

PHILIPPINE INTERNATIONAL CONVENTION CENTER



PROJECT TITLE : SUPPLY AND INSTALLATION OF VRV/VRF MULTI-SPLIT, PACKAGED AIR CONDITIONERS AT THE FOLLOWING AREAS: 3RD FLOOR SECRETARIAT HALLWAY/LOBBY, 2ND FLOOR SERVICE PANTRY (BAKESHOP), SATELLITE KITCHEN AND FOOD PREPARATION AREA, SECURITY OFFICE AND PLENARY AND RECEPTION HALL LOBBY

ABC : ₱21,170,850.64

Reference/s : PICC APP2023 – MC 22

**ITB-2023
July 3, 2023**

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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

BIDS AND AWARDS COMMITTEE

Invitation to Bid for the Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3rd floor Secretariat Hallway/Lobby, 2nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby

1. The *Philippine International Convention Center (PICC)*, through the *Approved Budget for CY 2023*, intends to apply the sum of **TWENTY-ONE MILLION ONE HUNDRED SEVENTY THOUSAND EIGHT HUNDRED FIFTY PESOS AND SIXTY-FOUR CENTAVOS (Php21,170,850.64)**, VAT Inclusive, being the Approved Budget for the Contract (ABC) to payments under the contract for the **Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3rd floor Secretariat Hallway/Lobby, 2nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby (APP No. 2023-MC-22)**. Bids received in excess of ABC shall be automatically rejected at bid opening
2. The *PICC* now invites bids for the abovementioned requirement. Bidders should have completed, within three (3) years from the date of submission and receipt of bids, a contract similar to the abovementioned requirement. 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 a non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Prospective Bidders may obtain further information from the *PICC-BAC* and inspect the Bidding Documents at the address given below during office hours.
5. A complete set of Bidding Documents may be acquired by prospective bidders starting July 5, 2023 from the given address and website(s) below and *upon payment of a non-refundable fee in the amount of Seventeen Thousand Five Hundred Pesos (Php17,500.00)*. A bidder shall present its proof of payment for the fees by *furnishing the PICC-BAC a copy of the Official Receipt*.
6. The *PICC-BAC* will hold a Pre-Bid Conference on July 13, 2023 at 10:00 a.m. *Function Room B, 2nd Floor Secretariat Building, PICC* and/or through videoconferencing/webcasting *Via Zoom/Google Meet*, which shall be open to prospective bidders.

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below, on or before July 26, 2023 at 9:30 a.m. Late bids shall not be accepted.
8. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 14.
9. Bid opening shall be on July 26, 2023, at 10:00 a.m. at the given address below. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The *PICC* 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 IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

BIDS AND AWARDS COMMITTEE (BAC)
PHILIPPINE INTERNATIONAL CONVENTION CENTER
PICC Complex, Pasay City 1307
87894759 and 87894760
Telefax No. 87894761
Email: procurement@picc.gov.ph

12. You may visit the following websites:

For downloading of Bidding Documents: *www.picc.gov.ph*

[Date of Issue]


MELPIN A. GONZAGA
Chairman

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, *Philippine International Convention Center* wishes to receive Bids for the *Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3rd floor Secretariat Hallway/Lobby, 2nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby* with identification numbers *PICC APP2023-MC-22*.

2. Funding Information

2.1. The GOP through the source of funding as indicated below for 2023 in the total amount of PhP21,170,850.64.

2.2. The source of funding is:

a. GOCC and GFIs, the Corporate Operating Budget.

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 Manuals 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 **IB** 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 verified and accepted the general requirements of this Project, including 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, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, 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. Foreign ownership limited to those allowed under the rules may participate in this Project.
- 5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to:
 - a. For the procurement of Non-expendable Supplies and Services: The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of 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, subject to Domestic Preference requirements under **ITB** Clause 18.

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 twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

- a. Subcontracting is not allowed.
- 7.2. *[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 criteria 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.
 - 7.3. *[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.
 - 7.4. Subcontracting of any portion of the Project does not relieve the Supplier 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 Supplier'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 at and/or through videoconferencing/webcasting as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

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

10. Documents comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within the last three (3) years prior to the deadline for the submission and receipt of bids.
- 10.3. 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. Similar to the required authentication above, 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.

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 VIII (Checklist of Technical and Financial Documents)**.
- 11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.
- 11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

- 11.4. 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. Bid Prices

- 12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:
- a. For Goods offered from within the Procuring Entity's country:
 - i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);
 - ii. The cost of all customs duties and sales and other taxes already paid or payable;
 - iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and
 - iv. The price of other (incidental) services, if any, listed in e.
 - b. For Goods offered from abroad:
 - i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.
 - ii. The price of other (incidental) services, if any, as listed in **Section VII (Technical Specifications)**.

13. Bid and Payment Currencies

- 13.1. For Goods that the Bidder will supply from outside the Philippines, the 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.
- 13.2. Payment of the contract price shall be made in:
- a. Philippine Pesos.

14. Bid Security

- 14.1. The Bidder shall submit a Bid Securing Declaration¹ 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**.
- 14.2. The Bid and bid security shall be valid one hundred twenty (120) calendar days from the date of opening of bids. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

15. 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 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.

16. Deadline for Submission of Bids

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

17. Opening and Preliminary Examination of Bids

- 17.1. 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.

- 17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

¹ In the case of Framework Agreement, the undertaking shall refer to entering into contract with the Procuring Entity and furnishing of the performance security or the performance securing declaration within ten (10) calendar days from receipt of Notice to Execute Framework Agreement.

18. Domestic Preference

- 18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring 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 the 2016 revised IRR of RA No. 9184.
- 19.2. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

- 20.2. 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

- 21.1. 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**.

III. Bid Data Sheet

15	<p>Sealing and Marking of Bids</p> <p>Each Bidder shall submit the original and one (1) copy of the first and second components of its Bid.</p>
16.1	<p>The address for submission of bids is:</p> <p style="text-align: center;">PICC-Bids and Awards Committee (BAC) Secretariat Ground floor, Delegation Building PICC Complex, 1307 Pasay City</p> <p>The deadline for submission of bids is July 26, 2023 at 9:30 a.m.</p>
17.1	<p>The place of bid</p> <p style="text-align: center;">BAC CONFERENCE ROOM Function Room B, 2nd Floor, Secretariat Building PICC Complex, 1307 Pasay City</p> <p>The date and time of bid opening is July 26, 2023 at 10:00 a.m.</p> <p>In case the Bids cannot be opened as scheduled due to justifiable reasons, the BAC shall take custody of the Bids submitted and the opening of Bids shall be at 2:00 p.m. of the next working day.</p>
19.3	<p style="text-align: center;">Total ABC is TWENTY-ONE MILLION ONE HUNDRED SEVENTY THOUSAND EIGHT HUNDRED FIFTY PESOS AND SIXTY-FOUR CENTAVOS (PhP21,170,850.64), VAT Inclusive.</p>
20.2	<p>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 LCB, the Bidder shall submit the following documentary requirements:</p> <ol style="list-style-type: none"> a. CY 2022 Income and Business Tax Returns with proof of payment; b. Sections III and V of the bid documents, signed on each and every page by the bidder's authorized representative; c. Company Profile with sketch of office location; d. Detailed Equipment Design Capacity and Distribution Plan (Schedule of Equipment) in tabulation format as shown in Table 1. Use standard long-size bond paper only e. Detailed Cluster System Design and Equipment Schedules (improve tabulation format based on Sample Table 2). Use standard long-size bond paper only f. Certificate of authorized distributorship and service contractor for at least two (2) years signed by equipment manufacturer or by exclusive/main distributor in the case of sub-dealer/distributor. g. Certification from manufacturer that the equipment to be installed is compliant to environmental Directive for Restriction of Hazardous Substances (RoHS) both for electrical and electronic equipment and

	<p>devices. Such certification shall be treated as compliant to RA 6969/DENR Administrative Order No. 2005-05(Toxic Chemical Substances for Issuance of Chemical Control Orders, and;</p> <ul style="list-style-type: none"> h. Warranty Certificate for Compressors covering a five-year period i. Three (3) sets Installation plan and drawing using 30" by 40" size drawing sheet format – 1 set tracing paper and 2 sets blue prints. j. Three (3) sets Electrical Layout (single-line)/drawing using 30" by 40" size drawing sheet format – 1 set tracing paper and 2 sets blue prints k. Certification from PICC' Mechanical Services Division that the participating bidder has conducted ocular inspection of the rooms, location of outdoor units and panel boards, source of power supply and vicinity. l. Certificate of Satisfactory Completion & Acceptance of previous PICC projects undertaken within the last three (3) years, if any.
21.2	No additional requirement

Bid Data Sheet

ITB Clause	
5	<p>The following persons shall be eligible to participate in this bidding:</p> <ol style="list-style-type: none"> a. Duly licensed Filipino citizens/sole proprietorships; b. Partnerships duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the interest belongs to citizens of the Philippines; c. Corporations duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the of the outstanding capital stock belongs to citizens of the Philippines; d. Cooperatives duly organized under the laws of the Philippines and of which at least sixty percent (60%) of the interest belongs to citizens of the Philippines; e. Must be engaged in business for the supply, installation, operation, repair, and service maintenance of multi-split Variable Refrigerant Volume (VRV)/ Variable Refrigerant Flow (VRF), Inverter-Type, Packaged Air-conditioners and/or Centralized Air-conditioning System for the last three (3) years. The contractor must be registered with Security and Exchange Commission (SEC) or Department of Trade and Industry (DTI) for sole proprietorship. f. Must be authorized distributor/dealer, installer and service contractor of VRV/VRF multi-split, inverter-type packaged air conditioning system/units in the Philippines for at least two (2) years.
5.3	<p>For this purpose, similar contract shall refer to supply, operation, repair <i>or</i> installation of Multi Split, Variable Refrigerant Volume (VRV) Variable Refrigerant Flow (VRF), Inverter-type Packaged Air conditioners.</p> <p>The Bidder must have completed within the last three (3) years a single contract that is similar to this requirement, the amount of which shall be at least fifty percent (50%) of the ABC.</p>
7.1	Sub-contracting is not allowed
12	Not applicable
14.1	<p>The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:</p> <ol style="list-style-type: none"> a. In the amount of not less than ₱423,417.01, or Cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; b. Surety Bond in the amount of not less than ₱1,058,542.53.

Section IV. General Conditions of Contract

1. Scope of Contract

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

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

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC)**.

2. Advance Payment and Terms of Payment

2.1. Advance payment of the contract amount is provided under Annex “D” of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

3. Performance Security

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than prior to 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 of RA No. 9184

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project *{[Include if Framework Agreement will be used:]* or Framework Agreement} specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section IV (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

5.1 In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.

5.2 The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

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

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
1	The Procuring Entity is <i>The Philippine International Convention Center (PICC)</i>
2.2	<p>Payment</p> <p>Payment shall be released in full within 3 to 4 weeks after final acceptance by PICC or its representative of the Contractor's completed work, and submission of billing and complete supporting documents by Contractor as follows:</p> <ol style="list-style-type: none"> 1.) Equipment delivery receipts, and Certificate of Completion/Turn-over Report. 2.) Invoice. 3.) Copy of delivery receipts of spare parts on drain pumps, indoor printed circuit boards and outdoor printed circuit boards. 4.) Copy of delivery receipt for the return of replaced parts/materials, if any 5.) Bank guarantee certificate equivalent to 10 percent of the Contract amount. Note: Bank guarantee certificate is not necessary if the contractor chooses the warranty obligation in the form of 10 percent retention money. 6.) Two (2) sets of Equipment manuals as follows: <ol style="list-style-type: none"> 6.1. design manual, 6.2. installation manual, 6.3. operation and maintenance manual. 7.) Design software for specific load/capacity calculation of the units to be installed. 8.) Three (3) sets Detailed As-built installation plans and three (3) sets electrical layout. One of the three (3) sets of each plan is the original drawing using tracing paper, 30"x40" sheet format. 9.) Original copy of Certification from manufacturer that the equipment to be installed is environment- friendly compliant. 10.) Original copy of Certification from manufacturer that the equipment's electrical and electronic components are compliant to Directive for Restriction of Hazardous Substance both for electrical and electronic equipment and devices.



- 11.) Original Notarized copy of Five (5)-Year Warranty Certificate for all compressors supplied.
- 12.) Equipment/System Operation and Commissioning Test Data Report for each indoor and outdoor equipment as required under Conditions Item No. 9.
- 13.) Photocopy of Training Certificate issued by the Contractor.
- 14.) Contractor's Recommendation for:
 - a. Proper maintenance forms for observations, monitoring and recording operational data and trouble.
 - b. Proper periodic maintenance check-up activities and standard operating procedures on daily, weekly, monthly, quarterly and annual basis.
 - c. Training and development programs to improve technical knowledge and skills of PICC personnel.

Further, payments at the option of the Contractor may be released within the same number of weeks as stated above in accordance with the following progress payment schedules and requirements:

1. First payment – Fifty percent (50%) of the total value of the project shall be released after complete delivery of all multi-split, inverter type indoor and outdoor units. Payment shall only be processed upon submission of billing statement, sales invoice, delivery receipts, confirmed/approved accomplishment report and the following manuals to verify compliance to specification:
 - 1.1. One (1) set Original manufacturer's system design manual and brochure,
 - 1.2. One (1) set Original manufacturer's installation manual,
 - 1.3. One (1) set Original manufacturer's operation and maintenance manual for each indoor unit and outdoor unit.
 - 1.4. Original copy of Certification from manufacturer that the equipment to be installed is environment-friendly compliant to Directive for Restriction of Hazardous Substance (RoHS) both for electrical and electronic equipment and devices
2. Second payment – Twenty-five percent (25%) of the total value of the project shall be released after complete (100 percent) delivery and completion, and proper operation of both indoor and outdoor systems at Security Office, 3/F Secretariat, 2/F Service Pantry (Bake Shop) and PECO Kitchen and Food Preparation Area. Payment shall only be processed upon submission of billing statement, sales invoice, delivery receipts confirmed/approved accomplishment report and Equipment/System Operation and Commissioning Test Data Report for each indoor and outdoor equipment as required under Conditions Item No. 9.

3. Third and final payment – Twenty-five percent (25%) of the total value of the project shall be released after complete (100 percent) delivery and completion, turn over, and acceptance of the whole project which includes the installation and commissioning of all units. Payment shall only be processed upon submission of:

- 3.1. Billing statement, sales invoice, equipment delivery receipts, waste material turnover receipts, warranty/guarantee bond;
- 3.2. Receiving copy of delivery receipts of spare parts on drain pumps, indoor printed circuit boards and outdoor printed circuit boards;
- 3.3. Two (2) sets of Equipment manuals as follows:
 - 3.3.1. Original manufacturer's copy of system design manual and brochure,
 - 3.3.2. Original manufacturer's copy of installation manual,
 - 3.3.3. Original manufacturer's copy of operation and maintenance manual for each indoor unit and outdoor unit.
- 3.4. Design software for specific load/capacity calculation of the units to be installed;
- 3.5. Three (3) sets Detailed As-built installation plans and three (3) sets electrical layout. One of the three (3) sets of each plan is the original drawing using tracing paper, 30"x40" sheet format. Others are in blue prints.
- 3.6. Photocopy of Original copy of Certification from manufacturer that the equipment to be installed is environment-friendly compliant to Directive for Restriction of Hazardous Substance both for electrical and electronic equipment and devices, and;
- 3.7. Original Notarized copy of Five (5)-Year Warranty Certificate for all compressors supplied
- 3.8. Equipment/System Operation and Commissioning Test Data Report for each indoor and outdoor equipment following condition and data requirements as specified under Conditions Item No. 9.
- 3.9. Photocopy of Training Certificate issued by the Contractor.
- 3.10. Contractor's Recommendation for:
 - a. Proper maintenance forms for observations, monitoring and recording operational data and trouble.
 - b. Proper periodic maintenance check-up activities and standard operating procedures on daily, weekly, monthly, quarterly and annual basis.

Failure to submit bank guarantee certificate shall mean deduction of ten percent (10%) retention money as guarantee obligation for one (1) year warranty period. However, only ten percent (10%) retention money is acceptable for guarantee for the first and second progress billing. Bank guarantee shall be applied only after total completion of the awarded project.

