ROOF COND. PIPE
→	NEW 3/4" ROOF
→	DIRECTION OF FLOW/SEWER

2 LEGENDS



1 GENERAL NOTES

3 GREASE TRAP BLOW-UP PLAN

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER
DATE:	DEC 2021
DESIGNED BY:	Jah
CHECKED BY:	
DATE:	
REVISION NO.:	

DATE:	DEC 2021
DESIGNED BY:	Jah
CHECKED BY:	
DATE:	
REVISION NO.:	

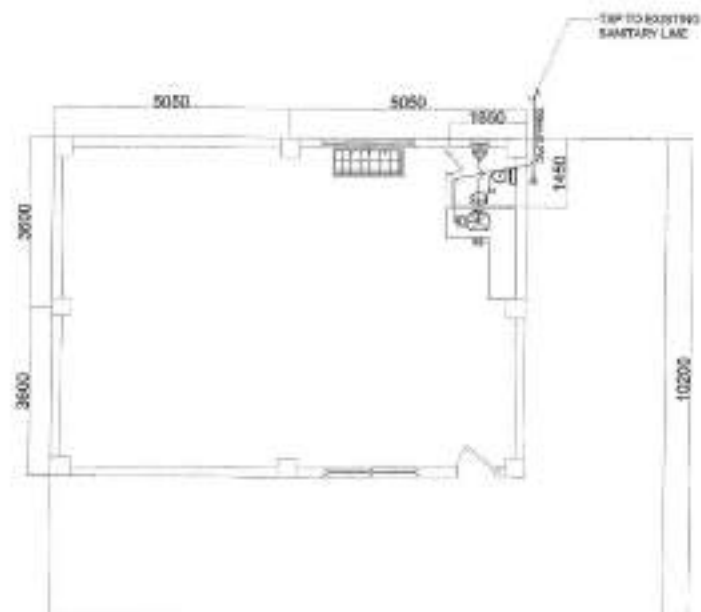
SUBMITTED BY:	ENGR. LEO S. DEL ROSARIO HEAD PLUMBER & REGISTERED ENGINEER
---------------	--

RECOMMENDING APPROVAL:	ENGR. BAGAS R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT
------------------------	--

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

SHEET CONTENT:	GENERAL NOTES REHABILITATION OF KAUNLARAN DAY CARE CENTER
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SHEET NO.:	PL-1 58
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1 GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:100 MTS

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: 1:100 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

**PROPOSED REHABILITATION OF
KAUNLARAN DAY CARE CENTER**

LOCATION:

BARANGAY COMMONWEALTH DISTRICT 1, QUEZON CITY

DRAWN BY: *[Signature]*

DATE: August 2011

DESIGNED BY: *[Signature]*

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
1001 PLAWAC L. 1001

RECOMMENDING APPROVAL:

ENGR. ISACAR R. VERZOSA, JR.
1001 PLAWAC L. 1001

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT

WATER LINE LAY-OUT
SEWER LINE LAY-OUT

SHEET NO.

**PL-2
68**

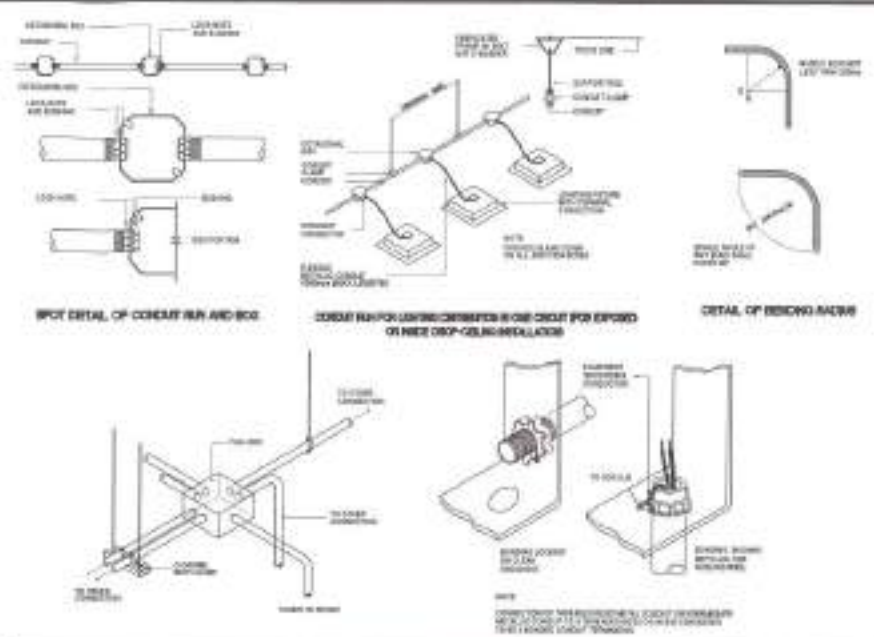
- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES REQUIRED FOR THE WORK AND SHALL FURNISH THE OWNER THROUGH THE ENGINEER, FINAL CERTIFICATION 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 BNC SUPPORTED BY CONDUIT CLAMPS EVERY 750 MILLIMETERS.
- PULL BOXES SHALL BE PROVIDED BY THE CONTRACTOR WHENEVER NECESSARY TO FACILITATE WIRE PULLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZE OF ALL PULLBOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. START, END OR FINISH 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 GRINDING TYPE WITH PARALLEL SLOTS FOR 250V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTOR (CIRCUIT BREAKER) FOR LOADS MARKED "GFCI" 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 OFF, FROM ABOVE FINISHING COUNTERTOP.
 TELEPHONE OUTLET - 300 MM AFF
 DATA OUTLET - 305 MM AFF
 LIGHTING SWITCH - 1400 MM AFF
 PANEL BOARD - 1800 MM AFF

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, SEQUENCING 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 DESCRIPTIONS OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBED ACTUAL LOCATIONS, LEVELS 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 35 SQ. MM. THHN-2 COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.3 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, OUTLETS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WOOD SURFACE STEEL:
 UP TO INCLUDING 152.40 MM OR IS PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 152.40 MM BUT NOT OVER 457.30 OR IS PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 457.30 MM BUT NOT OVER 762.00 OR IS PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 762.00 MM OR IS 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 POOR WORKS SHALL BE NEATLY FINISHED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE: SINGLE-PHASE, TWO-WIRE PLUS GROUND, 60 HERTZ, 230V AC, 60MM².
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE MADE MADE BY USING HYDRAULIC BENDERS. MINIMUM BENDING RADIUS MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, ISOLATION 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 CUSTOMER CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE ISOLATION RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 2 OHMS. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 3 OHMS.



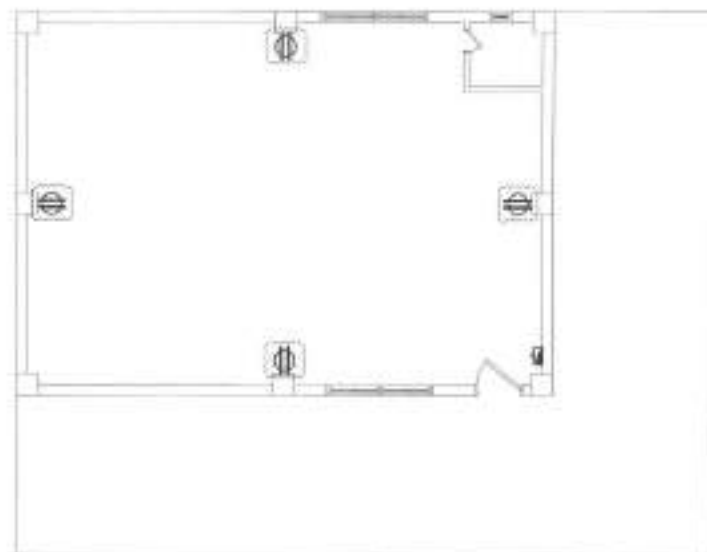
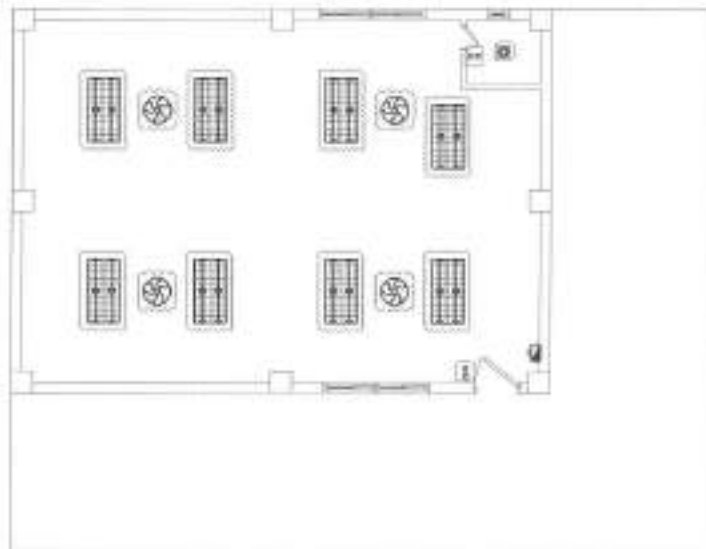
2 MISCELLANEOUS DETAILS NOT TO SCALE

	SWITCH (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)
	ADDITIONAL TROUGHER TYPE
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	ADDITIONAL CEILING FAN

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:	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER	DESIGNED BY:	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGANI R. VERZOSA, JR.	HON. MA JOSEFINA G. BELMONTE	GENERAL NOTES MISCELLANEOUS DETAILS LEGENDS AND SYMBOLS	
	LOCATION: BARANGAY DOMBOMAWELTH, DISTRICT 1, QUEZON CITY	REVISIONS:					



1 LIGHTING LAYOUT

SCALE: 1 : 100 MTS

2 POWER LAYOUT

SCALE: 1 : 100 MTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE :

PROPOSED REHABILITATION OF
KAUNLARAN DAY CARE CENTER

LOCATION:

BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY

DRAWING NO.:

DATE:

CHECKED BY: JAM

REVISION NO.:

SUBMITTED BY:

ENGR. LEO S. DEL ROSARIO
RAC, PARE (1998) (RENEWED 2018)

RECOMMENDING APPROVAL:

ENGR. SAGAN R. VERZOSA, JR.
RAC, PARE (1998) (RENEWED 2018)

APPROVED BY:

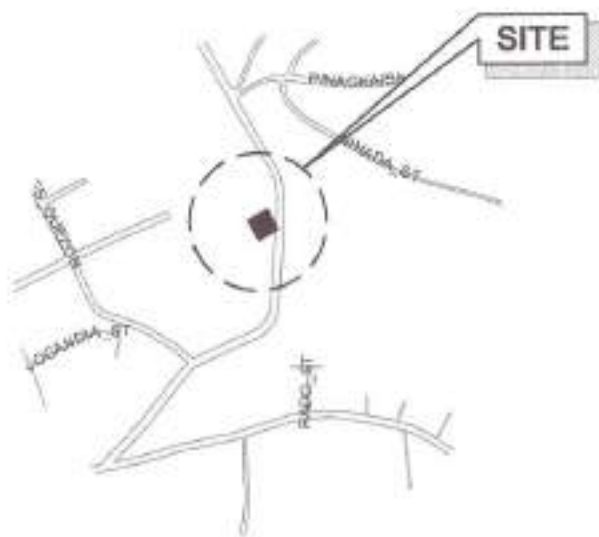
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT

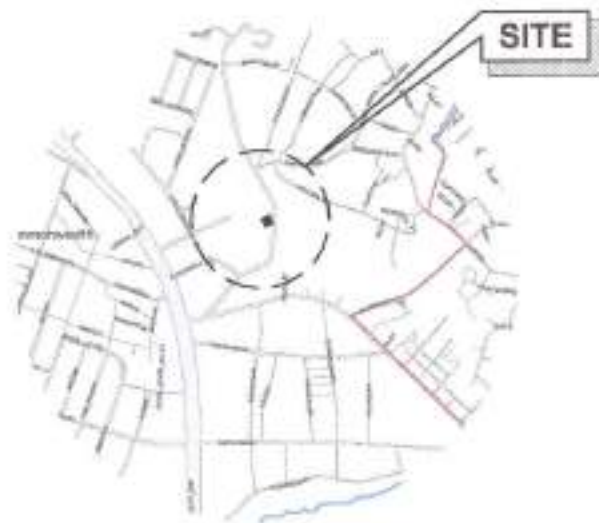
LIGHTING LAYOUT
FOR DISPLAY ONLY

SHEET NO.

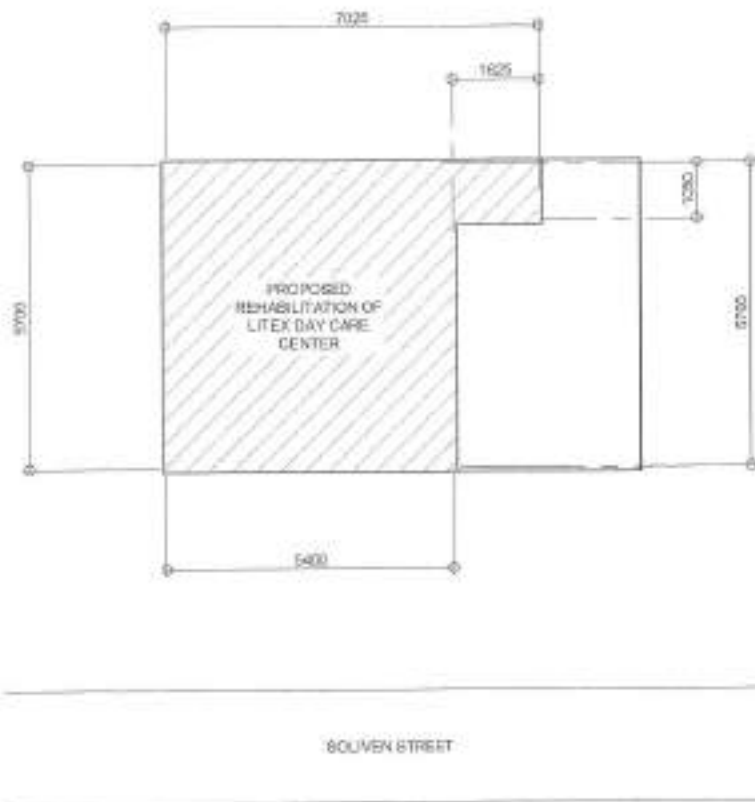
EL-2
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1 LOCATION MAP SCALE: NTS



2 VICINITY MAP SCALE: NTS



3 SITE DEVELOPMENT PLAN SCALE: 1:100M

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	ELEVATION 'B'
	ELEVATION 'C'
	ELEVATION 'D'
AR-3	SCHEDULE OF DOORS & WINDOWS
PLUMBING	
	GENERAL NOTES
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	GREASE TRAP BLOW-UP PLAN
	GROUND FLOOR WATER LINE LAYOUT
PL-2	GROUND FLOOR SANITARY LINE LAYOUT
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	GENERAL NOTES
EL-1	MISCELLANEOUS DETAILS
	LEGEND & SYMBOLS
EL-2	LIGHTING LAYOUT
	POWER LAYOUT



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED REHABILITATION OF LITEX DAY CARE CENTER
ADDRESS:
BARANGAY COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY:
DESIGNED BY:
REVISOR NO.:

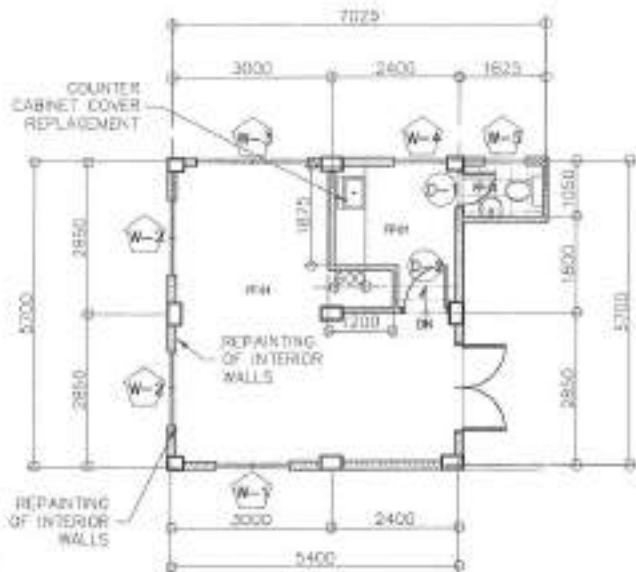
SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
1600, FLORANTE & PASCUALINO ST. QUEZON CITY

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

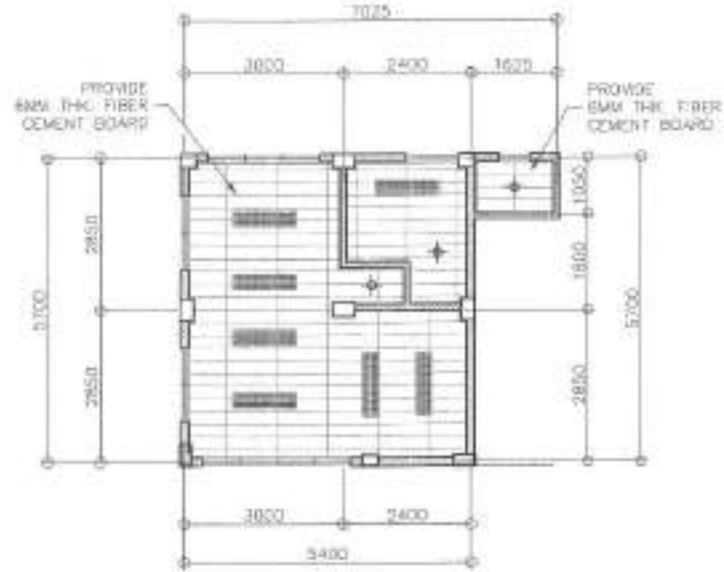
APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY BAYAN

SHEET CONTENT:
LOCATION MAP
VICINITY MAP
SITE DEVELOPMENT PLAN

SHEET NO.
AR-1
17



NOTES:
 • DAY CARE ROOMS TO BE REPLACED WITH 400MM x 400MM LENSING FOR LIGHTING IN BATH
 • TOILET WALL TO BE REPLACED WITH 800MM x 800MM LENSING FOR LIGHTING
 • FLOOR FLOOR TO BE REPLACED WITH 800MM x 800MM LENSING FOR LIGHTING
 • INTERIOR WALLS TO BE REPAIRED
 • FLOORING TO BE REPLACED

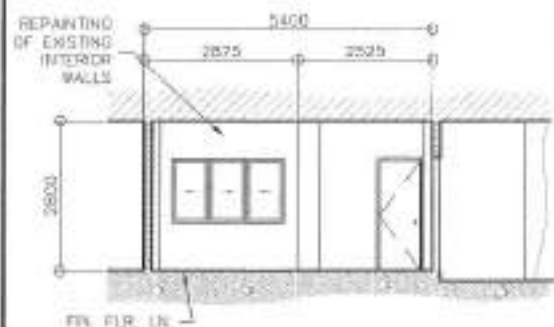


1 FLOOR PLAN

SCALE: 1:100M

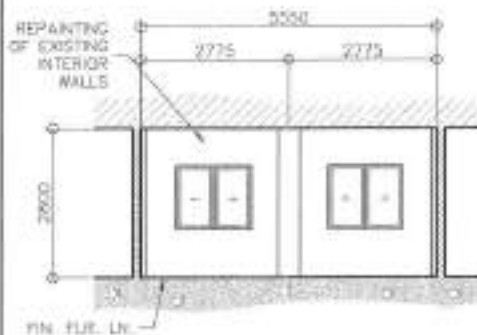
2 REFLECTED CEILING PLAN

SCALE: 1:100M



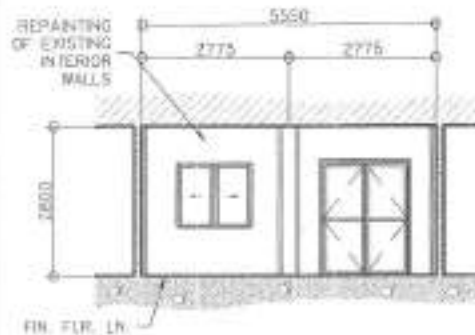
3 ELEVATION 'A'

SCALE: 1:100M



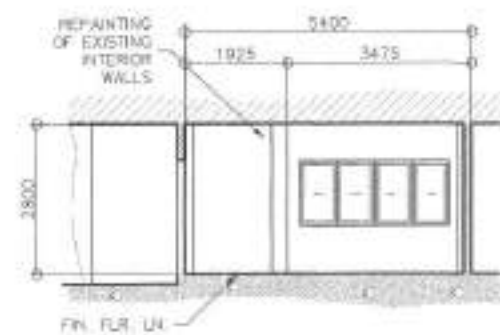
4 ELEVATION 'B'

SCALE: 1:100M



5 ELEVATION 'C'

SCALE: 1:100M



6 ELEVATION 'D'

SCALE: 1:100M



Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF LITEX DAY CARE CENTER

LOCATION:
 BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

DATE: _____

DESIGNED BY: _____

REVISION NO. _____

SUBMITTED BY: _____

ENGR. LEO S. DEL ROSARIO
 REG. PROFESSIONAL ENGINEER

RECOMMENDING APPROVAL:

ENGR. ISAGANI VERZOSA, JR.
 REG. CITY ENGINEER

APPROVED BY:

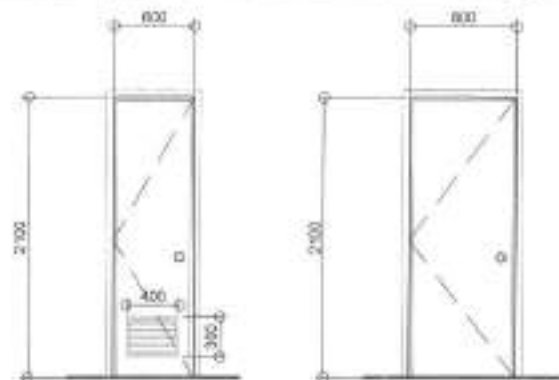
HON. MA. JOSEFINA G. BELMONTE
 CITY MGR

SHEET CONTENT

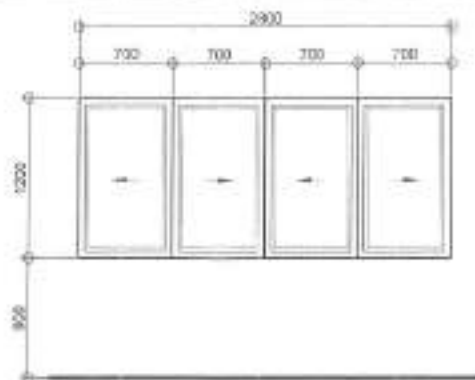
FLOOR PLAN
 REFLECTED CEILING PLAN
 ELEVATION 'A'
 ELEVATION 'B'
 ELEVATION 'C'
 ELEVATION 'D'

SHEET NO.

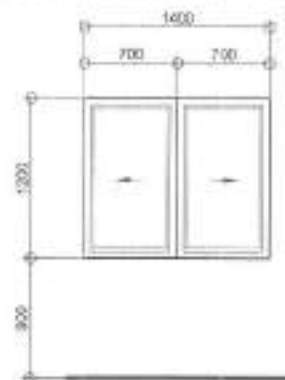
AR-2
27



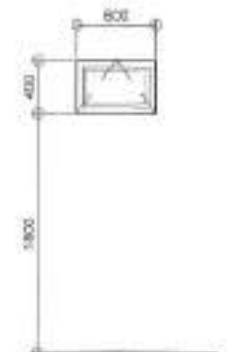
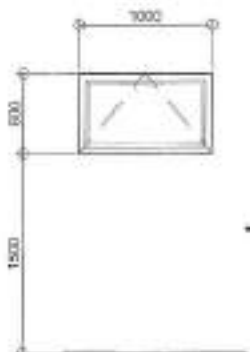
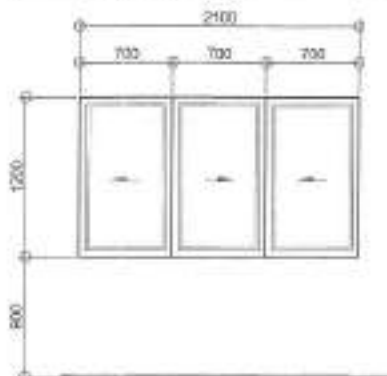
DESIGNATION		
SPECS	SWING TYPE, PVC DOOR, WITH 400mm x 300mm LOUVER, PAINTED FINISH (KITTEN WHITE)	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEN WHITE)
HARDWARE/ GLAZING	COMPLETE ACCESSORIES, DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.	COMPLETE ACCESSORIES, DOOR KNOB: LEVER-TYPE, SATIN STAINLESS FINISH.



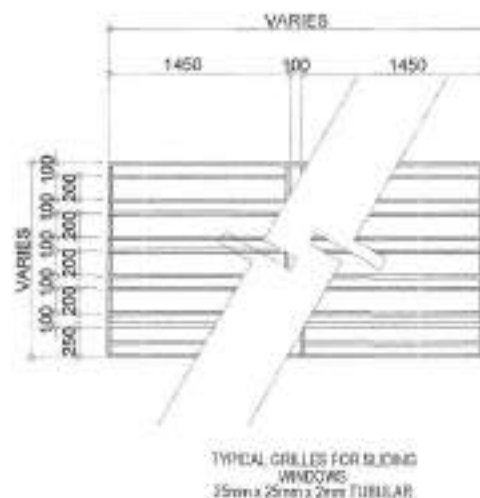
DESIGNATION	
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/ GLAZING	PROVIDE WITH COMPLETE ACCESSORIES



DESIGNATION	
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
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DESIGNATION			
SPECS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE/ GLAZING	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES



3 SCHEDULE OF DOORS & WINDOWS

SCALE: 1:40M

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF LITEX DAY CARE CENTER	DESIGNED BY: <i>J.M.</i>	ENGR. LEO S. DEL ROSARIO <small>(CAG. PLANA & PROFESSIONAL)</small>	ENGR. ISAGHAR R. VERZOSA, JR. <small>(C.E. OF QUEZON CITY)</small>	HON. MA JOSEFINA G. BELMONTE <small>CITY MAOR</small>	SCHEDULE OF DOORS & WINDOWS	AR-3 37
	ADDRESS: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	REVISOR NO.:					

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1. FIXTURES AND OTHER LEGEND

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RD	ROOF DRAIN
SHD	SHOWER
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LAV	LAVATORY
UR	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCO	CEILING CLEANOUT
FCO	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MANHOLE
→	DIRECTION OF FLOW
	GREASE TRAP

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

1 GENERAL NOTES

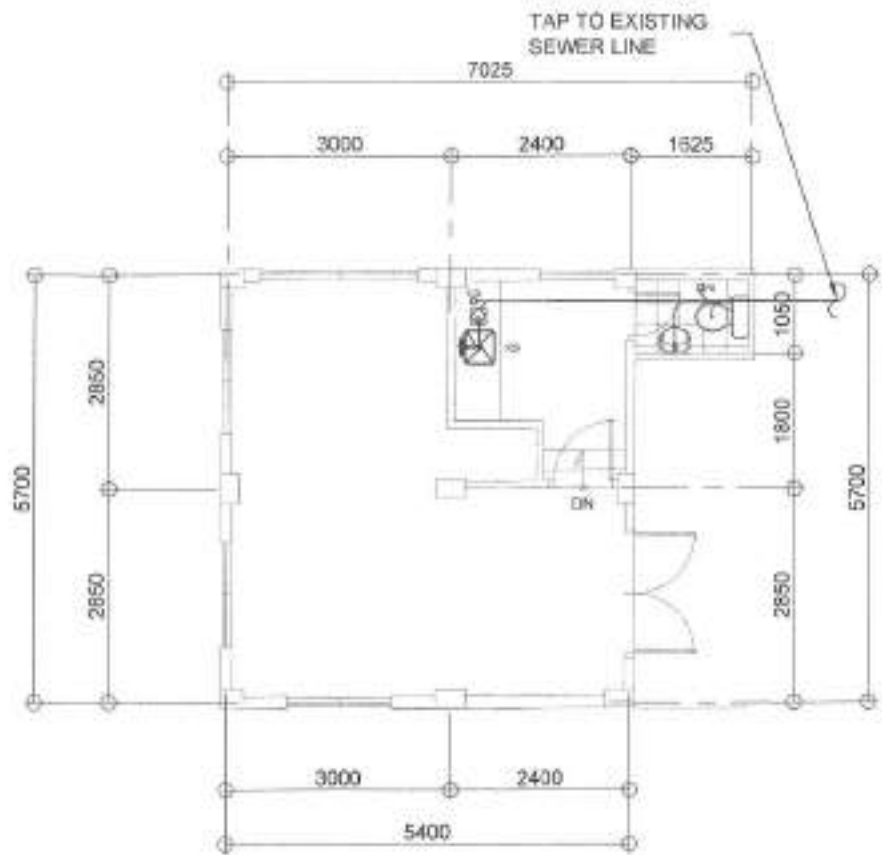
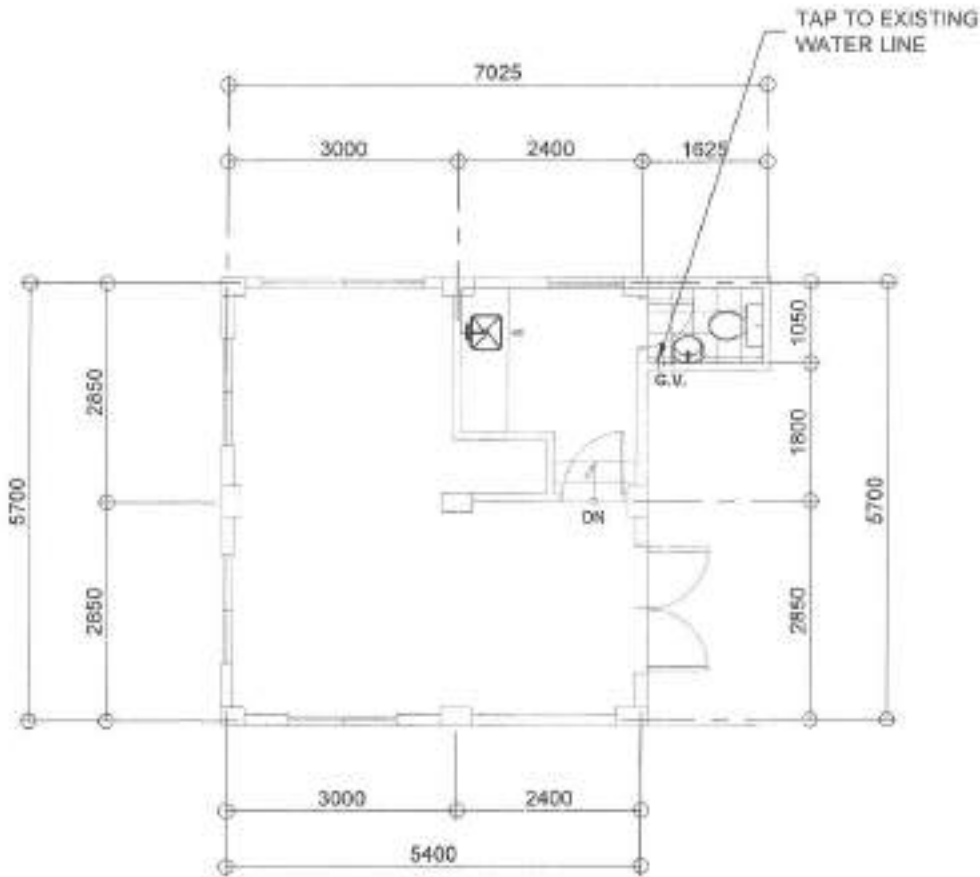
2 LEGENDS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DATE:	DESIGNED BY:	REVISION NO.:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED REHABILITATION OF LITEX DAY CARE CENTER							GENERAL NOTES LEGENDS	PL-1 47
LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY				ENGR. LEO S. DEL ROSARIO REG. SANITARY/PLUMBING ENGINEER	ENGR. ISAGANI R. VERZOSA, JR. REG. ELECTRICAL ENGINEER	HON. MA. JOSEFINA G. BELMONTE DTMAYOR		



1 GROUND FLOOR WATER LINE LAYOUT

SCALE: NTS

2 GROUND FLOOR SANITARY LINE LAYOUT

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF LITEX DAY CARE CENTER DIVISION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: DESIGNED BY: <i>[Signature]</i> REVISION NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING & RECONSTRUCTION DIVISION	ENGR. ISAGAN R. VERZOSA, JR. D.C. OF ENGINEERING DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MANOR	GROUND FLOOR WATER LINE LAYOUT GROUND FLOOR SANITARY LINE LAYOUT	PL-2 57

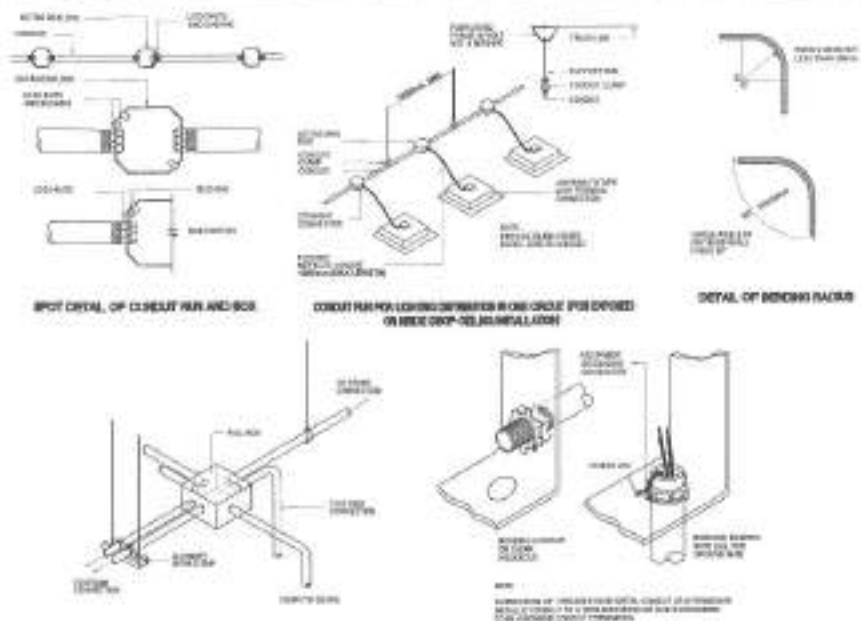
- ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODES ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
- THE CONTRACTOR SHALL SECURE ALL PERMITS 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 BRANCHED CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE SECURELY SUPPORTED BY CONDUIT CLAMPS EVERY 300 MM THERE.
- 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. SUMP-BUMP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE INDICATED ON THE "AS-BUILT" PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE ENCLOSURE TYPE WITH PARALLEL SLOTS FOR 220V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER (GFCI) BREAKERS FOR LOADS MARKED "GFCI" ON THE PLAN.
- ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED.
- UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM AFF., 150MM ABOVE WORKING SURFACE
 TELEPHONE OUTLET - 300 MM AFF.
 DATA OUTLET - 300 MM AFF.
 LIGHTING SWITCH - 1100 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 NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PROVIDE GENERAL LAYOUT AND BRIDGE OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE OR DESCRIBE ACTUAL LOCATIONS, LEVELS, 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 CONVEYANCE OUTLET CIRCUITS SHALL BE 3.5 SQ. MM. TYPING COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 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, OUTLETS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WEAR SURFACE STEEL:
 UP TO INCLUDING 102.43 MM GA 18 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 102.43 MM BUT NOT OVER 127.30 GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 127.30 MM BUT NOT OVER 152.40 GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 152.40 MM GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
- ALL ELECTRICAL WORKS HEREON SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A DULY ACCREDITED ELECTRICAL CONTRACTOR BY POWER WORKS SHALL BE BRITLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE PHASE, THREE WIRE PLUS GROUND, 60 HERTZ, 220V AC ROLLMAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BONDS IN ANY ONE RUN. ALL CORNER 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 ON 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 2 OHMS.



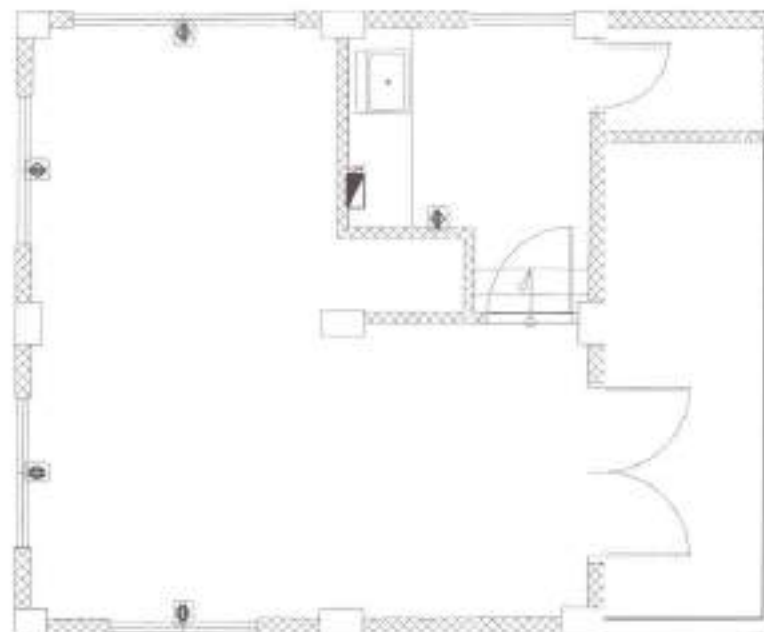
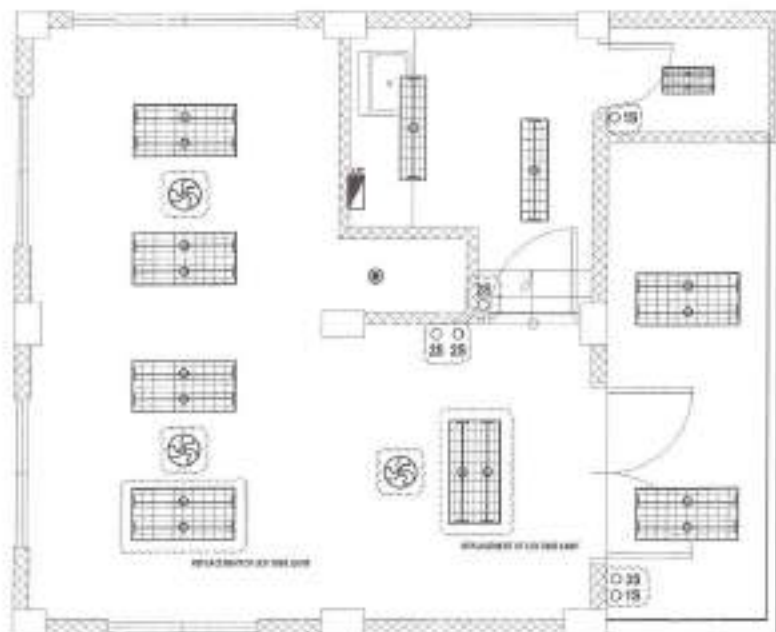
2 MISCELLANEOUS DETAILS NOT TO SCALE

	SWITCH (FOR REPLACEMENT)
	EXISTING 300mmX1200mm TROFFER TYPE
	EXISTING 600mmX1200mm TROFFER TYPE
	600mmX1200mm TROFFER TYPE (FOR REPLACEMENT OF LED TUBE LIGHT)
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	ADDITIONAL CEILING FAN

1 GENERAL NOTES NOT TO SCALE

3 LEGENDS AND SYMBOLS NOT TO SCALE

<p>Republic of Philippines Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>CLA</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF LITEX DAY CARE CENTER	CHECKED BY: <i>JRH</i>	 ENGR. LEO S. DEL ROSARIO <small>HEAD, PLUMBING & MECHANICAL DIVISION</small>	 ENGR. ISACAMAR VERZOSA, JR. <small>DC OF QUEZON GOVERNMENT</small>	NON. MA. JOSEFINA G. BELMONTE <small>CITY MGR.</small>	GENERAL NOTES MISCELLANEOUS DETAILS LEGENDS AND SYMBOLS	
NOTES: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY		REVISIONS:					



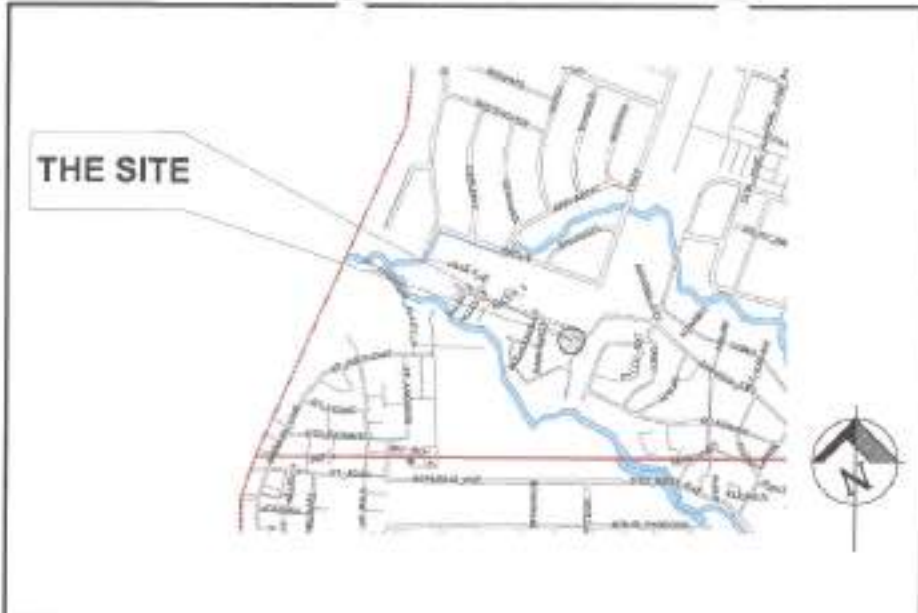
1 LIGHTING LAYOUT

SCALE: 1:100 MTS

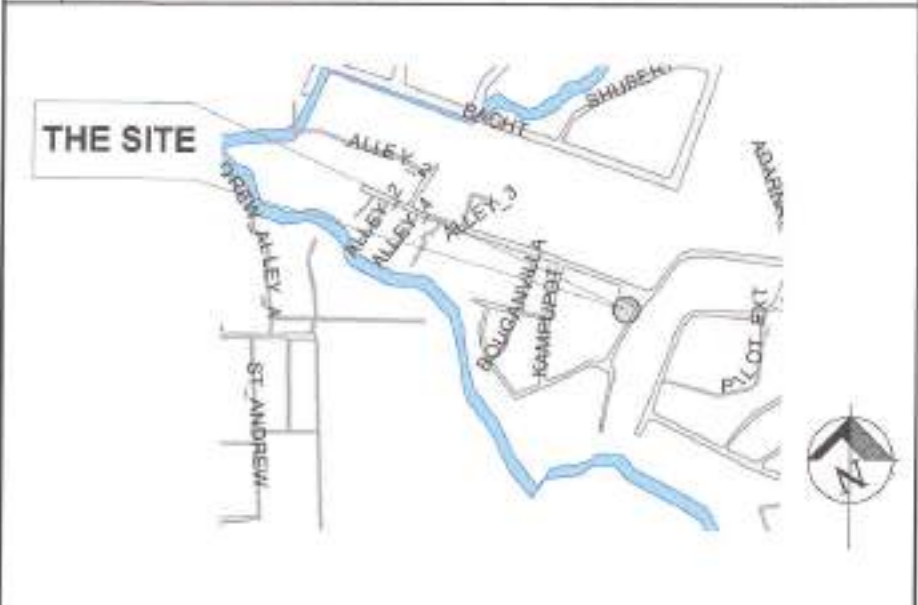
2 POWER LAYOUT

SCALE: 1:100 MTS

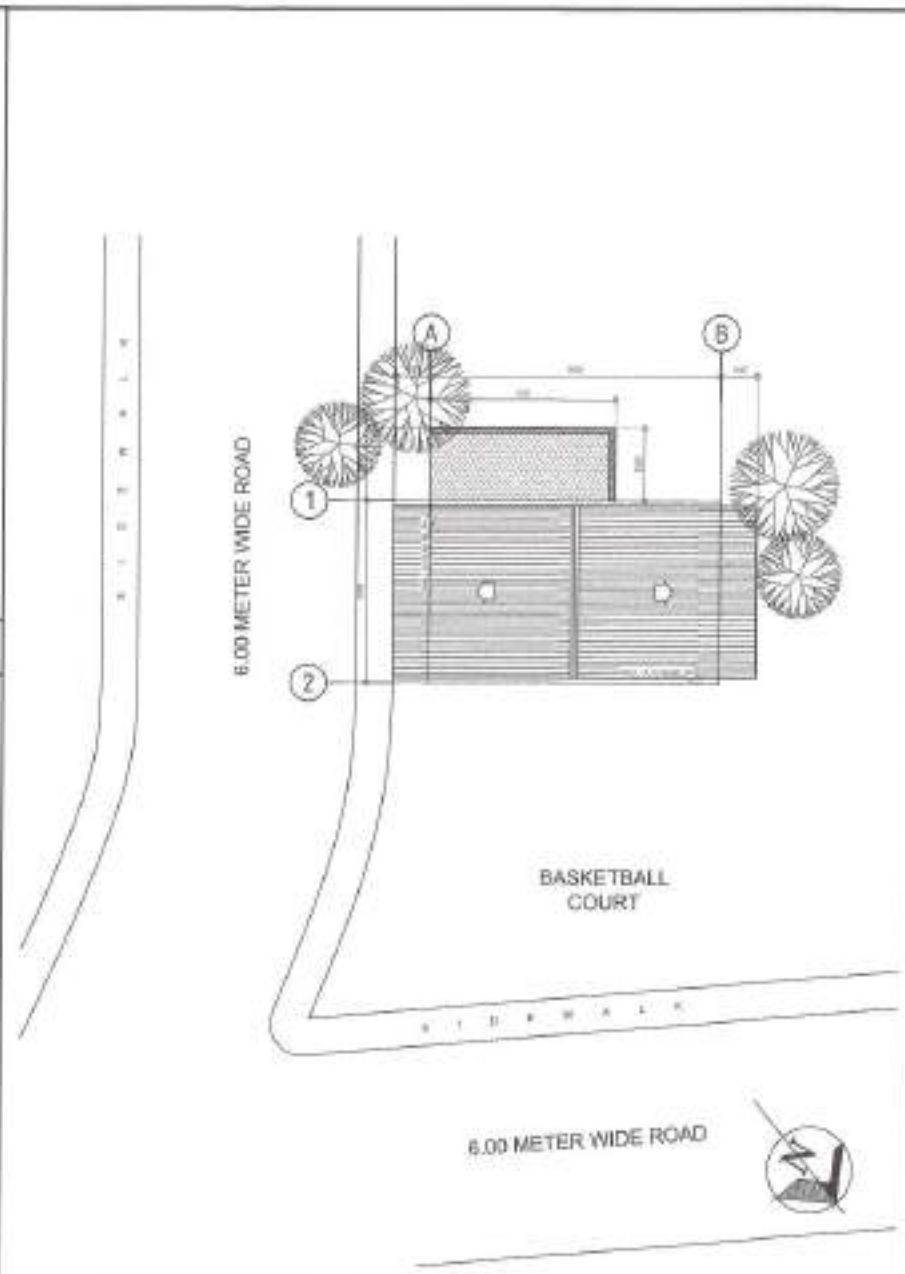
 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	OWNER: <i>ged</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF LITEX DAY CARE CENTER	DATE:	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	LIGHTING LAY-OUT POWER LAY-OUT	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center;"> <p>EL-2 7 / 7</p> </div>
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DRAWN BY: <i>[Signature]</i>	ENGR. LEON DEL ROSARIO HEAD, PLUMBING DIVISION	ENGR. SARIN R. VERZOSA, JR. DC OF SANITATION DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR		



1 VICINITY MAP SCALE NTS



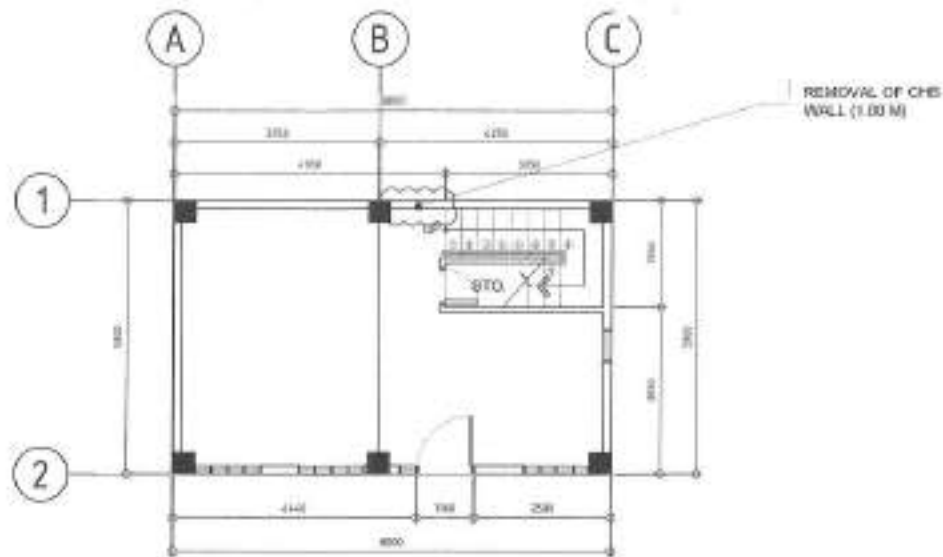
2 LOCATION MAP SCALE MTS.



3 SITE DEVELOPMENT PLAN SCALE 1:150M

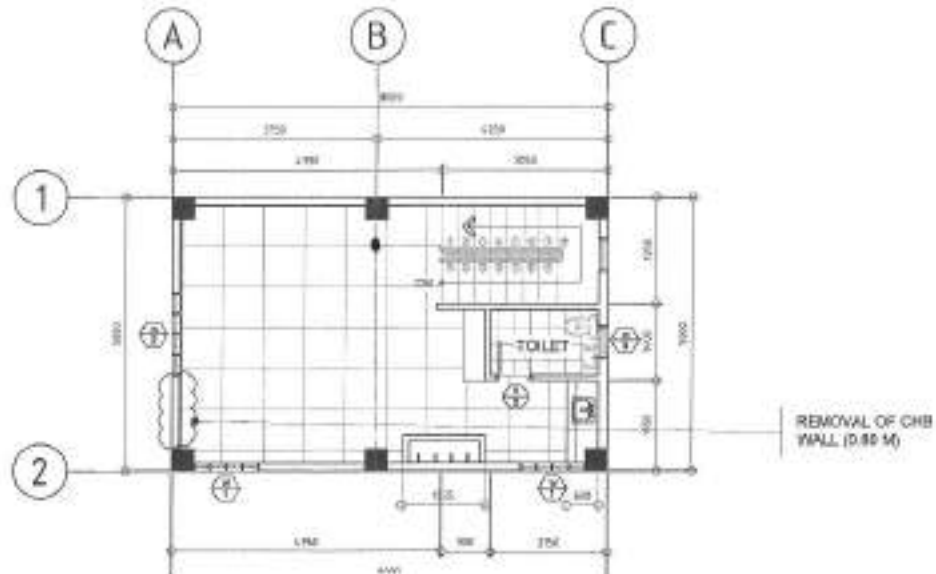
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ARCHITECTURAL	
AR-1	VICINITY MAP LOCATION PLAN SITE DEVELOPMENT PLAN
AR-2	GROUND FLOOR PLAN (EXISTING) SECOND FLOOR PLAN (EXISTING) GROUND FLOOR PLAN (PROPOSED) SECOND FLOOR PLAN (PROPOSED)
AR-3	ROOF PLAN REFLECTED CEILING PLAN
AR-4	FRONT ELEVATION REAR ELEVATION LEFT SIDE ELEVATION RIGHT SIDE ELEVATION
AR-5	SCHEDULE OF DOORS SCHEDULE OF WINDOWS
STRUCTURAL	
ST-1	FIRE EXIT PLAN AND DETAILS FOUNDATION PLAN WALL FOOTING DETAIL
ELECTRICAL	
EL-1	GENERAL NOTES LEGEND AND SYMBOLS SCHEDULE OF LOADS SINGLE LINE DIAGRAM MISCELLANEOUS DETAILS
EL-2	PROPOSED LIGHTING LAYOUT PROPOSED POWER LAYOUT

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDATION APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	<p>PROPOSED REHABILITATION OF PUROK 16 YAKAP DAYCARE CENTER</p> <p>LOCATION: BPOV, COMMERCE/HEALTH DISTRICT 2, QUEZON CITY</p>	DATE: 06/01/24	CHECKED BY:	<p>ENGR. LEO S. DEL ROSARIO HEAT, PLUMBING & REFRIGERATION ENGINEER</p>	<p>ENGR. ISIDORO R. VERZOGA, JR. CITY ENGINEERING DEPARTMENT</p>	<p>HON. MA. JOSEFINA G. BELMONTE CITY MAJOR</p>	<p>VICINITY MAP LOCATION MAP SITE DEVELOPMENT PLAN</p>



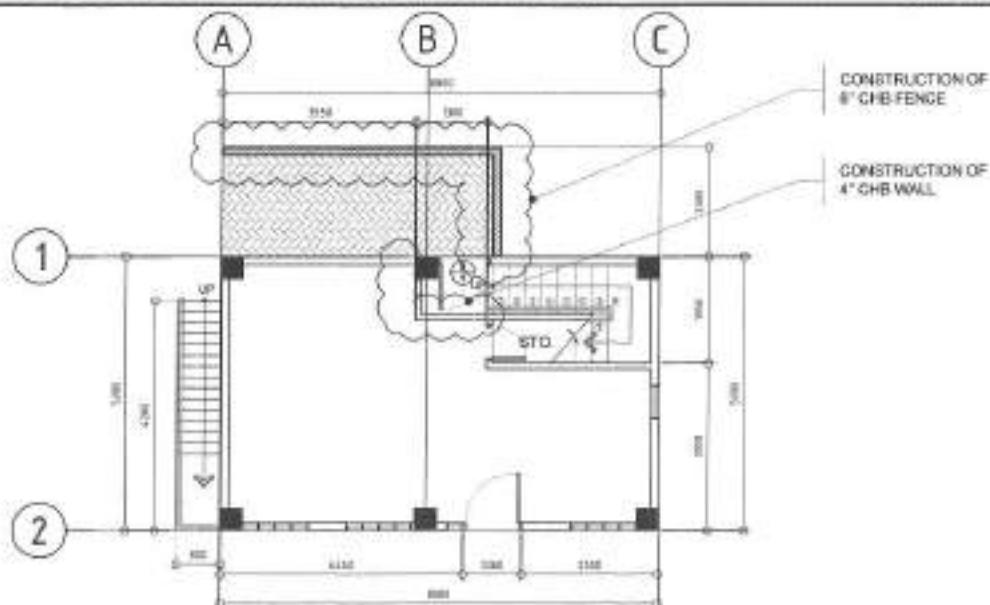
1 GROUND FLOOR PLAN (EXISTING)

SCALE 1:100M



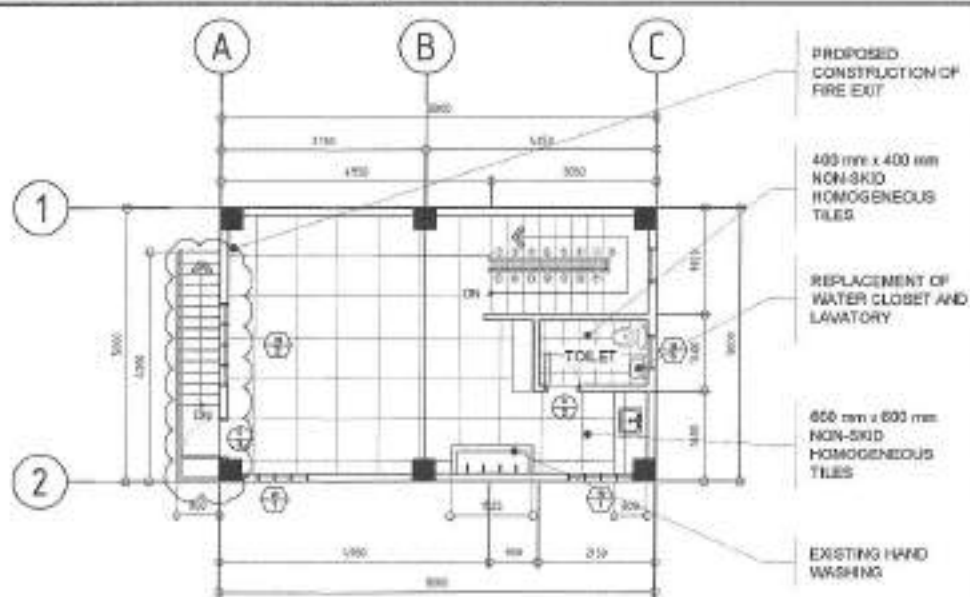
2 SECOND FLOOR PLAN (EXISTING)

SCALE 1:100M



3 GROUND FLOOR PLAN (PROPOSED)

SCALE 1:100M



4 SECOND FLOOR PLAN (PROPOSED)

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF
PUROK 16 YAKAP DAYCARE CENTER

LOCATION:
GENY, COMMONWEALTH DISTRICT 8, QUEZON CITY

DRAWN BY:

DATE: 08.10.21

CHECKED BY:

REVISION NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. MAGANI R. VERZOSA, JR.
SEC. CITY ENGINEERING DEPARTMENT

RECOMMENDING APPROVAL:

HON. MA. JOSEFINA S. BELMONTE
CITY SAVER

APPROVED BY:

HON. MA. JOSEFINA S. BELMONTE
CITY SAVER

SHEET CONTENT:

GROUND FLOOR PLAN
(EXISTING)

SECOND FLOOR PLAN
(EXISTING)

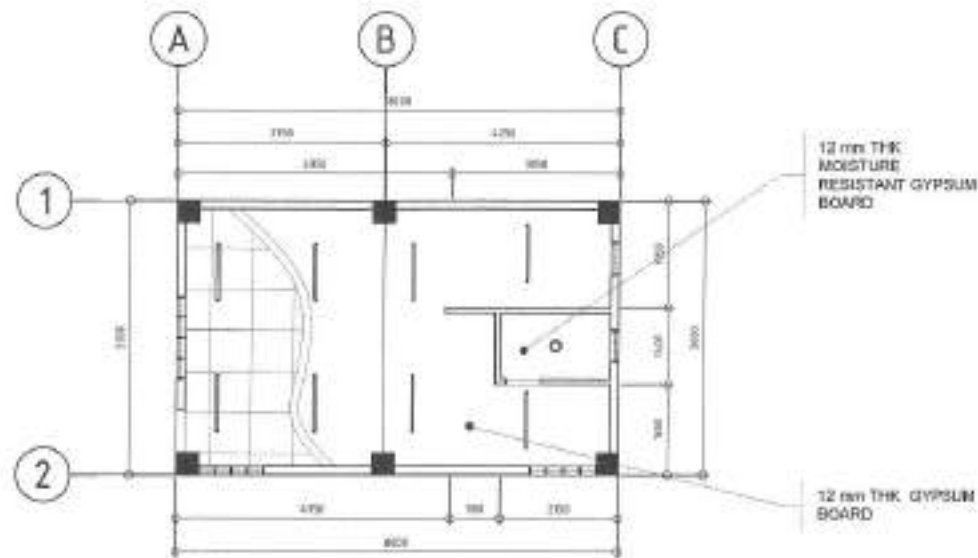
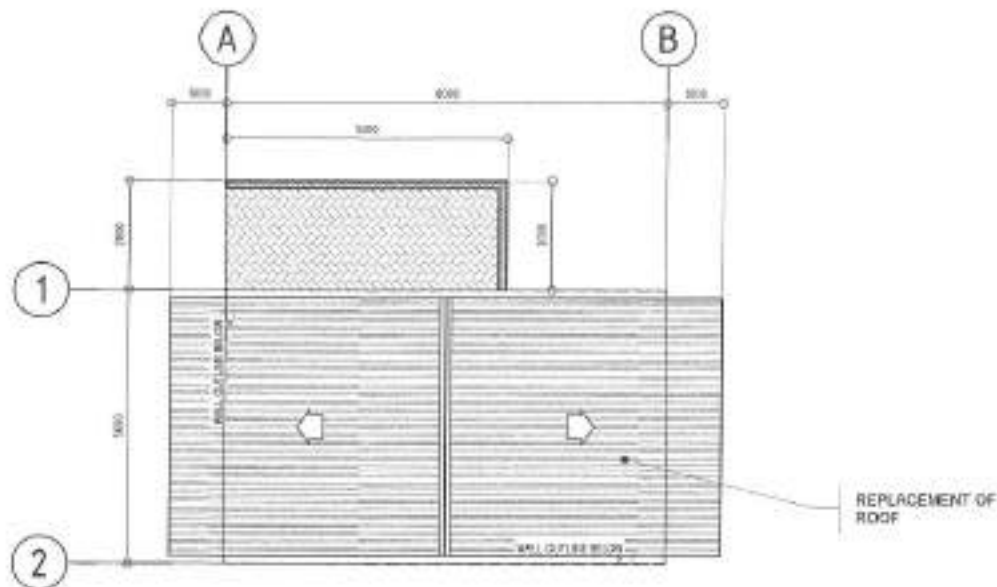
GROUND FLOOR PLAN
(PROPOSED)

ROOF PLAN

SHEET NO.:

AR-02

02/08

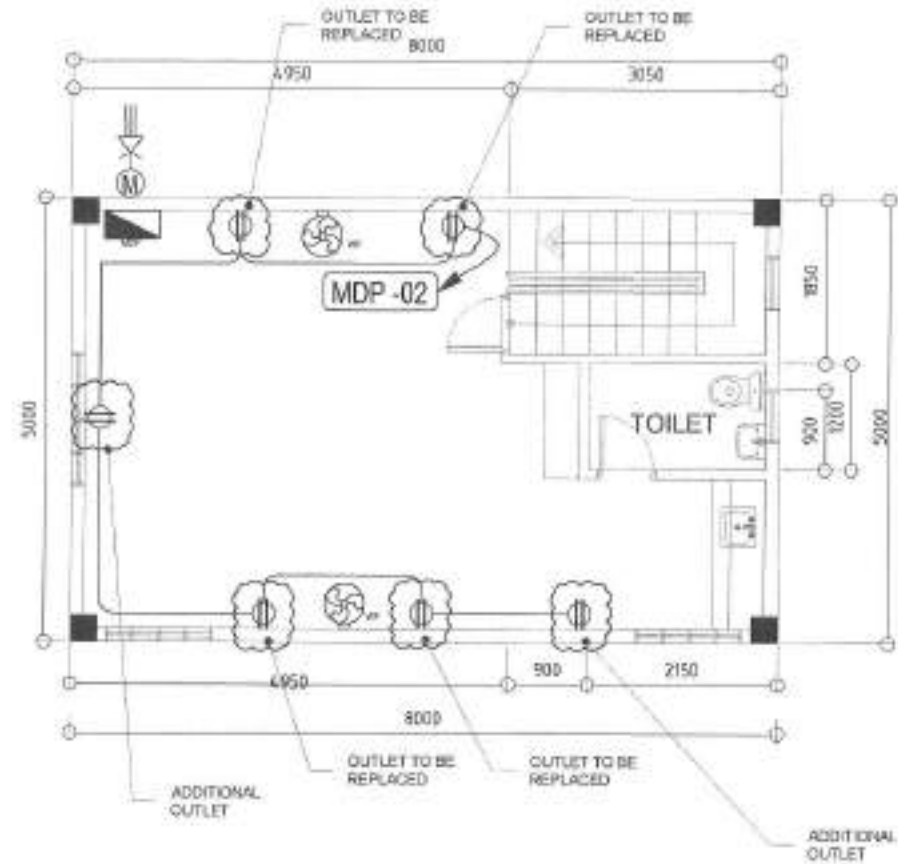
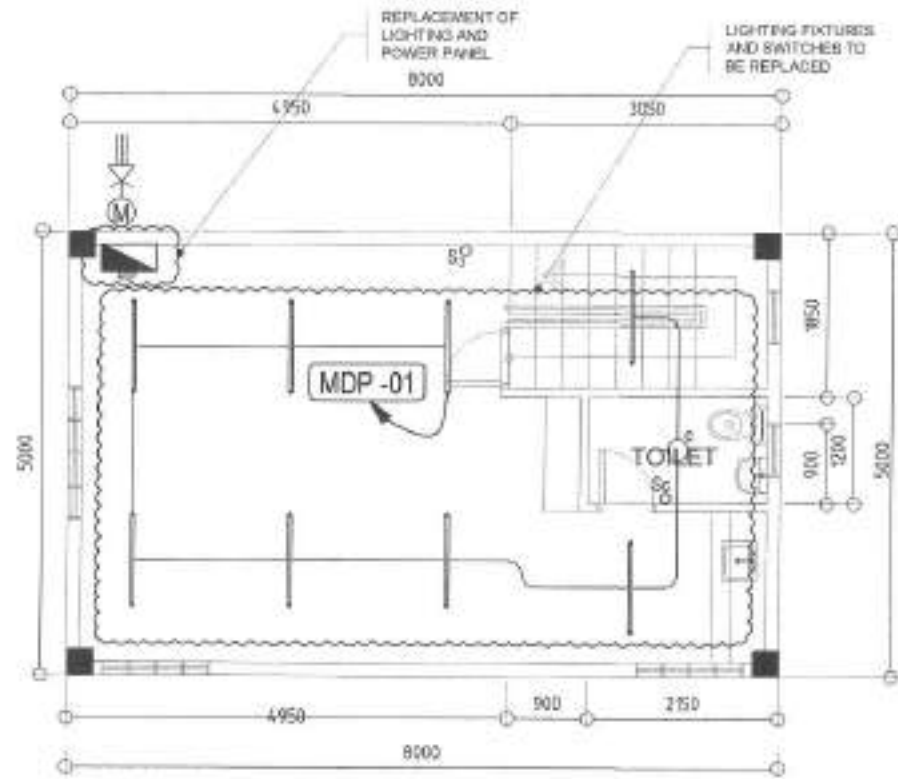


1 ROOF PLAN

2 REFLECTED CEILING PLAN

SCALE 1:100M.

<p> Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT </p>	PROJECT TITLE: PROPOSED REHABILITATION OF PUROK 16 YAKAP DAYCARE CENTER	DESIGNED BY: DATE: 06/16/21 CHECKED BY: JN REVISIONS:	SUBMITTED BY: 	RECOMMENDING APPROVAL: 	APPROVED BY: 	SHEET CONTENT: GROUND FLOOR PLAN (EXISTING) SECOND FLOOR PLAN (EXISTING) GROUND FLOOR PLAN (PROPOSED) SECOND FLOOR PLAN (PROPOSED)	SHEET NO: AR-03 0308
	LOCATION: DRASY, COMMERCIAL DISTRICT 2, DUCSON CITY	REVISIONS:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. JUAN R. VERZOSA, JR. DEL. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MARCH		



1 PROPOSED LIGHTING LAYOUT

SCALE 1:80M

2 PROPOSED POWER LAYOUT

SCALE 1:80M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED REHABILITATION OF PUROK 16 DAYCARE CENTER	DRAWN BY: DATE: 08/16/21
LOCATION: BPOY COMMONWEALTH DISTRICT 2, QUEZON CITY	CHECKED BY: REVISION NO.:

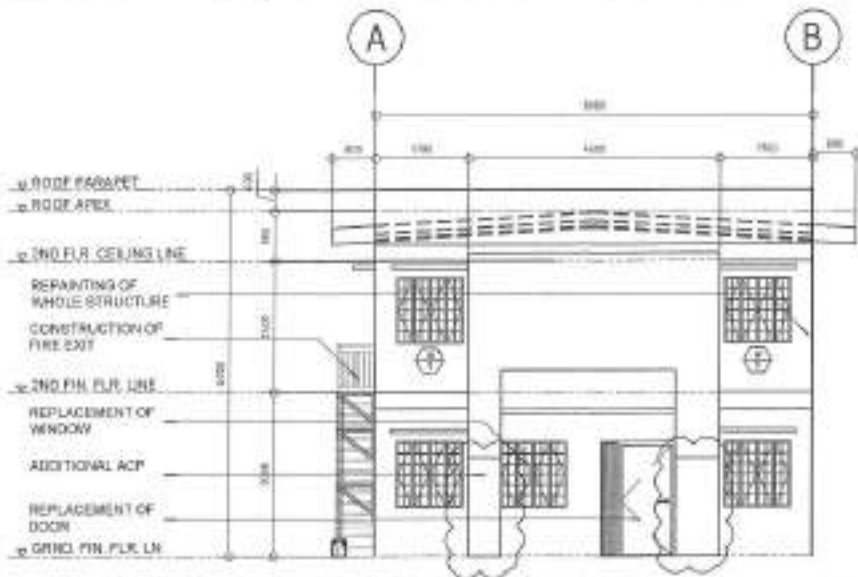
DESIGNED BY: ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING & MECHANICAL DIVISION
--

RECOMMENDING APPROVAL: ENGR. SATURNI R. VERZOSA, JR. O.C. CITY ENGINEER & SUPERVISOR
--

APPROVED BY: HON. MA. JOSEFINA G. BELMONTÉ CITY MAYOR

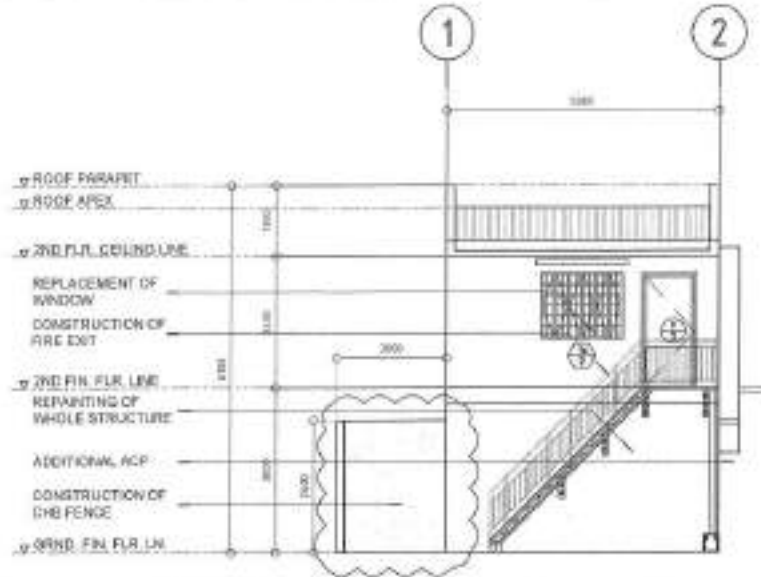
ISSUE CONTENT: PROPOSED LIGHTING LAYOUT PROPOSED POWER LAYOUT

SHEET NO. EL-02 08/08



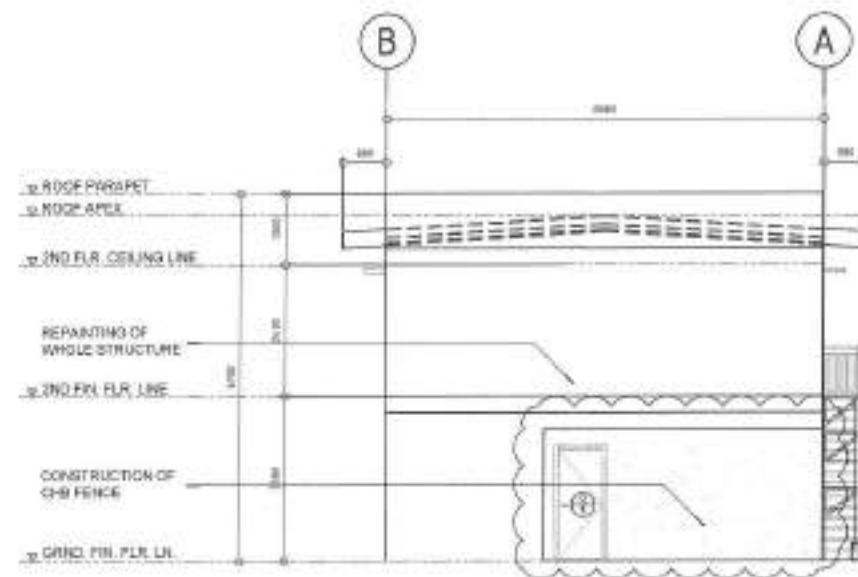
1 FRONT ELEVATION

SCALE 1:100M



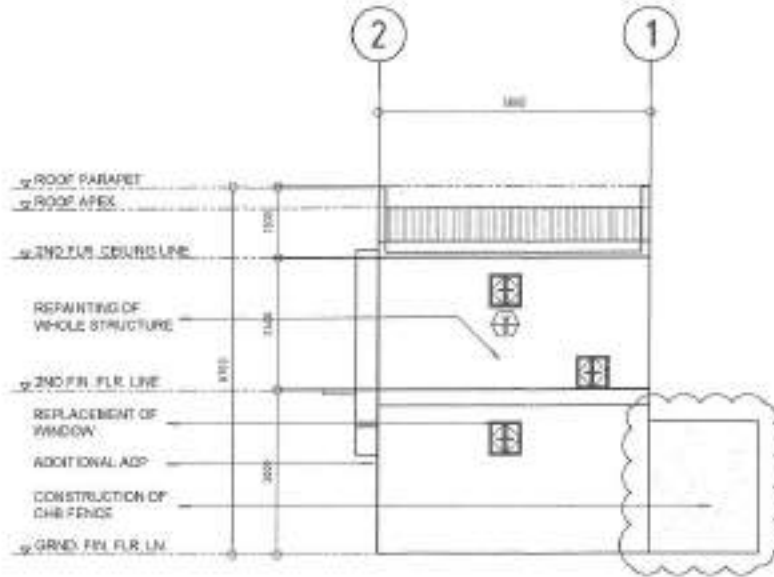
2 LEFT SIDE ELEVATION

SCALE 1:100M



3 REAR ELEVATION

SCALE 1:100M



4 RIGHT SIDE ELEVATION

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
PUROK 16 YAKAP DAYCARE CENTER**

LOCATION:
BRGY. COMANDANTEVALI, DISTRICT 2, QUEZON CITY

DRAWN BY: [Signature]
DATE: 08/2021
CHECKED BY: [Signature]
REVISION NO.:

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

RECOMMENDING APPROVAL:
[Signature]
ENGR. JACOB M. VERZOSA, JR.
SEC. CITY ENGINEERING DEPARTMENT

APPROVED BY:
[Signature]
HON. MA. JOSEFINA O. BELMONTÉ
CITY ENGINEER

SHEET CONTENT:
FRONT ELEVATION
REAR ELEVATION
LEFT SIDE ELEVATION
RIGHT SIDE ELEVATION

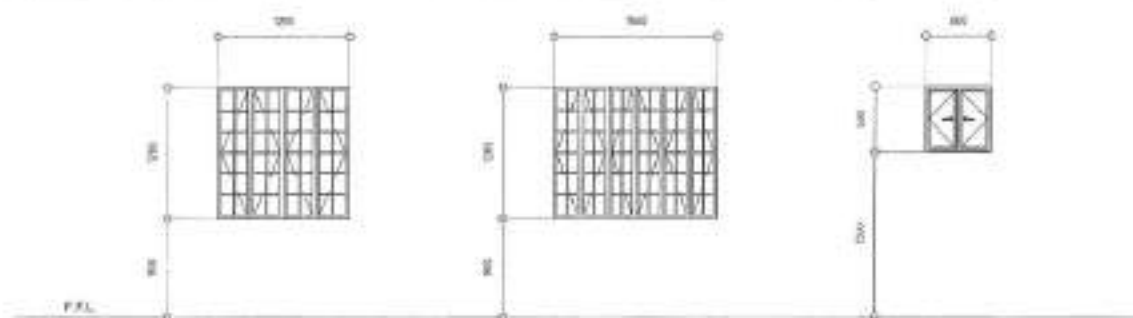
SHEET NO.
AR-04
04/08



NAME	⊕	⊕	⊕
NO. OF SETS	1	1	1
DESCRIPTION	PANEL DOOR	PVC FLUSH DOOR W/ LOUVERS	STEEL DOOR WITH PANIC HARDWARE
LOCATION	ENTRANCE / STAIRS	TOILET	FIRE EXIT
REMARKS	PROPOSED	TO BE REPLACED	PROPOSED

1 SCHEDULE OF DOORS

SCALE 1:50M



NAME	⊕	⊕	⊕
NO. OF SETS	2	1	1
DESCRIPTION	ALUMINUM FRAMED POWDER COATED CASERMENT WINDOW WITH 6mm THK CLEAR GLASS	ALUMINUM FRAMED POWDER COATED CASERMENT WINDOW WITH 6mm THK CLEAR GLASS	ALUMINUM FRAMED POWDER COATED CASERMENT WINDOW WITH 6mm THK CLEAR GLASS
LOCATION	CLASSROOM	CLASSROOM	CLASSROOM, STAIRS AND TOILET
REMARKS	TO BE REPLACED	TO BE REPLACED	TO BE REPLACED

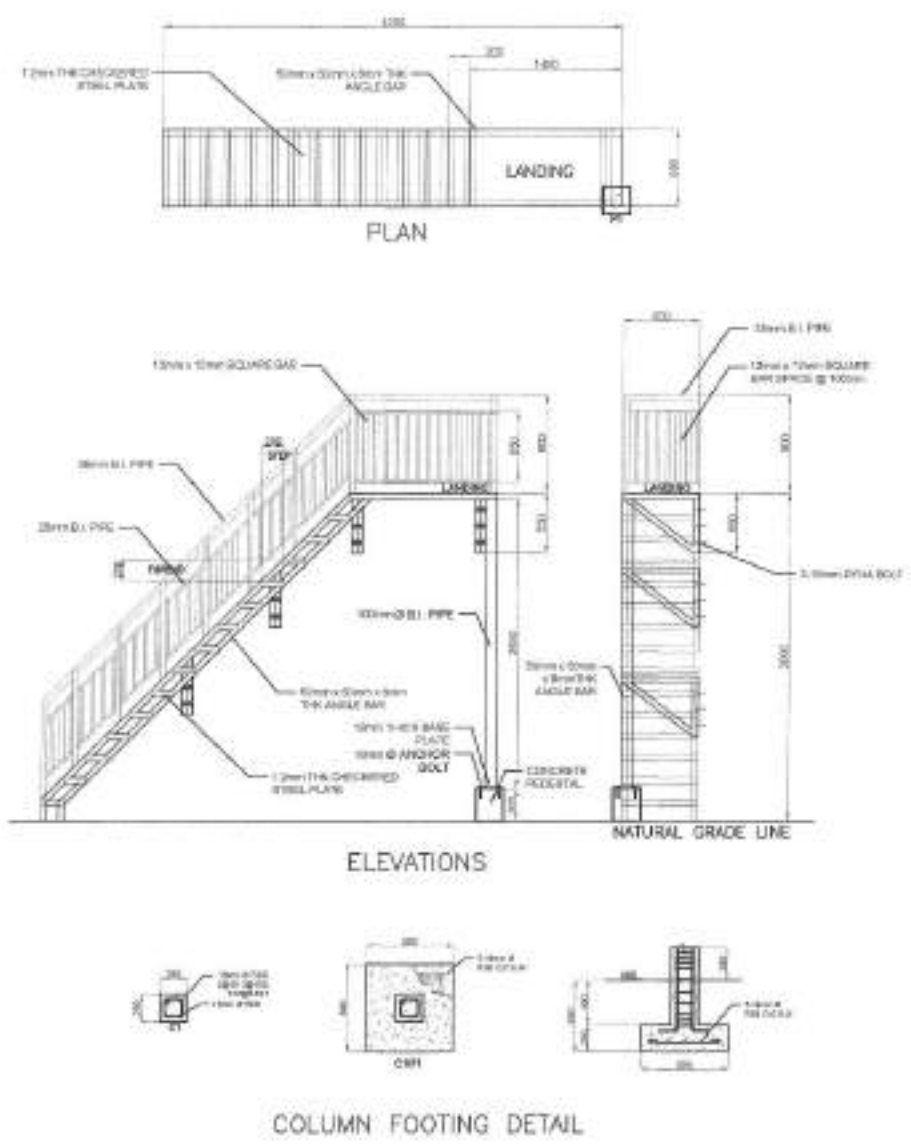
2 SCHEDULE OF WINDOWS

SCALE 1:50M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:	DESIGN BY:	SUBMITTED BY:	RECOMMENDED APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
PROPOSED REHABILITATION OF PUROK 16 YAKAP DAYCARE CENTER	DATE: 08/10/21 CHECKED BY:				SCHEDULE OF DOORS SCHEDULE OF WINDOWS	AR-05 05/08
LOCATION: BPOV, COMMOHEALTH DISTRICT 2, QUEZON CITY	REASON NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PREPARATION DIVISION	ENGR. JESSAN R. VERZOSA, JR. DIC, CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAOR		



1 FIRE EXIT PLAN AND DETAILS SCALE 1:50M

2 FOUNDATION PLAN SCALE 1:50M



3 WALL FOOTING DETAIL SCALE 1:30M

<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 REHABILITATION OF PUROK 18 YAKAP DAYCARE CENTER	DATE: 08/15/21				FIRE EXIT PLAN AND DETAILS FOUNDATION PLAN WALL FOOTING DETAIL	ST-01 06/08	
	LOCATION: BRGY. COMMERCIAL III, DISTRICT 3, QUEZON CITY	CHECKED BY:				HON. MA. JOSEFINA O. BELMONTE CITY MAJOR		
	REVISION NO.:		ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROJECT MANAGEMENT DIVISION	ENGR. ISADOR R. VERZOSA, JR. DIC, CITY ENGINEERING DEPARTMENT				

- ALL ELECTRICAL WORK 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 ENFORCED 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 RIGID SUPPORTED BY CONDUIT CLAMPS EVERY 700 MILLIMETER.
- FULL BONES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE WORK FALLING EVEN IF THESE ARE NOT INDICATED ON THE PLANS. SIZING OF ALL PULLBOARDS SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULLBOARDS 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 220V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" 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 AFF. (FROM ABOVE WORKING CENTER)
 TELEPHONE OUTLET - 300 MM AFF.
 DATA OUTLET - 300 MM AFF.
 LIGHTING SWITCH - 1400 MM AFF.
 PANEL BOARD - 1800 MM AFF.

- REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR SIZES AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL DEVICES AS SPECIFIED AND OR DESIGN UNLESS THERE IS SPECIFIC INSTRUCTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND NEW AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESERVE GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESIRED ACTUAL LOCATIONS, LEVELS AND DIMENSIONS OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE AS LOCATION, DIMENSIONS AND LEVELS ARE COVERED 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. THIN L COOPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 3.5 SQ. MM. COOPER 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:
 MINIMUM WIDTH OF THE WIDEST SURFACE STEEL:
 UP TO INCLUDING 100 MM GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 100 MM BUT NOT OVER 407.30 GA 16 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 407.30 MM BUT NOT OVER 102 MM GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT
 OVER 102 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 POAS. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 48 HERTZ, 220V AC NOMINAL.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BONES IN ANY ONE RUN. ALL CONDUIT BONES 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, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED BY DETAILS ON 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 2 OHMS.

	1500 LUX TIME LIGHT BOX TYPE
	RECEPTACLE 15' 10 WATTS LES MAX
	CONVENIENCE OUTLET
	WALL FAN
	SINGLE GANG SWITCH (LIGHTS)
	TWO GANG SWITCH (LIGHTS)
	THREE GANG SWITCH (LIGHTS)
	CIRCUIT BREAKER
	PANEL BOARD
	GROUND-FEEL METER
	SERVICE ENTRANCE

MDP

NO.	LOAD DESCRIPTION	VOLT	POWER	CURRENT (AMPERE)	CIRCUIT BREAKER			WIRE AND CONDUIT		
					AMP	IN	OUT	TYPE	SIZE	TYPE
1	1 - LIGHTING	220	500	2.27	15	10	2	1 - 3.5mm ²	1 - 3.5mm ²	25mm ² PVC
2	1 - GROUNDING OUTLET - ADDITIONAL OUTLET - WALL FAN	220	1500	6.82	20	15	2	1 - 3.5mm ²	1 - 3.5mm ²	25mm ² PVC
3	1 - FAN	220	-	-	-	-	-	-	-	-
4	1 - FAN	220	-	-	-	-	-	-	-	-
TOTAL CONNECTED LOAD			2200	9.81						

CIRCUIT PROTECTION COMPUTATION:

$I = (2200 / 220V)$
 $I = 10.00 AMPERE$

OVER CURRENT PROTECTION:

USE 15 AMP, 2P CIRCUIT BREAKER

MAIN FEEDER:

USE 2 - 14mm² THIN WIRE & 2 - 3.5mm² TW GROUND WIRE IN 25mm² PVC TYPE

2 LEGEND

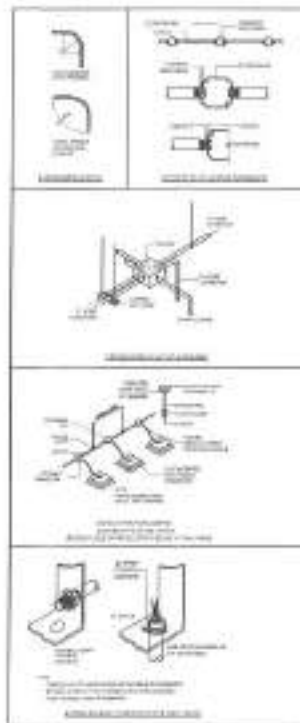
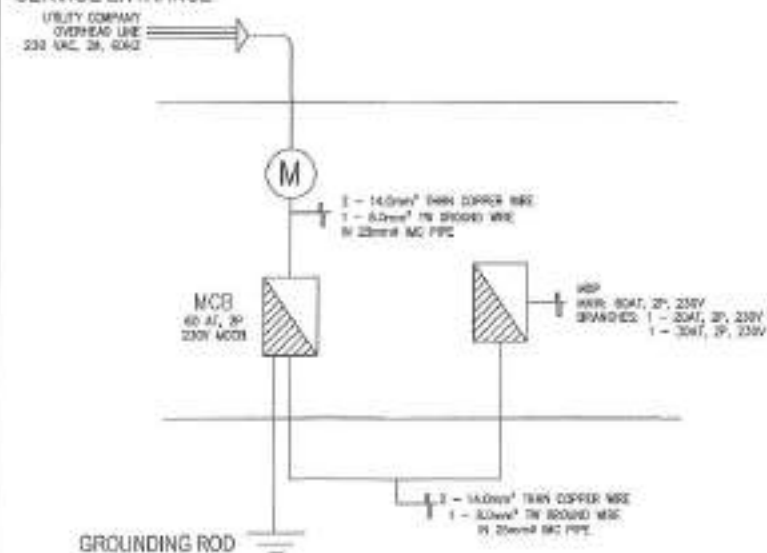
SCALE: NTS

3

LOAD SCHEDULE

SCALE: NTS

SERVICE ENTRANCE



1 GENERAL NOTES

SCALE: NTS

4 SINGLE LINE DIAGRAM

SCALE: NTS

5 MISC. DETAILS

SCALE: NTS



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE

PROPOSED REHABILITATION OF
 PUROK 16 DAYCARE CENTER

LOCATION

8701 COMMERCIAL DISTRICT 2, QUEZON CITY

DRAWN BY: JRS

DATE: 08.10.21

CHECKED BY: JRS

REVISION NO:

SUBMITTING:

ENGR. GEO S. DEL ROSARIO
 HEAD, PLUMBING & ELECTRICAL DIVISION

RECOMMENDING APPROVAL:

ENGR. SAMSON R. VERZOSA, JR.
 CH. OF PLUMBING & ELECTRICAL DIVISION

APPROVED BY:

HON. NA. JOSEFINA G. BELMONTTE
 CITY MAYER

SHEET CONTENT

GENERAL NOTES
 LEGEND AND SYMBOLS
 LOAD SCHEDULE
 SINGLE LINE DIAGRAM
 MISCELLANEOUS DETAILS

SHEET NO.

EL-01
 07/08

THE SITE



1 VICINITY MAP

THE SITE



2 LOCATION MAP

3 SITE DEVELOPMENT PLAN

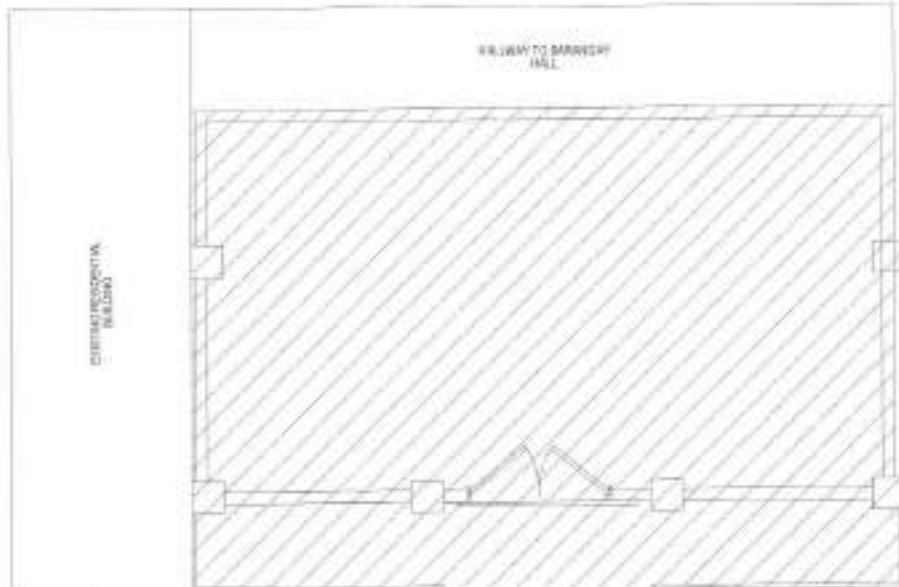


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AR-2	SITE DEVELOPMENT PLAN
AR-3	PROPOSED GRADE/FLOOR FINISH
AR-4	SCHEDULE OF FINISHES
STRUCTURAL	
ST-1	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES, FOUNDATION
ST-2	FOUNDATION PLAN
PLUMBING	
PL-1	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES
PL-2	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES
PL-3	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES
ELECTRICAL	
EL-1	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES
EL-2	GENERAL NOTES, FLOOR FINISHES, CEILING, LIGHTING, SCHEDULE OF FINISHES



PROJECT TITLE:
PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER
 LOCATION:
 BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY

DESIGNED BY:
 SKD
 PREPARED BY:
 REVISOR NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
 CHIEF, CIVIL ENGINEERING DIVISION

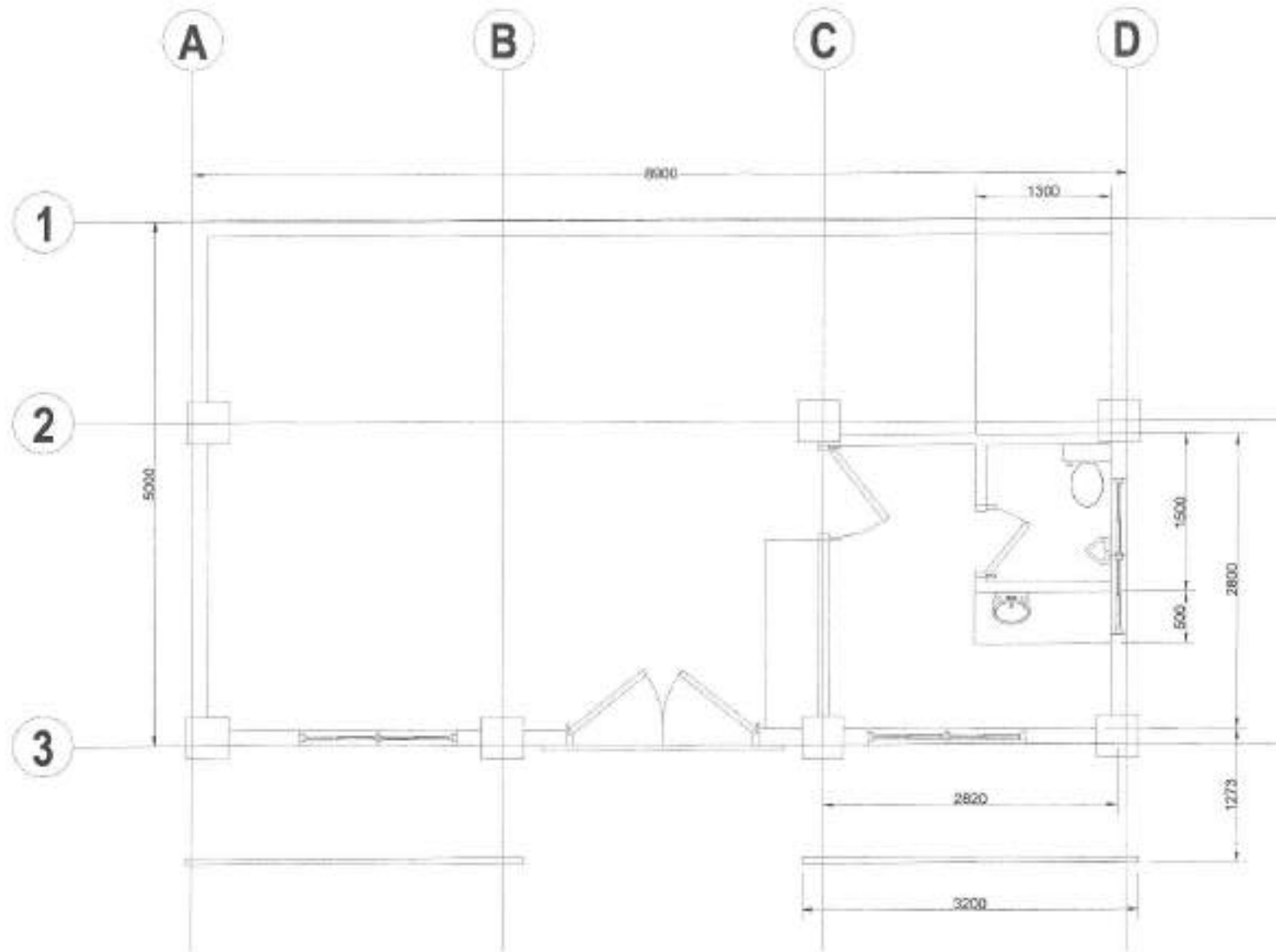
APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY ENGINEER


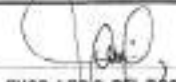



SHEET CONTENT:
 LOCATION MAP
 VICINITY MAP
 PROSPECTIVE
 TABLE OF CONTENTS

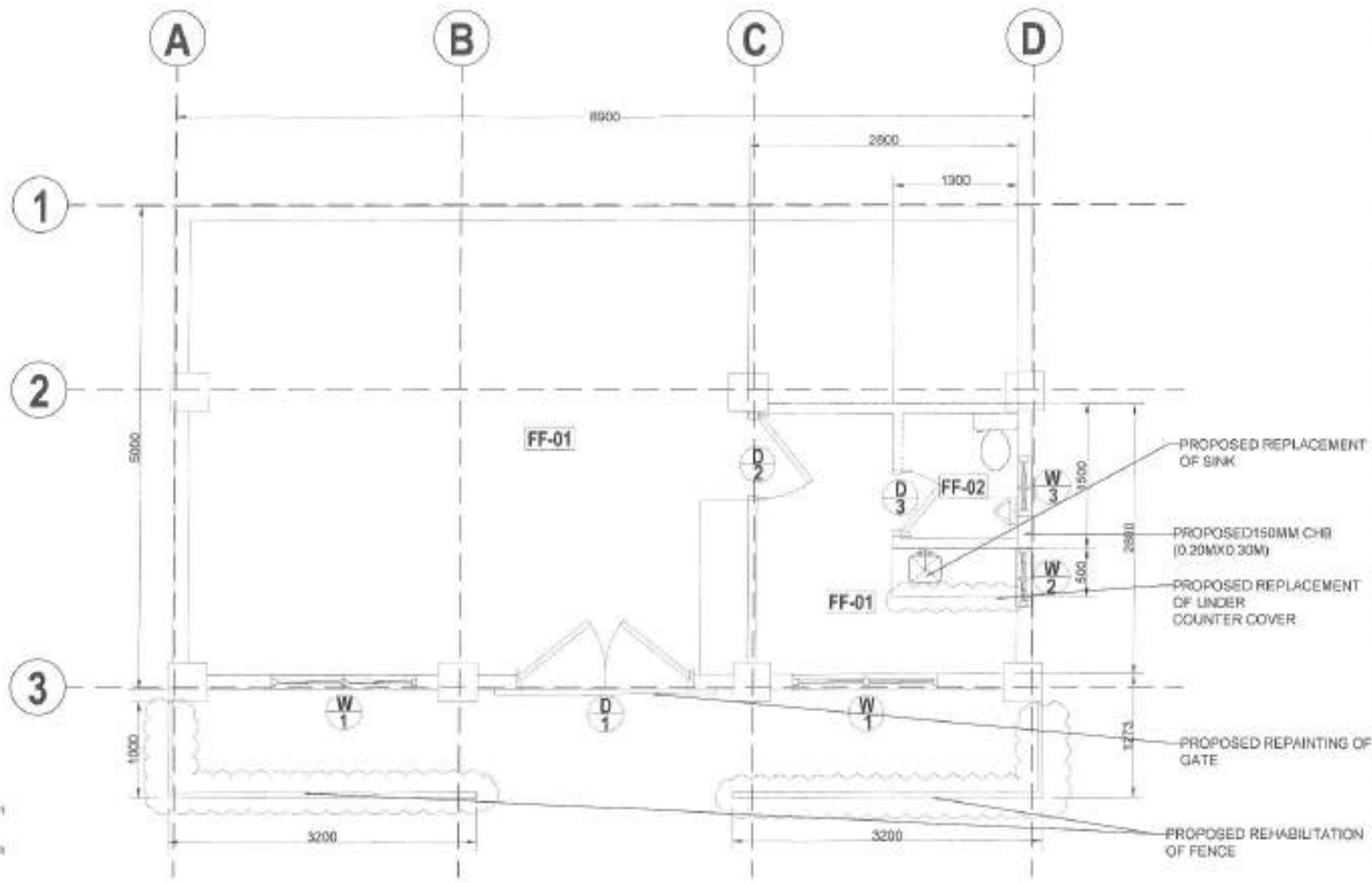
SHEET NO.

AR-1
1/10



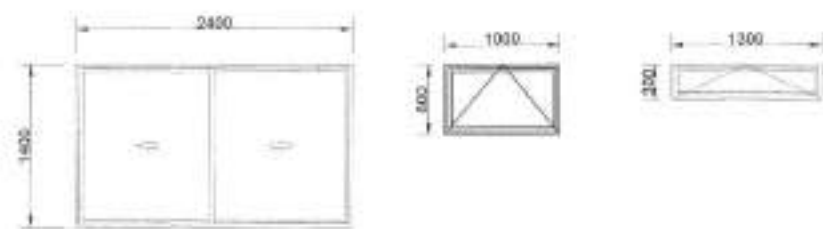
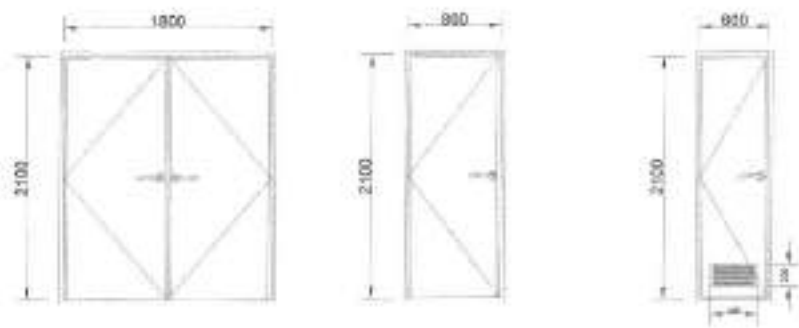
1 EXISTING GROUND FLOOR PLAN

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	DATE:				EXISTING GROUND FLOOR PLAN	
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY	DESIGNED BY:	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. ISACAM R. VERZOSA, JR. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MARCH		



1 PROPOSED GROUND FLOOR PLAN

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>Jay</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	CHECKED BY: <i>Jay</i>	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DIVISION	ENGR. ISACK R. VERZOSA, JR. DC OFF. ENGINEERING DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	PROPOSED GROUND FLOOR PLAN	AR-3 3/10
OFFICE: BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY		REVISION NO.:					



DESIGNATION			
SPCS	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEEN WHITE)	SWING TYPE, FLUSH HOLLOW CORE DOOR, PAINTED FINISH (KITTEEN WHITE)	SWING TYPE, PVC DOOR, WITH 400mm x 200mm LOUVER, PAINTED FINISH (KITTEEN WHITE)
HARDWARE (GLAZING)	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH	COMPLETE ACCESSORIES, DOOR KNOB, LEVER-TYPE SATIN STAINLESS FINISH

DESIGNATION			
SPCS	SLIDING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES	AWNING WINDOW, 6mm THK CLEAR TEMPERED GLASS ON WHITE COLOR POWDER COATED ALUMINUM FRAMES
HARDWARE (GLAZING)	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES	PROVIDE WITH COMPLETE ACCESSORIES

1 SCHEDULE OF DOORS AND WINDOWS

SCALE: NTS

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>[Signature]</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	DATE:	<i>[Signature]</i>	ENGR. ISACAN R. VERZOSA, JR. LIC. CITY ENGINEERING CONTRACTOR	<i>[Signature]</i>	SCHEDULE OF DOORS AND WINDOWS	AR-4 410
	LOCATION: BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY	DESIGNED BY: <i>[Signature]</i>	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAM DIVISION	HON. MA. JOSEFINA G. BELMONTE CITY MAJOR			

GENERAL

- CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR INDICATED OTHERWISE.
- SHOP DRAWINGS WITH ERECTION AND PLUMBING DIMENSIONS OF ALL STRUCTURAL MEMBERS SHALL BE APPROVED BY THE ARCHITECT BEFORE CONSTRUCTION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BE DONE UNDER THE MECHANICAL AND ELECTRICAL CONTRACTORS FOR CONSULTATION AND TO BE EMBEDDED IN CONCRETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ACCURATE DIMENSIONS AND LOCATIONS OF THE STRUCTURE FOR ALL WORK THAT WILL BE DONE UNDER CONTRACT.
- IN CASE OF QUANTITY VARIATIONS FROM THE BILLING STATEMENT OF WORK OR ANY OCCURRENCE, THE ARCHITECTOR'S INSTRUCTIONS SHALL BE CALLED UPON.

CONCRETE & REINFORCEMENT

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST EDITIONS OF THE CODE OF AMERICAN CONCRETE INSTITUTE (ACI 308).
- ALL CONCRETE SHALL BE PLACED AT A MINIMUM COMPRESSIVE STRENGTH AT THE END OF FINISH CURING (IN DAYS) WITH CORRESPONDING WATERSHEDS, AGGREGATE AND CURING FOLLOWS:

LOCATION	STRENGTH	AGE (DAYS)	WATER CEMENT RATIO
1. SLAB ON GROUND, WALL FOOTINGS, FOUNDATION	3000 PSI (20.7 MPa)	14 DAYS	0.45 (MAX)
2. WALL FOOTINGS	3000 PSI (20.7 MPa)	14 DAYS	0.45 (MAX)
3. BEAMS, COLUMNS, SCHEDULED SLAB	3000 PSI (20.7 MPa)	14 DAYS	0.45 (MAX)
4. UNDESIGNED SLAB	3000 PSI (20.7 MPa)	14 DAYS	0.45 (MAX)

- ALL REINFORCING BARS SHALL CONFORM TO REQUIREMENTS FOR TENSILE AND WELDING PROPERTIES AND GRADE AND SIZE. WELDED BARS SHALL BE USED UNLESS OTHERWISE SPECIFIED.
- IN SPECIAL CASES, THE USE OF STEEL BARS SHALL BE APPROVED BY THE ARCHITECTOR BEFORE CONSTRUCTION.
- REINFORCING BARS SHALL BE PROTECTED FROM CORROSION BY MEANS OF AN APPROPRIATE COVER.

REINFORCING BARS	COVER (MINIMUM)
CONCRETE ON GRADE OR EXPOSED TO WEATHER	75 mm
CONCRETE ON GRADE	50 mm
SLAB ON GROUND	40 mm
WALLS AND COLUMNS	25 mm

- REINFORCING BARS SHALL BE SECURELY TIED TOGETHER AND SHALL LAP PROPERLY IN ACCORDANCE WITH THE CODE OF PRACTICE AND APPROVED SHOP DRAWINGS. OVERLAP SHALL BE 2 TIMES THE BAR DIAMETER.
- ALL ANCHORS SHALL BE CORRECTLY AND SECURELY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- CONTRACTOR SHALL SITE AND BRACE ALL REINFORCEMENT BARS, STAYS, JOINTS, AND MECHANICAL BARS THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.
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1. DEVELOPMENT LENGTH FOR BARS SHALL BE AS SPECIFIED IN THE LATEST EDITIONS OF THE ACI 308.

STRUTTING BEAMS AND PLATES

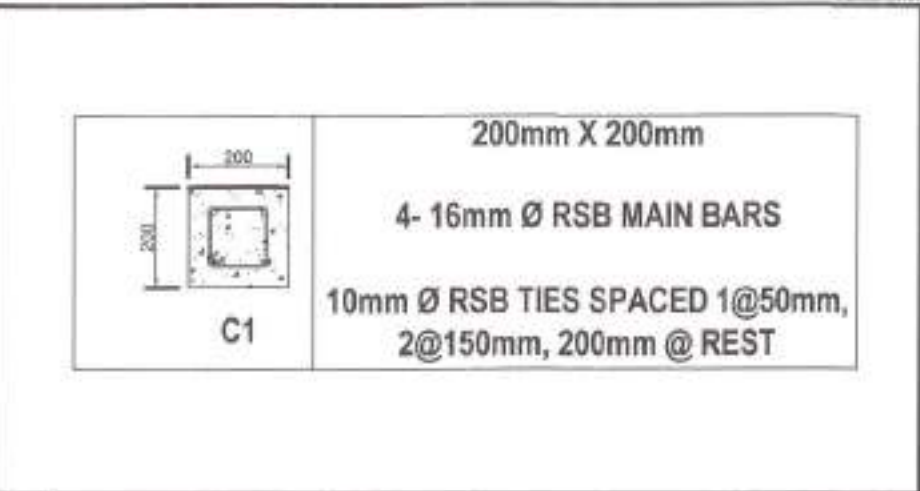
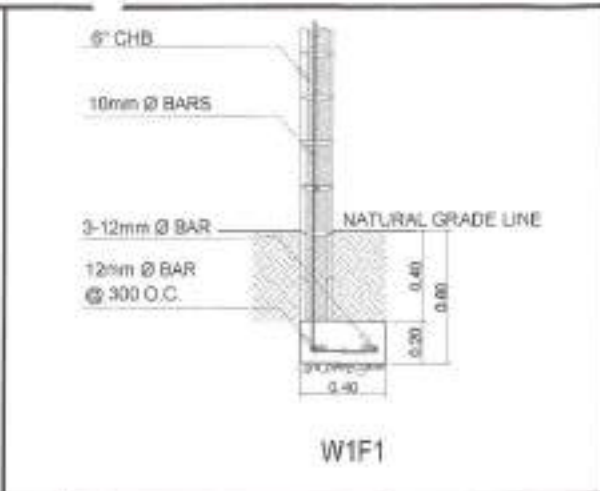
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FOUNDATION

- FOUNDATION IS TO BE CONSTRUCTED ON NATURAL GROUND UNLESS OTHERWISE SPECIFIED.
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2 WALL FOOTING DETAILS SCALE: NTS

4 SCHEDULE OF COLUMN SCALE: NTS

GENERAL NOTES

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STRUTTING BEAMS AND PLATES

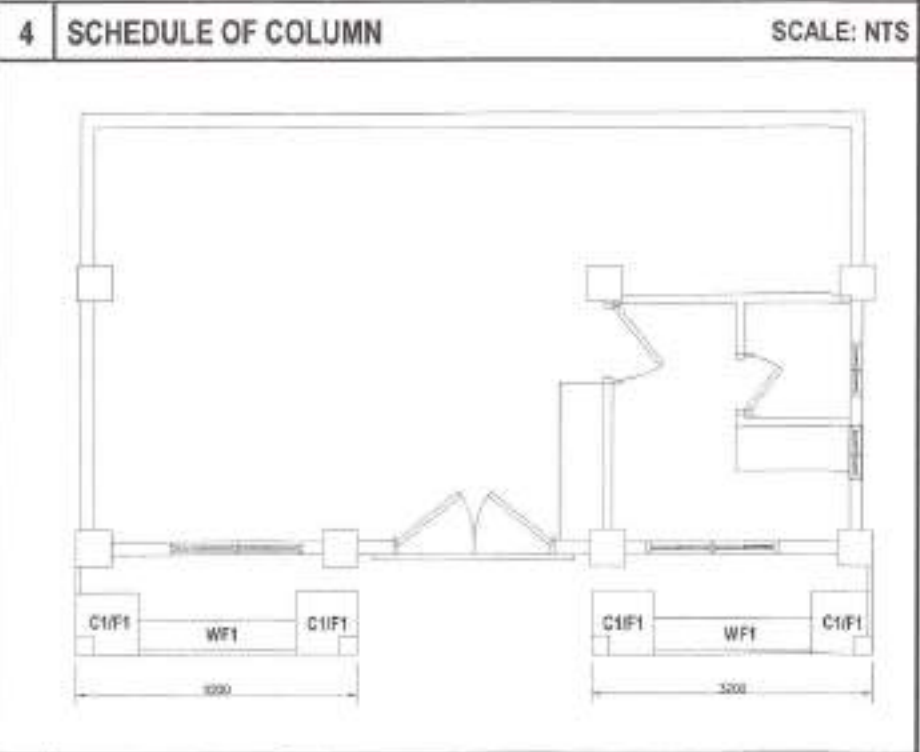
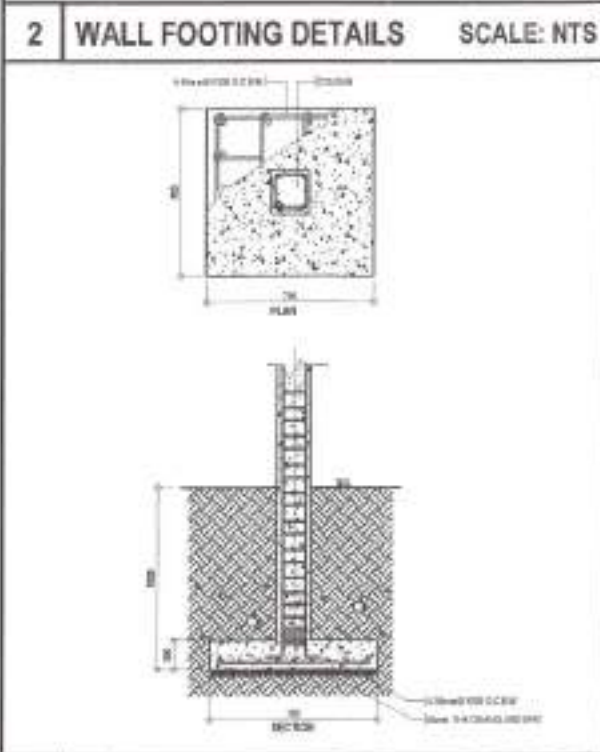
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3 FOOTING DETAILS SCALE: NTS

4 FOUNDATION PLAN SCALE: NTS

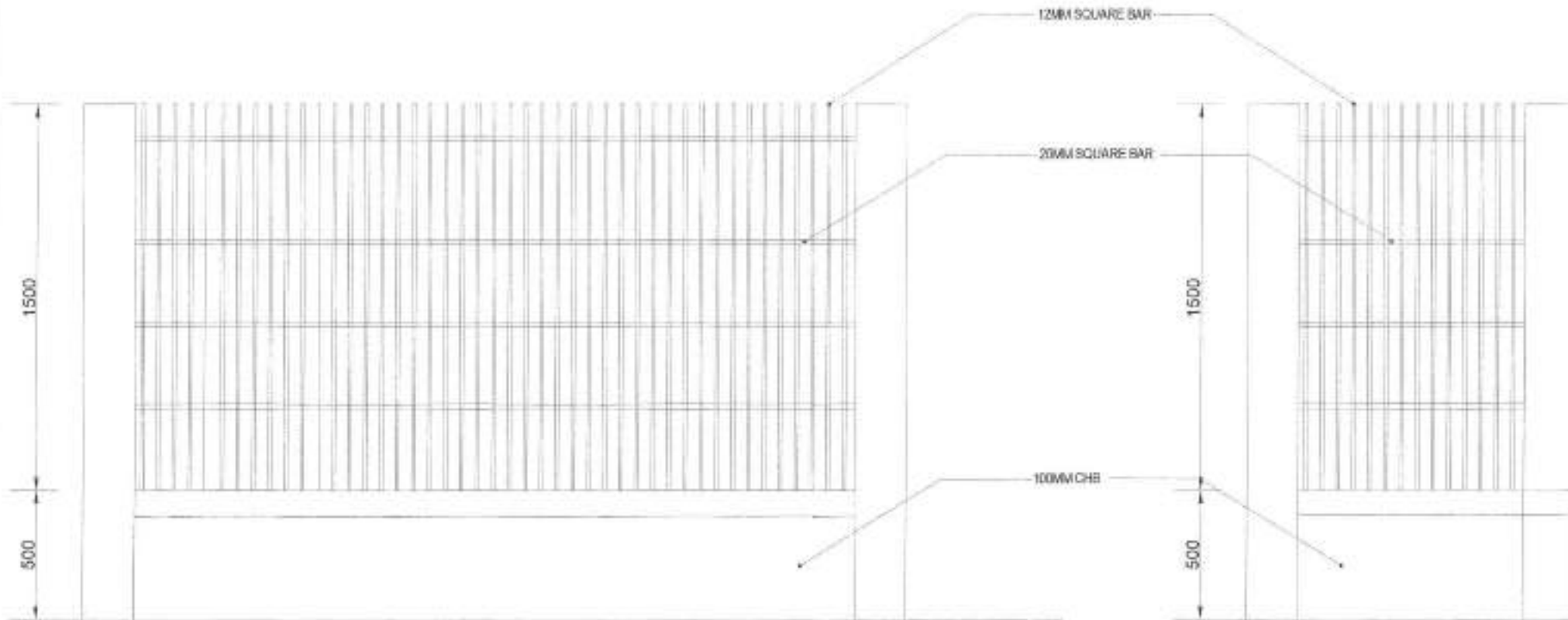
1 GENERAL NOTES

PROJECT TITLE: PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER

LOCATION: BARANGAY COMMERCIAL, DISTRICT 1, QUEZON CITY

PROJECT TITLE:	DATE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	08/11/2021	ENGR. LEO S. DEL ROSARIO	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGARI R. VERZOSA, JR.	HON. MA JOSEFINA G. BELMONTE	GENERAL NOTES WALL FOOTING DETAILS FOOTING DETAILS SCHEDULE OF COLUMN FOUNDATION PLAN	ST-1 5/10





1 PERIMETER FENCE DETAILS

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER LOCATION: BARANGAY COMMONWEALTH, DISTRICT 1, QUEZON CITY	DATE: CHECKED BY: <i>JMB</i> REVIEWER NO.:	ENGR. LEO S. DEL ROSARIO RCEC, 3-A, NEW CLAY DRIVE, BARANGAY BUKANG BAYAN	ENGR. ISAGANI R. VERZOSA, JR. RCEC, 075 BARANGAY BUKANG BAYAN	HON. MA. JOSEFINA G. BELMONTE CITY ENGINEER	PERIMETER FENCE DETAILS	ST-2 6 10

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, 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.

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 6%.

6 Proposed plumbing utilities shall conform with the actual location, depth and invert elevation of all existing pipes/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 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.

10 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.