	Therefore, it shall be posted only for the final billing and payment in lieu of ten percent (10%) money for the whole project.								
3	<p>Performance Security</p> <p>Within ten (10) calendar days from receipt of the Notice of Award, 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 following forms:</p> <table border="1"> <thead> <tr> <th>Form of Performance Security</th> <th>Amount of Performance Security (Equal to Percentage of the Total Contract Price)</th> </tr> </thead> <tbody> <tr> <td>Cash or Cashier's/Manager's Check issued by a Universal or Commercial Bank.</td> <td>Five percent (5%)</td> </tr> <tr> <td>Bank draft/guarantee issued by a Universal or Commercial Bank</td> <td>Five percent (5%)</td> </tr> <tr> <td>Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.</td> <td>Thirty percent (30%)</td> </tr> </tbody> </table>	Form of Performance Security	Amount of Performance Security (Equal to Percentage of the Total Contract Price)	Cash or Cashier's/Manager's Check issued by a Universal or Commercial Bank.	Five percent (5%)	Bank draft/guarantee issued by a Universal or Commercial Bank	Five percent (5%)	Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Thirty percent (30%)
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Surety bond callable upon demand issued by a surety or insurance company duly certified by the Insurance Commission as authorized to issue such security.	Thirty percent (30%)								
5	<p>Warranty</p> <p>The Air Conditioning Units shall be covered by:</p> <ol style="list-style-type: none"> 1. One (1) year warranty on parts and labor. 2. Five (5) years warranty on compressor. <p>Said warranties shall include travel time and expense and provision of on-site service and labor.</p> <p>The obligation for the warranty shall be covered by, at the Contractor's option, either retention money in an amount equivalent to ten percent (10%) of the Contract amount or a bank guarantee certificate equivalent to ten percent (10%) of the total Contract amount (see details under payment). However, bank guarantee certificate shall not be accepted as substitute for ten percent (10%) retention money for progress billing except for the final payment stage. Note that PICC at its option may deduct retention money equivalent to ten percent (10%) for every progress billing/payment. Said warranty obligation shall be released only after the expiration of general warranty period of one (1) year, however, the same will be forfeited by PICC as part of payment for any damage of supplied equipment and surrounding equipment components/parts attributable to contractor's negligence or poor workmanship during the installation and/or test operation period.</p>								

	As part of the one-year general warranty, the contractor must conduct monthly check-up and servicing of the indoor and outdoor units with proper service records and reports for submission to PICC-Mechanical Services Division.
6	The period for correction of defects is seven (7) calendar days upon receipt of notice from PICC project-in-charge.

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Item Number	Description	
I	Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3 rd floor Secretariat Hallway/Lobby, 2 nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby	Work shall be completed within one hundred eighty (180) calendar days from the receipt of the Notice to Proceed.

Note:

The Contractor shall be granted extension of completion time for any delay attributable to PICC and other works which are not part of Scope of Works. In case of delay in the required completion time or delivery period, inclusive of duly granted time extensions if any, the Contractor shall be liable for damages for the delay and shall pay the PICC for liquidated damages an amount equivalent to 1/10 of 1 percent of the total value of the project for each day of delay until such time the project is finally completed and accepted by PICC. Said penalty on delay shall be charged to any amount due the Contractor, or in the absence or insufficiency thereof, from the performance bond/security. In case of insufficiency of the bond, the Contractor shall pay the balance to PICC upon notice.

I hereby commit to comply and deliver all the above requirements in accordance with the above stated schedule.

Name of Company / Bidder

Signature over printed Name of Authorized Representative

Position

Date

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Section VII. Technical Specifications

Technical Specifications

Item	Specification	Statement of Compliance
	<p>SUPPLY, DELIVERY AND INSTALLATION OF MULTI-SPLIT VARIABLE REFRIGERANT FLOW/VOLUME (VRF/VRV) INVERTER-TYPE PACKAGED AIRCONDITIONERS AT THE FOLLOWING AREAS:</p> <ol style="list-style-type: none"> 1. 3/F SECRETARIAT HALLWAY/LOBBY 2. 2/F SERVICE PANTRY (BAKE SHOP) 3. SATELLITE KITCHEN AND FOOD PREPARATION AREA 4. SECURITY OFFICE AND 5. PLENARY & RECEPTION HALL LOBBY <p>I. SPECIFIC SCOPE OF WORKS:</p> <p>Supply, delivery and installation of Multi-split, Variable Refrigerant Flow/Volume (VRF/VRV), Inverter-Type Packaged Air-conditioners at 3/F Secretariat Hallway/Lobby, 2/F Service Pantry (Bake Shop), Satellite Kitchen & Food Preparation Area, Security Office and upgrading of the existing VRV AC System at the Plenary & Reception Hall Lobby.</p> <p>A-1. 3/F SECRETARIAT HALLWAY/LOBBY</p> <p>SPECIFIC SCOPE OF WORKS:</p> <ol style="list-style-type: none"> 1. Supply and deliver the following minimum requirement multi-split, inverter-type packaged-type air conditioning units: <ol style="list-style-type: none"> 1.1. Four (4) units 14 to 14.5kW (5.0Hp) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 33-35dB(A), Medium: 38-41dB(A) and High: 43-45dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room’s main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market. 1.2. Ten (10) units 4.5 to 4.7kW (1.6HP) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow, free blow with very low or low noise level – Low: 26-27dB(A), Medium: 28-30dB(A) and High: 31-32dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60 Hz using environment-friendly refrigerant R410A ; with fixed wired remote control on-off switch to be installed near the room’s main door; each unit must be complete of necessary control devices, temperature and 	

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humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

Note: Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

Notes for all indoor units:

- a. Electronics/electrical parts must be compliant with the directive for restriction of hazardous substance (RoHS) and and Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/ DENR Administrative Oder No. 2005-05 (Toxic Chemical Substances for Issuance of Chemical Control Orders..
- b. Alternative offer based on horsepower rating shall not be considered and accepted. Unit to be delivered and installed shall be based on the General Equipment Design Capacity and Distribution Plan for each room as provided by PICC under Specific Scope of Work Item No. 2 and the Cluster System Design Plan and Equipment Schedules for each room/area to be done by the bidding Contractor as required under Specific Scope of Works Item No. 4.
- c. Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

1.3. One (1) lot Modular Outdoor Unit/s with cooling capacity appropriately-designed by participating contractor for the total capacity of above indoor units per cluster at the Third Floor Secretariat Hallway/Lobby modular-type, 440-460 Volts, 3 phase, 60 Hz using environment-friendly refrigerant R410A and electronics/electrical parts compliant with the Directive for restriction of hazardous substance (RoHS), equipped with inverter-inverter combination of compressors or master/lead (1 inverter) and slave scroll compressors, equipped with automatic by-pass compressor operation system control – meaning, the air conditioning system operation shall continue even if one or two compressors break down, complete of necessary control devices, sensors, shut-off valves, piping, piping kits, and accessories for complete and normal operating condition with the indoor unit. Compressor (inverter and/or slave) should be available in the local market. If the outdoor unit is 220V-240V or 380V, the Contractor shall provide a step-down transformer.

The multi-split inverter system must have the following design and operational capabilities, features and specifications:

- 1.3.1. Inverter lead and inverter combination of compressor system or a master/lead (1 inverter) and slave scroll compressors system.
- 1.3.2. Cluster installation design and operational capacity combination ratio of indoor and outdoor units shall never be more than 10 percent or the total rated capacity of outdoor unit shall never be less than 90 percent of the total rated capacity of combination of indoor unit capacity. In addition, the outdoor system must be able to operate properly at 50 percent capacity or when the indoor units' capacity is reduced to 50 percent.
- 1.3.3. High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).
- 1.3.4. Compliant with the low sound level requirements as follows:
 - 1.3.4.1. Indoor unit – the specified sound level for each type and model for low, medium and high speed fan shall be the basis and strictly followed (refer to individual unit's specification as required in this bidding document).
 - 1.3.4.2. Modular outdoor unit - 45 to 68 dB(A)
- 1.3.5. Automatic back up operation for multiple outdoor and/or single outdoor unit – meaning, the entire cluster system continues to operate automatically even if one or more compressor or outdoor units break down. The air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.
- 1.3.6. Capacity increment of modular outdoor unit must be limited to 2Hp up to 8Hp.
- 1.3.7. Compliant with both (1.) environment-friendly refrigerant and (2.) directive for restriction of hazardous substance (RoHS) both for electrical and electronic equipment and devices. It is an international environment directive to regulate the use of designated chemical substances such as: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment which is also in compliance with Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.

	<p>1.3.8. Equipped with automatic test operation for system check and trouble shooting.</p> <p>1.3.9. Currently certified air-con units or product by AHRI (Air-Conditioning, Heating, and Refrigeration Institute).</p> <p>1.3.10. With controllers for zoning, interlocking of equipment and ready and compatible with building management system (BMS) connection.</p> <p>1.3.11. Easy wiring for normal centralized address setting.</p>
1.4. One (1) lot	Condensate drain pumps. One (1) extra or spare drain pump must be provided/delivered for each model of drain pump installed in each unit. It means, one (1) unit for 14.0 to 14.5kW (5.0Hp) and one (1) unit for 4.5 to 4.7kW (1.6Hp) capacity Indoor Units.
1.5. One (1) lot	Indoor Unit Printed Circuit Board (IU-PCB). One (1) extra or spare PCB must be provided/delivered for each model of PCB installed in each indoor unit. It means, one (1) unit for 14.0 to 14.5kW (5.0Hp) and one (1) unit for 4.5 to 4.7kW (1.6Hp) capacity Indoor Units.
1.6. One (1) lot	Outdoor Unit printed circuit board (OU-PCB). One (1) extra or spare of complete set of PCB must be provided/delivered for each model of PCB installed in each different capacity outdoor units.
1.7. One (1) lot	Panel (front)/signal receiver, wired remote controller, branch piping header/joints or ref-net joints and other devices and accessories necessary for complete installation and accessories.
1.8. One (1) lot	Watt-hour meter, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication connection, panel mounted; complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring of the total power consumption of the air-conditioning units/system to be installed. Provide and install one (1) unit for the main feeder line if the power of all indoor units and outdoor units is sourced/connected directly from one (1) power supply system.
1.9. One (1) lot	Hard-drawn copper tubes (type L) and fittings, clamps, supports and other materials necessary for the proper and complete installation of the above units.
1.10. One (1) lot	Closed-cell rubber insulation (Aeroflex or its approved equivalent), one (1)-inch thick or its approved equivalent.
1.11. One (1) lot	Condensate Drain Pipe (Neltex, Moldex, Atlanta or its approved equivalent), Polyvinyl Chloride (PVC) pipe and

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fittings, 1-inch thick closed-cell insulation wrapped with polyethylene blue tape and its hanger & support system.

- 1.12. One (1) lot Electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/IMC panel boards/enclosure – weather-proof, System outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equivalent, magnetic starter with overload relay-Fujihaya or approved equivalent, controllers, and accessories for the power supply and control system of the above air conditioners. Each indoor unit shall be provided with circuit breaker for control and isolation purposes for safety and repair works.
- 1.13. One (1) lot Environment-friendly system refrigerant R410A for the multi-split.
- 1.14. One (1) lot Environment-friendly cleaning agent, R-141B for flushing.
- 1.15. One (1) lot Nitrogen gas for flushing and cleaning the pipe line.
- 1.16. One (1) lot Oxygen-acetylene gas for cutting and welding works.
- 1.17. One (1) lot Silver rods and other miscellaneous materials and supplies.
- 1.18. One (1) lot Angle bars, 3/16” thick for steel base of fan coil units, 1/8” thick for supports. Use only engineering standard thickness (no commercial standard)
- 1.19. One (1) lot Epoxy primer, enamel paints and other parts and materials necessary for the completion of repair works.
- 1.20. One (1) lot Ceiling board – Use the same materials and specifications as utilized in the Third Floor Secretariat Hallway/Lobby. Refer to actual material and specification at site.
- 1.21. One (1) lot Dismantling works of all existing Airconditioning system serving Third Floor Secretariat Hallway/Lobby and its related Supply/Return Ducts.
- 1.22. One (1) lot Miscellaneous materials and accessories necessary for the completion of works and other restoration works.
- 1.23. One (1) lot Water proofing works for the concrete base – use existing materials, polyvinyl chloride membrane (verify at site).

Note: PICC shall provide 440 Volts power supply for VRF/VRV Equipment Installation

- 2. Design properly and appropriately the capacity of each set of cluster system based on the general design capacity and equipment schedule below and modular-type outdoor unit/s considering the capacity, type, and number of indoor units to be installed per set or per cluster system.

Note:

One (1) cluster system = one (1) set of outdoor unit plus two (2) or more indoor units; outdoor could be one or more units. Consider the maximum power and comfort cooling efficiency of the system at summer (April-May) condition in the proper design capacity and selection of the modular outdoor unit. Occupied room temperature shall be within 73 – 74 degrees Fahrenheit during summer (April-May) condition when outdoor/dry-bulb temperature reaches 97 to 100 degrees Fahrenheit. Total capacity of outdoor unit/system shall never be less than 90 percent the total capacity of the entire indoor rated capacity or the total capacity of indoor units shall never be more than 110 percent of the capacity of the outdoor unit even if the capability and capacity is up to 130 percent.

Table A-1: General Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Third Floor Secretariat Hallway/Lobby	252	4 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required) 10 units – 4.5 to 4.7kW (1.6HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

Note: Attached is the Floor Plan (size-long bond paper)

3. Make and submit a more detailed Equipment Design Capacity and Distribution Plan or Schedule of Equipment (long bond paper size only) for each room or area listing and showing the following:

- 3.1. Quantity, type and model of each indoor unit serving the room or area.
- 3.2. Cooling capacity of each indoor unit in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.
- 3.3. Airflow rate/capacity of each indoor unit in cubic meter per second (CMS) and in equivalent cubic feet per minute (CFM).
- 3.4. Sound level pressure of each type/model of indoor unit in decibels A-weighting (dBA) indicating/showing the sound level for the low fan speed, medium fan speed and high fan speed for 3-speed units or low fan speed and high fan speed for 2-speed units or low fan speed, 2 medium fan speeds and high fan speed for 4-speed units.

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- 3.5. Total capacity of each room or area based on the designed and rated capacity of each equipment to be installed in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.
- 3.6. Power consumption or power input in kilowatt (kW)
- 3.7. Power supply indicating the voltage, full-load ampere, phase and frequency
- 3.8. Dimension – height, width and depth – in millimetre (mm) and weight in Kilogram
- 3.9. Colour of indoor unit, and
- 3.10. Other detailed specifications and features of indoor units. Refer to sample Table shown below.

Sample Table A-1-1: Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Third Floor Secretariat Hallway/Lobby	252	<p>4 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>10 units – 4.5 to 4.7kW (1.6HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p>

4. Make and submit a detailed Cluster System Design Plan and Schedule of Equipment (use long-bond paper size only) showing and listing the number (quantity), type, model, rated cooling capacity [(kW and tons (TR) as well as in horsepower], and the total and individual kilowatt input of indoor unit and outdoor unit for each cluster system for Third Floor Secretariat Hallway/Lobby. Refer to sample tabulation below for basic guideline:

Sample Table A-1-2: Sample Basic Cluster System Design Plan and Equipment Schedule

Cluster No.	Area Served	Outdoor Units		Connected Indoor Units	
		Qty-Unit	Description	Qty-Unit	Description
1	Third Floor Secretariat Hallway/Lobby	1 set	<p>___kW (38Hp) consisting of:</p> <p>1 unit ___kW (18.0Hp) capacity, model _____ &</p> <p>1 unit ___kW (20.0Hp) capacity, model _____</p>	<p>4 units</p> <p>10 units</p>	<p>Ceiling Cassette-type, ___kW (5.0Hp), Model _____</p> <p>Ceiling Cassette-type, ___kW (1.6Hp), Model _____</p>

5. Make and submit a more detailed installation plan and drawings using A3 size bond-paper showing all necessary details based on the PICC-supplied floor plan, list of indoor units, capacity design and distribution plan (equipment schedule), cluster/group system design plan, proposed location of outdoor unit/s, actual conditions observed, and other conditions.

6. Make and submit a detailed single-line electrical layout/drawing using A3 size bond-paper showing all necessary details for feeder lines, control wirings, control panels, circuit breakers with capacities, watt-hour meter and all other accessories for the whole and cluster design circuit.

7. Install the above-mentioned units, accessories and materials for their proper operation in Third Floor Secretariat Hallway/Lobby. Install indoor units or fan coil units (FCU) at the ceiling of said area, following proper alignment and uniform distances for proper air distribution and aesthetics with appropriate hangers, vibration isolator, and supports bolted to the roof deck floor slab. Use proper size support-base and frames to avoid wagging expansion bolts.

Install the indoor units based on the capacity design plan, cluster design plan and layout as shown in Table A-1: General Equipment Capacity Design and Distribution Plan (Schedule of Equipment), Cluster/Group Design Plan (refer to Sample Table A-1-2) and Installation Plan/Drawing (size-30" x 40") and electrical layout (size-30" x 40") as part of submittals by the Contractor during implementation stage.

Dismantle properly/carefully any air duct and building accessories obstructing the proper installation of the unit. Any affected ceiling must also be restored as discussed in Item 10.

8. Install outdoor units outside and at the Roof Deck of the Secretariat Building (verify at site) considering the best location for aesthetics for Multi-Split VRV/VRF Inverter-Type A/C System. Concrete footing/base shall be properly formed and cured atop the said existing water-proofed deck. Restore/apply new water proofing

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membrane (same of the existing polyvinyl chloride membrane) on the concrete footing/base. Restore damaged areas affected by the contractor's works.

9. Re-route or relocate electrical conduits and other materials inside the ceiling obstructing the installation area of the indoor unit or fan coil unit (FCU). Free the installation area of any obstruction and restore the functionality of those re-routed facilities or building/system attachment.
10. Restore the ceiling using the same kind of ceiling wooden materials/frames and mechanism to jibe with the existing ceiling design and construction, and to suit the cassette type air conditioning units. Make a detailed plan on how to re-construct the affected ceiling for approval before implementation.
11. Install the above units using appropriate size hard-drawn copper tubing and fittings. All field connection must be soldered type to minimize refrigerant and oil leakage and system troubles.
12. Insulate the suction lines and other pipe lines required by manufacturer using one-inch (1") thick closed-cell rubber insulation, Aeroflex or approved equivalent and wrapped with polyethylene white tape (to be approved by PICC-MSD Assistant Director/TSD Director) complete with aluminum cladding.
13. Provide and install all electrical and control system requirements as well as accessories with capacities and specifications properly designed according to the best practices in the industry, Philippine Electrical Code, NEMA and other applicable local and international codes. All electrical/electronic system requirements shall include electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/Intermediate Metal Conduit (IMC) or approved equal, panel boards/enclosure – weather-proof, transformer primary and secondary circuit breakers, Outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equal, magnetic starter with overload relay-Fujihaya or approved equal (to be approved by PICC-MSD Assistant Director/TSD Director), controllers, and accessories for the power supply and control system of the above air conditioners.
14. Install Watt-hour meter/s, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication, panel mounted, complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring and/or recording of the total power consumption of the air conditioning units/system to be installed at Third Floor Secretariat Hallway/Lobby. Install one-unit watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system if all the aircon units are connected to one (1) source of power supply. However, if all the aircon units are connected to different sources of power supply, install multiple units watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system connected to all sources of power supply
15. Paint all angle bars, conduit and other metallic component with two coat epoxy paint, cord or approved equal. Paint for electrical conduit shall be color orange and for angle bars shall be color gray.
16. Dismantle carefully the existing Supply/Return Ducts above the ceiling within Third Floor Secretariat Hallway/Lobby. Cut into smaller sections for easy hauling. Coordinate with PICC-MSD Project In-Charge for the proper duct length of the cut

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and for the location where the ceiling will be temporarily dismantled/opened for hauling down activity of the dismantled above ceiling ducts. Restore the affected ceiling after the dismantling works.

17. Always clean the working area on daily basis and haul the dismantled building or system accessories and components carefully to temporary designated area. All garbage shall be hauled outside the PICC premises at the Contractor's expense.
18. Conduct operation testing and commissioning of all indoor units and outdoor unit together with the PICC representative from Mechanical Services Division, and record all actual operating data as follows:
 - 18.1. Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one (1) hour after start-up of all units operating at full or high speed.
 - 18.2. Ambient or atmospheric temperature (Fahrenheit and Celsius)
 - 18.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new unit with good operating condition. Also, full payment will not be processed.
 - 18.4. Standing pressure of the refrigerant system prior to test operation.
 - 18.5. Suction and discharge pressure and temperature of the refrigerant system
 - 18.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition.

Note: All sound pressure levels should conform with the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.
 - 18.7. Good operating condition of drain pump.
 - 18.8. Air Balancing Report
 - 18.9. Other actual operating parameters.
19. Turn-over all the air conditioning units and their accessories as well as other affected building attachment/facilities in good order/operating condition

A-2. 2/F SERVICE PANTRY (BAKE SHOP)

SPECIFIC SCOPE OF WORKS:

1. Supply and deliver the following minimum requirement multi-split, inverter-type packaged-type air conditioning units:

- 1.1. Four (4) units 14 to 14.5kW (5.0Hp) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 33-35dB(A), Medium: 38-41dB(A) and High: 43-45dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

Note: Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

Notes for all indoor units:

- a. Electronics/electrical parts must be compliant with the directive for restriction of hazardous substance (RoHS) and and Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/ DENR Administrative Oder No. 2005-05 (Toxic Chemical Substances for Issuance of Chemical Control Orders..
- b. Alternative offer based on horsepower rating shall not be considered and accepted. Unit to be delivered and installed shall be based on the General Equipment Design Capacity and Distribution Plan for each room as provided by PICC under Specific Scope of Work Item No. 2 and the Cluster System Design Plan and Equipment Schedules for each room/area to be done by the bidding Contractor as required under Specific Scope of Works Item No. 4.
- c. Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

1.2. One (1) lot

Modular Outdoor Unit/s with cooling capacity appropriately-designed by participating contractor for the total capacity of above indoor units per cluster at the 2/F Service Pantry (Bake Shop), modular-type, 440-460 Volts, 3 phase, 60 Hz using environment-friendly refrigerant R410A and electronics/electrical parts compliant with the Directive for restriction of hazardous substance (RoHS), equipped with inverter-inverter combination of compressors or master/lead (1 inverter) and slave scroll compressors, equipped with automatic by-pass compressor operation system control – meaning, the air conditioning system operation shall continue even if one or two compressors break down, complete of necessary control devices, sensors, shut-off valves, piping, piping kits, and accessories for complete and normal operating condition with the indoor unit. Compressor (inverter and/or slave) should be available in the local market. If the outdoor unit is 220V-240V or 380V, the Contractor shall provide a step-down transformer.

The multi-split inverter system must have the following design and operational capabilities, features and specifications:

- 1.2.1. Inverter lead and inverter combination of compressor system or a master/lead (1 inverter) and slave scroll compressors system.
- 1.2.2. Cluster installation design and operational capacity combination ratio of indoor and outdoor units shall never be more than 10 percent or the total rated capacity of outdoor unit shall never be less than 90 percent of the total rated capacity of combination of indoor unit capacity. In addition, the outdoor system must be able to operate properly at 50 percent capacity or when the indoor units' capacity is reduced to 50 percent.
- 1.2.3. High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).
- 1.2.4. Compliant with the low sound level requirements as follows:
 - 1.2.4.1. Indoor unit – the specified sound level for each type and model for low, medium and high speed fan shall be the basis and strictly followed (refer to individual unit's specification as required in this bidding document).
 - 1.2.4.2. Modular outdoor unit - 45 to 68 dB(A)

- 1.2.5. Automatic back up operation for multiple outdoor and/or single outdoor unit – meaning, the entire cluster system continues to operate automatically even if one or more compressor or outdoor units break down. The air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.
- 1.2.6. Capacity increment of modular outdoor unit must be limited to 2Hp up to 8Hp.
- 1.2.7. Compliant with both (1.) environment-friendly refrigerant and (2.) directive for restriction of hazardous substance (RoHS) both for electrical and electronic equipment and devices. It is an international environment directive to regulate the use of designated chemical substances such as: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment which is also in compliance with Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.
- 1.2.8. Equipped with automatic test operation for system check and trouble shooting.
- 1.2.9. Currently certified air-con units or product by AHRI (Air-Conditioning, Heating, and Refrigeration Institute).
- 1.2.10. With controllers for zoning, interlocking of equipment and ready and compatible with building management system (BMS) connection.
- 1.2.11. Easy wiring for normal centralized address setting.

- 1.3. One (1) lot Condensate drain pumps. One (1) extra or spare drain pump must be provided/delivered for each model of drain pump installed in each unit. It means, one (1) unit for 14.0 to 14.5kW (5.0 HP) Capacity Indoor Units.
- 1.4. One (1) lot Indoor Unit printed circuit board (IU-PCB). One (1) extra or spare PCB must be provided/delivered for each model of PCB installed in each indoor unit. It means, one (1) unit for 14.0 to 14.5kW (5.0 HP) Capacity Indoor Units.
- 1.5. One (1) lot Outdoor Unit printed circuit board (OU-PCB). One (1) extra or spare of complete set of PCB must be provided/delivered for each model of PCB installed in each different outdoor door unit.
- 1.6. One (1) lot Panel (front)/signal receiver, wired remote controller, branch piping header/joints or ref-net joints and other

1.7. One (1) lot	<p>devices and accessories necessary for complete installation and accessories.</p> <p>Watt-hour meter, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication connection, panel mounted; complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring of the total power consumption of the air-conditioning units/system to be installed. Provide and install one (1) unit for the main feeder line if the power of all indoor units and outdoor units is sourced/connected directly from one (1) power supply system.</p>
1.8. One (1) lot	<p>Hard-drawn copper tubes (type L) and fittings, clamps, supports and other materials necessary for the proper and complete installation of the above units.</p>
1.9. One (1) lot	<p>Closed-cell rubber insulation (Aeroflex or its approved equivalent), one (1)-inch thick or its approved equivalent.</p>
1.10. One (1) lot	<p>Condensate Drain Pipe (Neltex, Moldex, Atlanta or its approved equivalent), Polyvinyl Chloride (PVC) pipe and fittings, 1-inch thick closed-cell insulation wrapped with polyethylene blue tape and its hanger & support system.</p>
1.11. One (1) lot	<p>Electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/IMC panel boards/enclosure – weather-proof, System outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equivalent, magnetic starter with overload relay-Fujihaya or approved equivalent, controllers, and accessories for the power supply and control system of the above air conditioners. Each indoor unit shall be provided with circuit breaker for control and isolation purposes for safety and repair works.</p>
1.12. One (1) lot	<p>Environment-friendly system refrigerant R410A for the multi-split.</p>
1.13. One (1) lot	<p>Environment-friendly cleaning agent, R-141B for flushing.</p>
1.14. One (1) lot	<p>Nitrogen gas for flushing and cleaning the pipe line.</p>
1.15. One (1) lot	<p>Oxygen-acetylene gas for cutting and welding works.</p>
1.16. One (1) lot	<p>Silver rods and other miscellaneous materials and supplies.</p>
1.17. One (1) lot	<p>Angle bars, 3/16" thick for steel base of fan coil units, 1/8" thick for supports. Use only engineering standard thickness (no commercial standard)</p>
1.18. One (1) lot	<p>Epoxy primer, enamel paints and other parts and materials necessary for the completion of repair works.</p>

- 1.19. One (1) lot Ceiling board – Use the same materials and specifications as utilized in the 2/F Service Pantry (Bake Shop). Refer to actual material and specification at site.
- 1.20. One (1) lot Dismantling works of all existing Airconditioning system serving 2/F Service Pantry (Bake Shop) and its related Supply/Return Ducts.
- 1.21. One (1) lot Miscellaneous materials and accessories necessary for the completion of works and other restoration works.

Note: PICC shall provide 440 Volts power supply for VRF/VRV Equipment Installation

- 2. Design properly and appropriately the capacity of each set of cluster system based on the general design capacity and equipment schedule below and modular-type outdoor unit/s considering the capacity, type, and number of indoor units to be installed per set or per cluster system.

Note:

One (1) cluster system = one (1) set of outdoor unit plus two (2) or more indoor units; outdoor could be one or more units.

Consider the maximum power and comfort cooling efficiency of the system at summer (April-May) condition in the proper design capacity and selection of the modular outdoor unit. Occupied room temperature shall be within 73 – 74 degrees Fahrenheit during summer (April-May) condition when outdoor/dry-bulb temperature reaches 97 to 100 degrees Fahrenheit. Total capacity of outdoor unit/system shall never be less than 90 percent the total capacity of the entire indoor rated capacity or the total capacity of indoor units shall never be more than 110 percent of the capacity of the outdoor unit even if the capability and capacity is up to 130 percent.

Table A-1: General Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	2/F Service Pantry (Bake Shop)	192	4 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

Note: Attached is the Floor Plan (size-long bond paper)

- 3. Make and submit a more detailed Equipment Design Capacity and Distribution Plan or Schedule of Equipment (long bond paper size only) for each room or area listing and showing the following:

- 3.1. Quantity, type and model of each indoor unit serving the room or area.

- 3.2. Cooling capacity of each indoor unit in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating
- 3.3. Airflow rate/capacity of each indoor unit in cubic meter per second (CMS) and in equivalent cubic feet per minute (CFM).
- 3.4. Sound level pressure of each type/model of indoor unit in decibels A-weighting (dBA) indicating/showing the sound level for the low fan speed, medium fan speed and high fan speed for 3-speed units or low fan speed and high fan speed for 2-speed units or low fan speed, 2 medium fan speeds and high fan speed for 4-speed units.
- 3.5. Total capacity of each room or area based on the designed and rated capacity of each equipment to be installed in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.
- 3.6. Power consumption or power input in kilowatt (kW).
- 3.7. Power supply indicating the voltage, full-load ampere, phase and frequency.
- 3.8. Dimension – height, width and depth – in millimetre (mm) and weight in Kilogram
- 3.9. Colour of indoor unit, and
- 3.10. Other detailed specifications and features of indoor units. Refer to sample Table shown below.

Sample Table A-1-1: Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	2/F Service Pantry (Bake Shop)	192	4 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

4. Make and submit a detailed Cluster System Design Plan and Schedule of Equipment (use long-bond paper size only) showing and listing the number (quantity), type, model, rated cooling capacity [(kW and tons (TR) as well as in horsepower], and the total and individual kilowatt input of indoor unit and outdoor unit for each cluster system for 2/F Service Pantry (Bake Shop). Refer to sample tabulation below for basic guideline:

Sample Table A-1-2: Sample Basic Cluster System Design Plan and Equipment Schedule

Cluster No.	Area Served	Outdoor Units		Connected	Indoor
		Qty-Unit	Description	Units	Units
				Qty-Unit	Description
1	2/F Service Pantry (Bake Shop)	1 set	____ kW (22Hp) consisting of: 1 unit ____ kW (10.0Hp) capacity, model _____ & 1 unit ____ kW (12.0Hp) capacity, model _____	4 units	Ceiling Cassette-type, ____ kW (5.0Hp), Model _____

5. Make and submit a more detailed installation plan and drawings using A3 size bond-paper showing all necessary details based on the PICC-supplied floor plan, list of indoor units, capacity design and distribution plan (equipment schedule), cluster/group system design plan, proposed location of outdoor unit/s, actual conditions observed, and other conditions.
6. Make and submit a detailed single-line electrical layout/drawing using A3 size bond-paper showing all necessary details for feeder lines, control wirings, control panels, circuit breakers with capacities, watt-hour meter and all other accessories for the whole and cluster design circuit.
7. Install the above-mentioned units, accessories and materials for their proper operation in 2/F Service Pantry (Bake Shop). Install indoor units or fan coil units (FCU) at the ceiling of said area, following proper alignment and uniform distances for proper air distribution and aesthetics with appropriate hangers, vibration isolator, and supports bolted to the Roof Deck floor slab. Use proper size support-base and frames to avoid wagging expansion bolts.
 Install the indoor units based on the capacity design plan, cluster design plan and layout as shown in Table A-1: General Equipment Capacity Design and Distribution Plan (Schedule of Equipment), Cluster/Group Design Plan (refer to Sample Table A-1-2) and Installation Plan/Drawing (size-30" x 40") and electrical layout (size-30" x 40") as part of submittals by the Contractor during implementation stage.
 Dismantle properly/carefully any air duct and building accessories obstructing the proper installation of the unit. Any affected air duct should be repaired, covered and sealed properly for possible emergency use as the chilled water system shall still be on stand-by until the same is disposed. Any affected ceiling must also be restored as discussed in Item 10.
8. Install outdoor units outside and at the Ground Floor Level Adjacent of the Reflecting Pool, G/F Service Pantry (verify at site) considering the best location for aesthetics for Multi-split VRV/VRF Inverter-Type A/C System. Concrete

footing/base shall be properly formed and cured upon the said existing ground floor level. Restore damaged areas affected by the contractor's works.