11 Provide vent stack and vent pipe thru roof of cast iron service weight 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 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

16 All hose bibbs shall be 19 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 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. FIXTURES AND OTHER LEGEND


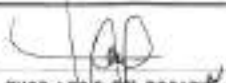

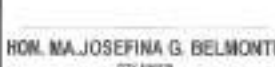
FD	FLOOR DRAIN
RD	ROOF DRAIN
SHO	SHOWER
WC	WATER CLOSET
LAV	LAVATORY
URI	URINAL
KS	KITCHEN SINK
BD	BUILDING DRAIN
DD	DECK DRAIN
CCO	CEILING CLEANOUT
FCO	FLOOR/GROUND CLEANOUT
DS	DOWNSPOUT
mm	millimeter
Ø	mm DIAMETER
SHD	SHOWER DRAIN
CB	CATCH BASIN
MH	MAN-HOLE
→	DIRECTION OF FLOW
	GREASE TRAP

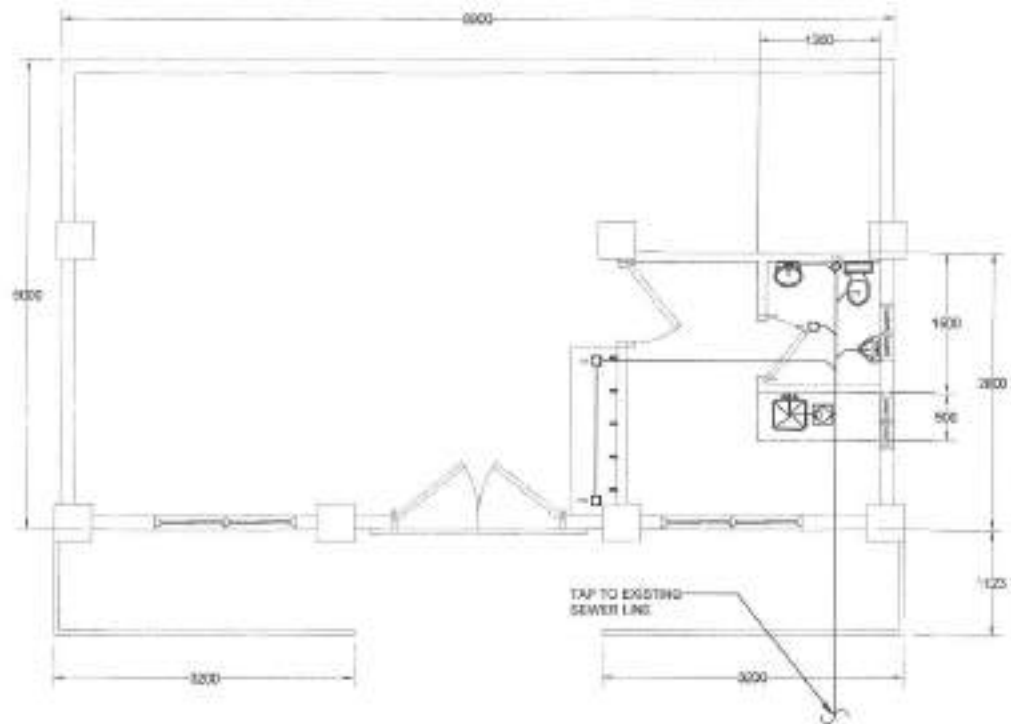
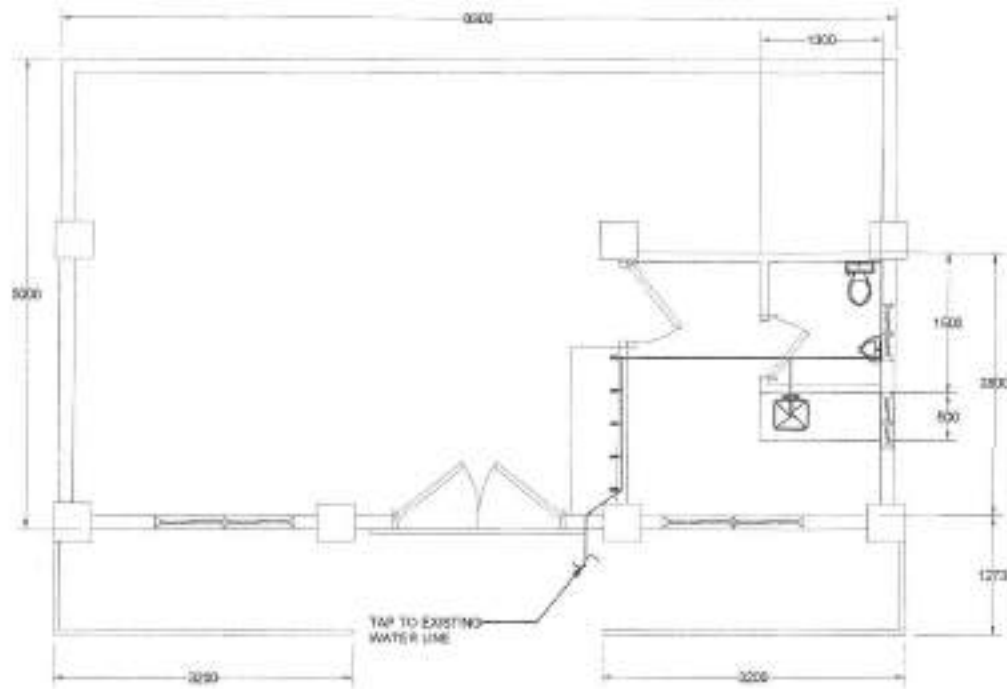
	UNION PATENT
	CHECK VALVE
BS	BUILDING SEWER
BD	BUILDING DRAIN
WL	WASTE LINE
AD/CB	AREA DRAIN / CATCH BASIN
FD	FLOOR DRAIN
Ø	DIAMETER
WL	WASTE LINE
WL	WATER LINE
	GATE VALVE
DD	DECK DRAIN
CO	CLEANOUT
	PIPE DOWN
	PIPE UP
ML	MILLIMETER
GV	GATE VALVE
AD/CB	AREA DRAIN / CATCH BASIN
WC	WATER CLOSET
LAV	LAVATORY
MH	MAN-HOLE
HB	HOSE BIBB
	STORM DRAIN LINE
	VENT LINE
	VENT ABOVE CEILING
	CONCRETE PIPE / REINF. CONC. PIPE
VTR	VENT THRU ROOF
	DIRECTION OF FLOW / SLOPE

1 GENERAL NOTES

2 LEGENDS

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	ISSUED BY: <i>CLM/A</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	DATE:				GENERAL NOTES LEGENDS AND SYMBOLS	PL-1 7/10
	LOCATION: BUNANGAY COMMUNAL HEALTH DISTRICT 1, QUEZON CITY	REVISION NO.:	ENGR. LEO S. DEL ROSARIO M.C. PLUMBER & REGISTERED SANITARY ENGINEER	ENGR. ISAAC R. VERZOSA, JR. M.C. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MAJOR		








1 GROUND FLOOR WATER LINE LAYOUT

SCALE: 1:50 MTS

2 GROUND FLOOR SEWER LINE LAYOUT

SCALE: 1:50 MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>CLMVC</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	DATE:				GROUND FLOOR WATER LINE LAYOUT GROUND FLOOR SEWER LINE LAYOUT	
	LOCATION:	DESIGNED BY:	ENGR. LEO B. DE. ROSARIO REG. PROFESSIONAL ENGINEER	ENGR. ISAGANI R. VERZOSA, JR. REG. PROFESSIONAL ENGINEER	HON. MA JOSEFINA G. BELMONTE CITY ENGINEER		
BRANDAY COMMONWEALTH, DISTRICT 1, QUEZON CITY	REVISION:						

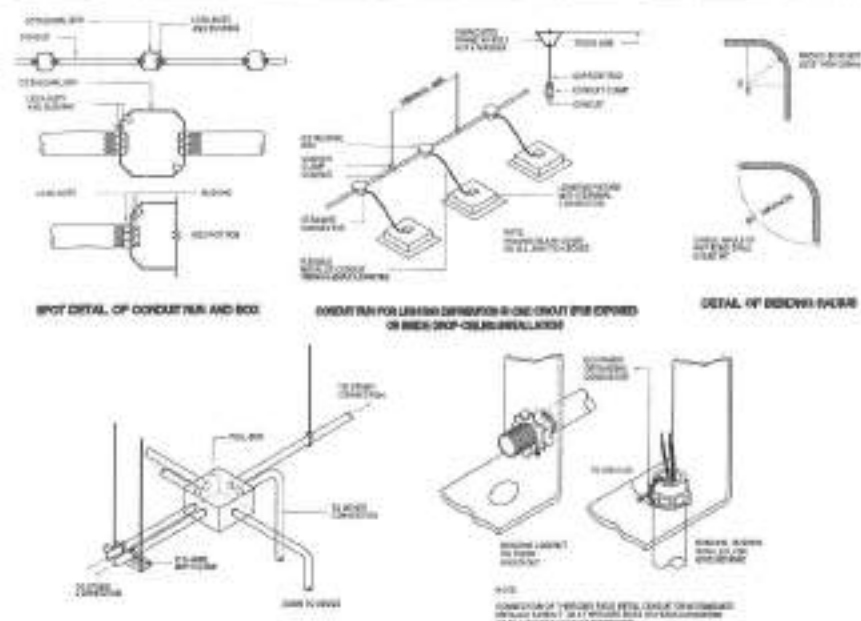
1. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE LOCAL POWER AND TELEPHONE UTILITY COMPANY.
2. THE CONTRACTOR SHALL OBTAIN ALL PERMITS 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.
3. ALL BRANCHED BRANCH CIRCUITS SHALL BE PVC CONDUITS AND FOR EXPOSED INSTALLATION SHALL BE MC SUPPORTED BY CONDUIT CLAMPS EVERY 200 MILLIMETERS.
4. 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 PULL BOXES SHALL BE COMPUTED BASED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION. LOCATION OF PULL BOXES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND MUST BE REFLECTED ON THE "AS-BUILT" PLAN.
5. ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL BLADE FOR 250 V.
6. PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARKED "GFCI" ON THE PLAN.
7. ALL METALLIC CONDUITS, CABINETS AND EQUIPMENT SHALL BE PROPERLY GROUNDING AND BONDING.
8. UNLESS OTHERWISE NOTED, MOUNTING HEIGHT FOR WALL MOUNTED DEVICES SHALL BE AS FOLLOWS:

RECEPTACLE OUTLET - 300 MM APP., 150MM ABOVE WORKING COUNTER.
 TELEPHONE GATELET - 350 MM APT
 CATV OUTLET - 300 MM APP.
 LIGHTING SWITCH - 1400MM APT
 PANELBOARD - 1850 MM APP.

9. REFER TO MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL, GROUNDING AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
10. ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRANDS AS SPECIFIED.
11. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE/DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE DESCRIBE ACTUAL LOCATIONS, LEVELS 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.
12. ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DECISION.
13. ALL LIGHTING AND CONVENIENCE OUTLET CIRCUITS SHALL BE 2.5 SQ. MM THIN-G COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 2.5 SQ. MM COPPER WIRE. ALL WIRES AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

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

14. BOXES, WIRE CUTTERS, ENCLOSURE SHALL BE FABRICATED FROM STEEL WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE WIDEST SURFACE STEEL:
 UP TO 300.00 MM 1.2-1.5 MM GA IS PAINTED WITH METAL PRIMER DROXY AND TOPCOAT
 OVER 300.00 MM BUT NOT OVER 457.20 GA 1.6 PAINTED WITH METAL PRIMER DROXY AND TOPCOAT
 OVER 457.20 MM BUT NOT OVER 762.00 GA 1.9 PAINTED WITH METAL PRIMER DROXY AND TOPCOAT
 OVER 762.00 GA 2.3 PAINTED WITH METAL PRIMER DROXY AND TOPCOAT
15. ALL ELECTRICAL WORK HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A ONLY ACCREDITED ELECTRICAL CONTRACTOR BY POAR. WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
16. TYPE OF SERVICE BUS SHALL BE 3 PHASE, TWO WIRE PLUS GROUND, 20 AMPERE, 220V/AC, 60 HZ.
17. 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.
18. UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, INSULATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR HAS USAGE OF 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. COMMUNICATION GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.



2 MISCELLANEOUS DETAILS

NOT TO SCALE

	SWITCH (FOR REPLACEMENT)
	E27 RECEPTACLE WITH LED BULB (FOR REPLACEMENT)
	EXISTING TUBE LIGHT BOX TYPE
	TUBE LIGHT BOX TYPE (FOR REPLACEMENT OF LED TUBE LIGHT)
	DUPLEX CONVENIENCE OUTLET (FOR REPLACEMENT)
	ADDITIONAL CEILING FAN

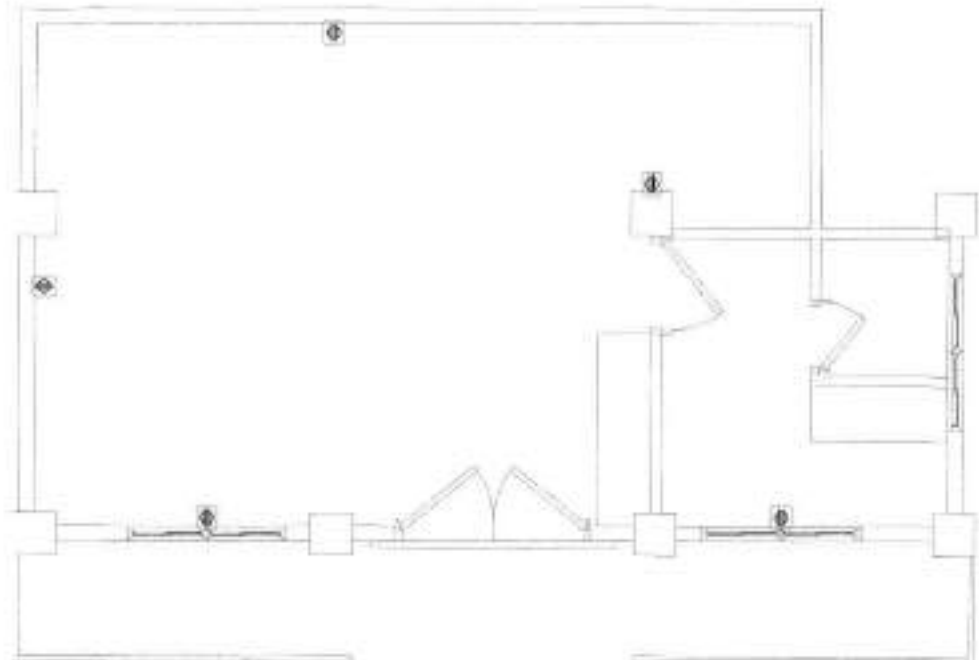
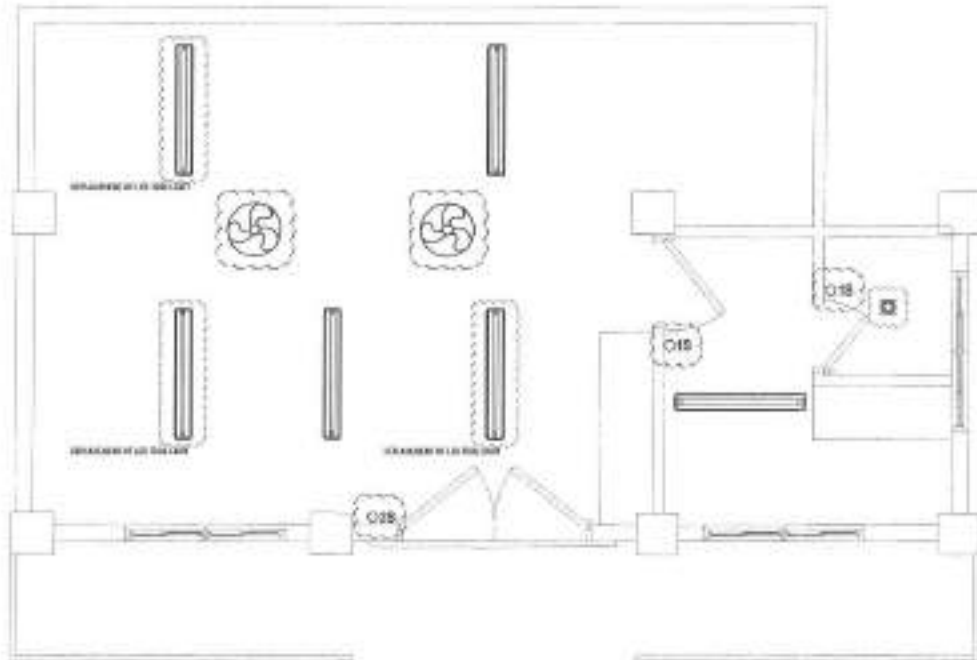
1 GENERAL NOTES

NOT TO SCALE

3 LEGENDS AND SYMBOLS

NOT TO SCALE

<p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY: <i>GWP</i>	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER LOCATION: BAHAYKAY COMMONWEALTH, DISTRICT 2, QUEZON CITY	DATE: CHECKED BY: <i>JL</i>	 ENGR. LEO S. DEL ROSARIO REG. PROFESSIONAL ENGINEER	 ENGR. IBRAHIM R. VERZOSA, JR. REG. CITY ENGINEER	HON. NA JOSEFINA G. BELMONTE CITY MGR	GENERAL NOTES MISCELLANEOUS DETAILS LEGENDS AND SYMBOLS	EL-1 9/10








1 LIGHTING LAYOUT

SCALE: 1:50 MTS

2 POWER LAYOUT

SCALE: 1:50 MTS

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	SUBMITTED BY:	RECOMMENDING APPROVAL:	APPROVED BY:	SHEET CONTENT	SHEET NO.	
	PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER	DATE:	 ENGR. LEO S. DEL ROSARIO <small>REG. ELECTRICAL ENGINEER</small>	 ENGR. ISAGANI R. VERZOSA, JR. <small>REG. CITY ENGINEER</small>	 HON. MA. JOSEFINA G. BELMONTE <small>CITY MAYOR</small>	LIGHTING LAYOUT POWER LAYOUT		
	LOCATION:	DRAWN BY:						REVISIONS:
	BARANGAY COMMONWEALTH DISTRICT 2, QUEZON CITY							

THE SITE



1 VICINITY MAP

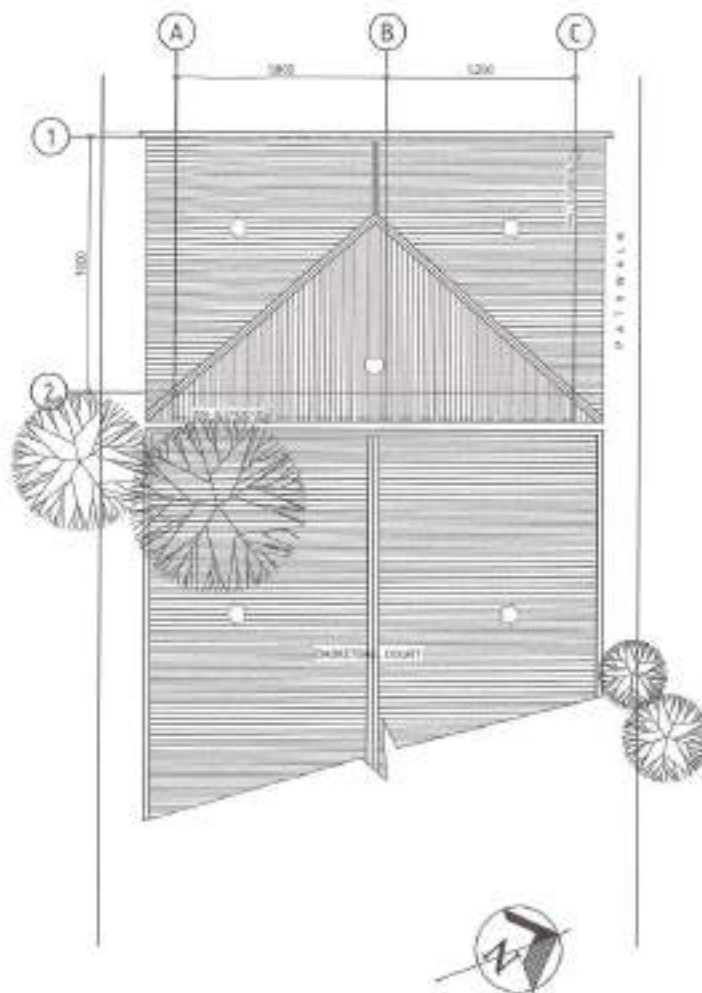
SCALE NTS.

THE SITE



2 LOCATION MAP

SCALE NTS.



3 SITE DEVELOPMENT PLAN

SCALE 1:150M.

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AR-4	LONGITUDINAL SECTION THRU A CROSS SECTION THRU B
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STRUCTURAL

ST-1	STEEL GATE AND FENCE DETAILS FIRE EXIT PLAN AND ELEVATIONS
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ELECTRICAL

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Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF UNIT
IV DAYCARE CENTER ✓

LOCATION:

BPOV, COMMONWEALTH, DISTRICT I, QUEZON CITY ✓

DRAWN BY:

DATE: 06/03/21

CHECKED BY:

REVISION NO:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

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

APPROVED BY:

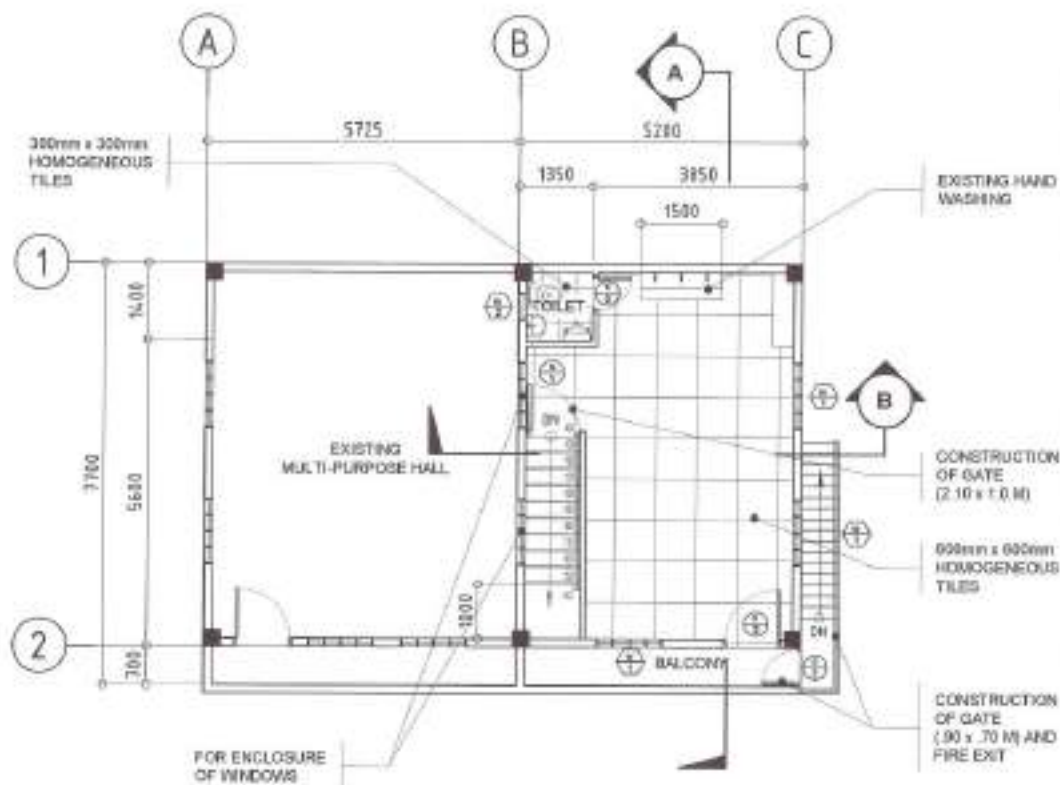
HON. NA. JOSEFINA G. BELMONTÉ
CITY MAYOR

BRIEF CONTENT:

VICINITY MAP
LOCATION PLAN
SITE DEVELOPMENT PLAN

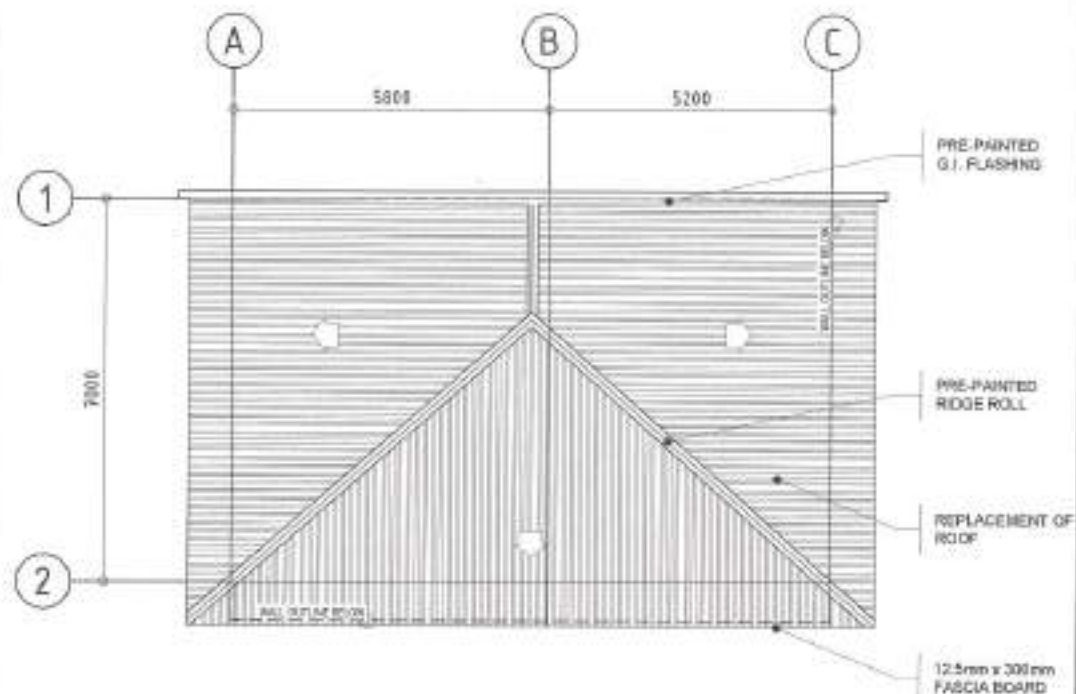
SHEET NO.

AR-01
01/08



NOTE:

1. DOORS AND WINDOWS TO BE REPLACED
2. EXTERIOR WALL AND INTERIOR WALL TO BE REPAIRED
3. TILES TO BE REPLACED
4. ALL PLUMBING FIXTURES TO BE REPLACED



NOTE:

1. REMOVAL AND REPLACEMENT OF ROOF

1 SECOND FLOOR PLAN

SCALE 1:100M

2 ROOF PLAN

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF UNIT
IV DAYCARE CENTER**

LOCATOR:
3RD CY COMMOWEALTH, DISTRICT 2, QUEZON CITY

DRAWN BY: RNS
DATE: 08/2021
CHECKED BY: J.M.
REVISION NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

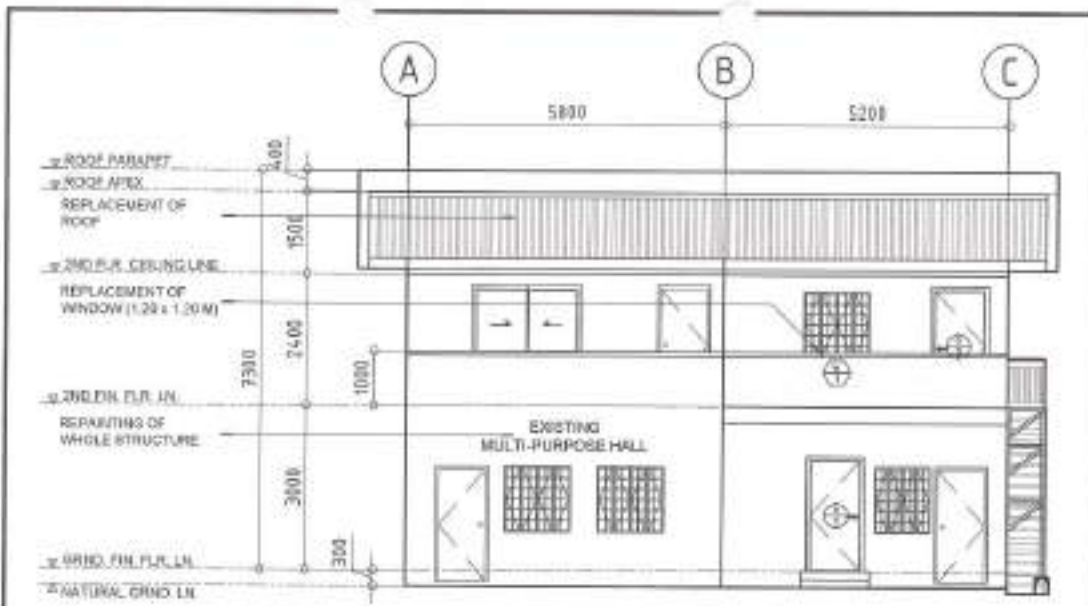
ENGR. BASILIO R. VERZOSA, JR.
D.E. CIVIL ENGINEERING DIVISION

APPROVED BY:

HON. MA. JOSEFINA O. BELMONTE
CITY MAYOR

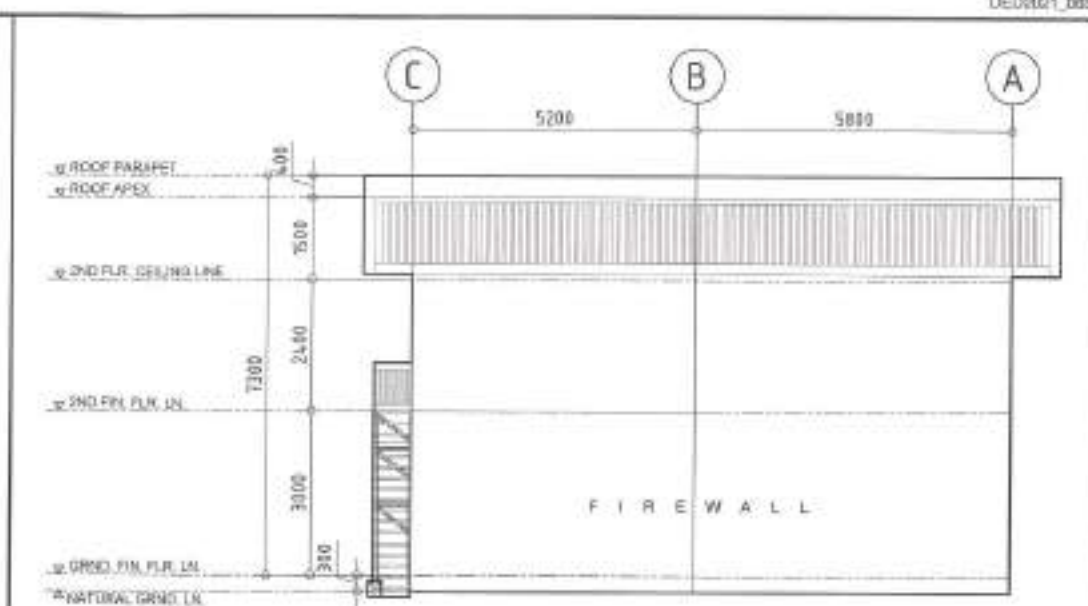
SHEET CONTENT:
SECOND FLOOR PLAN
ROOF PLAN

SHEET NO.:
AR-02
02/08



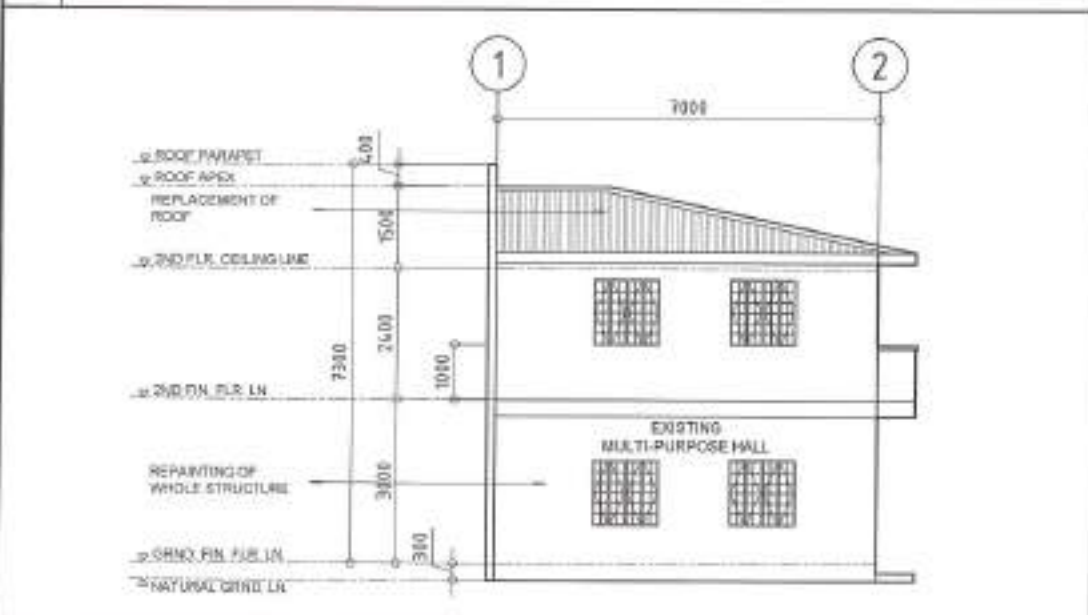
1 FRONT ELEVATION

SCALE 1:100M.



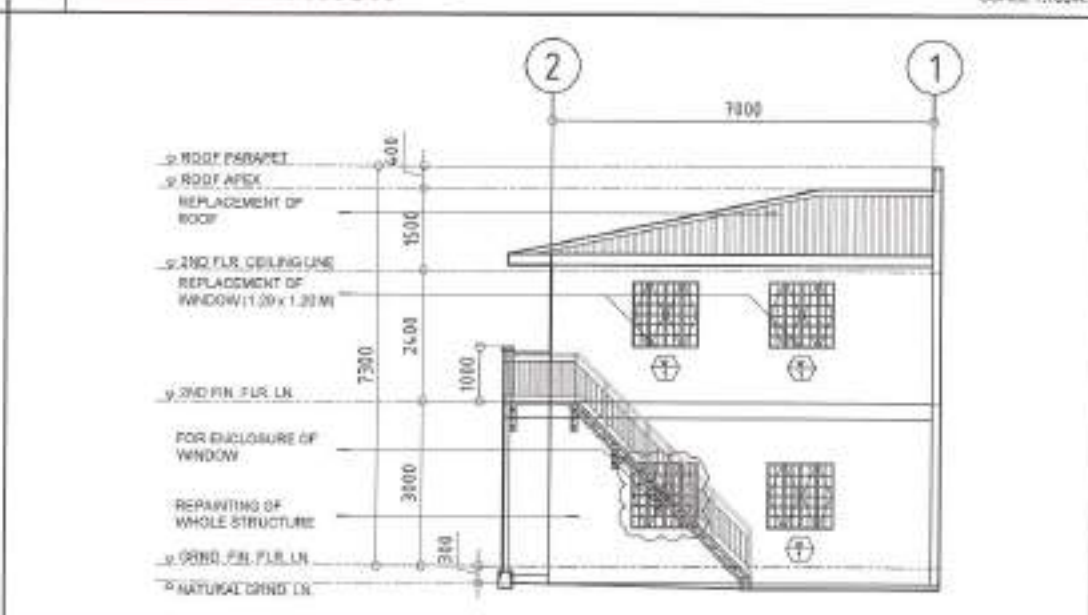
2 REAR ELEVATION

SCALE 1:100M.



3 LEFT SIDE ELEVATION

SCALE 1:100M.



4 RIGHT SIDE ELEVATION

SCALE 1:100M.