9. Re-route or relocate air duct, electrical conduits and other materials inside the ceiling obstructing the installation area of the indoor unit or fan coil unit (FCU). Free the installation area of any obstruction and restore the functionality of those re-routed facilities or building/system attachment.
10. Restore the ceiling using the same kind/model ceiling boards, frames and mechanism to jibe with the existing ceiling design and construction, and to suit the cassette type air conditioning units. Make a detailed plan on how to re-construct the affected ceiling for approval before implementation.
11. Install the above units using appropriate size hard-drawn copper tubing and fittings. All field connection must be soldered type to minimize refrigerant and oil leakage and system troubles.
12. Insulate the suction lines and other pipe lines required by manufacturer using one-inch (1") thick closed-cell rubber insulation, Aeroflex or approved equivalent (to be approved by PICC-MSD Assistant Director/TSD Director) complete with aluminium cladding.
13. Provide and install all electrical and control system requirements as well as accessories with capacities and specifications properly designed according to the best practices in the industry, Philippine Electrical Code, NEMA and other applicable local and international codes. All electrical/electronic system requirements shall include electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/Intermediate Metal Conduit (IMC) or approved equal, panel boards/enclosure – weather-proof, transformer primary and secondary circuit breakers, Outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equal, magnetic starter with overload relay-Fujihaya or approved equal (to be approved by PICC-MSD Assistant Director/TSD Director), controllers, and accessories for the power supply and control system of the above air conditioners.
14. Install Watt-hour meter/s, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication, panel mounted, complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring and/or recording of the total power consumption of the air conditioning units/system to be installed at 2/F Service Pantry (Bake Shop). Install one unit watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system if all the aircon units are connected to one (1) source of power supply. However, if all the aircon units are connected to different sources of power supply, install multiple units watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system connected to all sources of power supply
15. Paint all angle bars, conduit and other metallic component with two coat epoxy paint, cord or approved equal. Paint for electrical conduit shall be color orange and for angle bars shall be color gray.
16. Dismantle carefully the existing Supply/Return Ducts above the ceiling within 2/F Service Pantry (Bake Shop). Cut into smaller sections for easy hauling. Coordinate with PICC-MSD Project In-Charge for the proper duct length of the cut

and for the location where the ceiling will be temporarily dismantled/opened for hauling down activity of the dismantled above ceiling ducts. Restore the affected ceiling after the dismantling works.

17. Always clean the working area on daily basis and haul the dismantled building or system accessories and components carefully to temporary designated area. All garbage shall be hauled outside the PICC premises at the Contractor's expense.
18. Conduct operation testing and commissioning of all indoor units and outdoor unit together with the PICC representative from Mechanical Services Division, and record all actual operating data as follows:
 - 18.1. Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one (1) hour after start-up of all units operating at full or high speed.
 - 18.2. Ambient or atmospheric temperature (Fahrenheit and Celsius).
 - 18.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new unit with good operating condition. Also, full payment will not be processed.
 - 18.4. Standing pressure of the refrigerant system prior to test operation.
 - 18.5. Suction and discharge pressure and temperature of the refrigerant system.
 - 18.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition.

Note: All sound pressure levels should conform with the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.
 - 18.7. Good operating condition of drain pump.
 - 18.8. Other actual operating parameters.
19. Turn-over all the air conditioning units and their accessories as well as other affected building attachment/facilities in good order/operating condition.

A-3. SATELLITE KITCHEN & FOOD PREPARATION AREA (PECO KITCHEN)

SPECIFIC SCOPE OF WORKS:

1. Supply and deliver the following minimum requirement multi-split, inverter-type packaged-type air conditioning units:

1.1. Two (2) units 14 to 14.5kW (5.0Hp) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 33-35dB(A), Medium: 38-41dB(A) and High: 43-45dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

1.2 Two (2) units 11.2 to 11.5kW (4.0HP) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 32-35dB(A), Medium: 36-40dB(A) and High: 41-43dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

1.3 Two (2) units 4.5 to 4.7kW (1.6HP) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow, free blow with very low or low noise level – Low: 26-27dB(A), Medium: 28-30dB(A) and High: 31-32dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60 Hz using environment-friendly refrigerant R410A ; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

Note: Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity

must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

Notes for all indoor units:

- a. Electronics/electrical parts must be compliant with the directive for restriction of hazardous substance (RoHS) and and Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/ DENR Administrative Oder No. 2005-05 (Toxic Chemical Substances for Issuance of Chemical Control Orders).
- b. Alternative offer based on horsepower rating shall not be considered and accepted. Unit to be delivered and installed shall be based on the General Equipment Design Capacity and Distribution Plan for each room as provided by PICC under Specific Scope of Work Item No. 2 and the Cluster System Design Plan and Equipment Schedules for each room/area to be done by the bidding Contractor as required under Specific Scope of Works Item No. 4.
- c. Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

1.4. One (1) lot Modular Outdoor Unit/s with cooling capacity appropriately-designed by participating contractor for the total capacity of above indoor units per cluster at the Satellite Kitchen & Food Preparation Area (PECO Kitchen) modular-type, 440-460 Volts, 3 phase, 60 Hz using environment-friendly refrigerant R410A and electronics/electrical parts compliant with the Directive for restriction of hazardous substance (RoHS), equipped with inverter-inverter combination of compressors or master/lead (1 inverter) and slave scroll compressors, equipped with automatic by-pass compressor operation system control – meaning, the air conditioning system operation shall continue even if one or two compressors break down, complete of necessary control devices, sensors, shut-off valves, piping, piping kits, and accessories for complete and normal operating condition with the indoor unit. Compressor (inverter and/or slave) should be available in the local market. If the outdoor unit is 220V-240V or 380V, the Contractor shall provide a step-down transformer.

The multi-split inverter system must have the following design and operational capabilities, features and specifications:

- 1.4.1. Inverter lead and inverter combination of compressor system or a master/lead (1 inverter) and slave scroll compressors system.
- 1.4.2. Cluster installation design and operational capacity combination ratio of indoor and outdoor units shall

never be more than 10 percent or the total rated capacity of outdoor unit shall never be less than 90 percent of the total rated capacity of combination of indoor unit capacity. In addition, the outdoor system must be able to operate properly at 50 percent capacity or when the indoor units' capacity is reduced to 50 percent.

1.4.3. High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).

1.4.4. Compliant with the low sound level requirements as follows:

1.4.4.1. Indoor unit – the specified sound level for each type and model for low, medium and high speed fan shall be the basis and strictly followed (refer to individual unit's specification as required in this bidding document).

1.4.4.2. Modular outdoor unit - 45 to 68 dB(A)

1.4.5. Automatic back up operation for multiple outdoor and/or single outdoor unit – meaning, the entire cluster system continues to operate automatically even if one or more compressor or outdoor units break down. The air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.

1.4.6. Capacity increment of modular outdoor unit must be limited to 2Hp up to 8Hp.

1.4.7. Compliant with both (1.) environment-friendly refrigerant and (2.) directive for restriction of hazardous substance (RoHS) both for electrical and electronic equipment and devices. It is an international environment directive to regulate the use of designated chemical substances such as: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment which is also in compliance with Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.

1.4.8. Equipped with automatic test operation for system check and trouble shooting.

	<p>1.4.9. Currently certified air-con units or product by AHRI (Air-Conditioning, Heating, and Refrigeration Institute).</p> <p>1.4.10. With controllers for zoning, interlocking of equipment and ready and compatible with building management system (BMS) connection.</p> <p>1.4.11. Easy wiring for normal centralized address setting.</p>
1.5. One (1) lot	Condensate drain pumps. One (1) extra or spare drain pump must be provided/delivered for each model of drain pump installed in each unit. It means, one (1) unit for 14.0 to 14.5kW (5.0HP) capacity Indoor Unit and one (1) unit for 11.2 to 11.5kW (4.0HP) capacity Indoor Unit and one (1) unit for 4.5 to 4.7kW (1.6HP) capacity Indoor Unit.
1.6. One (1) lot	Indoor Unit Printed Circuit Board (IU-PCB). One (1) extra or spare PCB must be provided/delivered for each model of PCB installed in each indoor unit. It means, one (1) unit for 14.0 to 14.5kW (5.0HP) capacity Indoor Unit and one (1) unit for 11.2 to 11.5kW (4.0HP) capacity Indoor Unit and one (1) unit for 4.5 to 4.7kW (1.6HP) capacity Indoor Unit.
1.7. One (1) lot	Outdoor Unit printed circuit board (OU-PCB). One (1) extra or spare of complete set of PCB must be provided/delivered for each model of PCB installed in each different capacity outdoor units.
1.8. One (1) lot	Panel (front)/signal receiver, wired remote controller, branch piping header/joints or ref-net joints and other devices and accessories necessary for complete installation and accessories.
1.9. One (1) lot	Watt-hour meter, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication connection, panel mounted; complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring of the total power consumption of the air-conditioning units/system to be installed. Provide and install one (1) unit for the main feeder line if the power of all indoor units and outdoor units is sourced/connected directly from one (1) power supply system.
1.10. One (1) lot	Hard-drawn copper tubes (type L) and fittings, clamps, supports and other materials necessary for the proper and complete installation of the above units.
1.11. One (1) lot	Closed-cell rubber insulation (Aeroflex or its approved equivalent), one (1)-inch thick or its approved equivalent.
1.12. One (1) lot	Condensate Drain Pipe (Neltex, Moldex, Atlanta or its approved equivalent), Polyvinyl Chloride (PVC) pipe and

fittings, 1-inch thick closed-cell insulation wrapped with polyethylene blue tape and its hanger & support system.

- 1.13. One (1) lot Electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/IMC panel boards/enclosure – weather-proof, System outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equivalent, magnetic starter with overload relay-Fujihaya or approved equivalent, controllers, and accessories for the power supply and control system of the above air conditioners. Each indoor unit shall be provided with circuit breaker for control and isolation purposes for safety and repair works.
- 1.14. One (1) lot Environment-friendly system refrigerant R410A for the multi-split.
- 1.15. One (1) lot Environment-friendly cleaning agent, R-141B for flushing.
- 1.16. One (1) lot Nitrogen gas for flushing and cleaning the pipe line.
- 1.17. One (1) lot Oxygen-acetylene gas for cutting and welding works.
- 1.18. One (1) lot Silver rods and other miscellaneous materials and supplies.
- 1.19. One (1) lot Angle bars, 3/16” thick for steel base of fan coil units, 1/8” thick for supports. Use only engineering standard thickness (no commercial standard)
- 1.20. One (1) lot Epoxy primer, enamel paints and other parts and materials necessary for the completion of repair works.
- 1.21. One (1) lot Ceiling board – Use the same materials and specifications as utilized in the Satellite Kitchen & Food Preparation Area (PECO Kitchen). Refer to actual material and specification at site.
- 1.22. One (1) lot Dismantling works for the existing Airconditioning Unit serving Satellite Kitchen & Food Preparation Area (PECO Kitchen).
- 1.23. One (1) lot Miscellaneous materials and accessories necessary for the completion of works and other restoration works.
- 1.24. One (1) lot Louver enclosure for the outdoor or condenser units at PECO Kitchen and Food Preparation. Louver design, materials specification (Hardiflex or approved equivalent), paint color, space clearances, pedestal/ concrete foundation, and cost estimate process shall be based on the existing condenser louver serving Room D-100. Paint color is black.

Note: PICC shall provide 440 Volts power supply for VRF/VRV Equipment Installation

2. Design properly and appropriately the capacity of each set of cluster system based on the general design capacity and equipment schedule below and modular-type outdoor unit/s considering the capacity, type, and number of indoor units to be installed per set or per cluster system.

Note:

One (1) cluster system = one (1) set of outdoor unit plus two (2) or more indoor units; outdoor could be one or more units. Consider the maximum power and comfort cooling efficiency of the system at summer (April-May) condition in the proper design capacity and selection of the modular outdoor unit. Occupied room temperature shall be within 73 – 74 degrees Fahrenheit during summer (April-May) condition when outdoor/dry-bulb temperature reaches 97 to 100 degrees Fahrenheit. Total capacity of outdoor unit/system shall never be less than 90 percent the total capacity of the entire indoor rated capacity or the total capacity of indoor units shall never be more than 110 percent of the capacity of the outdoor unit even if the capability and capacity is up to 130 percent.

Table A-1: General Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Satellite Kitchen & Food Preparation Area (PECO Kitchen)	73	<p>2 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>2 units – 11.2 to 11.5kW (4.0Hp) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>2 units – 4.5 to 4.7kW (1.6Hp) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p>

Note: Attached is the Floor Plan (size-long bond paper)

4. Make and submit a more detailed Equipment Design Capacity and Distribution Plan or Schedule of Equipment (long bond paper size only) for each room or area listing and showing the following:

3.1. Quantity, type and model of each indoor unit serving the room or area,

3.2. Cooling capacity of each indoor unit in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.

- 3.3. Airflow rate/capacity of each indoor unit in cubic meter per second (CMS) and in equivalent cubic feet per minute (CFM).
- 3.4. Sound level pressure of each type/model of indoor unit in decibels A-weighting (dBA) indicating/showing the sound level for the low fan speed, medium fan speed and high fan speed for 3-speed units or low fan speed and high fan speed for 2-speed units or low fan speed, 2 medium fan speeds and high fan speed for 4-speed units.
- 3.5. Total capacity of each room or area based on the designed and rated capacity of each equipment to be installed in kilowatt (kW) and the equivalent tonnage (1 ton equals 12,000 BTU per Hour) and horsepower cooling capacity rating.
- 3.6. Power consumption or power input in kilowatt (kW)
- 3.7. Power supply indicating the voltage, full-load ampere, phase and frequency
- 3.8. Dimension – height, width and depth – in millimetre (mm) and weight in Kilogram
- 3.9. Colour of indoor unit, and
- 3.10. Other detailed specifications and features of indoor units. Refer to sample Table shown below.

Sample Table A-1-1: Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Satellite Kitchen & Food Preparation Area (PECO Kitchen)	73	<p>2 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>2 units – 11.2 to 11.5kW (4.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>2 units – 4.5 to 4.7kW (1.6HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p>

4. Make and submit a detailed Cluster System Design Plan and Schedule of Equipment (use long-bond paper size only) showing and listing the number (quantity), type, model, rated cooling capacity [(kW and tons (TR) as well as in horsepower], and the total and individual kilowatt input of indoor unit and outdoor

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unit for each cluster system for Satellite Kitchen & Food Preparation Area (PECO Kitchen). Refer to sample tabulation below for basic guideline:

Sample Table A-1-2: Sample Basic Cluster System Design Plan and Equipment Schedule

Cluster No.	Area Served	Outdoor Units		Connected Indoor Units	
		Qty-Unit	Description	Qty-Unit	Description
1	Satellite Kitchen & Food Preparation Area (PECO Kitchen)	1 set	___kW (22.0Hp) consisting of: 1 unit ___kW (10.0Hp) capacity, model _____ & 1 unit ___kW (12.0Hp) capacity, model _____	2 units 2 units 2 units	Ceiling Cassette-type, ___kW (5.0Hp), Model _____ & Ceiling Cassette-type, ___kW (4.0Hp), Model _____ & Ceiling Cassette-type, ___kW (1.6Hp), Model _____

5. Make and submit a more detailed installation plan and drawings using A3 size bond-paper showing all necessary details based on the PICC-supplied floor plan, list of indoor units, capacity design and distribution plan (equipment schedule), cluster/group system design plan, proposed location of outdoor unit/s, actual conditions observed, and other conditions.
6. Make and submit a detailed single-line electrical layout/drawing using A3 size bond-paper showing all necessary details for feeder lines, control wirings, control panels, circuit breakers with capacities, watt-hour meter and all other accessories for the whole and cluster design circuit.
7. Install the above-mentioned units, accessories and materials for their proper operation in Satellite Kitchen & Food Preparation Area (PECO Kitchen). Install indoor units or fan coil units (FCU) at the ceiling of said area, following proper alignment and uniform distances for proper air distribution and aesthetics with

appropriate hangers, vibration isolator, and supports bolted to the roof deck slab soffit. Use proper size support-base and frames to avoid waggling expansion bolts. Install the indoor units based on the capacity design plan, cluster design plan and layout as shown in Table A-1: General Equipment Capacity Design and Distribution Plan (Schedule of Equipment), Cluster/Group Design Plan (refer to Sample Table A-1-2) and Installation Plan/Drawing (size-30" x 40") and electrical layout (size-30" x 40") as part of submittals by the Contractor during implementation stage.

Dismantle properly/carefully any air duct and building accessories obstructing the proper installation of the unit. Any affected ceiling must also be restored as discussed in Item 10.

8. Install outdoor units outside at the Garden Area adjacent to the PECO Kitchen (verify at site) considering the best location for aesthetics for Multi-split VRV/VRF Inverter-Type A/C System. Said ACCUs shall be installed with gauge no. 20, GI air deflector with louver enclosure as specified in Item 1.23. Dismantle the old ACCU louver enclosure and replace with new louver enclosure as indicated above. Concrete footing/base shall be properly formed and cured upon the said existing ground floor level. Restore damaged areas affected by the contractor's works.
9. Re-route or relocate electrical conduits and other materials inside the ceiling obstructing the installation area of the indoor unit or fan coil unit (FCU). Free the installation area of any obstruction and restore the functionality of those re-routed facilities or building/system attachment.
10. Restore the ceiling using the same kind of ceiling wooden materials/frames and mechanism to jibe with the existing ceiling design and construction, and to suit the cassette type air conditioning units. Make a detailed plan on how to re-construct the affected ceiling for approval before implementation.
11. Install the above units using appropriate size hard-drawn copper tubing and fittings. All field connection must be soldered type to minimize refrigerant and oil leakage and system troubles.
12. Insulate the suction lines and other pipe lines required by manufacturer using one-inch (1") thick closed-cell rubber insulation, Aeroflex or approved equivalent and wrapped with polyethylene white tape (to be approved by PICC-MSD Assistant Director/TSD Director) complete with aluminum cladding.
13. Provide and install all electrical and control system requirements as well as accessories with capacities and specifications properly designed according to the best practices in the industry, Philippine Electrical Code, NEMA and other applicable local and international codes. All electrical/electronic system requirements shall include electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/Intermediate Metal Conduit (IMC) or approved equal, panel boards/enclosure – weather-proof, transformer primary and secondary circuit breakers, Outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equal, magnetic starter with overload relay-Fujihaya or approved equal (to be approved by PICC-MSD Assistant Director/TSD Director), controllers, and accessories for the power supply and control system of the above air conditioners.

14. Install Watt-hour meter/s, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication, panel mounted, complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring and/or recording of the total power consumption of the air conditioning units/system to be installed at Satellite Kitchen & Food Preparation Area (PECO Kitchen). Install one-unit watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system if all the aircon units are connected to one (1) source of power supply. However, if all the aircon units are connected to different sources of power supply, install multiple units watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system connected to all sources of power supply
15. Paint all angle bars, conduit and other metallic component with two coat epoxy paint, cord or approved equal. Paint for electrical conduit shall be color orange and for angle bars shall be color gray.
16. Dismantle carefully the existing AC System and Supply/Return Ducts above the ceiling within Satellite Kitchen & Food Preparation Area (PECO Kitchen). Cut into smaller sections for easy hauling. Coordinate with PICC-MSD Project In-Charge for the proper duct length of the cut and for the location where the ceiling will be temporarily dismantled/opened for hauling down activity of the dismantled above ceiling ducts. Restore the affected ceiling after the dismantling works.
17. Always clean the working area on daily basis and haul the dismantled building or system accessories and components carefully to temporary designated area. All garbage shall be hauled outside the PICC premises at the Contractor's expense.
18. Conduct operation testing and commissioning of all indoor units and outdoor unit together with the PICC representative from Mechanical Services Division, and record all actual operating data as follows:
 - 18.1. Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one (1) hour after start-up of all units operating at full or high speed.
 - 18.2. Ambient or atmospheric temperature (Fahrenheit and Celsius).
 - 18.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new unit with good operating condition. Also, full payment will not be processed.
 - 18.4. Standing pressure of the refrigerant system prior to test operation.
 - 18.5. Suction and discharge pressure and temperature of the refrigerant system.
 - 18.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and

recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition.

Note: All sound pressure levels should conform with the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.

18.7. Good operating condition of drain pump.

18.8. Air Balancing Report.

18.9. Other actual operating parameters.

19. Turn-over all the air conditioning units and their accessories as well as other affected building attachment/facilities in good order/operating condition

A-4. SECURITY OFFICE

SPECIFIC SCOPE OF WORKS:

1. Supply and deliver the following minimum requirement multi-split, inverter-type packaged-type air conditioning units:

1.1. Five (5) units 14 to 14.5kW (5.0Hp) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 33-35dB(A), Medium: 38-41dB(A) and High: 43-45dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

1.2. Two (2) units 7.1 to 7.3kW (2.5HP) Cooling Capacity Indoor Unit, Wall Mounted Type, free blow with very low or low noise level – Low: 37-39dB(A) and High: 45-47dB(A) measured at 1.5 meter below the center of the unit, Airflow rate (H/L) 660-680cfm /480-500cfm, 220-230 Volts, 1 phase, 60 Hz using environment-friendly refrigerant R410A ; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.



1.3. Two (2) units 7.1 to 7.3kW (2.5HP) Cooling Capacity Indoor Unit, Floor Standing Type, free blow with very low or low noise level – Low: 35-37dB(A) and High: 40-42dB(A) measured at 1.5 meter below the center of the unit, Airflow rate (H/L) 550-570cfm /410-430cfm, 220-230 Volts, 1 phase, 60 Hz using environment-friendly refrigerant R410A ; with fixed wired remote control on-off switch to be installed near the room’s main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

1.4. Two (2) units 5.6 to 5.8kW (2.0HP) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 26-27dB(A), Medium: 28-30dB(A) and High: 31-33dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room’s main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

Note: Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

Notes for all indoor units:

- a. Electronics/electrical parts must be compliant with the directive for restriction of hazardous substance (RoHS) and and Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/ DENR Administrative Oder No. 2005-05 (Toxic Chemical Substances for Issuance of Chemical Control Orders.
- b. Alternative offer based on horsepower rating shall not be considered and accepted. Unit to be delivered and installed shall be based on the General Equipment Design Capacity and Distribution Plan for each room as provided by PICC under Specific Scope of Work Item No. 2 and the Cluster System Design Plan and Equipment Schedules for each room/area to be done by the bidding Contractor as required under Specific Scope of Works Item No. 4.
- c. Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton

cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

1.5. One (1) lot

Modular Outdoor Unit/s with cooling capacity appropriately-designed by participating contractor for the total capacity of above indoor units per cluster at the Security Office modular-type, 440-460 Volts, 3 phase, 60 Hz using environment-friendly refrigerant R410A and electronics/electrical parts compliant with the Directive for restriction of hazardous substance (RoHS), equipped with inverter-inverter combination of compressors or master/lead (1 inverter) and slave scroll compressors, equipped with automatic by-pass compressor operation system control – meaning, the air conditioning system operation shall continue even if one or two compressors break down, complete of necessary control devices, sensors, shut-off valves, piping, piping kits, and accessories for complete and normal operating condition with the indoor unit. Compressor (inverter and/or slave) should be available in the local market. If the outdoor unit is 220V-240V or 380V, the Contractor shall provide a step-down transformer.

The multi-split inverter system must have the following design and operational capabilities, features and specifications:

- 1.5.1. Inverter lead and inverter combination of compressor system or a master/lead (1 inverter) and slave scroll compressors system.
- 1.5.2. Cluster installation design and operational capacity combination ratio of indoor and outdoor units shall never be more than 10 percent or the total rated capacity of outdoor unit shall never be less than 90 percent of the total rated capacity of combination of indoor unit capacity. In addition, the outdoor system must be able to operate properly at 50 percent capacity or when the indoor units' capacity is reduced to 50 percent.
- 1.5.3. High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).
- 1.5.4. Compliant with the low sound level requirements as follows:
 - 1.5.4.1. Indoor unit – the specified sound level for each type and model for low, medium and high speed fan shall be the basis and strictly followed (refer to individual unit's

specification as required in this bidding document).

1.5.4.2. Modular outdoor unit - 45 to 68 dB(A)

1.5.5. Automatic back up operation for multiple outdoor and/or single outdoor unit – meaning, the entire cluster system continues to operate automatically even if one or more compressor or outdoor units break down. The air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.

1.5.6. Capacity increment of modular outdoor unit must be limited to 2Hp up to 8Hp.

1.5.7. Compliant with both (1.) environment-friendly refrigerant and (2.) directive for restriction of hazardous substance (RoHS) both for electrical and electronic equipment and devices. It is an international environment directive to regulate the use of designated chemical substances such as: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment which is also in compliance with Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.

1.5.8. Equipped with automatic test operation for system check and trouble shooting.

1.5.9. Currently certified air-con units or product by AHRI (Air-Conditioning, Heating, and Refrigeration Institute).

1.5.10. With controllers for zoning, interlocking of equipment and ready and compatible with building management system (BMS) connection.

1.5.11. Easy wiring for normal centralized address setting.

1.6. One (1) lot

Condensate drain pumps. One (1) extra or spare drain pump must be provided/delivered for each model of drain pump installed in each unit. It means, one (1) unit for 14 to 14.5kW (5.0Hp), one (1) unit for 7.1 to 7.3kW (2.5HP) and one (1) unit for 5.6 to 5.8kW (2.0HP) capacity Indoor Units.

1.7. One (1) lot

Indoor Unit Printed Circuit Board (IU-PCB). One (1) extra or spare PCB must be provided/delivered for each model of PCB installed in each indoor unit. It means, one (1) unit for 14 to 14.5kW (5.0Hp), one (1) unit for 7.1 to 7.3kW (Floor Mounted 2.5HP), one (1) unit for 7.1 to 7.3kW (Wall

	Mounted 2.5HP) and one (1) unit for 5.6 to 5.8kW (2.0HP) capacity Indoor Units.
1.8. One (1) lot	Outdoor Unit printed circuit board (OU-PCB). One (1) extra or spare of complete set of PCB must be provided/delivered for each model of PCB installed in each different outdoor unit.
1.9. One (1) lot	Panel (front)/signal receiver, wired remote controller, branch piping header/joints or ref-net joints and other devices and accessories necessary for complete installation and accessories.
1.10. One (1) lot	Watt-hour meter, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication connection, panel mounted; complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring of the total power consumption of the air-conditioning units/system to be installed. Provide and install one (1) unit for the main feeder line if the power of all indoor units and outdoor units is sourced/connected directly from one (1) power supply system.
1.11. One (1) lot	Hard-drawn copper tubes (type L) and fittings, clamps, supports and other materials necessary for the proper and complete installation of the above units.
1.12. One (1) lot	Closed-cell rubber insulation (Aeroflex or its approved equivalent), one (1)-inch thick or its approved equivalent.
1.13. One (1) lot	Condensate Drain Pipe (Neltex, Moldex, Atlanta or its approved equivalent), Polyvinyl Chloride (PVC) pipe and fittings, 1-inch thick closed-cell insulation wrapped with polyethylene blue tape and its hanger & support system.
1.14. One (1) lot	Electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/IMC panel boards/enclosure – weather-proof, System outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equivalent, magnetic starter with overload relay-Fujihaya or approved equivalent, controllers, and accessories for the power supply and control system of the above air conditioners. Each indoor unit shall be provided with circuit breaker for control and isolation purposes for safety and repair works.
1.15. One (1) lot	Environment-friendly system refrigerant R410A for the multi-split.
1.16. One (1) lot	Environment-friendly cleaning agent, R-141B for flushing
1.17. One (1) lot	Nitrogen gas for flushing and cleaning the pipe line.

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- 1.18. One (1) lot Oxygen-acetylene gas for cutting and welding works.
- 1.19. One (1) lot Silver rods and other miscellaneous materials and supplies.
- 1.20. One (1) lot Angle bars, 3/16" thick for steel base of fan coil units, 1/8" thick for supports. Use only engineering standard thickness (no commercial standard)
- 1.21. One (1) lot Epoxy primer, enamel paints and other parts and materials necessary for the completion of repair works.
- 1.22. One (1) lot Ceiling board – Use the same materials and specifications as utilized in the Security Office. Refer to actual material and specification at site.
- 1.23. One (1) lot Dismantling works for the existing Airconditioning Units and Supply/Return Ducts above the ceiling within the Security Office.
- 1.24. One (1) lot Miscellaneous materials and accessories necessary for the completion of works and other restoration works.
- 1.25. One (1) lot Relocation/aligning of ACCU Louver Enclosure as indicated in the approved drawings/plans.

Note: PICC shall provide 440 Volts power supply for VRF/VRV Equipment Installation

- 2. Design properly and appropriately the capacity of each set of cluster system based on the general design capacity and equipment schedule below and modular-type outdoor unit/s considering the capacity, type, and number of indoor units to be installed per set or per cluster system.

Note: One (1) cluster system = one (1) set of outdoor unit plus two (2) or more indoor units; outdoor could be one or more units. Consider the maximum power and comfort cooling efficiency of the system at summer (April-May) condition in the proper design capacity and selection of the modular outdoor unit. Occupied room temperature shall be within 73 – 74 degrees Fahrenheit during summer (April-May) condition when outdoor/dry-bulb temperature reaches 97 to 100 degrees Fahrenheit. Total capacity of outdoor unit/system shall never be less than 90 percent the total capacity of the entire indoor rated capacity or the total capacity of indoor units shall never be more than 110 percent of the capacity of the outdoor unit even if the capability and capacity is up to 130 percent.

Table A-1: General Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Security Office	218	5 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required) 2 units – 7.1 to 7.3kW (2.5HP) Wall Mounted, other features (enumerate in details as required) 2 units – 7.1 to 7.3kW (2.5HP) Floor Mounted, other features (enumerate in details as required) 2 units – 5.6 to 5.8kW (2.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

Note: Attached is the Floor Plan (size-long bond paper)

3. Make and submit a more detailed Equipment Design Capacity and Distribution Plan or Schedule of Equipment (long bond paper size only) for each room or area listing and showing the following:

- 3.1. Quantity, type and model of each indoor unit serving the room or area,
- 3.2. Cooling capacity of each indoor unit in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating
- 3.3. Airflow rate/capacity of each indoor unit in cubic meter per second (CMS) and in equivalent cubic feet per minute (CFM).
- 3.4. Sound level pressure of each type/model of indoor unit in decibels A-weighting (dBA) indicating/showing the sound level for the low fan speed, medium fan speed and high fan speed for 3-speed units or low fan speed and high fan speed for 2-speed units or low fan speed, 2 medium fan speeds and high fan speed for 4-speed units.
- 3.5. Total capacity of each room or area based on the designed and rated capacity of each equipment to be installed in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.
- 3.6. Power consumption or power input in kilowatt (kW)

- 3.7. Power supply indicating the voltage, full-load ampere, phase and frequency
- 3.8. Dimension – height, width and depth – in millimetre (mm) and weight in Kilogram
- 3.9. Colour of indoor unit, and
- 3.10. Other detailed specifications and features of indoor units. Refer to sample table shown below.

Sample Table A-1-1: Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	Security Office	218	<p>5 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p> <p>2 units – 7.1 to 7.3kW (2.5HP) Wall Mounted, other features (enumerate in details as required)</p> <p>2 units – 7.1 to 7.3kW (2.5HP) Floor Mounted, other features (enumerate in details as required)</p> <p>2 units – 5.6 to 5.8kW (2.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)</p>

- 4. Make and submit a detailed Cluster System Design Plan and Schedule of Equipment (use long-bond paper size only) showing and listing the number (quantity), type, model, rated cooling capacity [(kW and tons (TR) as well as in horsepower], and the total and individual kilowatt input of indoor unit and outdoor unit for each cluster system for Security Office. Refer to sample tabulation below for basic guideline:

Sample Table A-1-2: Sample Basic Cluster System Design Plan and Equipment Schedule

Cluster No.	Area Served	Outdoor Units		Connected Indoor Units	
		Qty-Unit	Description	Qty-Unit	Description
1	Security Office	1 set	CLUSTER 1: ___ kW (22Hp) consisting of:		
			1 unit ___ kW (10Hp) capacity, model _____ and	3 units	Cassette-type, ___ kW(5.0Hp), Model _____ and
		1 unit ___ kW (12Hp) capacity, model _____	2 units	Floor Mounted, ___ kW(2.5Hp), Model _____	
		1 set	CLUSTER 2: ___ kW (20Hp) consisting of:		
			1 units ___ kW (8Hp) capacity, model _____ and	2 units	
			1 unit ___ kW (12Hp) capacity, model _____	2 units	Cassette-type, ___ kW(5.0Hp), Model _____
				2 units	Wall Mounted, ___ kW(2.5Hp), Model _____ and Cassette-type, ___ kW(2.0Hp), Model _____

5. Make and submit a more detailed installation plan and drawings using A3 size bond-paper showing all necessary details based on the PICC-supplied floor plan, list of indoor units, capacity design and distribution plan (equipment schedule), cluster/group system design plan, proposed location of outdoor unit/s, actual conditions observed, and other conditions.

6. Make and submit a detailed single-line electrical layout/drawing using A3 size bond-paper showing all necessary details for feeder lines, control wirings, control panels, circuit breakers with capacities, watt-hour meter and all other accessories for the whole and cluster design circuit.