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

PROPOSED REHABILITATION OF UNIT
IV DAYCARE CENTER ✓LOCATION:
BPOY, COMMONWEALTH, DISTRICT 7, QUEZON CITY ✓

DRAWN BY:

DATE: 06.02.21

REVISION NO.:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. ISABRAM R. VERZOSA, JR.
D/C, CITY ENGINEERING DEPARTMENT

APPROVED BY:

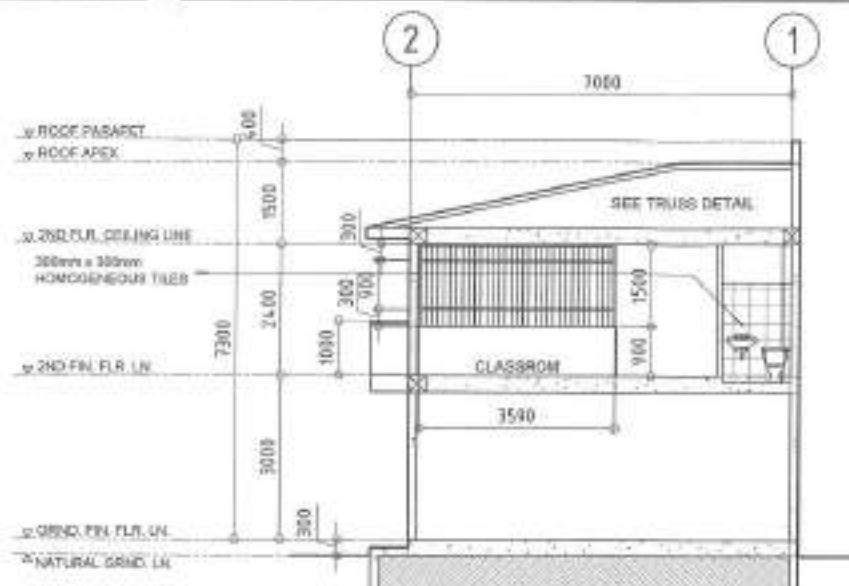
HON. MR. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:

FRONT ELEVATION
REAR ELEVATION
LEFT SIDE ELEVATION
RIGHT SIDE ELEVATION

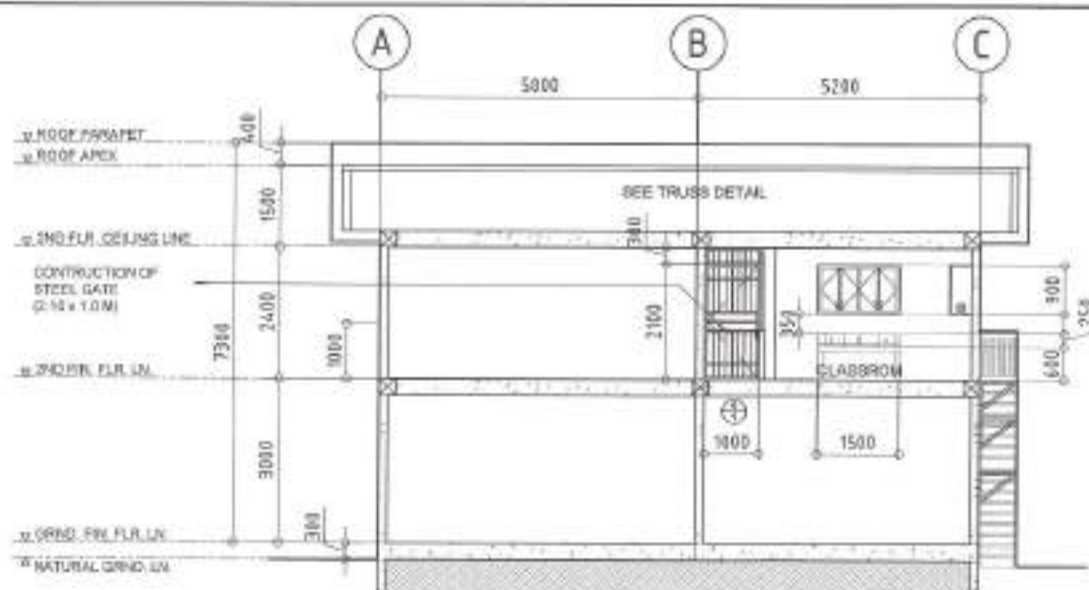
SHEET NO.:

AR-03
03/08



1 SECTION THRU-A

SCALE 1:100M



2 SECTION THRU-B

SCALE 1:100M



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Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

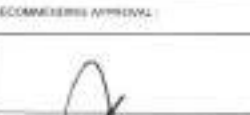
PROJECT TITLE:
**PROPOSED REHABILITATION OF UNIT
IV DAYCARE CENTER**

LOCATION:
DRDY, COMMONWEALTH DISTRICT 1, QUEZON CITY

DESIGNED BY:
DATE: 08/2021
CHECKED BY:
REVISIONS:

SUBMITTED BY:

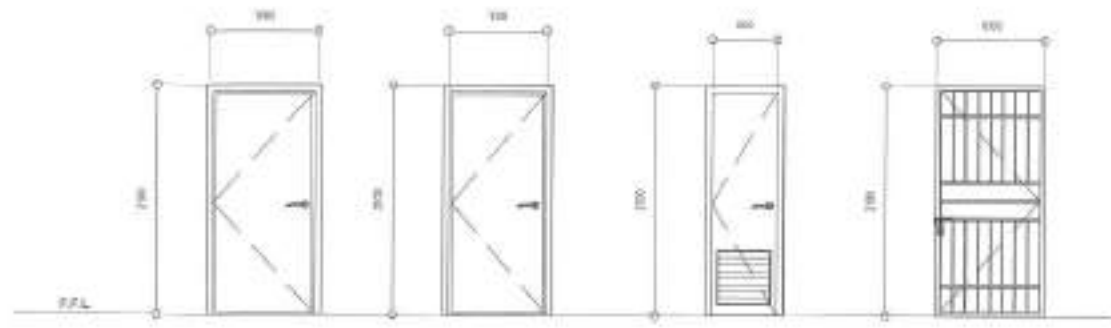
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMMING DIVISION

RECOMMENDERS APPROVAL:

ENGR. ISAGANI R. VERZOSA, JR.
D.C. DISTRICT ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:
SECTION THRU-A
SECTION THRU-B

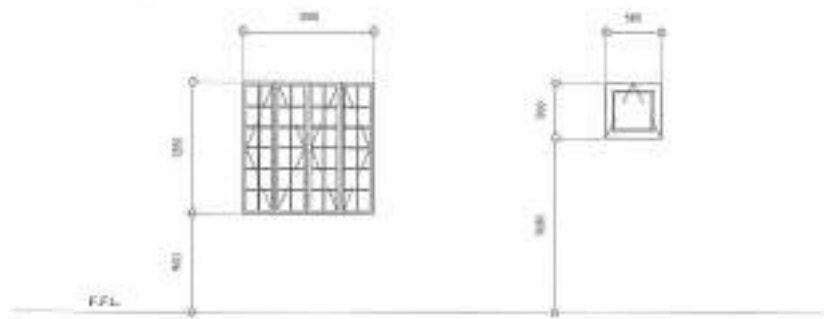
SHEET NO.
AR-04
04/08



NAME	⊕	⊕	⊕	⊕
NO. OF SETS	1	1	1	1
DESCRIPTION	PANEL DOOR	PANEL DOOR	PVC FLUSH DOOR W/LOWERS	STEEL GATE
LOCATION	ENTRANCE	BALCONY	TOILET	STAIRS

2 SCHEDULE OF DOORS

SCALE 1:50M



NAME	⊕	⊕
NO. OF SETS	3	1
DESCRIPTION	ALUMINUM FRAME POWDER COATED CASEMENT WINDOW WITH 6mm THK CLEAR GLASS	ALUMINUM FRAME POWDER COATED TOILET WINDOW WITH 6mm THK CLEAR GLASS
LOCATION	CLASSROOM	TOILET

1 REFLECTED CEILING PLAN

SCALE 1:100M

3 SCHEDULE OF WINDOWS

SCALE 1:50M

Republika ng Pilipinas
 Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE: PROPOSED REHABILITATION OF UNIT IV DAYCARE CENTER	DRAWN BY: DATE: 08/08/21 CHECKED BY: J.M. REVISION NO.:
LOCATION: BPOV, COMMONWEALTH, DISTRICT 2, QUEZON CITY	

SUBMITTED BY:

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

RECOMMENDING APPROVING:

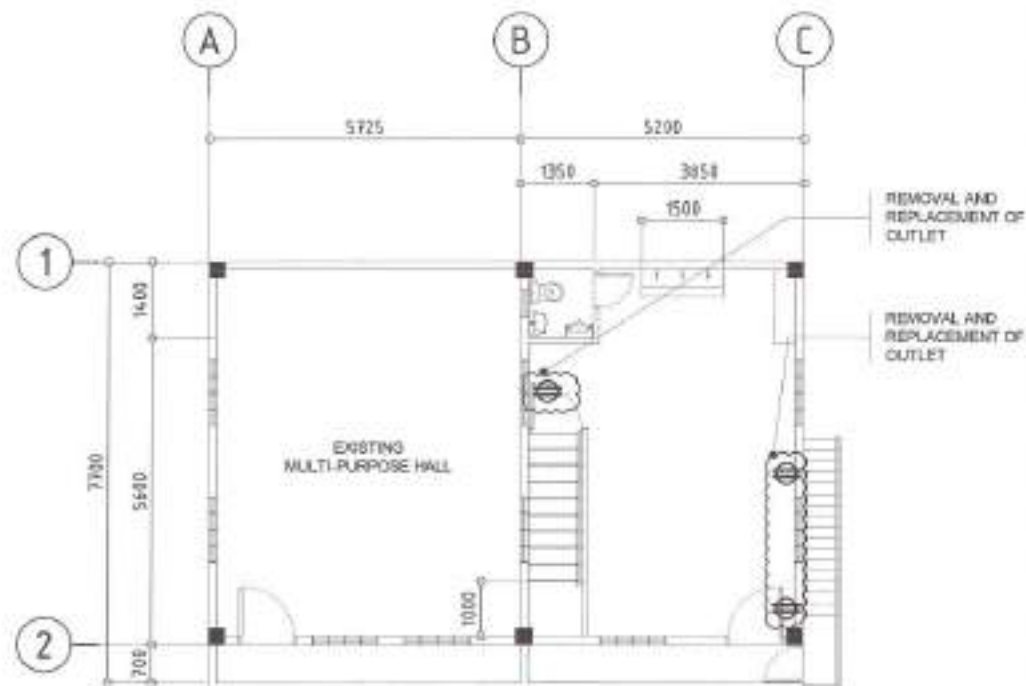
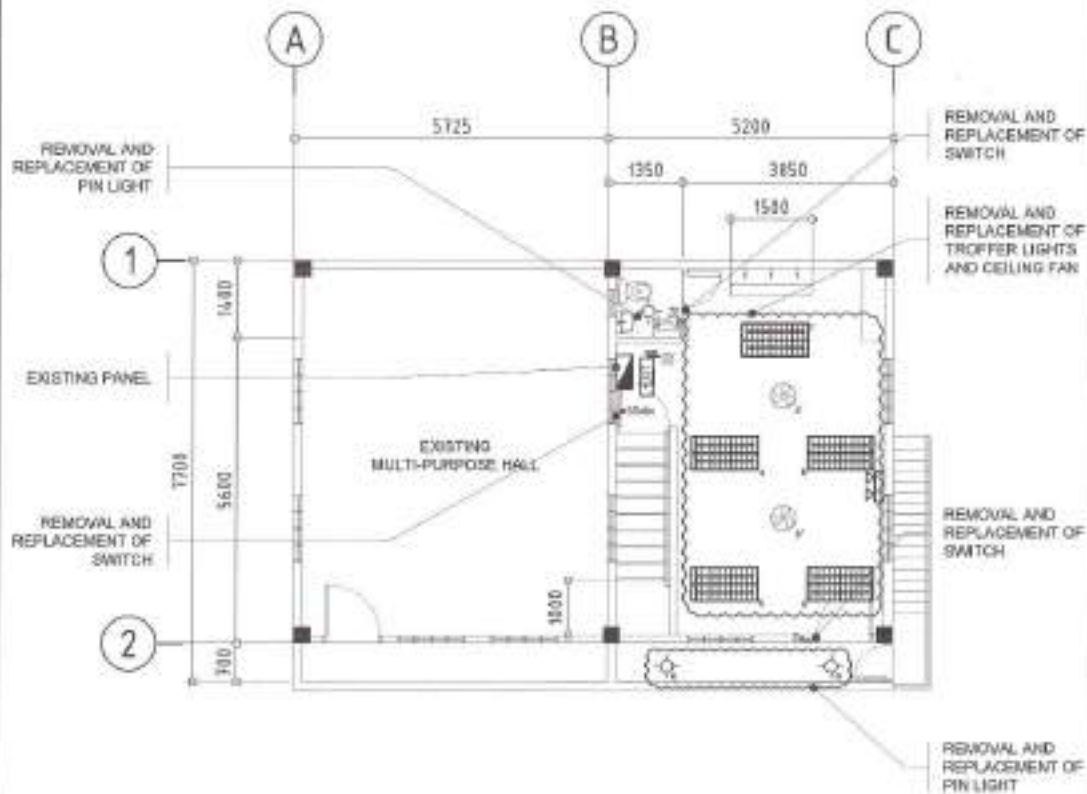
ENGR. ISABELLA R. VERZOSA, JR.
 CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
 CITY MAYOR

SHEET CONTENT: GROUND PLAN SCHEDULE OF DOORS SCHEDULE OF WINDOWS

SHEET NO.
AR-05
05/08



1 PROPOSED LIGHTING LAYOUT

SCALE 1:100M.

2 PROPOSED POWER LAYOUT

SCALE 1:100M.

 <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 REHABILITATION OF UNIT IV DAYCARE CENTER	DATE: 08/08/21				LIGHTING LAYOUT POWER LAYOUT	EL-02
	LOCATION: BREDY COMMOHEALTH DISTRICT 2, QUEZON CITY	CHECKED BY: JH	ENGR. LEO S. DEL ROSARIO HEAD, PLANNING & PROGRAMMING DIVISION	ENGR. ISAGANI R. VERZOSA, JR. CHIEF, CITY ENGINEERING DEPARTMENT	HON. RA. JOSEFINA G. BELMONTE CITY MAYOR		08/08

GENERAL NOTES:

- 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 GOVERNMENT NOTWITHSTANDING 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 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 INSULATED BY CONDUIT CLAMPS EVERY 750 MILLIMETER.
- FULL CODES SHALL BE PROVIDED BY THE CONTRACTOR WHEREVER NECESSARY TO FACILITATE AND FOLLOW UPON IF THERE ARE NOT INDICATED ON THE PLANS. BEWARE OF ALL FULFILLANCE SHALL BE COMPLETED ON THE CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. LOCATION OF FULFILLANCE SHALL BE APPROVED BY THE ARCHITECT/ENGINEER AND SHOWN AS REFLECTED ON THE FINAL PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDED TYPE WITH PARALLEL SLOTS FOR 220 V.
- PROVIDE GROUND-Fault CURRENT INTERRUPTER (GFCI) 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 - 450 MM AFF. (1800MM ABOVE WORKING CLEARANCE)
 TELEPHONE OUTLET - 300 MM AFF.
 CITY OUTLET - 300 MM AFF.
 LIGHTING SWITCH - 1400 MM AFF.
 PANEL BOARD - 1800 MM AFF.

- REFER TO MECHANICAL PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL REQUIREMENTS AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE SECTIONS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY, BRAND AND AS SPECIFIED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PROVIDE GENERAL LAYOUT AND BROAD OUTLINE DESCRIPTION OF THE PROJECT BUT DO NOT NECESSARILY REPRESENT DESCRIBED ACTUAL LOCATIONS, LEVELS, AND DISTANCE OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE SCENE AT ALL CONDUIT, DEVICES 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 2.5 SQ. MM THINW GALVANIZED COPPER WIRE UNLESS OTHERWISE NOTED. MINIMUM SIZE OF WIRE SHALL BE 1.5 SQ. MM. CONDUIT WIRE ALL WIRES AND CONDUITS SHALL BE COLOR CODED AS FOLLOWS:

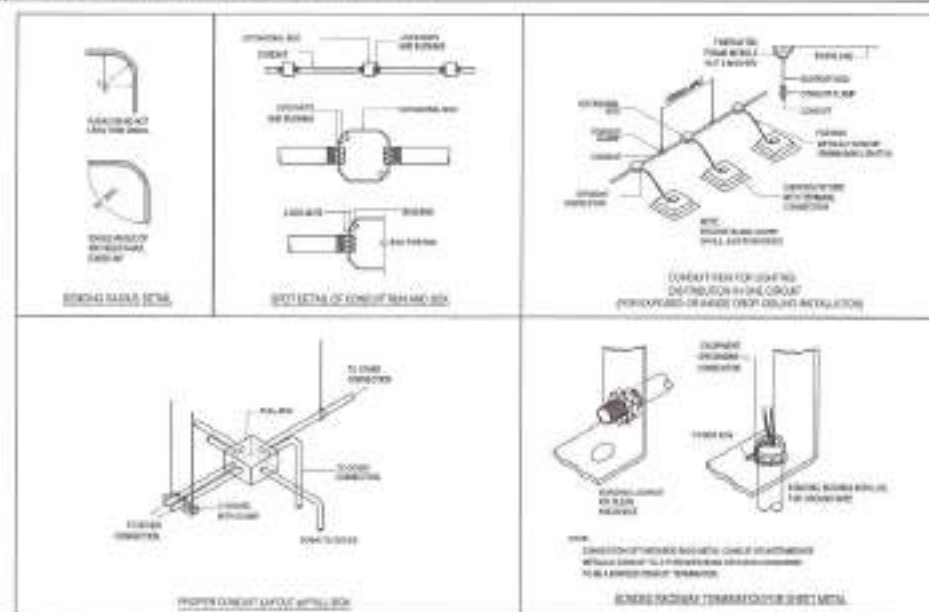
LINE 1 - RED
 LINE 2 - YELLOW
 NEUTRAL - WHITE
 GROUND - GREEN

- SCHEMATIC WIRE, OUTLETS, ENCLOSURE SHALL BE FABRICATED PREPARED WITH THICKNESS AS FOLLOWS:
 MAXIMUM WIDTH OF THE INSET SURFACE SHALL:
 UP TO AND INCLUDING 40 MM GA IS PAINTED WITH METAL PRIMER COAT AND TOPCOAT
 OVER 40 MM UP TO AND INCLUDING 75 MM GA IS PAINTED WITH METAL PRIMER COAT AND TOPCOAT
 OVER 75 MM UP TO AND INCLUDING 100 MM GA IS PAINTED WITH METAL PRIMER COAT AND TOPCOAT
 OVER 100 MM GA IS PAINTED WITH METAL PRIMER COAT AND TOPCOAT
- ALL ELECTRICAL WORKS REFER SHALL BE EXECUTED BY EMPLOYEES UNDER THE DIRECT SUPERVISION OF A FULL-TIME LICENSED ELECTRICAL ENGINEER AND A QUALIFIED ELECTRICAL CONTRACTOR FOR WORK SHALL BE PROPERLY PLACED, SECURELY FASTENED AND PROPERLY FRAMED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE-PHASE, TWO-WIRE PLUS GROUND, 20 AMPERE, 220V AC, 60 HZ.
- CONDUITS IN NO CASE SHALL THERE BE MORE THAN THE NECESSARY OF POLYCHLORIDE BUREN BURRY OR RUN. ALL CONDUIT WORK SHALL BE FIELD MADE BY USING HYDRAULIC PRESSURE. BONDING TAPES MUST BE IN ACCORDANCE TO THE CODE REQUIREMENTS.
- UPON COMPLETION OF ELECTRICAL CONSTRUCTION WORK, ISOLATION RESISTANCE TEST AND FUNCTIONALITY TEST SHALL BE PERFORMED BY THE CONTRACTOR INCLUSIVE OF THE INSTALLATION TO BE REPORTED IN DETAIL TO BE APPROVED BY THE QUEZON CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE GROUND RESISTANCE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 OHMS. COMPARISON ON GROUNDING RESISTANCE SHALL NOT EXCEED 2 OHMS.

	PANEL LIGHT
	3X10W RECESSED TROFFER TYPE
	EMERGENCY LIGHT
	EXIT LIGHT
	SINGLE GANG SWITCH (LIGHTS)
	THREE GANG SWITCH (LIGHTS)
	SELECTOR SWITCH (FAN)
	DUPLEX CONVENIENCE OUTLET
	CEILING FAN
	PANEL BOARD

2 LEGEND AND SYMBOLS

SCALE: NTS

**1 GENERAL NOTES**

SCALE: NTS

3 MISCELLANEOUS DETAILS

SCALE: NTS



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF UNIT
 IV DAYCARE CENTER**

LOCATION:
 3RD ST. COMMERCEVILLE, DISTRICT 2, QUEZON CITY

DESIGNED BY:
 DATE: 06.03.21
 CHECKED BY: JR.
 REVISION NO.:

SCALE: NTS
 SUBMITTED BY:

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

RECOMMENDING APPROVAL:

 ENGR. ISAGANI R. VERZOSA, JR.
 CH. OF THE ENGINEERING DEPARTMENT

APPROVED BY:

 HON. MA. JOSEFINA G. BELMONTÉ
 CITY MAYOR

SHEET CONTENT:
 GENERAL NOTES
 LEGEND AND SYMBOLS
 MISCELLANEOUS
 DETAILS

SHEET NO.:

 EL-01
 07/08

THE SITE



THE SITE



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AR-2	GROUND FLOOR PLAN DECKING PLAN
AR-3	FRONT ELEVATION RIGHT SIDE ELEVATION LEFT SIDE ELEVATION HANDING CABINET DETAILS
AR-4	SCHEDULE OF DOORS SCHEDULE OF WINDOWS

ELECTRICAL

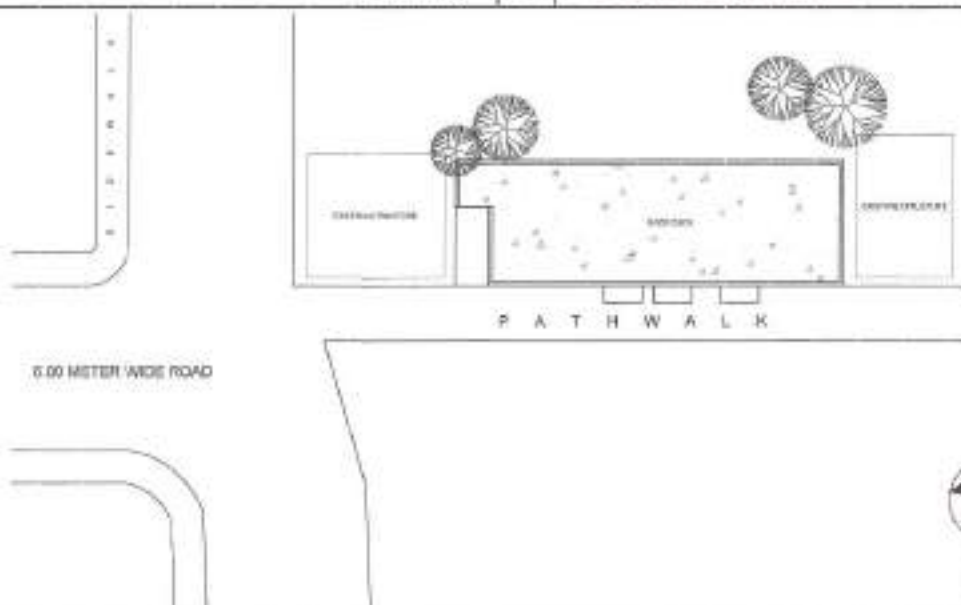
EL-1	GENERAL NOTES LEGEND AND SYMBOLS MISCELLANEOUS DETAILS
EL-2	PROPOSED LIGHTING LAYOUT PROPOSED POWER LAYOUT

1 VICINITY MAP

SCALE NTS.

2 LOCATION MAP

SCALE NTS.



3 SITE DEVELOPMENT PLAN

SCALE 1:150M.



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
UNIT V DAYCARE CENTER**

LOCATION:
BPOV, COMMONWEALTH, DISTRICT 2, QUEZON CITY

DATE: 04.19.21
CHECKED BY: [Signature]
REFERENCE NO.:

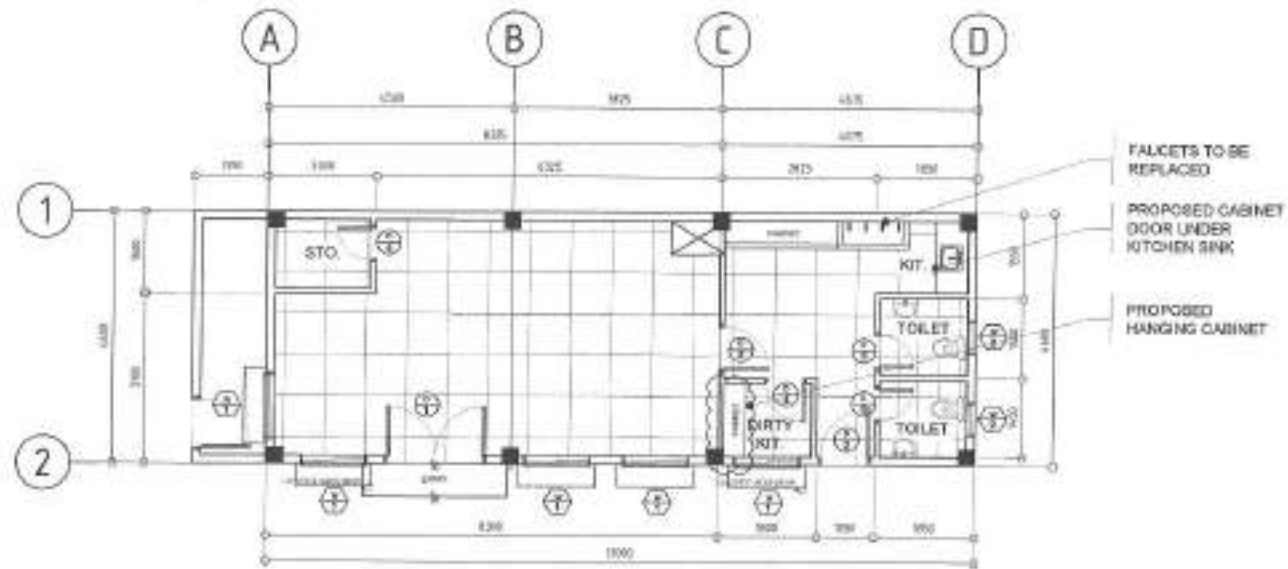
DESIGNED BY: [Signature]
SUBMITTED BY: [Signature]
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAMS DIVISION

RECOMMENDING OFFICIAL:
ENGR. IRVING R. VERZOSA, JR.
DIR. CITY ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA O. BELMONTE
CITY MAJOR

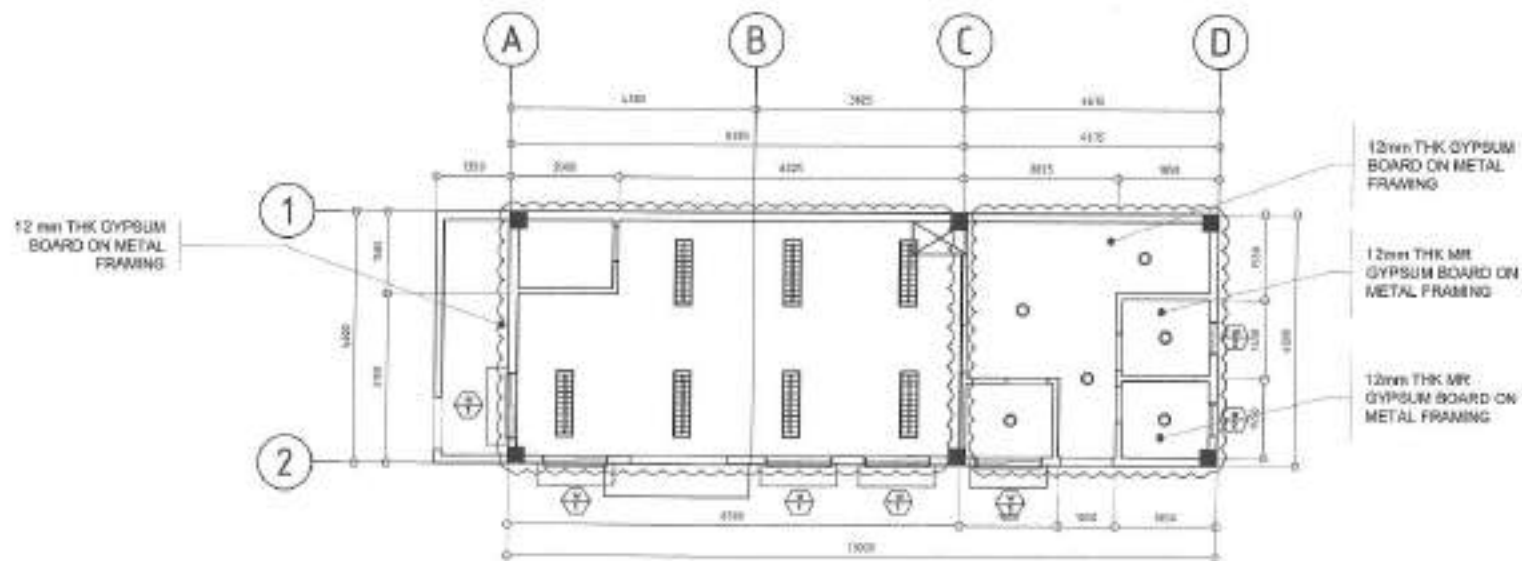
SHEET CONTENT:
VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT PLAN

SHEET NO.
AR-01
01/06



1 GROUND FLOOR PLAN

SCALE 1:100M



2 CEILING PLAN

SCALE 1:100M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:

**PROPOSED REHABILITATION OF
UNIT V DAYCARE CENTER**

LOCATION:
STRE. COMANDANTE ALY, DISTRICT 2, QUEZON CITY

DESIGN BY:

DATE: 08.10.21

CHECKED BY:

REVISIONS:

SUBMITTED BY:

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

RECOMMENDING APPROVAL:

ENGR. ISAGAN R. VERZOSA, JR.
CH. CITY ENGINEERING DEPARTMENT

APPROVED BY:

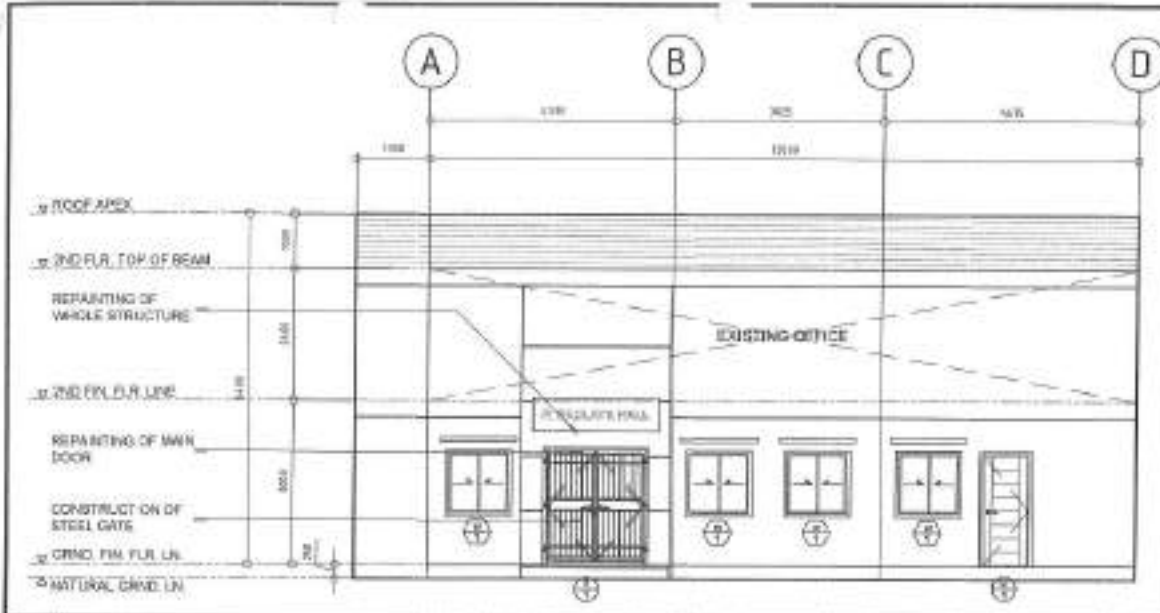
HON. MA. JOSEFINA G. DELMONTE
CITY MAYOR

SHEET CONTENT:

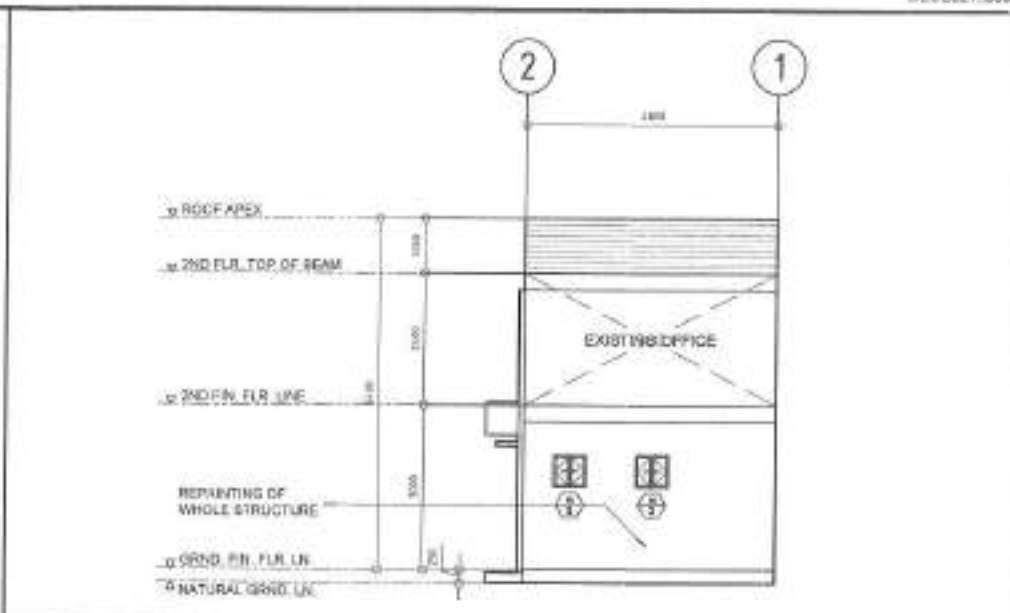
GROUND FLOOR PLAN
CEILING PLAN

SHEET NO.

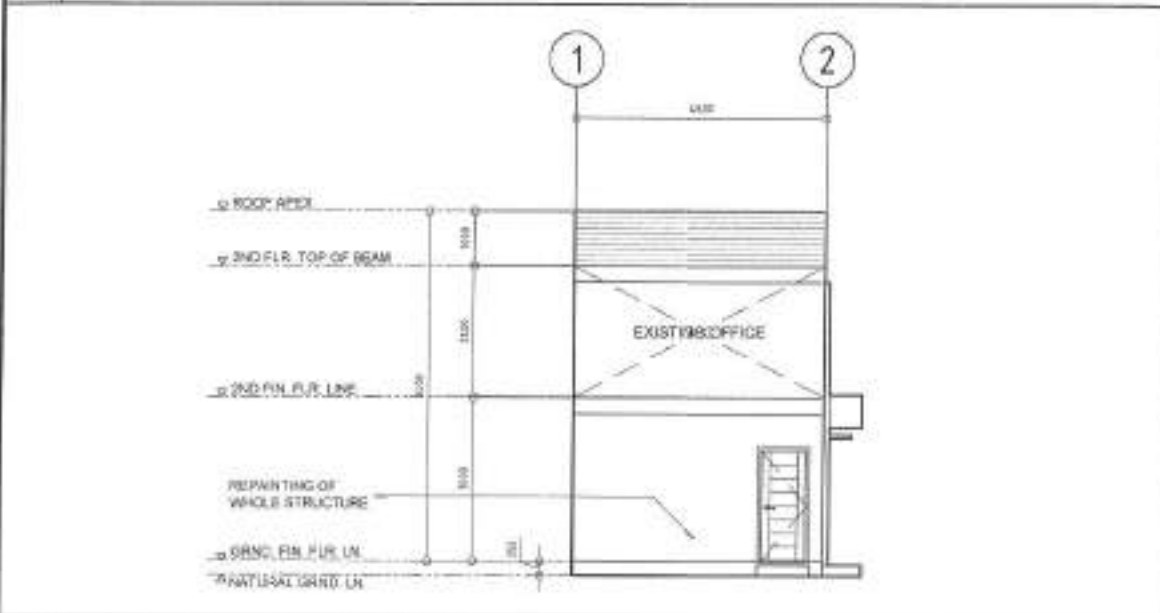
AR-02
02/06



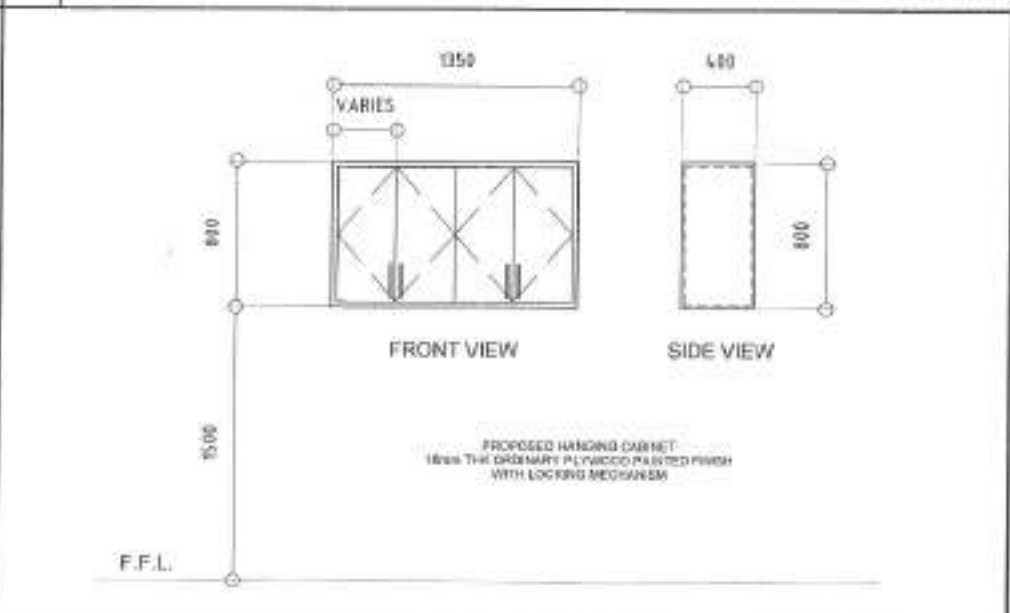
1 FRONT ELEVATION SCALE 1:100M.




2 RIGHT SIDE ELEVATION SCALE 1:100M.

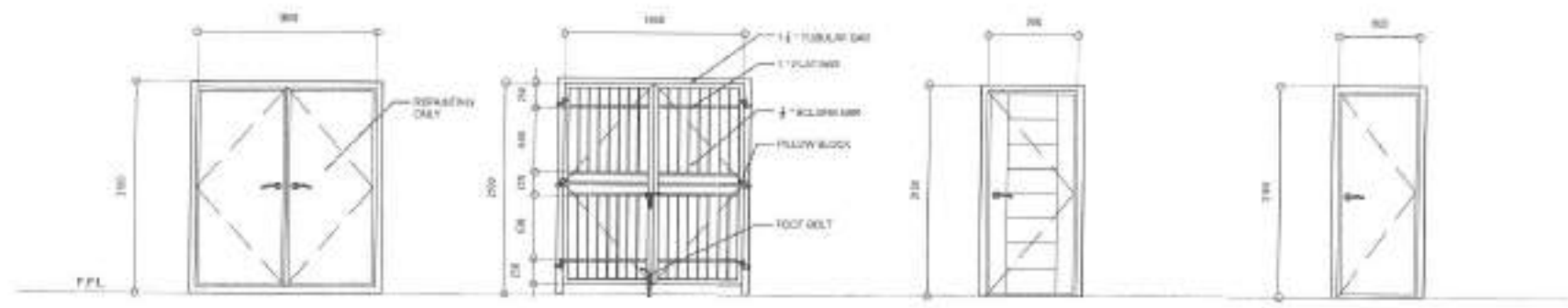


3 LEFT SIDE ELEVATION SCALE 1:100M.

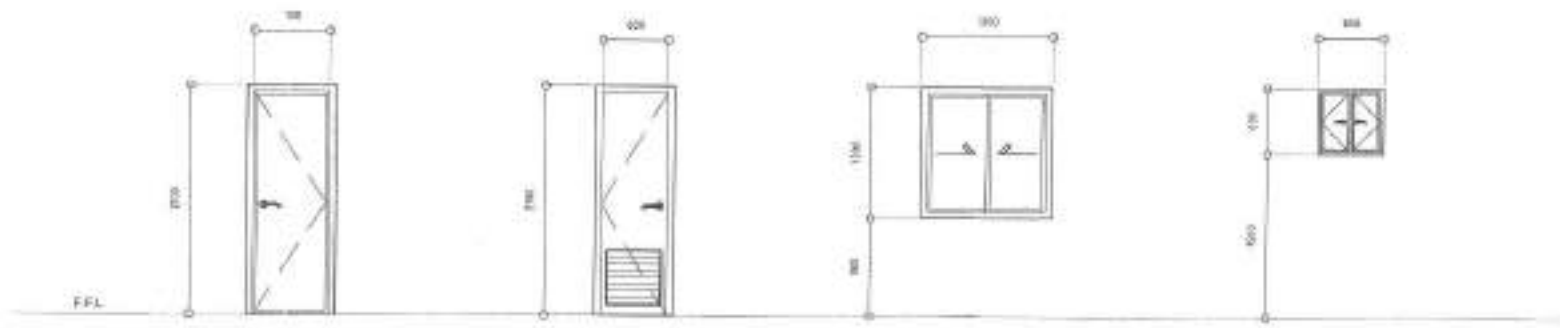


4 HANGING CABINET DETAILS SCALE 1:50M.

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DESIGNED BY:	CHECKED BY:	REVISION NO.:	DATE:	APPROVED BY:	RECOMMENDING APPROVAL:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF UNIT V DAYCARE CENTER	ENGR. LEO S. DEL ROSARIO	ENGR. VIGOR R. VERZOSA, JR.	HON. RA. JOSEFINA G. BELMONTE	08/02/21	(Signature)	(Signature)	FRONT ELEVATION RIGHT SIDE ELEVATION LEFT SIDE ELEVATION HANGING CABINET DETAILS	AR-03 03/06
	LOCATION: BPOV COMMONWEALTH DISTRICT 2, QUEZON CITY								



NAME	⊕	⊕	⊕	⊕
NO. OF SETS	1	1	1	1
DESCRIPTION	PANEL DOOR	STEEL GATE	PANEL DOOR	PANEL DOOR
LOCATION	ENTRANCE	ENTRANCE	BACK DOOR	KITCHEN ENTRANCE
REMARKS	TO BE REPAINTED	PROPOSED CONSTRUCTION	TO BE REPLACED	TO BE REPAINTED



NAME	⊕	⊕	⊕	⊕
NO. OF SETS	2	2	2	2
DESCRIPTION	PANEL DOOR	FLUSH DOOR WITH LOUVER	ALUMINUM FRAME POWDER COATED SLIDING WINDOW WITH 1/2\"/>	
LOCATION	STORAGE ROOM & DIRTY KITCHEN	TOILETS	CLASSROOM & DIRTY KITCHEN	TOILETS
REMARKS	TO BE REPAINTED	TO BE REPAINTED	TO BE RETAINED	TO BE RETAINED

1 | SCHEDULE OF DOORS

SCALE 1:30M



Republika ng Pilipinas
Lungsod ng Quezon
CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
PROPOSED REHABILITATION OF UNIT V DAYCARE CENTER

LOCATION:
GREY COMMONWEALTH DISTRICT 7, QUEZON CITY

DESIGNED BY:
CHECKED BY:
REVISION NO.:

DATE: 08-10-21
SUBMITTED BY:
ENGR. LEO S. DEL ROSARIO
HEAD, PLANNING & PROGRAM DEVELOPMENT

RECOMMENDING APPROVAL:
ENGR. ISMAEL R. VERZOSA, JR.
D.D. CHIEF, CIVIL ENGINEERING DEPARTMENT

APPROVED BY:
HON. MA. JOSEFINA G. BELMONTE
CITY ENGINEER

SHEET CONTENT:
SCHEDULE OF DOORS
SCHEDULE OF WINDOWS

SHEET NO.:
AR-04
04/06

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 REGULATIONS 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 CORRECT THROUGH THE ENGINEERS, 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 SO SUPPORTED BY CONDUIT CLAMP EVERY 100 MILLIMETER.
- ALL BOXES SHALL BE PROVIDED BY THE CONTRACTOR AND WHEN NECESSARY TO PAINT, IT SHALL BE PAINTED WITH THE JOB NOT INDICATED ON THE PLANS. KEYS OF ALL PULLBOXES SHALL BE COMPLIED 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 INDICATED ON THE MEASUREMENT PLAN.
- ALL POWER OUTLETS AND SWITCHES SHALL BE GROUNDING TYPE WITH PARALLEL SLOTS FOR 250 V.
- PROVIDE GROUND FAULT CURRENT INTERRUPTER CIRCUIT BREAKER FOR LOADS MARRIED TO IT ON THE PLAN.
- ALL METALLIC CONDUITS, CABLES 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 APT. (COMMON ABOVE WORKING COUPLER)
 TELEPHONE OUTLET - 300 MM APT.
 CRTV OUTLET - 200 MM APT.
 LIGHTING SWITCH - 400 MM APT.
 PANEL BOARD - 100 MM APT.