7. Install the above-mentioned units, accessories and materials for their proper operation in Security Office. Install indoor units or fan coil units (FCU) at the ceiling of said area, following proper alignment and uniform distances for proper air distribution and aesthetics with appropriate hangers, vibration isolator, and supports bolted to the second floor slab. Use proper size support-base and frames to avoid wagging expansion bolts.
 Install the indoor units based on the capacity design plan, cluster design plan and layout as shown in Table A-1: General Equipment Capacity Design and Distribution Plan (Schedule of Equipment), Cluster/Group Design Plan (refer to Sample Table A-1-2) and Installation Plan/Drawing (size-30" x 40") and electrical layout (size-30" x 40") as part of submittals by the Contractor during implementation stage.
 Dismantle properly/carefully any air duct and building accessories obstructing the proper installation of the unit. Any affected air duct should be repaired, covered and sealed properly for possible emergency use as the chilled water system shall still be on stand-by until the same is disposed. Any affected ceiling must also be restored as discussed in Item 10.

8. Install outdoor units outside at the Garden adjacent of D-100 (verify at site) considering the best location for aesthetics for Multi-Split VRV/VRF Inverter-Type A/C System. Adjust/align the existing ACCU louver enclosure as indicated in the approved drawings/plans provide individual deflecting ducts if necessary. Fabricate angular metal (2inches x 2inches x 1/4 inches) base/stand and metal support brackets with footings embedded on a concrete base, 5ft (L) x 3 ft (W) x 5 inches (T), or as appropriately required per actual outdoor unit sizes. Concrete footing/base shall be properly formed and cured atop the said existing water-proofed deck. Restore damaged areas affected by the contractor's works.

9. Re-route or relocate air duct, electrical conduits and other materials inside the ceiling obstructing the installation area of the indoor unit or fan coil unit (FCU). Free the installation area of any obstruction and restore the functionality of those re-routed facilities or building/system attachment.

10. Restore the ceiling using the same kind/model ceiling boards, frames and mechanism to jibe with the existing ceiling design and construction, and to suit the cassette type air conditioning units. Make a detailed plan on how to re-construct the affected ceiling for approval before implementation.

11. Install the above units using appropriate size hard-drawn copper tubing and fittings. All field connection must be soldered type to minimize refrigerant and oil leakage and system troubles.

12. Insulate the suction lines and other pipe lines required by manufacturer using one-inch (1") thick closed-cell rubber insulation, Aeroflex or approved equivalent and wrapped with polyethylene white tape (to be approved by PICC-MSD Assistant Director/TSD Director) complete with aluminum cladding.

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13. Provide and install all electrical and control system requirements as well as accessories with capacities and specifications properly designed according to the best practices in the industry, Philippine Electrical Code, NEMA and other applicable local and international codes. All electrical/electronic system requirements shall include electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/Intermediate Metal Conduit (IMC) or approved equal, panel boards/enclosure – weather-proof, transformer primary and secondary circuit breakers, Outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equal, magnetic starter with overload relay-Fujihaya or approved equal (to be approved by PICC-MSD Assistant Director/TSD Director), controllers, and accessories for the power supply and control system of the above air conditioners.
14. Install Watt-hour meter/s, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication, panel mounted, complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring and/or recording of the total power consumption of the air conditioning units/system to be installed at Security Office. Install one-unit watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system if all the aircon units are connected to one (1) source of power supply. However, if all the aircon units are connected to different sources of power supply, install multiple units watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system connected to all sources of power supply
15. Paint all angle bars, conduit and other metallic component with two coat epoxy paint, cord or approved equal. Paint for electrical conduit shall be color orange and for angle bars shall be color gray.
16. Dismantle carefully the existing Airconditioning Units and Supply/Return Ducts above the ceiling within the Security Office. Cut into smaller sections for easy hauling. Coordinate with PICC-MSD Project In-Charge for the proper duct length of the cut and for the location where the ceiling will be temporarily dismantled/opened for hauling down activity of the dismantled above ceiling ducts. Restore the affected ceiling after the dismantling works.
17. Always clean the working area on daily basis and haul the dismantled building or system accessories and components carefully to temporary designated area. All garbage shall be hauled outside the PICC premises at the Contractor's expense.
18. Conduct operation testing and commissioning of all indoor units and outdoor unit together with the PICC representative from Mechanical Services Division, and record all actual operating data as follows:
 - 18.1. Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one (1) hour after start-up of all units operating at full or high speed.
 - 18.2. Ambient or atmospheric temperature (Fahrenheit and Celsius)
 - 18.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new

unit with good operating condition. Also, full payment will not be processed.

18.4. Standing pressure of the refrigerant system prior to test operation.

18.5. Suction and discharge pressure and temperature of the refrigerant system

18.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition.

Note: All sound pressure levels should conform with the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.

18.7. Good operating condition of drain pump.

18.8. Other actual operating parameters.

19. Turn-over all the air conditioning units and their accessories as well as other affected building attachment/facilities in good order/operating condition.

A-5. PLENARY & RECEPTION HALL LOBBY

SPECIFIC SCOPE OF WORKS:

1. Supply and deliver the following minimum requirement multi-split, inverter-type packaged-type air conditioning units:

1.1. Twenty-four (24) units 14 to 14.5kW (5.0Hp) Cooling Capacity Indoor Unit, Cassette-type ceiling concealed type, 4-way airflow/round airflow free-blow with very low or low noise/sound level – Low: 33-35dB(A), Medium: 38-41dB(A) and High: 43-45dB(A) measured at 1.5 meter below the center of the unit, 220-230 Volts, 1 phase, 60Hz using environment-friendly refrigerant, R410A; with fixed wired remote control on-off switch to be installed near the room's main door; each unit must be complete of necessary control devices, temperature and humidity sensors, air filter, drain pump, automatic refrigerant shut-off valves, piping, piping kit/branch joints/headers and accessories, with inverter-inverter or inverter-slave scroll compressor combination for outdoor units which should be available in the local market.

Note: Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

Notes for all indoor units:

- a. Electronics/electrical parts must be compliant with the directive for restriction of hazardous substance (RoHS) and and Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/ DENR Administrative Oder No. 2005-05 (Toxic Chemical Substances for Issuance of Chemical Control Orders.
- b. Alternative offer based on horsepower rating shall not be considered and accepted. Unit to be delivered and installed shall be based on the General Equipment Design Capacity and Distribution Plan for each room as provided by PICC under Specific Scope of Work Item No. 2 and the Cluster System Design Plan and Equipment Schedules for each room/area to be done by the bidding Contractor as required under Specific Scope of Works Item No. 4.
- c. Unit with slightly higher capacity in kilowatt or ton (TR) rating can be offered as alternative but never lower than specified. One (1) ton cooling capacity must be equal to 12,000 BTU/hour or equal to 3.517 kilowatt (kW).

1.2. One (1) lot

Modular Outdoor Unit/s with cooling capacity appropriately-designed by participating contractor for the total capacity of above indoor units per cluster at the Plenary & Reception Hall Lobby modular-type, 440-460 Volts, 3 phase, 60 Hz using environment-friendly refrigerant R410A and electronics/electrical parts compliant with the Directive for restriction of hazardous substance (RoHS), equipped with inverter-inverter combination of compressors or master/lead (1 inverter) and slave scroll compressors, equipped with automatic by-pass compressor operation system control – meaning, the air conditioning system operation shall continue even if one or two compressors break down, complete of necessary control devices, sensors, shut-off valves, piping, piping kits, and accessories for complete and normal operating condition with the indoor unit. Compressor (inverter and/or slave) should be available in the local market. If the outdoor unit is 220V-240V or 380V, the Contractor shall provide a step-down transformer.

The multi-split inverter system must have the following design and operational capabilities, features and specifications:

- 1.2.1. Inverter lead and inverter combination of compressor system or a master/lead (1 inverter) and slave scroll compressors system.
- 1.2.2. Cluster installation design and operational capacity combination ratio of indoor and outdoor units shall never be more than 10 percent or the total rated capacity of outdoor unit shall never be less than 90 percent of the total rated capacity of combination of

indoor unit capacity. In addition, the outdoor system must be able to operate properly at 50 percent capacity or when the indoor units' capacity is reduced to 50 percent.

1.2.3. High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).

1.2.4. Compliant with the low sound level requirements as follows:

1.2.4.1. Indoor unit – the specified sound level for each type and model for low, medium and high speed fan shall be the basis and strictly followed (refer to individual unit's specification as required in this bidding document).

1.2.4.2. Modular outdoor unit - 45 to 68 dB(A)

1.2.5. Automatic back up operation for multiple outdoor and/or single outdoor unit – meaning, the entire cluster system continues to operate automatically even if one or more compressor or outdoor units break down. The air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.

1.2.6. Capacity increment of modular outdoor unit must be limited to 2Hp up to 8Hp.

1.2.7. Compliant with both (1.) environment-friendly refrigerant and (2.) directive for restriction of hazardous substance (RoHS) both for electrical and electronic equipment and devices. It is an international environment directive to regulate the use of designated chemical substances such as: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment which is also in compliance with Republic Act (RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.

1.2.8. Equipped with automatic test operation for system check and trouble shooting.

1.2.9. Currently certified air-con units or product by AHRI (Air-Conditioning, Heating, and Refrigeration Institute).

	1.2.10. With controllers for zoning, interlocking of equipment and ready and compatible with building management system (BMS) connection.
	1.2.11. Easy wiring for normal centralized address setting.
1.3. One (1) lot	Condensate drain pumps. One (1) extra or spare drain pump must be provided/delivered for each model of drain pump installed in each unit. It means, one (1) unit for 14.0 to 14.5kW capacity Indoor Units.
1.4. One (1) lot	Indoor Unit Printed Circuit Board (IU-PCB). One (1) extra or spare PCB must be provided/delivered for each model of PCB installed in each indoor unit. It means, one (1) unit for 14.0 to 14.5kW capacity Indoor Units.
1.5. One (1) lot	Outdoor Unit printed circuit board (OU-PCB). One (1) extra or spare of complete set of PCB must be provided/delivered for each model of PCB installed in each different outdoor unit.
1.6. One (1) lot	Panel (front)/signal receiver, wired remote controller, branch piping header/joints or ref-net joints and other devices and accessories necessary for complete installation and accessories.
1.7. One (1) lot	Watt-hour meter, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication connection, panel mounted; complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring of the total power consumption of the air-conditioning units/system to be installed. Provide and install one (1) unit for the main feeder line if the power of all indoor units and outdoor units is sourced/connected directly from one (1) power supply system.
1.8. One (1) lot	Hard-drawn copper tubes (type L) and fittings, clamps, supports and other materials necessary for the proper and complete installation of the above units.
1.9. One (1) lot	Closed-cell rubber insulation (Aeroflex or its approved equivalent), one (1)-inch thick or its approved equivalent.
1.10. One (1) lot	Condensate Drain Pipe (Neltex, Moldex, Atlanta or its approved equivalent), Polyvinyl Chloride (PVC) pipe and fittings, 1-inch thick closed-cell insulation wrapped with polyethylene blue tape and its hanger & support system.
1.11. One (1) lot	Electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/IMC panel boards/enclosure – weather-proof, System outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equivalent, magnetic starter with overload relay-

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Fujihaya or approved equivalent, controllers, and accessories for the power supply and control system of the above air conditioners. Each indoor unit shall be provided with circuit breaker for control and isolation purposes for safety and repair works.

- 1.12. One (1) lot Environment-friendly system refrigerant R410A for the multi-split.
- 1.13. One (1) lot Environment-friendly cleaning agent, R-141B for flushing.
- 1.14. One (1) lot Nitrogen gas for flushing and cleaning the pipe line.
- 1.15. One (1) lot Oxygen-acetylene gas for cutting and welding works.
- 1.16. One (1) lot Silver rods and other miscellaneous materials and supplies.
- 1.17. One (1) lot Angle bars, 3/16" thick for steel base of fan coil units, 1/8" thick for supports. Use only engineering standard thickness (no commercial standard)
- 1.18. One (1) lot Epoxy primer, enamel paints and other parts and materials necessary for the completion of repair works.
- 1.19. One (1) lot Ceiling board – Use the same materials and specifications as utilized in the Plenary & Reception Hall Lobby. Refer to actual material and specification at site.
- 1.20. One (1) lot Dismantling works for the existing Supply/Return Ducts above the ceiling within the Plenary & Reception Hall Lobby.
- 1.21. One (1) lot Miscellaneous materials and accessories necessary for the completion of works and other restoration works.
- 1.22. One (1) lot Water proofing works for the concrete base – use existing materials, polyvinyl chloride membrane (verify at site)

Note: PICC shall provide 440 Volts power supply for VRF/VRV Equipment Installation

- 3. Design properly and appropriately the capacity of each set of cluster system based on the general design capacity and equipment schedule below and modular-type outdoor unit/s considering the capacity, type, and number of indoor units to be installed per set or per cluster system.

Note:

One (1) cluster system = one (1) set of outdoor unit plus two (2) or more indoor units; outdoor could be one or more units. Consider the maximum power and comfort cooling efficiency of the system at summer (April-May) condition in the proper design capacity and selection of the modular outdoor unit. Occupied room temperature shall be within 73 – 74 degrees Fahrenheit during summer (April-May) condition when outdoor/dry-bulb temperature reaches 97 to 100

degrees Fahrenheit. Total capacity of outdoor unit/system shall never be less than 90 percent the total capacity of the entire indoor rated capacity or the total capacity of indoor units shall never be more than 110 percent of the capacity of the outdoor unit even if the capability and capacity is up to 130 percent.

Table A-1: General Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	G/F Plenary & Reception Hall Lobby	1,160	10 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)
	2/F Plenary & Reception Hall Lobby	1,160	8 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)
	3/F Plenary & Reception Hall Lobby	1,160	6 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

Note: Attached is the Floor Plan (size-long bond paper)

3. Make and submit a more detailed Equipment Design Capacity and Distribution Plan or Schedule of Equipment (long bond paper size only) for each room or area listing and showing the following:

- 3.1. Quantity, type and model of each indoor unit serving the room or area,
- 3.2. Cooling capacity of each indoor unit in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating
- 3.3. Airflow rate/capacity of each indoor unit in cubic meter per second (CMS) and in equivalent cubic feet per minute (CFM).
- 3.4. Sound level pressure of each type/model of indoor unit in decibels A-weighting (dBA) indicating/showing the sound level for the low fan speed, medium fan speed and high fan speed for 3-speed units or low fan speed and high fan speed for 2-speed units or low fan speed, 2 medium fan speeds and high fan speed for 4-speed units.
- 3.5. Total capacity of each room or area based on the designed and rated capacity of each equipment to be installed in kilowatt (kW) and the equivalent tonnage (1 ton equals 12, 000 BTU per Hour) and horsepower cooling capacity rating.

- 3.6. Power consumption or power input in kilowatt (kW)
- 3.7. Power supply indicating the voltage, full-load ampere, phase and frequency
- 3.8. Dimension – height, width and depth – in millimetre (mm) and weight in Kilogram
- 3.9. Colour of indoor unit, and
- 3.10. Other detailed specifications and features of indoor units. Refer to sample table shown below.

Sample Table A-1-1: Equipment Design Capacity and Distribution Plan (Schedule of Equipment)

Item No.	Area Served	Area in Sq.M.	Detailed Specifications (Quantity, Capacity, Type of Units, Sound Level (dBA), etc...)
1	G/F Plenary & Reception Hall Lobby	1,160	10 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)
	2/F Plenary & Reception Hall Lobby	1,160	8 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)
	3/F Plenary & Reception Hall Lobby	1,160	6 units – 14.0 to 14.5kW (5.0HP) Cassette-type, round airflow or 4-way airflow, other features (enumerate in details as required)

- 4. Make and submit a detailed Cluster System Design Plan and Schedule of Equipment (use long-bond paper size only) showing and listing the number (quantity), type, model, rated cooling capacity [(kW and tons (TR) as well as in horsepower], and the total and individual kilowatt input of indoor unit and outdoor unit for each cluster system for Plenary & Reception Hall Lobby. Refer to sample tabulation below for basic guideline:

Sample Table A-1-2: Sample Basic Cluster System Design Plan and Equipment Schedule

Cluster No.	Area Served	Outdoor Units		Connected Indoor Units	
		Qty-Unit	Description	Qty-Unit	Description
1	G/F Plenary & Reception Hall Lobby	1 set	<p>CLUSTER 1:</p> <p>___kW (52Hp) consisting of:</p> <p>1 unit ___kW (12Hp) capacity, model _____</p>	10 units	Cassette-type, ___kW(5.0Hp), Model _____
	2/F Plenary & Reception Hall Lobby	1 set	<p>2 units ___kW (20Hp) capacity, model _____ and</p> <p>CLUSTER 2:</p> <p>___kW (42Hp) consisting of:</p> <p>2 units ___kW (12Hp) capacity, model _____</p>		
	3/F Plenary & Reception Hall Lobby	1 set	<p>1 unit ___kW (18Hp) capacity, model _____ and</p> <p>CLUSTER 3:</p> <p>___kW (32Hp) consisting of:</p> <p>1 unit ___kW (12Hp) capacity, model _____</p> <p>1 unit ___kW (20Hp) capacity, model _____ and</p>	6 units	Cassette-type, ___kW(5.0Hp), Model _____

5. Make and submit a more detailed installation plan and drawings using A3 size bond-paper showing all necessary details based on the PICC-supplied floor plan, list of indoor units, capacity design and distribution plan (equipment schedule), cluster/group system design plan, proposed location of outdoor unit/s, actual conditions observed, and other conditions.

6. Make and submit a detailed single-line electrical layout/drawing using A3 size bond-paper showing all necessary details for feeder lines, control wirings, control panels, circuit breakers with capacities, watt-hour meter and all other accessories for the whole and cluster design circuit.

7. Install the above-mentioned units, accessories and materials for their proper operation in Plenary & Reception Hall Lobby. Install indoor units or fan coil units (FCU) at the ceiling of said area, following proper alignment and uniform distances for proper air distribution and aesthetics with appropriate hangers, vibration isolator, and supports bolted to the second floor slab. Use proper size support-base and frames to avoid wagging expansion bolts.
 Install the indoor units based on the capacity design plan, cluster design plan and layout as shown in Table A-1: General Equipment Capacity Design and Distribution Plan (Schedule of Equipment), Cluster/Group Design Plan (refer to Sample Table A-1-2) and Installation Plan/Drawing (size-30" x 40") and electrical layout (size-30" x 40") as part of submittals by the Contractor during implementation stage.
 Dismantle properly/carefully any air duct and building accessories obstructing the proper installation of the unit. Any affected air duct should be repaired, covered and sealed properly for possible emergency use as the chilled water system shall still be on stand-by until the same is disposed. Any affected ceiling must also be restored as discussed in Item 10.

8. Install outdoor units outside at the Roof Deck of the Plenary/Reception Hall (verify at site) considering the best location for aesthetics for Multi-Split VRV/VRF Inverter-Type A/C System. Fabricate angular metal (2inches x 2inches x 1/4 inches) base/stand and metal support brackets with footings embedded on a concrete base, 5ft (L) x 3 ft (W) x 5 inches (T), or as appropriately required per actual outdoor unit sizes. Concrete footing/base shall be properly formed and cured atop the said existing water-proofed deck. Restore/apply new water proofing membrane (same of the existing polyvinyl chloride membrane) on the concrete footing/base. Restore damaged areas affected by the contractor's works.

9. Re-route or relocate air duct, electrical conduits and other materials inside the ceiling obstructing the installation area of the indoor unit or fan coil unit (FCU). Free the installation area of any obstruction and restore the functionality of those re-routed facilities or building/system attachment.

10. Restore the ceiling using the same kind/model ceiling boards, frames and mechanism to jibe with the existing ceiling design and construction, and to suit the cassette type air conditioning units. Make a detailed plan on how to re-construct the affected ceiling for approval before implementation.

11. Install the above units using appropriate size hard-drawn copper tubing and fittings. All field connection must be soldered type to minimize refrigerant and oil leakage and system troubles.

12. Insulate the suction lines and other pipe lines required by manufacturer using one-inch (1") thick closed-cell rubber insulation, Aeroflex or approved equivalent and wrapped with polyethylene white tape (to be approved by PICC-MSD Assistant Director/TSD Director) complete with aluminum cladding.

13. Provide and install all electrical and control system requirements as well as accessories with capacities and specifications properly designed according to the

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best practices in the industry, Philippine Electrical Code, NEMA and other applicable local and international codes. All electrical/electronic system requirements shall include electrical wires – THHN for main supply cables, feeder lines and control lines, steel conduits/Intermediate Metal Conduit (IMC) or approved equal, panel boards/enclosure – weather-proof, transformer primary and secondary circuit breakers, Outdoor and indoor units main circuit breakers and sub-breakers - Square D, G.E. or approved equal, magnetic starter with overload relay-Fujihaya or approved equal (to be approved by PICC-MSD Assistant Director/TSD Director), controllers, and accessories for the power supply and control system of the above air conditioners.

14. Install Watt-hour meter/s, digital, 3 phase 3 wires, CT rated, 230 volts, with RS232 communication, panel mounted, complete with the required current transformers, compatible with building management system (BMS) connection for the proper monitoring and/or recording of the total power consumption of the air conditioning units/system to be installed at Plenary & Reception Hall Lobby. Install one-unit watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system if all the aircon units are connected to one (1) source of power supply. However, if all the aircon units are connected to different sources of power supply, install multiple units watt-hour meter to monitor and record the total consumption of both the outdoor units and indoor units/system connected to all sources of power supply
15. Paint all angle bars, conduit and other metallic component with two coat epoxy paint, cord or approved equal. Paint for electrical conduit shall be color orange and for angle bars shall be color gray.
16. Always clean the working area on daily basis and haul the dismantled building or system accessories and components carefully to temporary designated area. All garbage shall be hauled outside the PICC premises at the Contractor's expense.
17. Conduct operation testing and commissioning of all indoor units and outdoor unit together with the PICC representative from Mechanical Services Division, and record all actual operating data as follows:
 - 17.1. Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one (1) hour after start-up of all units operating at full or high speed.
 - 17.2. Ambient or atmospheric temperature (Fahrenheit and Celsius)
 - 17.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new unit with good operating condition. Also, full payment will not be processed.
 - 17.4. Standing pressure of the refrigerant system prior to test operation.
 - 17.5. Suction and discharge pressure and temperature of the refrigerant system
 - 17.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the

room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition.

Note: All sound pressure levels should conform with the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.

17.7. Good operating condition of drain pump

17.8. Other actual operating parameters.

18. Turn-over all the air conditioning units and their accessories as well as other affected building attachment/facilities in good order/operating condition.

II. SPECIAL/OTHER CONDITIONS OF THE CONTRACT:

1. The contractor must conduct site survey and inspection.
2. Upon the receipt of letter of award, the Contractor shall post a performance security in favor of PICC. Said security shall be equivalent to five percent (5%) of total contract price if in the form of cash, cashier's check or manager's check, or ten percent (10%) if in the form of bank guarantee, or thirty percent (30%) of total contract price if in the form of surety bond (callable upon demand) issued by any reputable surety or insurance company accredited by PICC. Said performance security will be released only after the final work acceptance by PICC. However, this will be forfeited by PICC as payment or part of the payment (if it will not suffice) for any damage/s done as a result of negligence or poor workmanship of the Contractor.
3. Any work that may affect the operation and security measures of PICC shall be coordinated properly and shall be done in accordance with the PICC' approved schedule.
4. Welding works or any "hot work" requirement of the project must be coordinated with the project-in-Charge and seek approval from the TSD Director prior to implementation.
5. All ceiling cassette indoor units must be installed at the ceiling with rigid metal support using angle bars with 1/4" thick (engineering standard and not commercial standard).
6. Pipe runs must have a support post or brackets.
7. All electrical works, size of wires, circuit breakers, wirings, safety gadgets and controllers must conform with the standard practice in the industry and in accordance with the Electrical Code of the Philippines, NEMA and other applicable local and international codes for safety.
8. All units/system must be in full charge of appropriate compressor oil and refrigerant 410A to ensure long life and continuous reliability of equipment/system operation.
9. The contractor after final testing of the equipment must submit the equipment test operation result for each equipment as specified below as part of attachment for second and/or final payment.

9.1 Pre-cooling room temperature (Fahrenheit and Celsius) at 30 minutes and one(1) hour after start-up of all units operating at full or high speed.

9.2. Ambient or atmospheric temperature (Fahrenheit and Celsius)

- 9.3. Supply voltage and current (amperage) of every line/phase of each indoor unit and outdoor unit. Current (amperage) during operation should not be more than the rated full load amperage of each unit (indoor and outdoor). Otherwise, it should be treated as abnormal condition and will not be accepted until the unit is replaced with a new unit with good operating condition. Also, full payment will not be processed.
 - 9.4. Standing pressure of the refrigerant system prior to test operation.
 - 9.5. Suction and discharge pressure and temperature of the refrigerant system
 - 9.6. Sound pressure level (SPL A-weighting) of each unit (indoor and outdoor unit) in decibel (dBA) and the total sound pressure level of the room when all indoor units are operating at the same time. Actual sound pressure level of each fan speed of indoor unit shall be tested and recorded. SPL testing must be conducted during night time and when there is no other equipment/system operating at the same time to minimize ambient noise condition. Note: All sound pressure levels should conform to the requirement otherwise the unit will not be accepted and full payment will not be processed until the unit is replaced or the problem is corrected.
 - 9.7. Good operating condition of drain pump.
 - 9.8. Other actual operating parameters.
10. All metal supports, hangers, brackets, clamps and bases of the A/C units/equipment must be painted with epoxy primer gray, one (1) coat and two (2) coats epoxy paint gray finish.
 11. The contractor shall report to PICC on or before the bidding, any perceived or evident condition that would prevent him from performing first class work.
 12. The Contractor shall ensure that its assigned personnel and/or representatives shall comply with, and submit themselves to, the rules and policies PICC on security, sanitation, environmental compliance, safety and health and other regulations.
 13. The Contractor must submit NBI/Police Clearance of each assigned personnel to be assigned at the PICC.
 14. The Contractor's personnel should wear its company uniform/ID and facemask and practice social distancing at all times in the PICC premises.
 15. The Contractor should free the PICC and its personnel from and against all liabilities arising from injuries or liabilities to persons or damages to property occasioned by any act or omissions by the Contractor including any and all expenses, legal or otherwise which may be incurred by PICC and its personnel in the defence of any claim, action or suit.

III. TRAINING:

The winning contractor must conduct seminar and training sessions for the transfer of technology and technical know-how for the proper installation, operation, maintenance, and repair of VRV/VRF units/system before and after the installation and commissioning. Also, it must conduct seminar on the proper use of design software in the proper designing of VRV/VRF system for the future requirement of the Center.

As part of the training program, the contractor should allow any assigned personnel of PICC-Mechanical Services Division for on-the-job training during installation and commissioning and monthly check-up and servicing for a one-year warranty period.	
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STATEMENT OF COMPLIANCE

Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered.

Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.

Guidelines on the Evaluation of Offered Equipment/System

Item No.	Minimum Required Specifications and Features for Compliance									
A.	Indoor Unit									
1	Capacity, kW	14 – 14.5	11.2-11.6	9 – 9.3	7.1 – 7.3	5.6-5.8	4.5-4.7	3.6-3.7	2.8-2.9	2.2-2.3
	Cap.-HP	5HP	4HP	3.2HP	2.5HP	2HP	1.6HP	1.25HP	1HP	
2	Type	Ceiling Cassette								
	Type	Wall-mounted/Ceiling-Concealed Ducted								
3	Airflow Distribution	Round/4-way	Round/4-way	Round/4-way	Round/4-way	Round/4-way for ceiling cassette; standard vaned free-blow for wall-mounted or better				Ducted
4	Sound Pressure Level*, dB(A)	Low: 33-35 Medium: 38-41 High: 43-45	Low: 32-34 Medium: 37-39 High: 40-43	Low: 30-31 Medium: 32-35 High: 36-37	Low: 27-28 Medium: 29-31 High: 32-34	Low: 27-28 Medium: 28-30 High: 31-32	Low: 26-27 Medium: 28-30 High: 31-32	Low: 26-27 Medium: 28-30 High: 31-32	Low: 26-28 Medium: 28-31 High: 30-32	Low: 28-30 Medium: 30-32 High: 32-34
5	Power Supply (AC) – Alternating current	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz	220-230V, 1phase, 60Hz
6	Colour – panel/casing	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white	White/ fresh white
7	Environmental compliance on Refrigerant	Environment-friendly Refrigerant®410A –compliant with Republic Act(RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.								
8	Environmental Compliance with restriction on hazardous substances	Electrical and electronics parts must be compliant with the Restriction on Hazardous Substances (RoHS)/Republic Act(RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990. Restricted chemical substances: lead, cadmium, hexavalent chromium, mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment								
B.	Outdoor Unit									
1	Compressor system combination	Inverter and inverter type combination of compressor system or a inverter master/lead type and slave scroll compressors system.								
2	Power supply	220-230Volts (V), 3phase, 60Hertz (Hz) or 440-460V, 3phase, 60Hz								
3	Type of Design and installation	Modular type for easy operation, maintenance and repair works and to minimize delay of operation and shutdown during emergency.								
4	Cluster design and operational capacity combination ratio	Cluster system design and operational capacity combination ratio of indoor and outdoor units must never be more than 10 percent or the total rated capacity of outdoor unit must never be less than 90 percent of the total rated capacity of combination of indoor unit capacity.								
5	System efficiency or coefficient of performance (COP)	High system efficiency or coefficient of performance (COP) or the ratio of the cooling (capacity) provided over the electrical energy consumed ranging from 1.2219 (16HP) to 0.8617(50HP) or up to 0.8553 (54HP).								
6	Sound level	45 to 68 dB(A) measured at a point 1 meter (m) in front of the unit at a height of 1.5 meter (m)								
7	Automatic back up operation for multiple	It means that the entire cluster system continues to operate automatically (without human intervention) even if one or more compressor or outdoor units break down. In other words, the air conditioning system should continue to operate automatically with the remaining non-defective compressor or outdoor units.								

H

	outdoor and single outdoor unit	
8	Capacity increment	Capacity increment of modular outdoor unit must be limited to 2 up to 5Hp/8Hp.
9	Environmental compliance on Refrigerant	Environment-friendly Refrigerant@410A –compliant with Republic Act(RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990.
10	Environmental Compliance with restriction on hazardous substances	Electrical and electronics parts must be compliant with the Restriction on Hazardous Substances Directive (RoHS) and Republic Act(RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990/DENR Administrative Oder No. 2005-05(Toxic Chemical Substances for Issuance of Chemical Control Orders . Restricted chemical substances: lead, cadmium, hexavalent chromium. mercury, polybrominated biphenyls and polybrominated diphenylether in electronic and electrical equipment
11	Automatic test operation and trouble shooting	Must be equipped with button and device for automatic test operation for system check and trouble shooting
12	BMS-ready	Ready and compatible with building management system (BMS) connection. The system should be equipped already with controllers for BMS connection and operation as well as zoning, interlocking of equipment.
13	Colour – panel/casing	White/Ivory white/Gray(no dark gray)
		Notes: 1) * - sound pressure level of indoor unit that is lower than the specified range is acceptable.
C.	Notes for Environmental Compliance	Only branded units that are compliant to Restriction on Hazardous Substances (RoHS) and Republic Act(RA) 6969 known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990 shall be accepted. For it to pass, the bidder/contractor must submit as part of technical document the Certification of compliance to Restriction on Hazardous Substances (RoHS). This certification shall be considered as compliance to RA 6969/DENR AO 2005-05.