- REFER TO MECHANICAL PLUMBING AND FIRE PROTECTION DRAWINGS FOR RATINGS AND LOCATIONS OF EQUIPMENT AS WELL AS THEIR CONTROL REQUIREMENTS AS SPECIFIED AND OR SHOWN UNDER THEIR RESPECTIVE BOTTOMS.
- ALL MATERIALS TO BE USED SHALL BE OF THE BEST QUALITY. SPECIFICATIONS PROVIDED.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO PRESENT GENERAL LAYOUT AND BROAD OUTLINE CONCEPTION OF THE PROJECT BUT DO NOT NECESSARILY INDICATE EXACT ACTUAL LOCATIONS, LEVELS AND DIMENSIONS OF THE EQUIPMENT. THE CONTRACTOR IS HEREBY REQUIRED TO MAKE SUCH ADJUSTMENT AT THE JOB SITE ALLOCATION, 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 COMMERCIAL OUTLET CIRCUITS SHALL BE 3.5 SQ. MM THIN 2 COPPER WIRE UNLESS OTHERWISE NOTED. WIRE BEHIND OF WALL SHALL BE 3.5 SQ. MM COPPER WIRE. ALL WIRING AND CABLES SHALL BE COLOR CODED AS FOLLOWS:

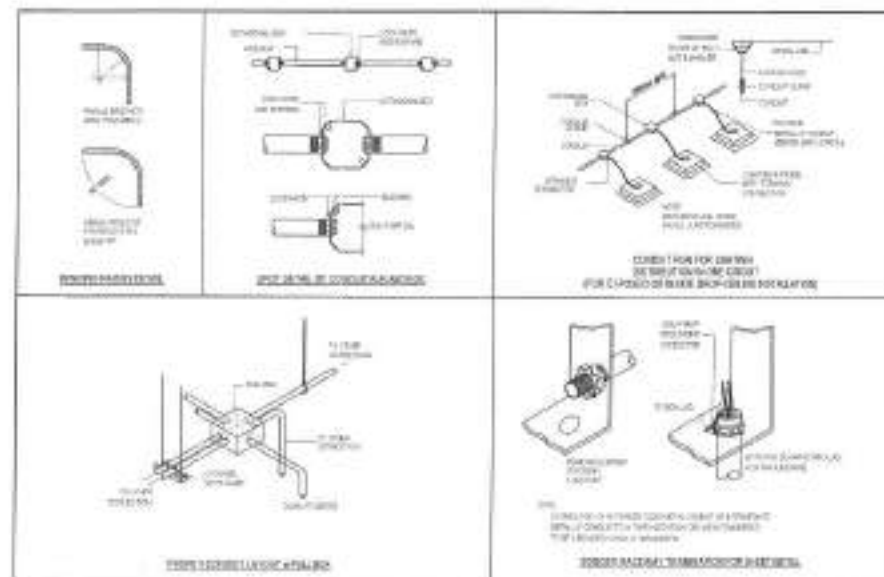
LINE 1 - RED
 LINE 2 - YELLOW
 NEUTRAL - WHITE
 GROUND - GREEN

- CONCRETE OUTDOOR CHOLESTERE SHALL BE FABRICATED FROM STEEL WITH WORKS AS FOLLOWS:
 MIDDLE BOTH OF THE ROCKET SURFACE SHALL:
 UP TO INCLUDING 150 MM: GA 15 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT.
 OVER 150 MM BUT NOT OVER 400: GA 14 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT.
 OVER 400 MM BUT NOT OVER 700: GA 12 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT.
 OVER 700: GA 10 PAINTED WITH METAL PRIMER EPOXY AND TOPCOAT.
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY LICENSED MECHANICAL ENGINEER UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRICIAN. WORKMAN AND A QUALY LICENSED ELECTRICAL CONTRACTOR BY LOCAL WORKS SHALL BE NOTICED, PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
- TYPE OF SERVICE ENTRANCE SHALL BE SINGLE PHASE, TWO WIRE PLUS GROUND, 200-250V AC 60 HZ.
- CONDUITS AND CABLES SHALL BE MORE THAN THE EQUIVALENT OF FOUR QUARTER ROUNDS IN ANY ONE RUN. ALL CONDUIT BENDS SHALL BE FIELD MADE BY LEAD HYDRAULIC BENDER. 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 DETAIL ON FORM APPROVED BY THE QUEZON-CITY ENGINEERING DEPARTMENT REPRESENTATIVE. THE REPORT SHALL BE FOR ELECTRICAL SYSTEMS SHALL NOT BE MORE THAN 5 DAYS. CORRELATION OF SOUNDING RESISTANCE SHALL NOT EXCEED 3 OHMS.

	150MM FLUENT LED
	300MM X 150MM 1 X 15W LED RECESSED TROFFER TYPE
	EMERGENCY LIGHT
	EXIT LIGHT
	SINGLE POLE SWITCH (LIGHTS)
	TWO POLE SWITCH (LIGHTS)
	THREE POLE SWITCH (LIGHTS)
	DUPLEX CONVENIENCE OUTLET
	WALL FAN
	PANEL BOARD

2 LEGEND AND SYMBOLS

SCALE: NTS

**1 GENERAL NOTES**

SCALE: NTS

3 MISCELLANEOUS DETAILS

SCALE: NTS



Republika ng Pilipinas
 Lungsod ng Quezon
 CITY ENGINEERING DEPARTMENT

PROJECT TITLE:
**PROPOSED REHABILITATION OF
 UNIT V DAYCARE CENTER**

LOCATION:
 1850V, COMMONWEALTH DISTRICT 2, QUEZON CITY

DRAWN BY: *[Signature]*
 DATE: 08/18/21
 CHECKED BY: *[Signature]*
 REVISION NO.:

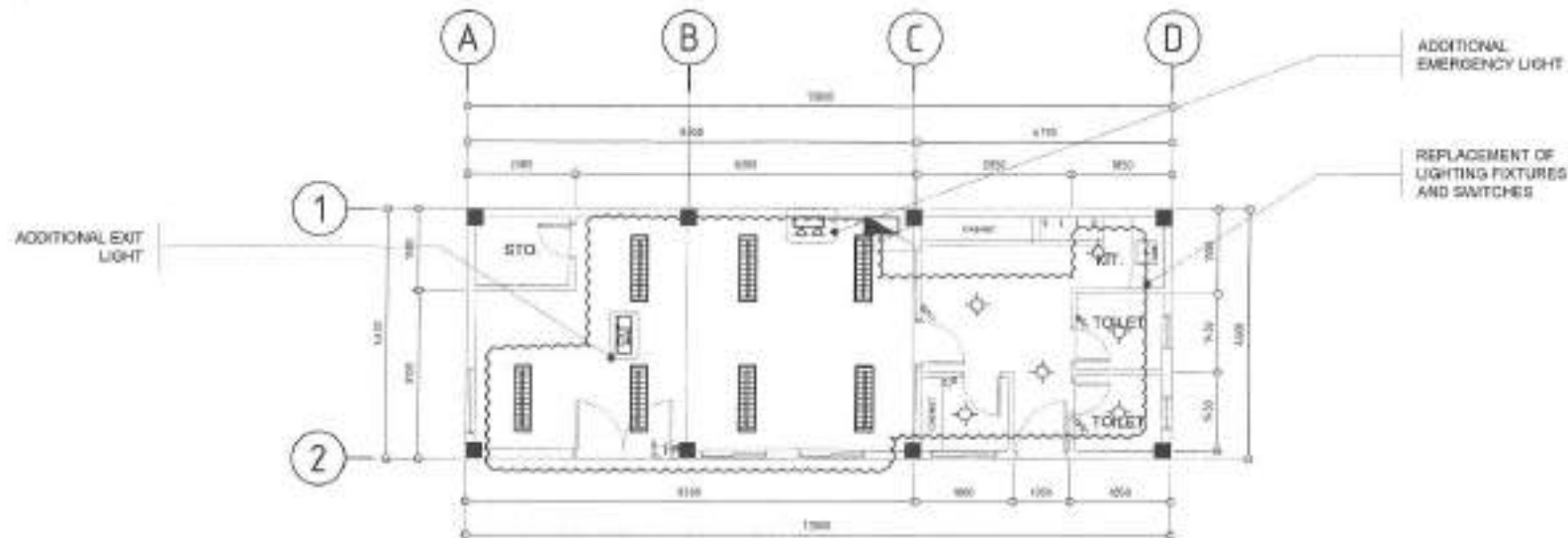
SUBMITTED BY:
[Signature]
ENGR. LEO S. DEL ROSARIO
 HEAD, PLANNING AND DESIGN DIVISION

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

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

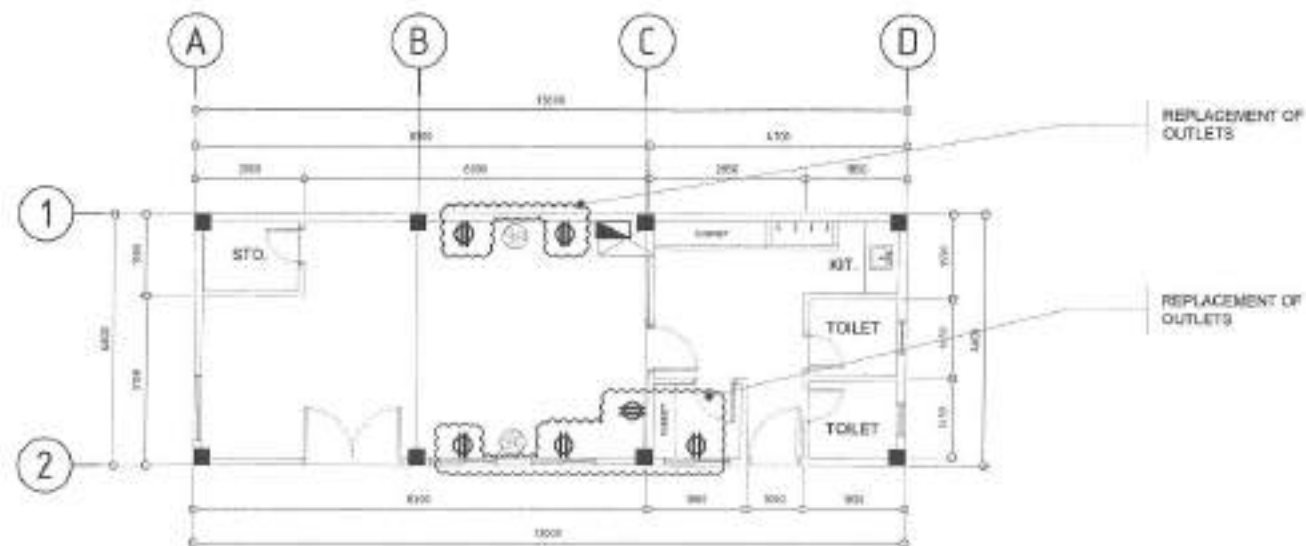
DIRECT CONTENT:
 GENERAL NOTES
 LEGEND AND SYMBOLS
 MISCELLANEOUS
 DETAILS

SHEET NO.
EL-01
05 06



1 | PROPOSED LIGHTING LAYOUT

SCALE 1:100M



1 | PROPOSED POWER LAYOUT

SCALE 1:100M

 <p>Republika ng Pilipinas Lungsod ng Quezon CITY ENGINEERING DEPARTMENT</p>	PROJECT TITLE:	DRAWN BY:	SUBMITTED BY:	RECOMMENDATION APPROVAL:	APPROVED BY:	SHEET CONTENT:	SHEET NO.:
	PROPOSED REHABILITATION OF UNIT V DAYCARE CENTER	DATE: 08/03/21	ENGR. LEO S. DEL ROSARIO	ENGR. ISAGANI R. VERZOSA, JR.	HON. MA. JOSEFINA G. BELMONTE	PROPOSED LIGHTING LAYOUT PROPOSED POWER LAYOUT	EL-02
	LOCATION: 685V, COMMONWEALTH DISTRICT 2, QUEZON CITY	DIVISION NO.:	ENGR. LEO S. DEL ROSARIO HEAD, PLUMBING & ELECTRICAL DIVISION	ENGR. ISAGANI R. VERZOSA, JR. C.C. CITY ENGINEERING DEPARTMENT	HON. MA. JOSEFINA G. BELMONTE CITY MARCH		06/06

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 OF HAND WASHING FACILITY AND
REHABILITATION OF DAY CARE CENTER AT DISTRICT 2 / AREA VII
(CLUSTER 3)

LOCATION : BARANGAY BALONBATO, AND SANGANDAAN, DISTRICT 6, QUEZON CITY

PROJECT NO. : 21 - 00176

DURATION : Ninety (90) Calendar Days

BREAKDOWN OF COST

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
	LOWER NAWASA DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	UNIT IV DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
	LITEX DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
	DON FABIAN DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	SOLIVEN DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
	KASUNDUAN DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
	PINADAMA DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	UNIT V DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
	GOLD DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	F.CASTILLO DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	PUROK 16 YAKAP DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				
	UPPER NAWASA DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	PUROK 15 DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	CONSTRUCTION OF HANDWASHING FACILITY				
III	REHABILITATION OF DAYCARE CENTER				
	KAUNLARAN DAYCARE CENTER				
I	GENERAL REQUIREMENTS				
II	SITE WORKS				
III	CIVIL / STRUCTURAL WORKS				
IV	ARCHITECTURAL WORKS				
V	SANITARY / PLUMBING WORKS				
VI	ELECTRICAL WORKS				

TOTAL COST P

LUMP SUM BID IN WORDS : _____

Contractor : _____

ITEM NO.	ITEM OF WORK (DESCRIPTION)	MATERIALS COST	LABOR COST	INDIRECT COST	AGGREGATE COST
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BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF LOWER NAWASA DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 4, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

- I GENERAL REQUIREMENTS include billboard, clearing, hauling and disposal of construction materials and debris, construction safety and health equipment, scaffolding, and temporary enclosure
- II CONSTRUCTION OF HAND WASHING FACILITY
 - A Hand Washing Facility include single sink portable hand washing facility
 - B Site Works include chipping of concrete
 - C Civil Works include restoration of concrete
 - D Sanitary and Plumbing Works include installation of roughing-ins and accessories
- III REHABILITATION OF LOWER NAWASA DAYCARE CENTER
 - A Site Works include demolition / removal works and cleaning and clearing for painting preparation
 - B Civil/Structural Works include waterproofing works, and roofing works
 - C Architectural Works include floor finishes, wall finishes, ceiling finishes, installation of doors, and painting works
 - D Sanitary and Plumbing Works include installation of roughing-ins, fixtures and accessories
 - E Electrical Works include installation of roughing-ins, wirings, lighting fixtures, wiring devices and panel board
- IV All necessary testing of materials and commissioning works must be performed as per standard procedures.

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	P	P
	Clearing, Hauling and Disposal of Construction Materials and Debris	2	t.l.		
	Construction Safety and Health Equipment	1	unit		
	Scaffolding (Rental)	52	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	35	l.m.		
				Direct Cost I	P
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	HAND WASHING FACILITY				
	Single Sink Portable Hand Washing Facility	1	unit	P	P
				Direct Cost A	P
B	SITE WORKS				
	Demolition / Removal Works				
	Chipping of Concrete (Floor)	3	sq.m.	P	P
				Direct Cost B	P
C	CIVIL WORKS				
	Restoration of Concrete (Floor)	3	sq.m.	P	P
				Materials Cost C	P
				Labor Cost C	

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Direct Cost C	P
D	SANITARY & PLUMBING WORKS				
	Sewer Line System				
	50mm Ø PVC Pipe with Hub	3	piece	P	P
	50mm Ø x 50mm Ø PVC Tee	1	piece		
	50mm Ø x 50mm Ø PVC 1/4 Bend	3	piece		
	50mm Ø PVC Coupling	3	piece		
	50mm Ø PVC Cleanout	1	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Water Line System				
	20mm Ø PPR Pipe, PN 16	3	piece		
	20mm Ø x 20mm Ø PPR Tee Equal	1	piece		
	20mm Ø PPR Union Patente	1	piece		
	20mm Ø PPR Coupling	3	piece		
	20mm Ø PPR Male Adaptor	2	piece		
	Valves and Appurtenances				
	20mm Ø PPR Gate Valve	1	piece		
	Miscellaneous and Consumables				
	400cc Solvent Cement	3	can		
	All Around Sealant	1	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	5	roll		
	Waste Cloth	2	kg		
				Materials Cost D	P
				Labor Cost D	
				Direct Cost D	P
				Materials Cost II	P
				Labor Cost II	
				Direct Cost II	P
III	REHABILITATION OF LOWER NAWASA DAYCARE CENTER				
A	SITE WORKS				
	Demolition / Removal Works				
	Removal of Floor and Wall Tiles	11	sq.m.	P	P
	Removal of Ceiling	49	sq.m.		
	Removal of Roofing	55	sq.m.		
	Removal of Door	2	set		
	Removal of Water Closet	2	set		
	Cleaning and Clearing for Painting Preparation	228	sq.m.		
				Direct Cost A	P
B	CIVIL WORKS				
	Thermal and Waterproofing Works				
	Cementitious Capillary-type Waterproofing (Toilet)	4	sq.m.	P	P
	Roofing Works				
	Pre-painted Rib-type GI Roofing	59	sq.m.		
	Pre-painted GI Flashing	37	l.m.		
	Pre-painted GI Ridge Roll	6	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	47	l.m.		
	Tekscrew	470	piece		
	Silicon Sealant	10	tube		
				Materials Cost B	P
				Labor Cost B	
				Direct Cost B	P
C	ARCHITECTURAL WORKS				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Floor Finishes				
	Floor Topping for Preparation of Tiles (Comfort Room)	4	sq.m.	P	P
	300mm x 300mm Non-skid Homogeneous Floor Tiles (Comfort Room)	4	sq.m.		
	Plain Cement Finish (Waiting Area)	28	sq.m.		
	Wall Finishes				
	300mm x 300mm Homogeneous Wall Tiles (Comfort Room)	14	sq.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Ceiling Finishes				
	12mm thick Gypsum Board on Metal Framing (Daycare Center)	25	sq.m.		
	12mm thick Moisture Resistant Gypsum Board on Metal Framing				
	Comfort Room	4	sq.m.		
	Eaves	20	sq.m.		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
	Installation of Doors				
	Doors				
	D1 - 1.0m x 2.1m Wooden Panel Door	1	unit	P	P
	D2 - 0.7m x 2.1m PVC Door with Louver	2	unit		
	Door Jambs				
	D1 - 1.0m x 2.1m Wooden Door Jamb	1	unit		
	Hardware and Accessories				
	Door Knob, Lever-type, Heavy Duty, Stainless	3	unit		
	Door Hinge, Heavy Duty, Stainless	9	unit		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	74	sq.m.	P	P
	Flat Latex Paint Finish (Interior Wall)				
	Daycare Center	62	sq.m.		
	Comfort Room	12	sq.m.		
	Flat Latex Paint Finish (Ceiling)				
	Daycare Center	25	sq.m.		
	Comfort Room	4	sq.m.		
	Eaves	20	sq.m.		
	Epoxy Enamel Paint Finish				
	Steel Fence & Gate	31	sq.m.		
	Window Grilles	14	sq.m.		
				Materials Cost	P
				Labor Cost	
				Subtotal	P
				Materials Cost C	P
				Labor Cost C	
				Direct Cost C	P
D	SANITARY & PLUMBING WORKS				
	Sewer Line System				
	50mm Ø PVC Pipe with Hub	6	piece	P	P
	75mm Ø PVC Pipe with Hub	1	piece		
	75mm Ø x 75mm Ø PVC Wye	1	piece		
	50mm Ø x 50mm Ø PVC 1/4 Bend	6	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	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	6	piece		
	75mm Ø PVC Coupling	1	piece		
	Water Line System				
	20mm Ø PPR Pipe, PN 16	1	piece		
	20mm Ø PPR 90° Elbow	2	piece		
	20mm Ø PPR Female Threaded Adaptor	2	piece		
	20mm Ø PPR Coupling	1	piece		
	20mm Ø PPR End Cap	2	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fixtures & Accessories				
	Bidet with Accessories, Stainless Heavy Duty (Water Efficient)	2	piece		
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Hose Bibb, Lever-type, Stainless (Water Efficient)	6	unit		
	Lavatory, Wall-hung, Kiddy	2	unit		
	Lavatory Faucet, Lever-type (Water Efficient)	2	unit		
	Water Closet, Tank Type, Kiddy (Water Efficient)	2	unit		
	Accessories				
	Angle Valve, One-way, Stainless Steel	2	piece		
	Angle Valve, Two-way, Stainless Steel	2	piece		
	Flexible Hose, Stainless Steel	4	piece		
	Miscellaneous and Consumables				
	400cc Solvent Cement	2	can		
	All Around Sealant	2	can		
	Hacksaw Blade	5	piece		
	Teflon Tape	10	roll		
	Waste Cloth	2	kg		
				Materials Cost III D	P
				Labor Cost III D	
				Direct Cost III D	P
E	ELECTRICAL WORKS				
	Pipes and Fittings				
	20mm Ø PVC Pipe	60	piece	P	P
	25mm Ø IMC Pipe	5	piece		
	20mm Ø PVC Adaptor	80	piece		
	20mm Ø PVC Locknut & Bushing	80	pair		
	25mm Ø IMC Elbow	4	piece		
	25mm Ø IMC Coupling	4	piece		
	25mm Ø IMC Locknut & Bushing	4	pair		
	25mm Ø IMC Weatherproof Entrance Cap	1	piece		
	50mm x 100mm PVC Utility Box	20	piece		
	100mm x 100mm PVC Junction Box with cover	15	piece		
	Wires and Cables				
	3.5mm ² THHN Wire	2	roll		
	14mm ² THHN Wire	30	l.m.		
	3.5mm ² TW Wire	1	roll		
	8.0mm ² TW Wire	20	l.m.		
	Lighting Fixtures (Energy Efficient)				
	600mm x 1200mm, 2 x 18w LED, Troffer, Recessed Type with Complete Accessories	2	set		
	6" Ø Round Recessed Pinlight LED	2	piece		
	T5, 28W LED Tube Light	4	piece		
	Emergency Light	1	piece		
	Exit Light	1	piece		
	Wiring Devices				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Orbit Fan, Heavy Duty With Selector Switch	2	piece		
	Outlet with Grounding , Two-gang	5	piece		
	Switch with Plate & Cover, One-Gang	4	piece		
	Switch with Plate & Cover, Two-Gang	1	piece		
	Panel Board				
	PPA Main: 60 AT, 2P, 230V, Bolt-on Branches: 2 - 20AT, 2P, 230V, Bolt-on 2 - 30AT, 2P, 230V, Bolt-on Enclosure: NEMA 1 with Ground Terminals	1	assy		
	MCB Main: 60AT, 2P, 230V, MCCB Enclosure: NEMA 3R with Ground Terminals	1	assy		
	Pipe Hangers & Supports				
	Horizontal Layout of Pipe	30	l.m.		
	Vertical Layout of Pipe	2	l.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All around Sealant	2	can		
	Electrical Tape	8	roll		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	5	kg		
	Hacksaw Blade	3	piece		
	Masking Tape	5	piece		
	Torch w/ Butane	2	set		
	Paint Thinner	1	lit		
	Pulling Lubricant	1	gal		
	Rubber Tape	5	roll		
				Material Cost III E	P
				Labor Cost III E	
				Direct Cost III E	P
				Materials Cost III	P
				Labor Cost III	
				Direct Cost III	P

SUMMARY

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	AMOUNT
I	GENERAL REQUIREMENTS	P
II	CONSTRUCTION OF HAND WASHING FACILITY	
III	REHABILITATION OF LOWER NAWASA DAYCARE CENTER	
	Strictly enforce health protocols relative to the latest applicable DPWH Memorandum	TOTAL DIRECT COST P Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT TOTAL ESTIMATED COST P

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF UNIT IV DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

- 1 General Requirements include billboard, cleaning, hauling and disposal of construction materials and debris, construction safety and health, scaffolding and temporary enclosure around the construction area.
- 2 Site Works include demolition/removal works.
- 3 Civil/Structural works include masonry works, thermal and moisture protection, metal works and roofing works.
- 4 Architectural works include installation of floor finishes, wall finishes, ceiling works, installation of doors and windows 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Cleaning, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	171	sq.m.		
	Temporary Enclosure Around the Construction Area (h=2.4m)	29	l.m.		
				Direct Cost I	₱
II	SITE WORKS				
	Demolition/Removal Works				
	Removal of Existing Ceiling	70	sq.m.	₱	₱
	Removal of Existing CHB Wall (Balcony Area)	1	sq.m.		
	Removal of Existing Tiles	56	sq.m.		
	Removal of Existing Door and Door Jambs	3	set		
	Removal of Existing Windows	7	sq.m.		
	Removal of Grilles	6	sq.m.		
	Removal of Existing Roof	112	sq.m.		
	Cleaning and Clearing for Painting Preparation	406	sq.m.		
				Direct Cost II	₱
III	CIVIL WORKS / STRUCTURAL WORKS				
	Masonry Works				
	100mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering	5	sq.m.	₱	₱
	Thermal and Moisture Protection				
	Cementitious Capillary Type Waterproofing (Comfort Room)	3	sq.m.		
	Membrane Type Waterproofing (Balcony)	6	sq.m.		
	Roofing works				
	Pre-painted Rib Type G.I Roofing	112	sq.m		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Pre-painted Ridge Roll	20	l.m.		
	Pre-painted G.I Flashing	13	l.m.		
	6mm thick One-sided Thermal Insulation	112	sq.m		
	12.5mm x 300mm Fascia board	27	l.m.		
	Silicon Sealant	3	tube		
	Tekscrew	1120	piece		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
E	Metal Fabricatrion				
	Fire Exit	1	set	₱	₱
	Indoor Grilles with Gate	1	set		
				Direct Cost E	₱
				Materials Cost III	₱
				Labor Cost III	
				Direct Cost III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	300mm x 300mm Non-skid Homogeneous Floor Tile	11	sq.m.	₱	₱
	600mm x 600mm Homogeneous Floor Tile	37	sq.m.		
	Floor Topping for Preparation of Tile Works	48	sq.m.		
	Wall Partitions and Finishes				
	300mm x 300mm Homogeneous Floor Tile (Comfort Rooms)	10	sq.m.		
	Ceiling Finishes				
	12mm thick Gypsum Board including Metal Framing	37	sq.m.		
	12mm thick Moisture Resistant Gypsum Board including Metal Framing	34	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	Doors				
	D1 - 1.0m x 2.1m Solid Wood Panel Door	1	set	₱	₱
	D2 - 0.9m x 2.1m Solid Wood Panel Door	1	set		
	D3 - 0.6m x 2.1m PVC Door with Louver	1	set		
	Door Jamb				
	D1 - 1.0m x 2.1m Solid Wood Panel Door	1	set		
	D2 - 0.9m x 2.1m Solid Wood Panel Door	1	set		
	Hardwares and Accessories				
	Door Hinge, Heavy Duty	9	piece		
	Door Knob, Lever Type	3	piece		
	Installation of Windows				
	W1 - 1.2m x 1.2m Aluminum Framed Casement Window (Powder Coated)	3	set		
	W2 - 0.5m x 0.5m Aluminum Framed Awning Window	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
E	Painting Works				
	Elastomeric Paint Finish (Exterior Walls)	219	sq.m.	₱	₱
	Flat Latex Paint Finish				
	Interior Walls - 2F	108	sq.m.		
	Ceiling	70	sq.m.		
	Slab Soffit	9	sq.m.		
				Materials Cost	₱
				Labor Cost	

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Subtotal	₱
				Materials Cost IV	₱
				Labor Cost IV	
				Direct Cost IV	₱
V	SANITARY AND PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	50mm Ø PVC Pipe with Hub	1	piece	₱	₱
	75mm Ø PVC Pipe with Hub	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		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm Ø PVC P-Trap	1	piece		
	50mm Ø PVC Coupling	1	piece		
	75mm Ø PVC Coupling	1	piece		
	Water Line System				
	20mm Ø PPR Pipe, PN 16	1	piece		
	20mm Ø PPR 90° Elbow	2	piece		
	20mm Ø PPR Female Threaded Adaptor	2	piece		
	20mm Ø PPR Coupling	1	piece		
	20mm Ø PPR End Cap	2	piece		
	Fixtures & Accessories				
	Bidet with Accessories, Stainless Heavy Duty	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	unit		
	Hose Bibb, Stainless Steel, Lever-Type (Water Efficient)	4	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 Valve Type (Water Efficient)	1	unit		
	Accessories				
	Angle Valve, One-way, Stainless Steel	1	piece		
	Angle Valve, Two-way, Stainless Steel	1	piece		
	Facial Mirror, 450mm x 600mm x 6mm	1	piece		
	Flexible Hose, Stainless Steel	2	piece		
D	Miscellaneous and Consumables				
	400cc Solvent Cement	1	can		
	All Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	5	roll		
	Waste Cloth	1	kg		
				Materials Cost V	₱
				Labor Cost V	
				Direct Cost V	₱
VI	ELECTRICAL WORKS				
	Roughng-ins, Pipes and Fittings				
	20mmØ PVC Pipe	75	piece	₱	₱
	Fittings and Accessories				
	20mmØ PVC Adaptor	80	piece		
	20mmØ PVC Locknut and Bushing	80	pair		
	50mm x 100mm PVC Utility Box	15	piece		
	100mm x 100mm PVC Junction Box with Cover	15	piece		
	Wires and Cables				
	3.5mm² THHN Wire	3	roll		
	3.5mm² TW Wire	2	roll		
	Lighting Fixtures (Energy Efficient)				
	6" Ø Round Recessed Pinlight LED	3	set		
	600mm x 1200mm, 2 x 18W LED, Troffer Type, With Complete Accessories, Recessed Type	5	set		
	Emergency Light	1	piece		
	Exit Light	1	piece		
	Wiring Devices and Other Fixtures				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Orbit Fan, Heavy Duty With Selector Switch	2	set		
	Outlet with Grounding , Two Gang	3	piece		
	Switch with Plate & Cover, One Gang	2	piece		
	Switch with Plate & Cover, Three Gang	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All around Sealant	2	can		
	Electrical Tape	10	roll		
	G.I Tie Wire (for Wire / Cable Pulling)	3	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	roll		
	Paint Thinner	1	lit		
	Pulling Lubricant	1	gal		
	Rubber Tape	5	roll		
	Torch w/ Butane	2	set		
				Materials Cost VI	₱
				Labor Cost VI	
				Direct Cost VI	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

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

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF LITEX DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health, clearing, hauling and disposal of construction materials and debris and scaffolding.
- II Site Works include removal works and cleaning and clearing for painting preparation.
- III Civil / Structural Works include metal works.
- IV Architectural Works include floor finishes, wall finishes, ceiling works, painting works, fabricated materials and installation of doors and windows.
- V Sanitary / Plumbing Works include installation of roughing-ins, equipment and accessories.
- VI Electrical Works include installation of roughing-ins, wirings, devices and fixtures.
- VII 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	28	sq.m.		
				DIRECT COST I	₱
II	SITE WORKS				
	Removal Works				
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	11	sq.m.		
	Removal of Under Counter Cabinet	2	sq.m.		
	Removal of Ceiling	35	sq.m.		
	Removal of Tiles	46	sq.m.		
	Removal of Sink	1	set		
	Removal of Water Closet	1	set		
	Clearing and Cleaning for Painting Preparation	98	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Metal Works				
	Window Grilles				
	25mm X 25mm X 2mm Tubular Bar	173	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	1	box		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping Preparation of Tile Works	35	sq.m	₱	₱
	300mm x 300mm Non-Skid Homogeneous Tiles	2	sq.m		
	400mm x 400mm Non-Skid Homogeneous Tiles	33	sq.m		
	Wall Finishes and Partition				
	300mm x 300mm Homogeneous Tiles	12	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	35	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Painting Works				
	Epoxy Enamel Paint Finish (Metal Surfaces)	1	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	98	sq.m		
	Ceiling	35	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum)	2	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.60m x 2.10m) Swing Type PVC Door Painted Finish (Kitten White) w/ 400mm X 300mm Louver	1	set	₱	₱
	D2 - (0.80m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set		
	Door Jamb				
	D2 - (1.00m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	6	set		
	Door Knob, Lever Type, Stainless	2	set		
	Installation of Windows				
	W1 -(2.80m x 1.20m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W2 -(1.40m x 1.20m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	2	set		
	W3 -(2.10m x 1.20m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W4 -(1.00m x 0.60m) Awning Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W5 -(0.6m x 0.40m) Awning Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱
V	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	2	piece	₱	₱
	75 mm Ø, Pipe PVC	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	100mm Ø, Pipe PVC	3	piece		
	50mm Ø, P-Trap	2	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 50mm Ø, Wye	4	piece		
	100mm Ø x 75mm Ø, Wye	1	piece		
	100mm Ø x 100mm Ø, Wye	1	piece		
	100mm Ø, Cleanout with Adapter	1	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	9	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	3	piece		
	20mm Ø, Female Threaded, Elbow	3	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Grease Trap, 5 GPM, Heavy Duty	1	piece		
	Kitchen Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		
	Sink 8" Deep, Stainless Steel	1	piece		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Accessories				
	Flexible Hose, Stainless Steel	3	piece		
	Single Way Angle Valve, Stainless Steel	2	piece		
	Two Way Angle Valve, Stainless Steel	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST V	₱
				LABOR COST V	
				DIRECT COST V	₱
VI	ELECTRICAL WORKS				
	Roughing-ins				
	20mmØ PVC Pipe	6	piece	₱	₱
	20mmØ PVC Flexible Hose	30	l.m.		
	Fittings and Accessories				
	20mmØ PVC Adaptor	6	piece		
	20mmØ PVC Locknut & Bushing	6	piece		
	50mm x 100mm PVC Utility Box	5	piece		
	100mm x 100mm PVC Junction Box with Cover	5	piece		
	Wires and Cables				
	3.5mm² THHN Wire	60	l.m.		
	Wiring Devices and Fixtures				
	Linear Twin Batten with 2x18W LED Tube Light	3	set		
	Orbit Fan with Selector Switch	3	set		
	Outlet with Grounding, Two-Gang	5	set		
	Switch w/ Plate & Cover, Single Gang	2	set		
	Switch w/ Plate & Cover, Two-Gang	3	set		
	Switch w/ Plate & Cover, Three-Gang	1	set		
	T8, 18w LED Tube light	4	piece		
	Miscellaneous & Consumables				
	Electrical Tape	2	roll		
				MATERIALS COST VI	₱
				LABOR COST VI	
				DIRECT COST VI	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	SITE WORKS	
III	CIVIL / STRUCTURAL WORKS	
IV	ARCHITECTURAL WORKS	
V	SANITARY / PLUMBING WORKS	
VI	ELECTRICAL WORKS	
		TOTAL DIRECT COST ₱
		Overhead, Contingencies and Miscellaneous Expenses (OCM)
		Profit
		VAT
		TOTAL ESTIMATED COST ₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF DON FABIAN DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health and clearing, hauling and disposal of construction materials and debris.
- II Construction of hand washing facility.
 - a Supply and installation of foot operated single sink handwashing facility.
 - b Sanitary and Plumbing Works include installation of sewerline and waterline.
- III Rehabilitation of day care center
 - a Site Works include removal works and cleaning and clearing for painting preparation.
 - b Civil / Structural Works include metal works and roofing works.
 - c Architectural Works include floor finishes, ceiling works, painting works and installation of doors, windows and letterings.
 - d Sanitary / Plumbing Works include installation of roughing-ins, equipment and accessories.
 - e Electrical Works include installation of roughing-ins, wirings, devices and fixtures.
- VII 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	Hand Washing Facility				
	Single Sink Portable Hand Washing Facility	1	unit	₱	₱
				DIRECT COST-A	₱
B	Sanitary and Plumbing Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	1	piece	₱	₱
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	1	piece		
	20mm Ø, Elbow	1	piece		
	20mm Ø, Coupling	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
				MATERIALS COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
III	REHABILITATION OF DAY CARE CENTER				
A	SITE WORKS				
	Removal Works				
	Removal of Roofing and Accessories	58	sq.m.	₱	₱
	Removal of Ceiling	38	sq.m.		
	Removal of Downspout	3	l.m.		
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	7	sq.m.		
	Removal of Lavatory	2	set		
	Removal of Sink	1	set		
	Removal of Urinal	1	set		
	Removal of Water Closet	1	set		
	Clearing and Cleaning for Painting Preparation	102	sq.m.		
				DIRECT COST-A	₱
B	CIVIL / STRUCTURAL WORKS				
	Metal Works				
	Gate				
	12mm Square Bar	22	kg	₱	₱
	50mm Ø G.I. Pipe, Sch. 40	34	kg		
	Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Window Grilles				
	25mm X 25mm X 2mm Tubular Bar	124	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	1	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	58	sq.m		
	Pre-Painted G.I.Ridge Roll	8	l.m.		
	Pre-Painted G.I. Gutter	16	l.m.		
	300mm Fiber Cement Fascia Board	16	l.m.		
	Blind Rivets	82	piece		
	Tekscrew	24	piece		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
C	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping Preparation of Tile Works	2	sq.m	₱	₱
	300mm x 300mm Non-Skid Homogeneous Tiles	2	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	38	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	45	sq.m		
	Epoxy Enamel Paint Finish (Metal Surfaces)	2	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Flat Latex Paint Finish				
	Ceiling	40	sq.m		
	Interior Wall	67	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door w/ 400mm X 300mm Louver	1	set		
	Door jamb				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	Hardware and Accessories				
	Door Hinges, Heavy Duty, Stainless	6	set		
	Door Knob, Lever Type, Stainless	2	set		
	Installation of Windows				
	W1 -(3.00m x 1.10m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W2 -(1.50m x 1.00m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	2	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Letterings				
	120mm Stainless Steel Lettering "DON FABIAN DAY CARE CENTER"	22	set	₱	₱
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST-C	₱
				LABOR COST-C	
				DIRECT COST-C	₱
D	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	4	piece	₱	₱
	75 mm Ø, Pipe PVC	4	piece		
	100mm Ø, Pipe PVC	6	piece		
	50mm Ø, P-Trap	3	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	6	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	8	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 50mm Ø, Wye	7	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	8	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	3	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	9	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	32mm Ø x 20mm Ø, Reducer	2	piece		
	32mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Grease Trap, 5 GPM, Heavy Duty	1	piece		
	Hose Bibb, Lever Type, Stainless Steel Heavy Duty (Water Efficient)	5	piece		
	Kitchen Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Lavatory, Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		
	Lavatory, Wall Hung	1	piece		
	Sink, 8" Deep, Stainless Steel	1	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	1	piece		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	1	piece		
	Accessories				
	Flexible Hose, Stainless Steel	4	piece		
	Single Way Angle Valve, Stainless Steel	3	piece		
	Two Way Angle Valve, Stainless Steel	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	4	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-D	₱
				LABOR COST-D	
				DIRECT COST-D	₱
E	ELECTRICAL WORKS				
	Roughing-ins				
	20mmØ PVC Flexible Hose	20	l.m.	₱	₱
	Fittings and Accessories				
	20mmØ PVC Adaptor	4	piece		
	20mmØ PVC Locknut & Bushing	4	piece		
	50mm x 100mm PVC Utility Box	10	piece		
	100mm x 100mm PVC Junction Box with Cover	5	piece		
	Wires and Cables				
	3.5mm² THHN Wire	40	l.m.		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Wiring Devices and Other Fixtures				
	18W LED Bulb	1	set		
	E27 Receptacle	1	set		
	Linear Twin Batten with 2x18W LED Tube Light	3	set		
	Outlet with Grounding, Two-Gang	4	set		
	Switch w/ Plate & Cover, Two-Gang	1	set		
	Switch w/ Plate & Cover, Three-Gang	1	set		
	Miscellaneous & Consumables				
	Electrical Tape	2	roll		
				MATERIALS COST-E	₱
				LABOR COST-E	
				DIRECT COST-E	₱
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱

SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	CONSTRUCTION OF HAND WASHING FACILITY	
III	REHABILITATION OF DAY CARE CENTER	
	TOTAL DIRECT COST	₱
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit	
	VAT	
	TOTAL ESTIMATED COST	₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF SOLIVEN DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health, clearing, hauling and disposal of construction materials and debris and scaffolding.
- II Site Works include excavation for structures, backfill and compaction, removal works and cleaning and clearing for painting preparation.
- III Civil / Structural Works include concrete works, masonry works and metal works.
- IV Architectural Works include floor finishes, wall finishes, painting works, fabricated materials and installation of doors, windows and letterings.
- V Sanitary / Plumbing Works include installation of roughing-ins, equipment and accessories.
- VI Electrical Works include installation of roughing-ins, wirings, devices and fixtures.
- VII 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	66	sq.m.		
				DIRECT COST I	₱ 69,404.00
II	SITE WORKS				
	Excavation for Structures	4	cu.m	₱	₱
	Backfill and Compaction	2	cu.m		
	Removal Works				
	Removal of Dilapidated Door	3	unit		
	Removal of Dilapidated Window	8	sq.m.		
	Removal of Under Counter Cabinet	1	sq.m.		
	Removal of Tiles	53	sq.m.		
	Removal of Lavatory	1	set		
	Removal of Sink	1	set		
	Removal of Urinal	1	set		
	Removal of Water Closet	1	set		
	Chipping of Wall	1	sq.m.		
	Clearing / Cleaning for Painting Preparation	273	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Concrete Works				
	Site Mix Concrete, 21 Mpa, 3/4" Gravel	2	cu.m	₱	₱
	Reinforcing Steel Bars				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Grade 40 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	10mm Ø Column	38	kg		
	12mm Ø Wall Footing	38	kg		
	Grade 60 Reinforcing Steel Bar including G.I. Tie Wire # 16				
	16mm Ø Footing	60	kg		
	16mm Ø Column	80	kg		
	Formworks				
	Wall Footing	4	sq.m		
	Footing	4	sq.m		
	Column	7	sq.m		
	Masonry Works				
	100mm CHB Wall Laying, including mortar, reinforcement and two-face plastering	9	sq.m		
	150mm CHB Wall Laying, including mortar, reinforcement and two-face plastering	1	sq.m		
	Metal Works				
	Fence				
	12mm Square Bar	106	kg		
	20mm Square Bar	18	kg		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	1	box		
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	300mm x 300mm Non-Skid Homogeneous Tiles	3	sq.m	₱	₱
	400mm x 400mm Non-Skid Homogeneous Tiles	45	sq.m		
	Wall Finishes and Partition				
	300mm x 300mm Non-Skid Homogeneous Tiles	9	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	56	sq.m		
	Epoxy Enamel Paint Finish (Fence)	3	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	123	sq.m		
	Slab Soffit	123	sq.m		
	Exterior Painting (with Simple Design)	27	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum)	2	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (1.80m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set	₱	₱
	D2 - (0.80m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set		
	D3 - (0.60m x 2.10m) Swing Type PVC Door Painted Finish (Kitten White) w/ 400mm X 300mm Louver	1	set		
	Door jamb				
	D1 - (1.80m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	D2 - (0.80m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	9	set		
	Door Knob, Lever Type, Stainless	3	set		
	Installation of Windows				
	W1 -(2.40m x 1.40m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	2	set		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	W2 -(1.00m x 0.60m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W3 -(1.30m x 0.30m) Awning Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Letterings				
	120mm Stainless Steel Lettering "SOLIVEN DAY CARE CENTER"	20	set	₱	₱
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
V	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	2	piece	₱	₱
	75 mm Ø, Pipe PVC	4	piece		
	100mm Ø, Pipe PVC	3	piece		
	50mm Ø, P-Trap	3	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	6	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 50mm Ø, Wye	7	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	1	piece		
	100mm Ø x 50mm Ø, Tee Reducer	1	piece		
	100mm Ø, Cleanout with Adapter	1	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	4	piece		
	20mm Ø, Elbow	10	piece		
	20mm Ø, Coupling	4	piece		
	20mm Ø, Tee Equal	9	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	32mm Ø x 20mm Ø, Reducer	2	piece		
	32mm Ø, Union Patente	1	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Grease Trap, 5 GPM, Heavy Duty	1	piece		
	Hose Bibb, Lever Type, Stainless Steel Heavy Duty (Water Efficient)	5	piece		
	Kitchen Faucet Lever Type, Stainless Heavy Duty (Water Efficient)	1	unit		
	Kitchen Sink 8" Deep, Stainless Steel	1	unit		
	Lavatory, Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	1	piece		
	Lavatory, Wall Hung, Kiddy	1	piece		
	Urinal, Flush Type, Kiddy (Water Efficient)	1	unit		
	Water Closet, Tank Type w/ Accessories, Kiddy (Water Efficient)	1	unit		
	Accessories				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Angle Valve, Stainless Steel, Single Way	3	piece		
	Angle Valve, Stainless Steel, Two Way	1	piece		
	Flexible Hose, Stainless Steel	4	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				MATERIALS COST V	₱
				LABOR COST V	
				DIRECT COST V	₱
VI	ELECTRICAL WORKS				
	Roughing-ins				
	16mm x 16mm x 2.44m Rectangular PVC Moulding	30	piece	₱	₱
	Wires and Cables				
	3.5mm ² THHN Wire	120	l.m.		
	Lighting Fixtures (Energy Efficient)				
	18W LED Bulb	1	piece		
	T8, 18w LED Tube Light	3	piece		
	E27 Receptacle	1	piece		
	Wiring Devices and Other Fixtures				
	50mm x 100mm PVC Amco box	5	piece		
	Orbit Fan with Selector Switch	2	set		
	Outlet with Grounding, Two-Gang	1	set		
	Switch w/ Plate & Cover, Single Gang	2	set		
	Switch w/ Plate & Cover, Two-Gang	1	set		
	Miscellaneous & Consumables				
	Electrical Tape	2	roll		
				MATERIALS COST VI	₱
				LABOR COST VI	
				DIRECT COST VI	₱

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

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

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF KASUNDUAN DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health, clearing, hauling and disposal of construction materials and debris. and scaffolding.
- II Site Works include removal works, chipping of wall for plumbing works and clearing and clearing for painting preparation.
- III Civil / Structural Works include masonry works and roofing works.
- IV Architectural Works include floor finishes, wall finishes, ceiling works, painting works, fabricated materials and installation of doors and windows.
- V Sanitary / Plumbing Works include installation of roughing-ins, equipment and accessories.
- VI Electrical Works include installation of roughing-ins, wirings, devices and fixtures.
- VII 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	72	sq.m.		
				DIRECT COST I	₱
II	SITE WORKS				
	Removal Works				
	Removal of Dilapidated Door	3	unit	₱	₱
	Removal of Dilapidated Window	13	sq.m.		
	Removal of Under Counter Cabinet	2	sq.m.		
	Removal of Ceiling	40	sq.m.		
	Removal of Tiles	4	sq.m.		
	Removal of Sink	2	set		
	Removal of Urinal	2	set		
	Removal of Water Closet	2	set		
	Removal of Lavatory	2	set		
	Removal of Roofing and Accessories	42	sq.m.		
	Removal of Aluminum Cladding	10	set		
	Chipping of Wall for Plumbing Works	1	sq.m.		
	Clearing and Cleaning for Painting Preparation	350	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Masonry Works				
	Concrete Topping Preparation	1	sq.m	₱	₱
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	43	sq.m		
	Pre-Painted G.I. Gutter	10	l.m.		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Pre-Painted G.I. End Flashing	10	l.m.		
	300mm Fiber Cement Fascia Board	10	l.m.		
	Blind Rivets	52	piece		
	Tekscrew	30	piece		
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping Preparation of Tile Works	4	sq.m	₱	₱
	300mm x 300mm Non-Skid Homogeneous Tiles	4	sq.m		
	Wall Finishes and Partition				
	Aluminum composite cladding, 6mm thick, nano finish including structural angular framing sections, backer rod and sealant	10	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	40	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	44	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	174	sq.m		
	Ceiling	40	sq.m		
	Exterior Painting (with Simple Design)	56	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum)	2	l.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door Painted Finish (Kitten White) w/ 400mm X 300mm Louver	2	set		
	Door Jamb				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	9	set		
	Door Knob, Lever Type, Stainless	3	set		
	Installation of Windows				
	W1 -(1.20m x 1.20m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	3	set		
	W2 -(1.50m x 1.20m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	4	set		
	W3 -(0.60m x 0.60m) Awning Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	2	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱
V	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	4	piece	₱	₱
	75 mm Ø, Pipe PVC	7	piece		
	100mm Ø, Pipe PVC	13	piece		
	150mm Ø, Pipe PVC	4	piece		
	50mm Ø, P-Trap	8	piece		
	75mm Ø, P-Trap	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm Ø, 1/8 Bend	9	piece		
	75mm Ø, 1/8 Bend	3	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	8	piece		
	75mm Ø x 75mm Ø, Tee	8	piece		
	100mm Ø x 75mm Ø, Tee	3	piece		
	100mm Ø x 50mm Ø, Wye	7	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	8	piece		
	150mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	4	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	5	piece		
	20mm Ø, Elbow	18	piece		
	20mm Ø, Coupling	5	piece		
	20mm Ø, Tee Equal	9	piece		
	20mm Ø, Female Threaded, Elbow	9	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	2	piece		
	Floor Drain, 100mm x 100mm, Stainless	2	piece		
	Roof Drain, 100mm Ø, Dome-Type, Stainless	3	piece		
	Grease Trap, 5 GPM, Heavy Duty	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Hose Bibb Lever Type, Stainless Steel, Heavy Duty (Water Efficient)	7	piece		
	Kitchen Faucet, Lever Type, Stainless, Heavy Duty (Water Efficient)	2	piece		
	Lavatory, Counter-top	2	piece		
	Lavatory Faucet, Lever Type, Stainless, Heavy Duty (Water Efficient)	2	piece		
	Sink 8" Deep, Stainless Steel	2	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	2	piece		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	2	piece		
	Accessories				
	Flexible Hose, Stainless Steel	6	piece		
	Single Way Angle Valve, Stainless Steel	4	piece		
	Two Way Angle Valve, Stainless Steel	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	5	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	3	roll		
	Waste Cloth	1	kg		
				MATERIALS COST V	₱
				LABOR COST V	
				DIRECT COST V	₱
VI	ELECTRICAL WORKS				
	Roughing-ins				
	16mm x 16mm x 2.44m Rectangular PVC Moulding	30	piece	₱	₱
	Wires and Cables				
	3.5mm ² THHN Wire	1	roll		
	Lighting Fixtures (Energy Efficient)				
	18W LED Bulb	2	piece		
	E27 Receptacle	2	piece		
	T8, 18W LED Tube Light	6	piece		
	Wiring Devices and Other Fixtures				
	Orbit Fan with Selector Switch	3	set		
	Outlet with Grounding, Two-Gang	8	set		
	Switch w/ Plate & Cover, Single Gang	2	set		
	Switch w/ Plate & Cover, Three-Gang	3	set		
	Miscellaneous & Consumables				
	Electrical Tape	3	roll		
				MATERIALS COST VI	₱
				LABOR COST VI	
				DIRECT COST VI	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	SITE WORKS	
III	CIVIL / STRUCTURAL WORKS	
IV	ARCHITECTURAL WORKS	
V	SANITARY / PLUMBING WORKS	
VI	ELECTRICAL WORKS	
		TOTAL DIRECT COST ₱
		Overhead, Contingencies and Miscellaneous Expenses (OCM)
		Profit
		VAT
		TOTAL ESTIMATED COST ₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

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

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health, clearing, hauling and disposal of construction materials and debris, scaffolding and temporary enclosure around the construction.
- II Construction of Hand Washing Facility.
 - a Architectural Works include fabricated materials.
 - b Sanitary and Plumbing Works include installation of sewerline and waterline system.
- III Rehabilitation of Day Care Center
 - a Site Works include removal works and cleaning and clearing for painting preparation.
 - b Civil / Structural Works include masonry works and roofing works.
 - c Architectural Works include floor finishes, ceiling works, painting works, fabricated materials and installation of doors, windows and letterings.
 - d Sanitary / Plumbing Works include installation of roughing-ins, equipment and accessories.
 - e Electrical Works include installation of roughing-ins, wirings, devices and 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	51	sq.m		
	Temporary enclosure around the construction area (h= 3.6m)	16	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	ARCHITECTURAL WORKS				
	Fabricated Materials				
	Countertop with Aluminum Cover	3	l.m.	₱	₱
				MATERIALS COST-A	₱
				LABOR COST-A	
				DIRECT COST-A	₱
B	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	2	piece	₱	₱
	50mm Ø, 1/8 Bend	3	piece		
	100mm Ø, 1/8 Bend	3	piece		
	100mm Ø x 50mm Ø, Wye	3	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	Waterline System				
	Roughing-Ins				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Pipe PPR	2	piece		
	20mm Ø, Elbow	3	piece		
	20mm Ø, Coupling	2	piece		
	20mm Ø, Tee Equal	3	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	Fixtures				
	Lavatory, Countertop, Kiddy	5	piece		
	Lavatory Faucet, Countertop-Mounted, Lever Type, Stainless Steel Heavy Duty	5	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
				MATERIALS COST II	₱
				LABOR COST II	
				DIRECT COST II	₱
III	REHABILITATION OF DAY CARE CENTER				
A	SITE WORKS				
	Removal Works				
	Removal of Ceiling	61	sq.m.	₱	₱
	Removal of Dilapidated Door	3	unit		
	Removal of Dilapidated Window	13	sq.m.		
	Removal of Downspout	8	l.m.		
	Removal of Roofing and Accessories	61	sq.m.		
	Removal of Tiles	33	sq.m.		
	Removal of Urinal	1	set		
	Removal of Under Counter Cover	5	sq.m.		
	Clearing and Cleaning for Painting Preparation	150	sq.m.		
				DIRECT COST-A	₱
B	CIVIL / STRUCTURAL WORKS				
	Masonry Works				
	150mm CHB Wall Laying, including mortar, reinforcement and two-face plastering	3	sq.m		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	61	sq.m		
	Pre-Painted G.I.Ridge Roll	8	l.m.		
	Pre-Painted G.I. Gutter	15	l.m.		
	Tekscrew	24	piece		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
C	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping Preparation of Tile Works	33	sq.m	₱	₱
	300mm x 300mm Non-Skid Homogeneous Tiles	33	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	61	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	31	sq.m		
	Epoxy Enamel Paint Finish (Metal Surfaces)	4	sq.m		
	Flat Latex Paint Finish				
	Ceiling	64	sq.m		
	Interior Wall	104	sq.m		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fabricated Materials				
	Under Counter Cover (Aluminum) - Pantry	4	l.m.		
	Under Counter Cover (Aluminum) - Hand Washing	2	l.m.		
	Hanging Cabinet	3	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Exterior Painting (with Simple Design)	24	sq.m	₱	₱
				Subtotal	₱
	Installation of Doors				
	D1 - (0.80m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1	set	₱	₱
	D2 - (0.80m x 2.10m) Double Swing Type Flush Hollow Core Painted Finish	1	set		
	D3 - (0.60m x 2.10m) Swing Type PVC Door w/ 400mm X 300mm Louver	1	set		
	Door jamb				
	D1 - (0.80m x 2.10m) Swing Type Flush Hollow Core Door	1	set		
	D2 - (0.80m x 2.10m) Swing Type Flush Hollow Core Door	1	set		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Hardware and Accessories				
	Door Hinges, Single-Swing, Heavy Duty, Stainless	6	set		
	Door Hinges, Double-Swing, Heavy Duty, Stainless	3	set		
	Door Knob, Lever Type, Stainless	3	set		
	Installation of Windows				
	W1 -(1.20m x 1.20m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	3	set		
	W2 -(1.80m x 1.20m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	2	set		
	W3 -(1.20m x 0.80m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W4 -(0.70m x 0.60m) Awning Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
	W5 -(0.70m x 0.40m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Letterings				
	120mm Stainless Steel Lettering "PINADAMA DAY CARE CENTER"	21	set	₱	₱
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST-C	₱
				LABOR COST-C	
				DIRECT COST-C	₱
D	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe	1	piece	₱	₱
	75 mm Ø, PVC Pipe	3	piece		
	100mm Ø, PVC Pipe	6	piece		
	50mm Ø, P-Trap	1	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	4	piece		
	100mm Ø, 1/4 Bend	5	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	2	piece		
	100mm Ø, Coupling	6	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	100mm Ø, Cleanout with Adapter	1	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	1	piece		
	20mm Ø, Elbow	2	piece		
	20mm Ø, Coupling	2	piece		
	20mm Ø, Tee Equal	2	piece		
	20mm Ø, Female Threaded, Elbow	1	piece		
	Fixtures				
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	1	piece		
	Accessories				
	Flexible Hose, Stainless Steel	1	piece		
	Angle Valve, Stainless Steel, Single Way	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-D	₱
				LABOR COST-D	
				DIRECT COST-D	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
E	ELECTRICAL WORKS				
	Roughing-ins				
	20mmØ PVC Pipe	15	l.m.	₱	₱
	20mmØ PVC Flexible Hose	50	l.m.		
	16mm x 16mm x 2.44m Rectangular PVC Moulding	20	piece		
	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 Junction Box with Cover	6	piece		
	Wires and Cables				
	3.5mm² THHN Wire	1	roll		
	Lighting Fixtures (Energy Efficient)				
	18W LED Bulb	1	piece		
	E27 Receptacle	1	piece		
	T8, 18W LED Tube Light	6	piece		
	Wiring Devices and Other Fixtures				
	Orbit Fan with Selector Switch	4	set		
	Outlet with Grounding, Two-Gang	5	set		
	Switch w/ Plate & Cover, Single-Gang	1	set		
	Switch w/ Plate & Cover, Two-Gang	2	set		
	EF 1 - Wall Ventilation Fan, 100 cfm / 20 w / 230 V / 1 ϕ	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Electrical Tape	3	roll		
	Hacksaw Blade	2	piece		
	Torch with Butane	1	set		
				MATERIALS COST-E	₱
				LABOR COST-E	
				DIRECT COST-E	₱
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

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

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF UNIT V DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

- 1 General Requirements include billboard, cleaning, hauling and disposal of construction materials and debris, construction safety and health, scaffolding and temporary enclosure around the construction area.
- 2 Site Works include demolition/removal works.
- 3 Civil/Structural works metal fabrication.
- 4 Architectural works include ceiling works, installation of doors, painting works and fabricated materials.
- 5 Sanitary/plumbing works include installation of 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Cleaning, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	67	sq.m.		
	Temporary Enclosure Around the Construction Area (h=2.4m)	23	l.m.		
				Direct Cost I	₱
II	SITE WORKS				
A	Demolition/Removal Works				
	Removal of Existing Ceiling	63	sq.m.	₱	₱
	Removal of Existing Door and Door Jambs	1	set		
	Cleaning and Clearing of Wall, Steel Surfaces, Ceiling and Door for Painting Preparation	317	sq.m.		
				Direct Cost II	₱
III	CIVIL WORKS / STRUCTURAL WORKS				
A	Metal Fabrication				
	Gate for Main Door	4	sq.m.	₱	₱
				Materials Cost III	₱
				Labor Cost III	
				Direct Cost III	₱
IV	ARCHITECTURAL WORKS				
A	Ceiling Finishes				
	12mm thick Gypsum Board including Metal Framing	58	sq.m.	₱	₱
	12mm thick Moisture Resistant Gypsum Board including Metal Framing	6	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
B	Installation of Doors				
	Doors				
	D2 - 0.9m x 2.1m Solid Wood Panel Door	1	set	₱	₱
	Door Jamb				
	D2 - 0.9m x 2.1m Solid Wood Panel Door	1	set		
	Hardware and Accessories				
	Door Hinge, Heavy Duty, Stainless	3	piece		
	Door Knob, Lever Type, Stainless	1	piece		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
C	Painting Works				
	Elastomeric Paint Finish (Exterior Walls)	140	sq.m.	₱	₱
	Flat Latex Paint Finish				
	Interior Walls	175	sq.m.		
	Ceiling	63	sq.m.		
	Epoxy Enamel Paint Finish (Steel Members)	2	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
D	Fabricated Materials				
	Kitchen Cabinet	2	l.m.	₱	₱
	Overhang Cabinet	1	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Materials Cost IV	₱
				Labor Cost IV	
				Direct Cost IV	₱
V	SANITARY AND PLUMBING WORKS				
A	Fixtures & Accessories				
	Bidet with Accessories, Stainless Heavy Duty (Water Efficient)	2	piece	₱	₱
	Hose Bibb, Stainless Steel, Lever-Type (Water Efficient)	7	unit		
	Lavatory Faucet, Lever Type (Water Efficient)	3	unit		
B	Accessories				
	Angle Valve, One-way, Stainless Steel	3	piece		
	Angle Valve, Two-way, Stainless Steel	2	piece		
	Flexible Hose, Stainless Steel	5	piece		
C	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		
				Materials Cost V	₱
				Labor Cost V	
				Direct Cost V	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
VI	ELECTRICAL WORKS				
	Roughng-ins, Pipes and Fittings				
	20mmØ PVC Pipe	60	piece	₱	₱
	Fittings and Accessories				
	20mmØ PVC Adaptor	80	piece		
	20mmØ PVC Locknut and Bushing	80	pair		
	50mm x 100mm PVC Utility Box	15	piece		
	100mm x 100mm PVC Junction Box with cover	20	piece		
	Wires and Cables				
	3.5mm² THHN Wire	3	roll		
	3.5mm² TW Wire	2	roll		
	Lighting Fixtures (Energy Efficient)				
	300mm x 1200mm, 1 x 18W LED, Troffer Type, w/ complete accessories, Surfaced Mounted	7	piece		
	6"Ø Round Recessed Pinlight LED	6	piece		
	Emergency Light	1	piece		
	Exit Light	1	piece		
	Wiring Devices & Appliances				
	Outlet with Grounding , Two-gang	6	piece		
	Switch w/ plate & cover, One Gang	4	piece		
	Switch w/ plate & cover, Two Gang	1	piece		
	Switch w/ plate & cover, Three Gang	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All around Sealant	2	can		
	Electrical Tape	10	roll		
	G.I Tie Wire	3	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	piece		
	Paint Thinner	1	lit		
	Pulling Lubricant	2	gal		
	Rubber Tape	5	roll		
	Torch with Butane	2	set		
				Materials Cost VI	₱
				Labor Cost VI	
				Direct Cost VI	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

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

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

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

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include temporary enclosure, billboard, scaffolding, construction safety & health and clearing, hauling and disposal of construction materials and debris.
- II Construction of Hand Washing Facility.
 - A Supply and installation of foot operated double sink handwashing facility.
 - B Sanitary / Plumbing Works include installation of sewerline and waterline system.
- III Rehabilitation of Day Care Center
 - A Site Works include removal works and cleaning and clearing for painting preparation.
 - B Civil / Structural Works include metal works and roofing works.
 - C Architectural Works include floor finishes, ceiling works, painting works, fabricated materials and installation of doors, windows and letterings.
 - D Sanitary / Plumbing Works include installation of roughing-ins, equipment, fixtures and accessories.
 - E Electrical Works include installation of roughing-ins, wirings, devices and 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	38	sq.m		
	Temporary Enclosure Around the Construction Area (h= 2.4m)	23	l.m.		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	Hand Washing Facility				
	Double Sink Portable Hand Washing Facility	1	unit	₱	₱
				DIRECT COST-A	₱
B	Sanitary and Plumbing Works				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	1	piece	₱	₱
	50mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	1	piece		
	20mm Ø, Elbow	4	piece		
	20mm Ø, Coupling	1	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Tee Equal	2	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
				MATERIALS COST II	₱
				LABOR COST II	
				DIRECT COST II	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
III	REHABILITATION OF DAY CARE CENTER				
A	SITE WORKS				
	Removal Works				
	Removal of Ceiling	43	sq.m.	₱	₱
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	4	sq.m.		
	Removal of Dilapidated Window Grilles	6	sq.m.		
	Removal of Hanging Cabinet	5	l.m.		
	Removal of Lavatory	1	set		
	Removal of Roofing and Accessories	45	sq.m.		
	Removal of Sink	1	set		
	Removal of Tiles	2	sq.m.		
	Removal of Urinal	1	set		
	Removal of Water Closet	1	set		
	Removal of Under Counter Cover	2	sq.m.		
	Removal of Countertop	1	sq.m.		
	Clearing and Cleaning for Painting Preparation	115	sq.m.		
				DIRECT COST-A	₱
B	CIVIL / STRUCTURAL WORKS				
	Metal Works				
	Window Grilles				
	25mm X 25mm X 2mm Tubular Bar	76	kg	₱	₱
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	5	piece		
	Grinding Disc for Metal	5	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	1	box		
	Roofing Works				
	Pre-Painted Rib-type G.I. Roofing	45	sq.m		
	Pre-Painted G.I.Ridge Roll	6	l.m.		
	300mm Fiber Cement Fascia Board	29	l.m.		
	6mm Thk One-Sided Aluminum Foil Thermal Insulation	45	sq.m		
	Blind Rivets	147	piece		
	Tekscrew	18	piece		
	Silicon Sealant	3	tube		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱
C	ARCHITECTURAL WORKS				
	Floor Finishes				
	300mm x 300mm Non-Skid Homogeneous Tiles	2	sq.m	₱	₱
	Floor Topping Preparation of Tile Works	2	sq.m		
	Ceiling Works				
	6mm thk Fiber Cement Board including Metal Framing	43	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Installation of Doors				
	D1 - (0.90m x 1.80m) Swing Type Flush Hollow Core Painted F	1	set	₱	₱
	D2 - (0.60m x 1.80m) Swing Type PVC Door w/ 400mm X 300mm Louver	1	set		
	Door jamb				
	D1 - (0.90m x 1.80m) Swing Type Flush Hollow Core Door	1	set		
	Hardware and Accessories				
	Door Hinges, Heavy Duty, Stainless	6	set		
	Door Knob, Lever Type, Stainless	2	set		
	Installation of Windows				
	W1 -(1.50m x 1.00m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	W2 -(1.90m x 1.00m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	60	sq.m	₱	₱
	Epoxy Enamel Paint Finish (Steel Surfaces)	1	sq.m		
	Flat Latex Paint Finish				
	Ceiling	46	sq.m		
	Interior Wall	61	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum) - Pantry	2	l.m.		
	Hanging Cabinet	3	sq.m.		
	Letterings				
	120mm Stainless Steel Lettering "GOLD DAY CARE CENTER"	17	set		
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST-C	₱
				LABOR COST-C	
				DIRECT COST-C	₱
D	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	1	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	6	piece		
	100mm Ø, PVC Pipe with Hub	5	piece		
	50mm Ø, P-Trap	2	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	7	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/4 Bend	4	piece		
	75mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Tee	1	piece		
	100mm Ø x 75mm Ø, Tee	4	piece		
	100mm Ø x 50mm Ø, Wye	5	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	8	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2	piece		
	100mm Ø, Cleanout with Adapter	4	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	3	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Elbow	8	piece		
	20mm Ø, Coupling	3	piece		
	20mm Ø, Tee Equal	7	piece		
	20mm Ø, Female Threaded, Elbow	7	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Grease Trap, 5 GPM, Heavy Duty	1	piece		
	Hose Bibb, Lever Type, Stainless (Water Efficient)	4	piece		
	Kitchen Sink Faucet, Lever Type, Stainless (Water Efficient)	1	piece		
	Lavatory, Faucet, Lever Type, Stainless (Water Efficient)	1	piece		
	Lavatory, Wall Hung	1	set		
	Sink, 8" Deep, Stainless Steel	1	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	1	set		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	1	set		
	Accessories				
	Angle Valve, Stainless Steel, Single Way	1	piece		
	Angle Valve, Stainless Steel, Two Way	1	piece		
	Flexible Hose, Stainless Steel	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All Around Sealant	1	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-D	₱
				LABOR COST-D	
				DIRECT COST-D	₱
E	ELECTRICAL WORKS				
	Roughing-ins				
	20mmØ PVC Pipe	15	piece	₱	₱
	20mmØ PVC Flexible Hose	50	l.m.		
	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 Junction Box with Cover	6	piece		
	Wires and Cables				
	3.5mm² THHN Wire	1	roll		
	Lighting Fixtures (Energy Efficient)				
	18W LED Bulb	3	piece		
	E27 Receptacle	3	piece		
	T8, 18W LED Tube Light	6	piece		
	Wiring Devices and Other Fixtures				
	Outlet with Grounding, Two-Gang	4	set		
	Switch with Plate and Cover, One-Gang	1	set		
	Switch with Plate and Cover, Two-Gang	1	set		
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Electrical Tape	3	roll		
	Hacksaw Blade	2	piece		
	Torch with Butane	1	set		
				MATERIALS COST-E	₱
				LABOR COST-E	
				DIRECT COST-E	₱
				MATERIALS COST III	₱
				LABOR COST III	
				DIRECT COST III	₱

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO.	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	CONSTRUCTION OF HAND WASHING FACILITY	
III	REHABILITATION OF DAY CARE CENTER	
	TOTAL DIRECT COST	₱
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit	
	VAT	
	TOTAL ESTIMATED COST	₱

Note:
Strictly enforce Health Protocols relative to the latest applicable DPWH Memorandum

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF F. CASTILLO DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, construction safety & health and clearing, hauling and disposal of construction materials and debris.
- II Construction of Hand Washing Facility.
 - A Supply and installation of foot operated single sink handwashing facility.
 - B Site Works include chipping of floor.
 - C Civil / Structural Works include restoration of concrete.
 - D Sanitary and Plumbing Works include installation of sewerline and waterline.
- III Rehabilitation of Day Care Center
 - A Site Works include removal works and cleaning and clearing for painting preparation.
 - B Civil / Structural Works include metal works.
 - C Architectural Works include floor finishes, painting works fabricated materials and installation of doors, windows and letterings.
 - D Sanitary / Plumbing Works include installation of roughing-ins, fixtures, equipment and accessories.
 - E Electrical Works include installation of roughing-ins, wirings, devices and 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1	t.l.		
	Construction Safety and Health	1	unit		
				DIRECT COST I	₱
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	HAND WASHING FACILITY				
	Single Sink Portable Hand Washing Facility	3	unit	₱	₱
				DIRECT COST-A	₱
B	SITE WORKS				
	Chipping of Floor (Plumbing / Sanitary Works)	3	sq.m.	₱	₱
				DIRECT COST-B	
C	CIVIL / STRUCTURAL WORKS				
	Restoration of Concrete (Floor)	3	sq.m.	₱	₱
				MATERIALS COST-C	₱
				LABOR COST-C	
				DIRECT COST-C	₱
D	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	2	piece	₱	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	75 mm Ø, PVC Pipe with Hub	2	piece		
	100 mm Ø, PVC Pipe with Hub	3	piece		
	50mm Ø, 1/8 Bend	3	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	100mm Ø x 50mm Ø, Wye	3	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	2	piece		
	20mm Ø, Elbow	3	piece		
	20mm Ø, Coupling	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Miscellaneous & Consumables				
	400cc Solvent Cement	1	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	1	roll		
	Waste Cloth	1	kg		
				MATERIALS COST-D	₱
				LABOR COST-D	
				DIRECT COST-D	₱
				MATERIALS COST II	₱
				LABOR COST II	
				DIRECT COST II	₱
III	REHABILITATION OF DAY CARE CENTER				
A	SITE WORKS				
	Removal Works				
	Removal of Cabinet	2	sq.m.	₱	₱
	Removal of Countertop	1	sq.m.		
	Removal of Dilapidated Door	2	unit		
	Removal of Dilapidated Window	5	sq.m.		
	Removal of Fence	14	sq.m.		
	Removal of Lavatory	1	set		
	Removal of Tiles	2	sq.m.		
	Removal of Under Counter Cover	2	sq.m.		
	Removal of Urinal	1	set		
	Removal of Wall	2	sq.m.		
	Removal of Water Closet	1	set		
	Clearing and Cleaning for Painting Preparation	117	sq.m.		
				DIRECT COST-A	₱
B	CIVIL / STRUCTURAL WORKS				
	Metal Works				
	Fence				
	38mm X 38mm X 4mm Angle Bar	123	kg	₱	₱
	38mm X 38mm Wire Mesh	14	sq.m		
	12mm Square Bar	13	kg		
	50mm Ø G.I. Pipe, Sch. 40	151	kg		
	38mm Barrel Bolt	1	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3	piece		
	Window Grilles				
	25mm X 25mm X 2mm Tubular Bar	111	kg		
	Miscellaneous & Consumables				
	Acetylene Tank (Refill)	1	tank		
	Cut Off Blade	10	piece		
	Grinding Disc for Metal	10	piece		
	Oxygen Tank (Refill)	1	tank		
	Welding Rod	1	box		
				MATERIALS COST-B	₱
				LABOR COST-B	
				DIRECT COST-B	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
C	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping Preparation of Tile Works	3	sq.m	₱	₱
	300mm x 300mm Non-Skid Homogeneous Tiles	3	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	18	sq.m		
	Epoxy Enamel Paint Finish (Metal Surfaces)	5	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	63	sq.m		
	Slab Soffit	30	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum) - Pantry	2	l.m.		
	Hanging Cabinet	3	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Exterior Painting (Simple Design)	16.00	sq.m	634.90	
				Subtotal	₱

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Installation of Doors				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Painted F	1.00	set	₱	₱
	D2 - (0.60m x 2.10m) Swing Type PVC Door w/ 400mm X 300mm Louver	1.00	set		
	Door jamb				
	D1 - (0.90m x 2.10m) Swing Type Flush Hollow Core Door	1.00	set		
	Hardware and Accessories				
	Door Hinges, Heavy Duty, Stainless	6.00	set		
	Door Knob, Lever Type, Stainless	2.00	set		
	Installation of Windows				
	W1 -(1.20m x 1.20m) Sliding Window, 6mm Thk Clear Tempered Glass on White Color Powder Coated Aluminum Frame with Complete Accessories	3.00	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Letterings				
	120mm Stainless Steel Lettering "E. CASTILLO DAY CARE CENTER"	22.00	set	₱ 2,240.00	₱
				Material Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST-C	₱
				LABOR COST-C	
				DIRECT COST-C	₱
D	SANITARY / PLUMBING WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, PVC Pipe with Hub	2	piece	₱	₱
	75 mm Ø, PVC Pipe with Hub	3	piece		
	100mm Ø, PVC Pipe with Hub	2	piece		
	50mm Ø, P-Trap	2	piece		
	75mm Ø, P-Trap	1	piece		
	50mm Ø, 1/8 Bend	3	piece		
	75mm Ø, 1/8 Bend	2	piece		
	100mm Ø, 1/8 Bend	2	piece		
	75mm Ø, 1/4 Bend	2	piece		
	75mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 75mm Ø, Tee	2	piece		
	100mm Ø x 50mm Ø, Wye	3	piece		
	100mm Ø x 75mm Ø, Wye	2	piece		
	100mm Ø x 100mm Ø, Wye	3	piece		
	100mm Ø, Cleanout with Adapter	3	piece		
	100mm Ø, Coupling	2	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, PPR Pipe	2	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mm Ø, Elbow	7	piece		
	20mm Ø, Coupling	2	piece		
	20mm Ø, Tee Equal	4	piece		
	20mm Ø, Female Threaded, Elbow	4	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	1	piece		
	Fixtures				
	Bidet with Complete Accessories, Stainless (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Lavatory Faucet, Lever Type, Stainless Heavy Duty (Water Effi	1	piece		
	Lavatory, Wall Hung	1	piece		
	Urinal, Kiddy, Flush Valve-Type (Water Efficient)	1	piece		
	Water Closet, Kiddy, Tank Type (Water Efficient)	1	piece		
	Accessories				
	Angle Valve, Single Way, Stainless Steel	2	piece		
	Angle Valve, Two Way, Stainless Steel	1	piece		
	Flexible Hose, Stainless Steel	3	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	Hacksaw Blade	1	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1.00	kg		
				MATERIALS COST-D	₱
				LABOR COST-D	
				DIRECT COST-D	₱

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF PUROK 16 YAKAP DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

1. General Requirements include billboard, scaffolding, construction safety and health, temporary enclosure and clearing, hauling and disposal of construction materials and debris.
2. Site works include site clearing and preparation, layout and staking, cleaning / clearing for painting preparation, cleaning of existing ACP, demolition/removal works and earthworks.
3. Civil works include concrete works, masonry works, metal fabrication and roofing works.
4. Architectural Works include floor finishes, wall partitioning and finishes, ceiling finishes, installation of doors and windows and painting works.
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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Cleaning, Hauling and Disposal of Construction Materials and Debris	3	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	91	sq.m.		
	Temporary Enclosure Around the Construction Area (h=2.4m)	34	l.m.		
				Direct Cost I	₱
II	SITE WORKS				
	Site Clearing and Preparation	11	sq.m	₱	₱
	Layout and Staking	11	sq.m.		
	Excavation for Structures (Wall Footing)	2	sq.m.		
	Backfill and Compaction	1	cu.m.		
	Cleaning / Clearing for Painting Preparation	273	sq.m		
	Cleaning of Existing ACP	17	sq.m.		
	Removal Works				
	Demolition of Existing Structure	5	sq.m.		
	Removal of Dilapidated Roof	54	sq.m.		
	Removal of Dilapidated Ceiling	42	sq.m.		
	Removal of Dilapidated Tiles	56	sq.m.		
	Removal of Existing Doors	2	set		
	Removal of Existing Windows	5	sq.m.		
	Removal of Existing Water Closet	1	set		
	Removal of Existing Lavatory	1	set		
	Chipping of Wall for Panelboard	1	sq.m		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Chipping of Wall for Electrical Pipes and Fixtures	2	sq.m		
				Subtotal	₱
	Gravel Bedding	1	cu.m	₱	₱
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Materials Cost II	₱
				Labor Cost II	
				Direct Cost II	₱
III	CIVIL WORKS / STRUCTURAL WORKS				
	Concreting				
	On Site Mix 21 MPa, 19mm Gravel, @ 28 days				
	Wall Footing	1	cu.m.	₱	₱
	Reinforcing Bars				
	Grade 40 Reinforcing Steel Bar with G.I. Tie Wire #16				
	12mm Ø Reinforcing Steel Bar				
	Wall Footing	42	kg		
	Masonry Works				
	100mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering	9	sq.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	150mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering	23	sq.m.		
	Roofing Works				
	6mm Thick Thermal Insulation (Single Sided Aluminum Foil)	54	sq.m.		
	12.5mm x 300mm Fascia Board	11	l.m.		
	Pre-Painted Rib Type G.I Roofing Ga. 20	54	sq.m.		
	Pre Painted Flashing	22	l.m.		
	Pre Painted Ridge Roll	5	l.m.		
	Miscellaneous and Consumables				
	Tekscrew	540	piece		
	Silicon Sealant	5	tube		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Metal Works				
	Fire Exit Stairs	1	set		
				Direct Cost	₱
				Materials Cost III	₱
				Labor Cost III	
				Direct Cost III	₱
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	400mm x 400mm Non-skid Homogeneous Floor Tiles	4	sq.m.	₱	₱
	600mm x 600mm Non-skid Homogeneous Floor Tiles	36	sq.m.		
	Floor Topping for Preparation of Tiles	55	sq.m.		
	Wall Partitioning and Finishes				
	400mm x 400mm Homogeneous Wall Tiles	15	sq.m.		
	4mm thick Aluminum Composite Panel Cladding with Complete Framing and Accessories	4	sq.m.		
	Ceiling Finishes				
	12mm thk Gypsum Board with Complete Framing and Accessories	39	sq.m.		
	12mm thk Moisture Resistant Gypsum Board with Complete Framing and Accessories	14	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - 1.0m x 2.1m Solid Panel Door	1	set	₱	₱
	D2 - 0.6m x 2.1m PVC Door with Louver	1	set		
	D3 - 0.7m x 2.1m Metal Door with Panic Hardware	1	set		
	Door Jamb				
	D1 - 1.0m x 2.1m Wooden Door Jamb	1	set		
	D3 - 0.7m x 2.1m Metal Door Jamb	1	set		
	Hardwares and Accessories				
	Door Hinge, Heavy Duty	9	piece		
	Door Knob, Lever Type	2	piece		
	Panic Hardware	1	piece		
	Installation of Windows				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	W1 - 1.20m x 1.20m Aluminum Framed Window	2	set		
	W2 - 1.50m x 1.20m Aluminum Framed Window	1	set		
	W3 - 0.60m x 0.60m Aluminum Framed Window	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Epoxy Enamel Paint Finish (Steel Members)	4	sq.m.	₱	₱
	Elastomeric Paint Finish				
	Exterior Wall	187	sq.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Flat Latex Paint Finish				
	Interior Wall	101	sq.m.		
	Ceiling	32	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				Materials Cost IV	₱
				Labor Cost IV	
				Direct Cost IV	₱
V	SANITARY / PLUMBING WORKS				
	Fixtures & Accessories				
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Kitchen Sink Faucet, Lever-type Stainless Steel (Water Efficient)	1	piece		
	Hose Bibb, Stainless, Lever Type (Water Efficient)	4	piece		
	Lavatory, Wall-hung, Kiddy	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		
	Miscellaneous and Consumables				
	400cc Solvent Cement	2	can		
	All Around Sealant	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	4	roll		
	Waste Cloth	2	kg		
				Materials Cost V	₱
				Labor Cost V	
				Direct Cost V	₱
VI	ELECTRICAL WORKS				
	Roughing-ins, Pipes and Fittings				
	20mmØ PVC Pipe	35	piece	₱	₱
	32mmØ PVC Pipe	7	piece		
	25mmØ IMC Pipe	6	piece		
	Fittings and Accessories				
	20mmØ PVC Adaptor	45	piece		
	20mmØ PVC Locknut and Bushing	45	pair		
	32mmØ PVC Adaptor	4	piece		
	32mmØ PVC Locknut and Bushing	4	pair		
	25mmØ IMC Coupling	2	piece		
	25mmØ IMC Elbow	2	piece		
	25mmØ Weatherproof Entrance Cap	1	piece		
	50mm x 100mm PVC Utility Box	11	piece		
	100mm x 100mm PVC Junction Box with cover	10	piece		
	Oval Eyebolt	1	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	16mm Ø x 3000mm Grounding Rod (Copper Clod) w/ Ground Clamp	1	piece		
	Wires and Cables				
	3.5mm ² THHN Wire	2	roll		
	14.0mm ² THHN Wire	50	l.m.		
	2.0mm ² TW Wire	1	roll		
	8.0mm ² TW Wire	25	l.m.		
	Lighting Fixtures (Energy Efficient)				
	1 x 18W LED, Tube Light, Box Type	8	piece		
	10W LED Bulb	1	piece		
	100mmØ Receptacle	1	piece		
	Wiring Devices & Appliances				
	Convenience Outlet with ground, Two-gang	6	piece		
	Switch with Plate & Cover, One Gang	1	piece		
	Switch with Plate & Cover, Two Gang	1	piece		
	Switch with Plate & Cover, Three Gang	1	piece		
	Wall Fan	2	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Panelboard				
	MCB				
	Main: 60AT, 2P, 230V, MCCB	1	assy		
	Enclosure: NEMA 3R with Ground Terminals				
	MDP				
	Main: 60AT, 2P, 230V, MCCB	1	assy		
	Branches : 2 - 20AT, 2P, 230V				
	2 - Space				
	Enclosure: NEMA 1 with Ground Terminals				
	Pipe Hangers & Supports				
	Horizontal layout of pipe	15	l.m.		
	Vertical layout of pipe	10	l.m.		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All around Sealant	3	can		
	Electrical Tape	10	roll		
	G.I Tie Wire	5	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	roll		
	Pulling Lubricant	1	gal		
	Rubber Tape	5	roll		
				Materials Cost VI	P
				Labor Cost VI	
				Direct Cost VI	P

SUMMARY

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	P
II	SITE WORKS	
III	CIVIL WORKS / STRUCTURAL WORKS	
IV	ARCHITECTURAL WORKS	
V	SANITARY / PLUMBING WORKS	
VI	ELECTRICAL WORKS	
	Strictly enforce health protocols relative to the latest applicable DPWH memorandum	TOTAL DIRECT COST P Overhead, Contingencies and Miscellaneous Expenses (OCM) Profit VAT TOTAL ESTIMATED COST P

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF UPPER NAWASA DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

- I GENERAL REQUIREMENTS include billboard, clearing, hauling and disposal of construction materials and debris, construction safety and health equipment, scaffolding, and temporary enclosure
- II CONSTRUCTION OF HAND WASHING FACILITY
 - A Hand Washing Facility include single sink portable hand washing facility
 - B Site Works include chipping of concrete
 - C Civil Works include restoration of concrete
 - D Sanitary and Plumbing Works include installation of roughing-ins
- III REHABILITATION OF UPPER NAWASA DAYCARE CENTER
 - A Site Works include demolition / removal works and cleaning and clearing for paint preparation
 - B Civil Works include waterproofing works, masonry works, metal works and roofing works
 - C Architectural Works include floor finishes, wall finishes, ceiling finishes, fabricated materials, installation of doors and windows, and painting works
 - D Sanitary and Plumbing Works include installation of roughing-ins, fixtures and accessories
 - E Electrical Works include installation of roughing-ins, wirings, lighting fixtures, wiring devices and panel board
- IV All necessary testing of materials and commissioning works must be performed as per standard procedures.

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	P	P
	Clearing, Hauling and Disposal of Construction Materials and Debris	4	t.l.		
	Construction Safety and Health Equipment	1	unit		
	Scaffolding (Rental)	71	sq.m.		
	Temporary Enclosure around the Construction Area (H=2.4m)	47	l.m.		
				Direct Cost I	P
II	CONSTRUCTION OF HAND WASHING FACILITY				
A	HAND WASHING FACILITY				
	Single Sink Portable Hand Washing Facility	1	unit	P	P
				Direct Cost II A	P
B	SITE WORKS				
	Demolition / Removal Works				
	Chipping of Concrete (Floor)	3	sq.m.	P	P
				Direct Cost II B	P
C	CIVIL WORKS				
	Restoration of Concrete (Floor)	3	sq.m.	P	P
				Materials Cost II C	P
				Labor Cost II C	
				Direct Cost II C	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
D	SANITARY & PLUMBING WORKS				
	Sewer Line System				
	50mm Ø PVC Standard Hub Pipe	3	piece	P	P
	50mm Ø x 50mm Ø PVC Tee	1	piece		
	50mm Ø x 50mm Ø PVC 1/4 Bend	3	piece		
	50mm Ø PVC Coupling	3	piece		
	50mm Ø PVC Cleanout	1	piece		
	Water Line System				
	20mm Ø PPR Pipe, PN 16	3	piece		
	20mm Ø x 20mm Ø PPR Tee Equal	1	piece		
	20mm Ø PPR Union Patente	1	piece		
	20mm Ø PPR Coupling	3	piece		
	20mm Ø PPR Male Adaptor	2	piece		
	Valves and Appurtenances				
	20mm Ø PPR Gate Valve	1	piece		
	Miscellaneous and Consumables				
	400cc Solvent Cement	3	can		
	All Around Sealant	1	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	5	roll		
	Waste Cloth	2	kg		
				Materials Cost II D	P
				Labor Cost II D	
				Direct Cost II D	P
				Materials Cost II	P
				Labor Cost II	
				Direct Cost II	P
III	REHABILITATION OF UPPER NAWASA DAYCARE CENTER				
A	SITE WORKS				
	Demolition / Removal Works				
	Removal of CHB Wall (Window Opening)	1	sq.m.	P	P
	Removal of Floor and Wall Tiles	63	sq.m.		
	Removal of Ceiling	94	sq.m.		
	Removal of Roofing	143	sq.m.		
	Removal of Door	2	set		
	Removal of Window	2	set		
	Removal of Water Closet	1	set		
	Removal of Urinal	1	set		
	Removal of Lavatory	1	set		
	Cleaning and Clearing for Painting Preparation	368	sq.m.		
				Direct Cost III A	P
B	CIVIL WORKS				
	Thermal and Waterproofing Works				
	Cementitious Capillary-type Waterproofing (CR)	3	sq.m.	P	P
	Masonry Works				
	Plastering of CHB Wall (Rear Wall)	48	sq.m.		
	Metal Works				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	25mm x 25mm Tubular Bar (Window Grilles)	206	kg		
	Roof Framing				
	50mm x 100mm Tubular Bar	70	kg		
	50mm x 75mm C Purlin	18	kg		
	Miscellaneous & Consumables				
	Acetylene Tank Refill	1	tank		
	Concrete Drill Bit	2	piece		
	Cut Off Blade	2	piece		
	Grinding Metal Disc	2	piece		
	Oxygen Tank Refill	1	tank		
	Welding Rod	1	box		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Roofing Works				
	Pre-painted Rib-type GI Roofing	147	sq.m.		
	Pre-painted GI Flashing	48	l.m.		
	Pre-painted GI Ridge Roll	10	l.m.		
	12mm x 300mm Fiber Cement Fascia Board	52	l.m.		
	Tekscrew	702	piece		
	Silicon Sealant	10	tube		
				Materials Cost III B	P
				Labor Cost III B	
				Direct Cost III B	P
C	ARCHITECTURAL WORKS				
	Floor Finishes				
	Floor Topping for Preparation of Tiles				
	Daycare Center	43	sq.m.	P	P
	Comfort Room	3	sq.m.		
	300mm x 300mm Non-skid Homogeneous Floor Tiles				
	Comfort Room	3	sq.m.		
	Counter Top	7	sq.m.		
	600mm x 600mm Non-skid Homogeneous Floor Tiles				
	Daycare Center	43	sq.m.		
	Plain Cement Finish (Waiting Area)	12	sq.m.		
	Wall Finishes				
	300mm x 300mm Homogeneous Wall Tiles (CR)	10	sq.m.		
	Ceiling Finishes				
	12mm thick Gypsum Board on Metal Framing (Daycare Center)	43	sq.m.		
	12mm thick Moisture Resistant Gypsum Board on Metal Framing				
	Comfort Room	3	sq.m.		
	Eaves	52	sq.m.		
	Fabricated Materials				
	Counter Top Cabinet	3	l.m.		
				Materials Cost	P
				Labor Cost	
				Direct Cost	P
	Installation of Doors				
	Doors				
	D1 - 1.0m x 2.1m Wooden Panel Door	1	unit	P	P
	D2 - 0.7m x 2.1m PVC Door with Louver	1	unit		
	Door Jambs				
	D1 - 1.0m x 2.1m Wooden Door Jamb	1	unit		
	Hardwares and Accessories				
	Door Knob, Lever-type	2	unit		
	Door Hinge, Heavy Duty	6	unit		
	Installation of Windows				
	W1 - 1.2m x 2.0m Sliding Glass Window on Powder Coated Aluminum Frame	2	unit		
	W2 - 0.5m x 0.5m Awning Glass Window on Powder Coated Aluminum Frame	1	unit		
				Materials Cost	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
				Labor Cost	
				Direct Cost	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	155	sq.m.	P	P
	Flat Latex Paint Finish (Interior Wall)				
	Daycare Center	82	sq.m.		
	Comfort Room	16	sq.m.		
	Flat Latex Paint Finish (Ceiling)				
	Daycare Center	43	sq.m.		
	Comfort Room	3	sq.m.		
	Eaves	40	sq.m.		
	Epoxy Enamel Paint Finish (Steel Surfaces)	34	sq.m.		
				Materials Cost	P
				Labor Cost	
				Direct Cost	P
				Materials Cost III C	P
				Labor Cost III C	
				Direct Cost III C	P
D	SANITARY & PLUMBING WORKS				
	Sewer Line System				
	50mm Ø PVC Standard Hub Pipe	1	piece	P	P
	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		
	Water Line System				
	20mm Ø PPR Pipe, PN 16	1	piece		
	20mm Ø PPR 90° Elbow	2	piece		
	20mm Ø PPR Female Threaded Adaptor	2	piece		
	20mm Ø PPR Coupling	1	piece		
	20mm Ø PPR End Cap	2	piece		
	Fixtures & Accessories				
	Bidet with Accessories, Stainless Heavy Duty (Water Efficient)	1	piece		
	Floor Drain, 100mm x 100mm, Stainless	1	piece		
	Hose Bibb, Heavy Duty (Water Efficient)	4	unit		
	Lavatory, Kiddy Wall-hung	1	unit		
	Lavatory Faucet, Lever-type (Water Efficient)	1	unit		
	Urinal, Kiddy Flush Type (Water Efficient)	1	unit		
	Water Closet, Kiddy Tank 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		
	Miscellaneous and Consumables				
	400cc Solvent Cement	1	can		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	All Around Sealant	2	can		
	Hacksaw Blade	5	piece		
	Teflon Tape	10	roll		
	Waste Cloth	2	kg		
				Materials Cost III D	P
				Labor Cost III D	
				Direct Cost III D	P

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
E	ELECTRICAL WORKS				
	Pipes and Fittings				
	20mm Ø PVC Pipe	60	piece	P	P
	25mm Ø IMC Pipe	5	piece		
	20mm Ø PVC Adaptor	70	piece		
	20mm Ø PVC Locknut & Bushing	70	pair		
	25mm Ø IMC Elbow	4	piece		
	25mm Ø IMC Coupling	4	piece		
	25mm Ø IMC Locknut & Bushing	4	pair		
	25mm Ø IMC Weatherproof Entrance Cap	1	piece		
	50mm x 100mm PVC Utility Box	15	piece		
	100mm x 100mm PVC Junction Box with cover	15	piece		
	Wires and Cables				
	3.5mm ² THHN Wire	2	roll		
	14mm ² THHN Wire	40	l.m.		
	3.5mm ² TW Wire	1	roll		
	8.0mm ² TW Wire	25	l.m.		
	Lighting Fixtures (Energy Efficient)				
	600mm x 1200mm, 2 x 18w LED, Troffer, Recessed Type with Complete Accessories	5	set		
	6" Ø Round Recessed Pinlight LED	1	piece		
	T5, 28W LED Tube Light	2	piece		
	Emergency Light	1	piece		
	Exit Light	1	piece		
	Wiring Devices				
	Orbit Fan, Heavy Duty With Selector Switch	2	piece		
	Outlet with Grounding , Two-gang	5	piece		
	Switch with Plate & Cover, One-Gang	3	piece		
	Switch with Plate & Cover, Two-Gang	1	piece		
	Panel Board				
	MDP Main: 60 AT, 2P, 230V, Bolt-on Branches: 2 - 20AT, 2P, 230V, Bolt-on 2 - 30AT, 2P, 230V, Bolt-on Enclosure: NEMA 1 with Ground Terminals	1	assy		
	MCB Main: 60AT, 2P, 230V, MCCB Enclosure: NEMA 3R with Ground Terminals	1	assy		
	Pipe Hangers & Supports				
	Horizontal Layout of Pipe	30	l.m.		
	Vertical Layout of Pipe	2	l.m.		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All Around Sealant	2	can		
	Electrical Tape	8	roll		
	GI Tie Wire, Ga. 16 (for wire/cable pulling)	3	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Pulling Lubricant	1	gal		
	Rubber Tape	5	roll		
	Torch w/ Butane	2	set		
				Material Cost III E	P
				Labor Cost III E	
				Direct Cost III E	P
				Materials Cost III	P
				Labor Cost III	
				Direct Cost III	P

SUMMARY

ITEM	WORK DESCRIPTION AND SCOPE OF WORKS	AMOUNT
I	GENERAL REQUIREMENTS	P
II	CONSTRUCTION OF HAND WASHING FACILITY	
III	REHABILITATION OF UPPER NAWASA DAYCARE CENTER	
	TOTAL DIRECT COST	P
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit	
	VAT	
	TOTAL ESTIMATED COST	P
	Strictly enforce health protocols relative to the latest applicable DPWH Memorandum	

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED CONSTRUCTION OF HAND WASHING FACILITY AND REHABILITATION OF PUROK 15 DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORKS:

I GENERAL REQUIREMENTS

1. General Requirements include billboard, construction safety and health, scaffolding, temporary enclosure and clearing, hauling & disposal of construction materials and debris.

II CONSTRUCTION OF HANDWASHING FACILITY

1. Construction of Handwashing Facility includes installation of Single Sink Hand washing Facility.
2. Site Works include demolition/removal works.
3. Civil Works include restoration of concrete.
4. Sanitary/Plumbing Works include installation of roughing-ins and accessories.

III REHABILITATION OF PUROK 15 DAYCARE CENTER

1. Site Works include demolition/removal works, and cleaning and clearing for painting preparation.
2. Civil/Structural works include masonry works and roofing works
3. Architectural Works include floor finishes, wall finishes, 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, wiring, devices, fixtures and accessories.

IV TESTING AND COMMISSIONING

1. 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
I	GENERAL REQUIREMENTS				
	Billboard	1	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	2	t.l.		
	Construction Safety and Health	1	unit		
	Scaffolding (Rental)	87	sq.m.		
	Temporary Enclosure Around the Construction Area (h=2.4m)	37	l.m.		
				Direct Cost I	₱
II	CONSTRUCTION OF HANDWASHING FACILITY				
A	Single Sink Portable Hand Washing Facility	1	unit	₱	₱
				Direct Cost A	
B	SITE WORKS				
	Demolition / Removal Works				
	Chipping of Concrete (Floor)	4	sq.m.	₱	₱
				Direct Cost B	₱
C	CIVIL WORKS				
	Restoration of Concrete (Floor)	4	sq.m.	₱	₱
				Materials Cost C	₱
				Labor Cost C	
				Direct Cost C	₱
D	SANITARY & PLUMBING WORKS				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Sewer Line System				
	50mm Ø PVC Standard Hub Pipe	4	piece	₱	₱
	50mm Ø x 50mm Ø PVC Tee	1	piece		
	50mm Ø x 50mm Ø PVC 1/4 Bend	3	piece		
	50mm Ø PVC Coupling	4	piece		
	50mm Ø PVC Cleanout	1	piece		
	Water Line System				
	20mm Ø PPR Pipe, PN 16	3	piece		
	20mm Ø x 20mm Ø PPR Tee Equal	1	piece		
	20mm Ø PPR Union Patente	1	piece		
	20mm Ø PPR Coupling	3	piece		
	20mm Ø PPR Male Adaptor	2	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Valves and Appurtenances				
	20mm Ø PPR Gate Valve	1	piece		
	Miscellaneous and Consumables				
	400cc Solvent Cement	3	can		
	All Around Sealant	1	can		
	Hacksaw Blade	3	piece		
	Teflon Tape	5	roll		
	Waste Cloth	2	kg		
				Materials Cost D	₱
				Labor Cost D	
				Direct Cost D	₱
				Materials Cost II	₱
				Labor Cost II	
				Direct Cost II	₱
III	REHABILITATION OF PUROK 15 DAYCARE CENTER				
A	Site Works				
	Demolition / Removal Works				
	Removal of Existing Roof	75	sq.m.	₱	₱
	Removal of Ceiling	52	sq.m.		
	Removal of Doors	2	set		
	Removal of Windows	12	sq.m.		
	Removal of Tiles	69	sq.m.		
	Cleaning and Clearing for Painting Preparation	149	sq.m.		
				Direct Cost A	₱
B	Civil Works / Structural Works				
	Masonry Works				
	150mm CHB Laying including Mortar, Reinforcement and Two-Face Plastering	7	sq.m.	₱	₱
	Roofing Works				
	Pre-Painted Rib Type G.I Roofing Ga. 24	85	sq.m.		
	Pre Painted G.I. Flashing	17	l.m.		
	Pre Painted G.I. Ridge Roll	11	l.m.		
	12.5mm x 300mm Fascia Board	23	l.m.		
	6mm Thick One-Sided Aluminum Foil Thermal Insulation	85	sq.m.		
	Tekscrew	850	piece		
	Silicon Sealant	5	tube		
				Materials Cost B	₱
				Labor Cost B	
				Direct Cost B	₱
C	Architectural Works				
	Floor Finishes				
	400mm x 400mm Non-Skid Homogeneous Floor Tiles	3	sq.m.	₱	₱
	600mm x 600mm Non-Skid Homogeneous Floor Tiles	52	sq.m.		
	Floor Topping for Preparation of Tile Works	57	sq.m.		
	Wall Finishes				
	300mm x 300mm Homogeneous Wall Tiles	7	sq.m.		
	400mm x 400mm Homogeneous Wall Tiles	10	sq.m.		
	Ceiling Finishes				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	12mm thk Gypsum Board including Metal Framing	52	sq.m.		
	12mm thk Moisture Resistant Gypsum Board including Metal Framing	22	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (1.0m x 2.1m) Solid Panel Door	1	set	₱	₱
	D2 - (0.6m x 2.1m) PVC Door with Louver	1	set		
	Door Jambs				
	Door Jamb D1 - (2.1m x 1.0m) Panel Door	1	set		
	Hardware and Accessories				
	Door Knob, Lever Type	2	piece		
	Door Hinge, Heavy Duty	6	piece		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Installation of Windows				
	W1 - 3.0m x 1.2m Aluminum Framed Powder Coated Casement Window	1	set		
	W2 - 1.2m x 0.6m Jalousie Window	1	set		
	W3 - 3.0m x 0.6m Jalousie Window	1	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Painting Works				
	Epoxy Enamel Paint Finish (Steel Members)	7	sq.m.	₱	₱
	Elastomeric Paint Finish (Exterior Wall)	118	sq.m.		
	Flat Latex Paint Finish				
	Interior Wall	113	sq.m.		
	Ceiling	68	sq.m.		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Exterior Painting (Simple Design)	14	sq.m.		
				Direct Cost A	₱
				Materials Cost C	₱
				Labor Cost C	
				Direct Cost C	₱
D	Sanitary / Plumbing Works				
	Plumbing Fixtures				
	Flat Floor Drain, Stainless, 100mm x 100mm	1	piece	₱	₱
	Kitchen Sink Faucet, Lever-type Stainless Steel (Water Efficient)	1	piece		
	Grease Trap 5 GPM, Stainless, Heavy Duty	1	set		
	Hose Bibb, Stainless, Lever Type (Water Efficient)	4	piece		
	Kitchen Sink, Single Tub	1	set		
	Lavatory Faucet, Lever-type Heavy Duty Stainless Steel (Water Efficient)	1	unit		
	Lavatory, Wall-hung, Kiddy (Water Efficient)	1	unit		
	Water Closet, Tank Type, Kiddy (Water Efficient)	1	unit		
	Accessories & Hardwares				
	Angle Valve, Stainless Single Way	1	piece		
	Flexible Hose, Stainless	1	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	2	can		
	All Around Sealant	2	can		
	Hacksaw Blade	2	piece		
	Teflon Tape	2	roll		
	Waste Cloth	1	kg		
				Materials Cost D	₱
				Labor Cost D	
				Direct Cost D	₱
E	Electrical Works				
	Roughing-ins				

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	20mmØ PVC Pipe	35	piece	₱	₱
	32mmØ PVC Pipe	7	piece		
	25mmØ IMC Pipe	3	piece		
	Fittings and Accessories				
	20mmØ PVC Adaptor	45	piece		
	20mmØ PVC Locknut and Bushing	45	pair		
	32mmØ PVC Adaptor	4	piece		
	32mmØ PVC Locknut and Bushing	4	pair		
	25mmØ IMC Coupling	2	piece		
	25mmØ IMC Elbow	2	piece		
	25mmØ Weatherproof Entrance Cap	1	piece		
	50mm x 100mm PVC Utility Box	11	piece		
	100mm x 100mm PVC Junction Box with Cover	10	piece		
	Wires and Cables				
	3.5mm² THHN Wire	2	roll		
	14.0mm² THHN Wire	40	l.m.		
	2.0mm² TW Wire	1	roll		
	8.0mm² TW Wire	15	l.m.		

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Lighting Fixtures (Energy Efficient)				
	1 x 18W LED, Tube Light, Box Type	5	piece		
	10W LED Bulb	2	piece		
	100mmØ Receptacle	2	piece		
	Wiring Devices & Appliances				
	Convenience Outlet with Ground, Two-Gang	5	piece		
	Switch with Plate & Cover, One Gang	1	piece		
	Switch with Plate & Cover, Two Gang	1	piece		
	Switch with Plate & Cover, Three Gang	1	piece		
	Orbit Fan, Heavy Duty with Selector Switch	3	set		
	Panelboard				
	MCB Main: 60AT, 2P, 230V, MCCB Enclosure: NEMA 3R with Ground Terminals	1	assy		
	MDP Main: 60AT, 2P, 230V, MCCB Branches : 1 - 20AT, 2P, 230V 1 - 30AT, 2P, 230V 3 - Space Enclosure: NEMA 1 with Ground Terminals	1	assy		
	Pipe Hangers & Supports				
	Horizontal layout of pipe	15	l.m.		
	Vertical layout of pipe	8	l.m.		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3	can		
	All around Sealant	3	can		
	Electrical Tape	10	roll		
	G.I Tie Wire (for Cable Pulling)	5	kg		
	Hacksaw Blade	5	piece		
	Masking Tape	5	roll		
	Pulling Lubricant	1	gal		
	Rubber Tape	5	roll		
				Materials Cost E	₱
				Labor Cost E	
				Direct Cost E	₱
				Materials Cost III	₱
				Labor Cost III	
				Direct Cost III	₱

ITEM NO	WORK DESCRIPTION AND SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	TOTAL COST
I	GENERAL REQUIREMENTS	₱
II	CONSTRUCTION OF HANDWASHING FACILITY	
III	REHABILITATION OF PUROK 15 DAYCARE CENTER	
Note: Strictly enforce health protocol relative to the latest applicable DPWH Memorandum.	TOTAL DIRECT COST	₱
	Overhead, Contingencies and Miscellaneous Expenses (OCM)	
	Profit VAT	
	TOTAL ESTIMATED COST	₱

BILL OF QUANTITIES
(Building Construction/Rehabilitation Project)

PROJECT TITLE : PROPOSED REHABILITATION OF KAUNLARAN DAY CARE CENTER

LOCATION : BARANGAY COMMONWEALTH, DISTRICT 2, QUEZON CITY

PROJECT NO. : 21 - 00176

SCOPE OF WORK :

- I General Requirements include billboard, clearing, hauling and disposal of construction materials and debris and construction safety & health.
- II Site Works include removal of dilapidated gate, door, window, under counter cabinet, tiles, plumbing fixtures and cleaning and clearing for painting preparation.
- III Civil Structural Works include masonry and metal works.
- IV Architectural Works include floor finishes, wall finishes, painting works, fabricated materials and installation of doors and windows
- V Plumbing Works include installation of waterline, fixtures, hardware and accessories.
- VI Electrical Works include installation of wiring devices and other fixtures.
- VII 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
I	GENERAL REQUIREMENTS				
	Billboard	1.00	unit	₱	₱
	Clearing, Hauling and Disposal of Construction Materials and Debris	1.00	t.l.		
	Construction Safety and Health	1.00	unit		
				DIRECT COST I	₱
II	SITE WORKS				
	Removal Works				
	Removal of Dilapidated Gate	1.00	unit		
	Removal of Dilapidated Door	2.00	unit		
	Removal of Dilapidated Window	4.00	sq.m.		
	Removal of Under Counter Cabinet	1.00	sq.m.		
	Removal of Tiles	10.00	sq.m.		
	Removal of Lavatory	2.00	set		
	Removal of Sink	1.00	set		
	Removal of Urinal	1.00	set		
	Removal of Water Closet	1.00	set		
	Clearing and Cleaning for Painting Preparation	109.00	sq.m.		
				DIRECT COST II	₱
III	CIVIL / STRUCTURAL WORKS				
	Masonry Works				
	Restoration of Concrete (Slab Soffit)	77.00	sq.m.	₱	₱
	Metal Works				
	Gate				
	12mm Square Bar	19.00	kg		
	50mmØ X 4mm G.I. Pipe	33.00	kg		
	Barrel Bolt	1.00	set		
	Cylindrical Hinge, Heavy Duty, Stainless	3.00	piece		
	Miscellaneous & Consumables				

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Acetylene Tank (Refill)	1.00	tank		
	Cut Off Blade	3.00	piece		
	Grinding Disc for Metal	3.00	piece		
	Oxygen Tank (Refill)	1.00	tank		
	Welding Rod	1.00	box		
				MATERIALS COST III	P
				LABOR COST III	
				DIRECT COST III	P

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
IV	ARCHITECTURAL WORKS				
	Floor Finishes				
	300mm x 300mm Non-Skid Homogeneous Tiles	2.00	sq.m	₱	₱
	Wall Finishes and Partition				
	300mm x 300mm Homogeneous Tiles	9.00	sq.m		
	Painting Works				
	Elastomeric Paint Finish (Exterior Wall)	46.00	sq.m		
	Epoxy Enamel Paint Finish (Gate)	2.00	sq.m		
	Flat Latex Paint Finish				
	Interior Wall	112.00	sq.m		
	Slab Soffit	69.00	sq.m		
	Exterior Painting (with Simple Design)	64.00	sq.m		
	Fabricated Materials				
	Under Counter Cover (Aluminum)	3.00	l.m.		
	Shelf	4.00	sq.m		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
	Installation of Doors				
	D1 - (1.00m x 2.10m) Swing Type Flush Hollow Core Painted Finish	1.00	set	₱	₱
	D2 - (0.70m x 2.10m) Swing Type PVC Door Painted Finish (Kitten White) w/ 400mm X 300mm Louver	1.00	set		
	Door Jamb				
	D1 - (1.00m x 2.10m) Swing Type Flush Hollow Core Door	1.00	set		
	D2 - (0.70m x 2.10m) Swing PVC Door	1.00	set		
	Hardware accessories				
	Door Hinges, Heavy Duty Stainless	6.00	set		
	Door Knob, Lever Type, Stainless	2.00	set		
	Installation of Windows				
	W1 -(2.20m x 1.10m) Sliding Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	2.00	set		
	W2 -(0.60m x 0.60m) Awning Window, 6mm Thk, Clear Tempered Glass White Color Powder Coated Aluminum Frame with Complete Accessories	1.00	set		
				Materials Cost	₱
				Labor Cost	
				Subtotal	₱
				MATERIALS COST IV	₱
				LABOR COST IV	
				DIRECT COST IV	₱
V	PLUMBING / SANITARY WORKS				
	Sewer Line / Storm Drainage System				
	Roughing-Ins				
	50 mm Ø, Pipe PVC	4.00	piece	₱	₱
	75 mm Ø, Pipe PVC	4.00	piece		
	100mm Ø, Pipe PVC	6.00	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	50mm Ø, P-Trap	3.00	piece		
	75mm Ø, P-Trap	1.00	piece		
	50mm Ø, 1/8 Bend	6.00	piece		
	75mm Ø, 1/8 Bend	2.00	piece		
	100mm Ø, 1/8 Bend	4.00	piece		
	75mm Ø, 1/4 Bend	3.00	piece		
	75mm Ø x 75mm Ø, Tee	2.00	piece		
	100mm Ø x 75mm Ø, Tee	2.00	piece		
	100mm Ø x 50mm Ø, Wye	6.00	piece		
	100mm Ø x 75mm Ø, Wye	2.00	piece		
	100mm Ø x 100mm Ø, Wye	3.00	piece		
	100mm Ø x 50mm Ø, Tee Reducer	2.00	piece		
	100mm Ø, Cleanout with Adapter	3.00	piece		
	Waterline System				
	Roughing-Ins				
	20mm Ø, Pipe PPR	3.00	piece		
	20mm Ø, Elbow	10.00	piece		
	20mm Ø, Coupling	3.00	piece		
	20mm Ø, Tee Equal	7.00	piece		
	20mm Ø, Female Threaded, Elbow	4.00	piece		
	20mm Ø, Female Adapter	2.00	piece		
	32mm Ø x 20mm Ø, Reducer	1.00	piece		
	32mm Ø, Union Patente	1.00	piece		
	Valves and Appurtenances				
	20mm Ø Gate Valve, PPR	2.00	piece		

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
	Fixtures				
	Bidet with Accessories, Stainless (Water Efficient)	1.00	piece		
	Floor Drain, 100mm x 100mm, Stainless	1.00	piece		
	Grease Trap, 5 GPM, Heavy Duty	1.00	piece		
	Kitchen Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	4.00	piece		
	Lavatory, Faucet, Lever Type, Stainless Heavy Duty (Water Efficient)	1.00	piece		
	Lavatory, Wall Hung, Kiddy	1.00	piece		
	Sink 8" Deep, Stainless Steel	1.00	piece		
	Urinal, Kiddy, Flush Type (Water Efficient)	1.00	piece		
	Water Closet, Kiddy, Tank Type w/ Accessories (Water Efficient)	1.00	piece		
	Accessories				
	Flexible Hose, Stainless Steel	6.00	piece		
	Single Way Angle Valve, Stainless Steel	3.00	piece		
	Two Way Angle Valve, Stainless Steel	1.00	piece		
	Miscellaneous & Consumables				
	400cc Solvent Cement	3.00	can		
	Hacksaw Blade	2.00	piece		
	Teflon Tape	2.00	roll		
	Waste Cloth	1.00	kg		
				MATERIALS COST V	P
				LABOR COST V	
				DIRECT COST V	P
VI	ELECTRICAL WORKS				
	Roughing-ins				
	16mm x 16mm x 2.44m Rectangular PVC Moulding	20.00	piece		P
	Wires and Cables				
	3.5mm ² THHN Wire	103.00	l.m.		
	Wiring Devices and Fixtures				
	Orbit Fan with Selector Switch	2.00	set		
	Outlet with Grounding, Two-Gang	4.00	set		
	Switch w/ Plate & Cover, Single Gang	1.00	set		
	Switch w/ Plate & Cover, Three-Gang	1.00	set		
	600mm x 1200mm Troffer Type, w/ 2x18W LED Tube Light w/ Complete Accessories, Surface Mounted	6.00	set		
	Miscellaneous & Consumables				
	Electrical Tape	2.00	roll		
				MATERIALS COST VI	P
				LABOR COST VI	
				DIRECT COST VI	P

ITEM NO	WORK DESCRIPTION & SCOPE OF WORKS	QTY	UNIT	UNIT COST	TOTAL COST
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SUMMARY

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

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 guidelines¹ for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

¹ 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]

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]

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]*

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]

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 ON-GOING GOVERNMENT AND PRIVATE CONTRACTS

NAME OF CONTRACTOR: _____

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	PERCENTAGE		VALUE OF OUTSTANDING WORKS (IN PHP)
									ACTUAL ACCOMPLISHMENT	PLANNED ACCOMPLISHMENT	
									TOTAL AMOUNT (Php) OF OUTSTANDING WORKS		

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

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	_____
NET FINANCIAL CONTRACTING CAPACITY		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