Drawings

EQUIPMENT SCHEDULE : VRV/VRF TYPE AIR-CONDITIONING UNITS

UNIT	QTY	CAPACITY (KW (HP))	LEVEL	AREA/ROOMS SERVED	REFRIGERANT	INDOOR UNIT DATA		OUTDOOR UNIT DATA															
						FCU	QTY	HW	TYPE	HW FLOW (GPM)	MOTOR OUTPUT (KW)	ELECTRICAL DATA	WEIGHT (KG)	HW FLOW (GPM)	TYPE	MOTOR (HP)	DRIVE	COMPRESSION (KW OUTPUT)	ELECTRICAL DATA	WEIGHT (KG)			
								V	PH	HZ	WEIGHT (KG)	WEIGHT (KG)					V	PH	HZ	WEIGHT (KG)			
MECH 1	1	106 (38.00)	3RD FLOOR	3/F SECRETARIAT BLDG LOBBY & HALLWAY	R-410A	4	13.20	2.551	0.120	220	1	60	25	35,340	PROPELLER	1.07	DIRECT	16.6	380	3	60	675	
	MECH 2	60.8 (22.00)	2ND FLOOR	2/F SECRETARIAT BLDG SERVICE FRONT	R-410A	4	13.20	2.551	0.120	220	1	60	25	25,980	PROPELLER	1.65	DIRECT	9.2	380	3	60	525	
						2	10.59	2.040	0.120	220	1	60	25										
						2	4.22	0.656	0.056	220	1	60	25										
						2	13.20	2.551	0.120	220	1	60	25										
	MECH 3	60.8 (22.00)	2ND FLOOR	FOOD PREPARATION	R-410A	2	13.20	2.551	0.120	220	1	60	25	25,980	PROPELLER	1.65	DIRECT	9.2	380	3	60	525	
						2	4.22	0.656	0.056	220	1	60	25										
						2	10.59	2.040	0.120	220	1	60	25										
						2	13.20	2.551	0.120	220	1	60	25										
	MECH 4	52.75 (20.00)	2ND FLOOR	(CLUSTER 1) (SECURITY OFFICE) (SECURITY OFFICER'S ROOM) (SECURITY OFFICER'S ROOM) (UPS ROOM) (SERVER ROOM)	R-410A	1	6.60	1.275.5	0.056	0.056	220	1	60	46	23,700	PROPELLER	1.65	DIRECT	9.2	380	3	60	555
2						5.28	1.020.4	0.056	0.056	220	1	60	19.5										
3						13.20	2.551	0.120	220	1	60	25											
1						6.60	1.275.5	0.056	0.056	220	1	60	46										
MECH 5	60.8 (22.00)	2ND FLOOR	(CLUSTER 2) (SECURITY OFFICE) (SECURITY OFFICER'S ROOM) (UPS ROOM) (SERVER ROOM)	R-410A	1	6.60	1.275.5	0.056	0.056	220	1	60	46	28,980	PROPELLER	1.65	DIRECT	9.2	380	3	60	555	
					1	6.60	1.275.5	0.056	0.056	220	1	60	46										
					1	6.60	1.275.5	0.056	0.056	220	1	60	46										
					1	6.60	1.275.5	0.056	0.056	220	1	60	46										
MECH 5	145 (42.00)	2ND FLOOR	(CLUSTER 3) (CLUSTER 3) PLUMBING/RECEPTION HALL LOBBY	R-410A	10	13.20	2.551	0.120	220	1	60	25	41,940	PROPELLER	4.5	DIRECT	24.1	380	3	60	765		
					8	13.20	2.551	0.120	220	1	60	25	30,000	PROPELLER	4.5	DIRECT	18.7	380	3	60	765		
					8	13.20	2.551	0.120	220	1	60	25											
					8	13.20	2.551	0.120	220	1	60	25											
MECH 5	117 (42.00)	3RD FLOOR	(CLUSTER 3) (CLUSTER 3) PLUMBING/RECEPTION HALL LOBBY	R-410A	8	13.20	2.551	0.120	220	1	60	25	27,960	PROPELLER	3	DIRECT	14.6	380	3	60	785		
					8	13.20	2.551	0.120	220	1	60	25											
					8	13.20	2.551	0.120	220	1	60	25											
					8	13.20	2.551	0.120	220	1	60	25											

MECH. ABBREVIATION SYMBOL

FCU	QTY	TYPE	PHASE	WIND ROTATE DIRECTION
ACCU PER COOLED CONDENSERS UNIT	QTY	CLUSTER	PHASE	WIND ROTATE DIRECTION
HP	QTY	VRV MANAGE REFRIGERANT VOLUME	PHASE	WIND ROTATE DIRECTION
TR	QTY	VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
QTY	QTY	VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION
		VRV MANAGE REFRIGERANT FLOW	PHASE	WIND ROTATE DIRECTION

EQUIPMENT SCHEDULE
MECH. L ABBREVIATIONS/SYMBOL

SCALE: 1 M

PREPARED BY: ROY DANIEL J. JOBLADO
SHIFT SUPERVISING/TECHNICIAN, MSD

CHECKED BY: ENGR. MARK B. MACANAS
ASSISTANT DIRECTOR, MSD

RECOMMENDING FOR APPROVAL: ENGR. WILSON B. DELOS REYES
DIRECTOR, MSD

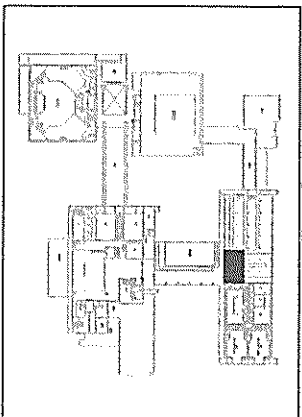
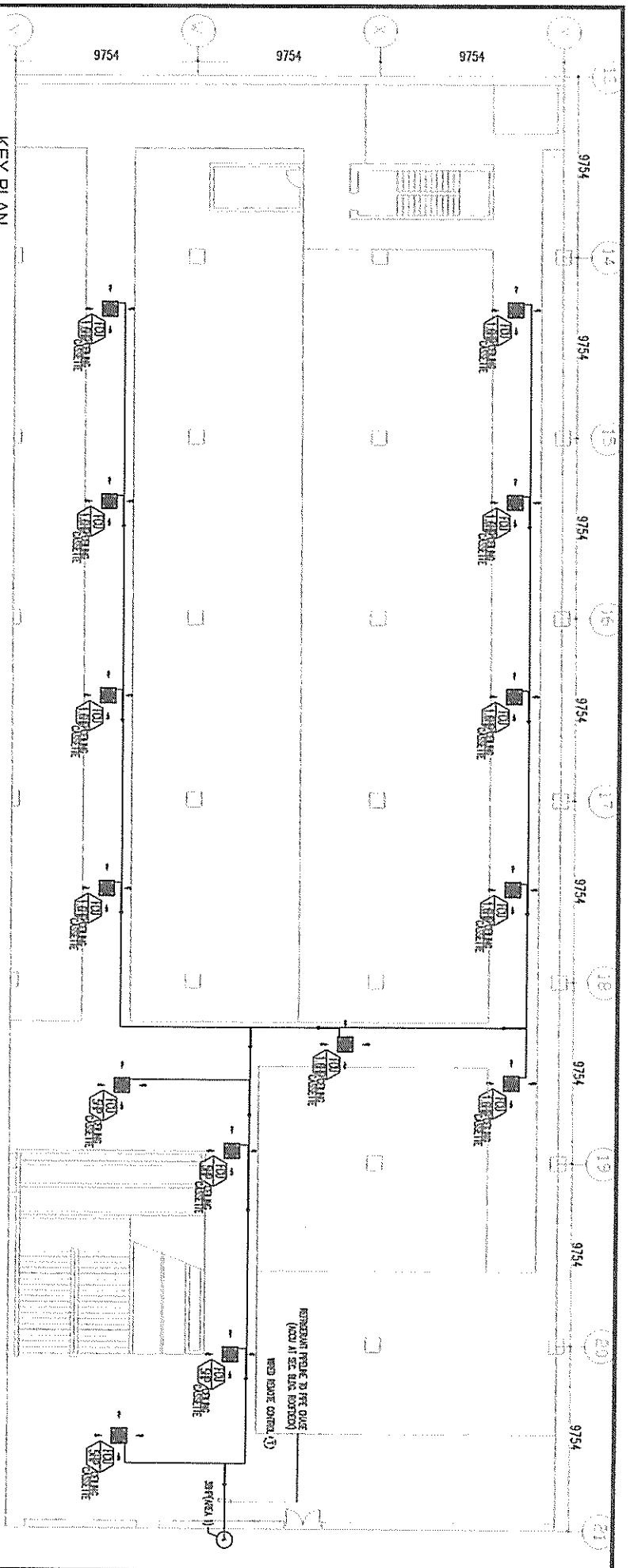
APPROVED BY: ATTY. ERICATO B. PADILLA
GENERAL MANAGER



PICC COMPLEX, PASAY CITY

PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS

DATE: 11-08-2022
REVISION: 00



KEY PLAN

GENERAL NOTES:

1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F SECRETARIAT BLDG. AHU ROOM S-13.
2. PICC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRF/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/ 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
4. CONTRACTOR TO PROVIDE 1-LINE 1-PHASE 4-WIRE WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
5. TO INSTALL ACCU AT ROOF-DECK OF THE SECRETARIAT BUILDING. (VERIFY AT SITE).
6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
8. COMPENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).

AREA-1
3F SECRETARIAT LOBBY/HALLWAY
PROPOSED AIRCONDITIONING LAYOUT
 SCALE: 1:300

		TITLE PROPOSED VRF/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		DATE 11-08-2022		PREPARED BY ROLDAN H. SUBILADO SHIFT SUPERVISOR/TECHNICIAN, MSD		RECOMMENDING FOR APPROVAL ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		APPROVED BY ATTY. RENE B. PADILLA GENERAL MANAGER	
LOCATION PICCC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MARIBEL MACANAS ASSISTANT DIRECTOR, MSD							



PICC
 PROPOSED VRV/VRF PACKAGED A/C
 SYSTEM AT VARIOUS AREAS

DATE: 11-08-2022

PREPARED BY: *[Signature]*
 ROLDAN H. JUBILADO
 SHIFT SUPERVISOR - ELECTRICAL MSD

RECOMMENDING FOR APPROVAL: ENGR. WILSON B. DELOS REYES
 DIRECTOR, MSD

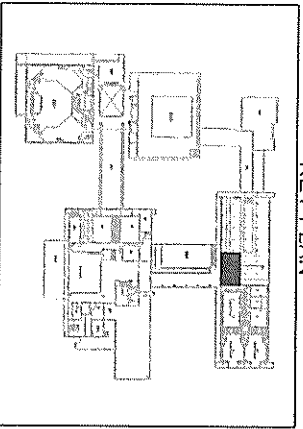
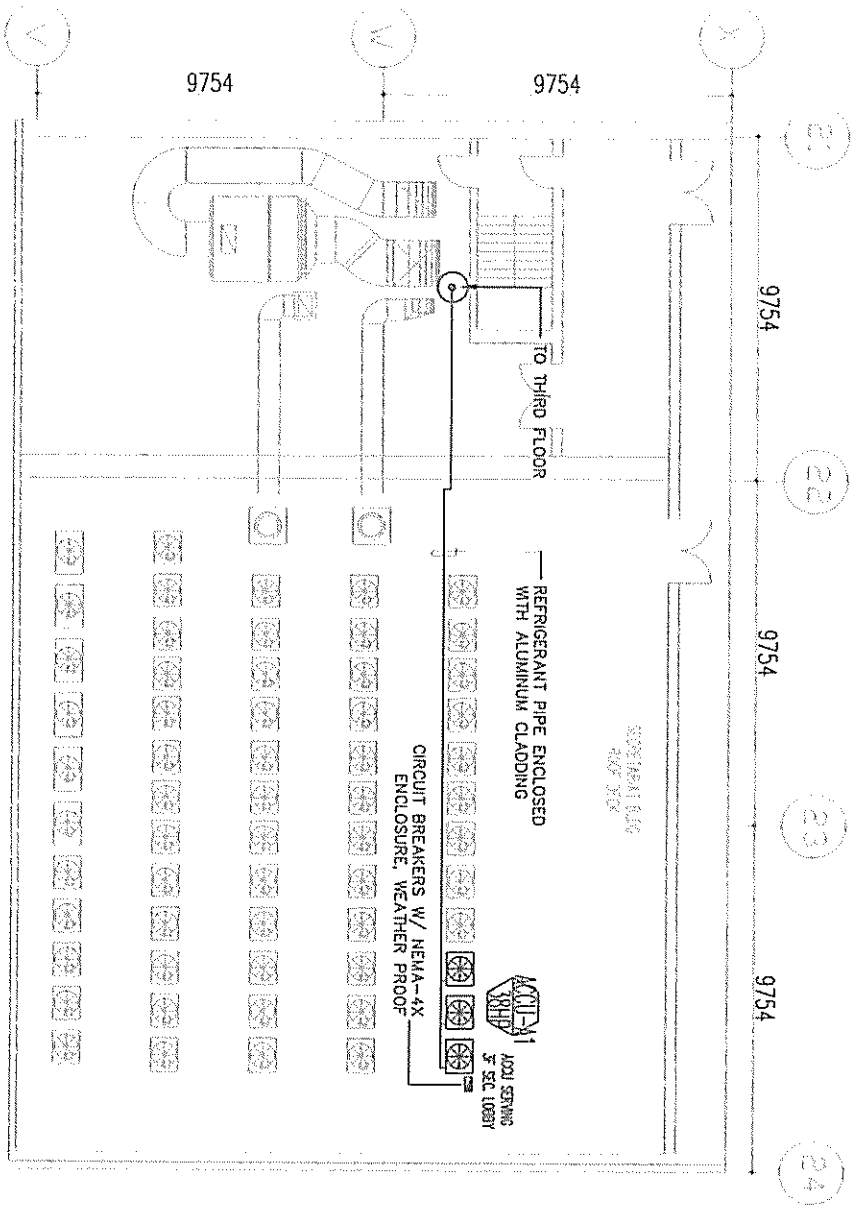
APPROVED BY: *[Signature]*
 ATTY. RICHARD B. PADILLA
 GENERAL MANAGER

AREA-1
LOCATION OF VRV/VRF OUTDOOR UNIT
PROPOSED AIRCONDITIONING LAYOUT

3

SCALE:

1:200



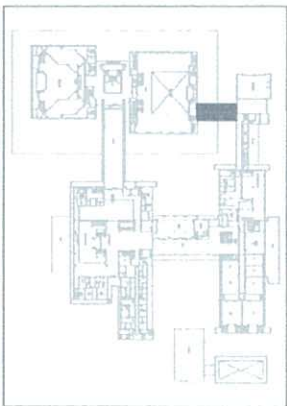
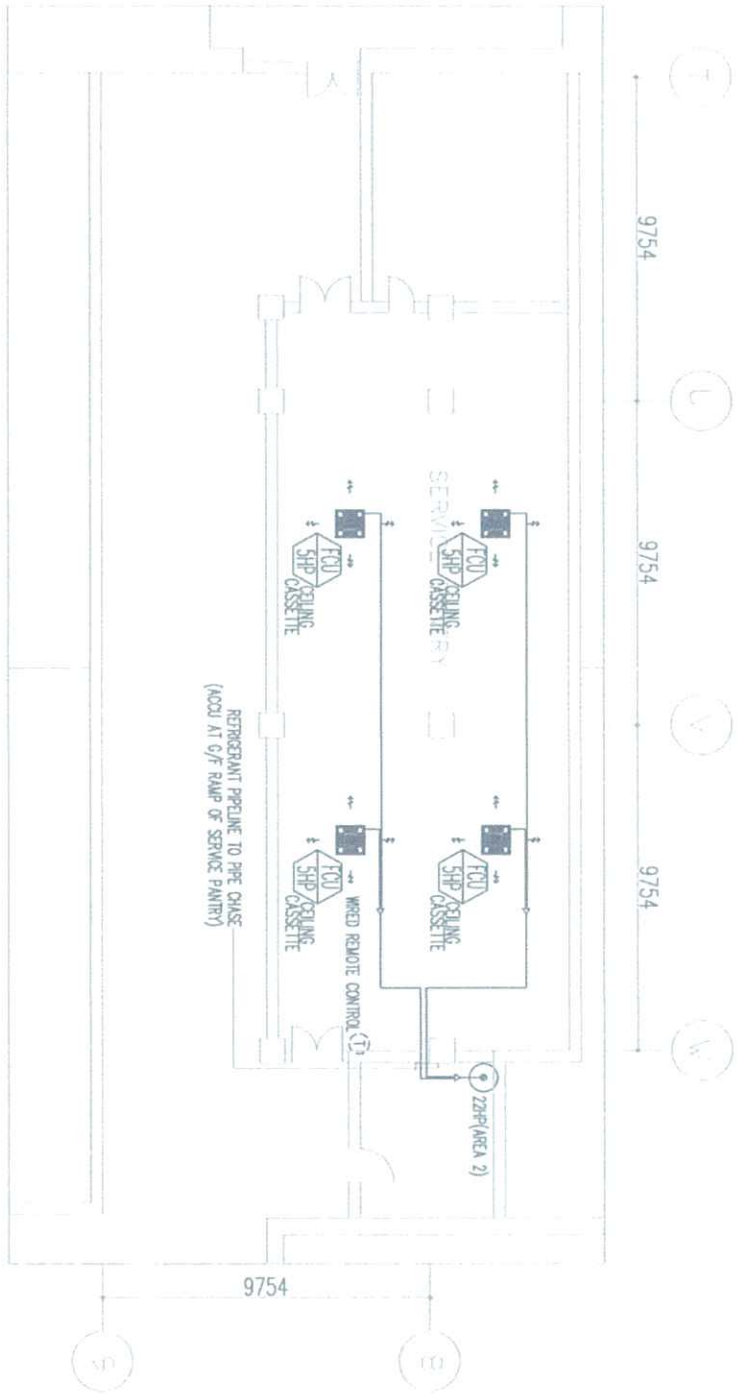
LOCATION: THIRD FLOOR SECRETARIAT BLDG.

- GENERAL NOTES:**
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F SECRETARIAT BLDG. AHU ROOM S-13.
 2. PICC SHALL PROVIDE 440-480V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1.0LT ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT ROOF-DECK OF THE SECRETARIAT BUILDING (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).



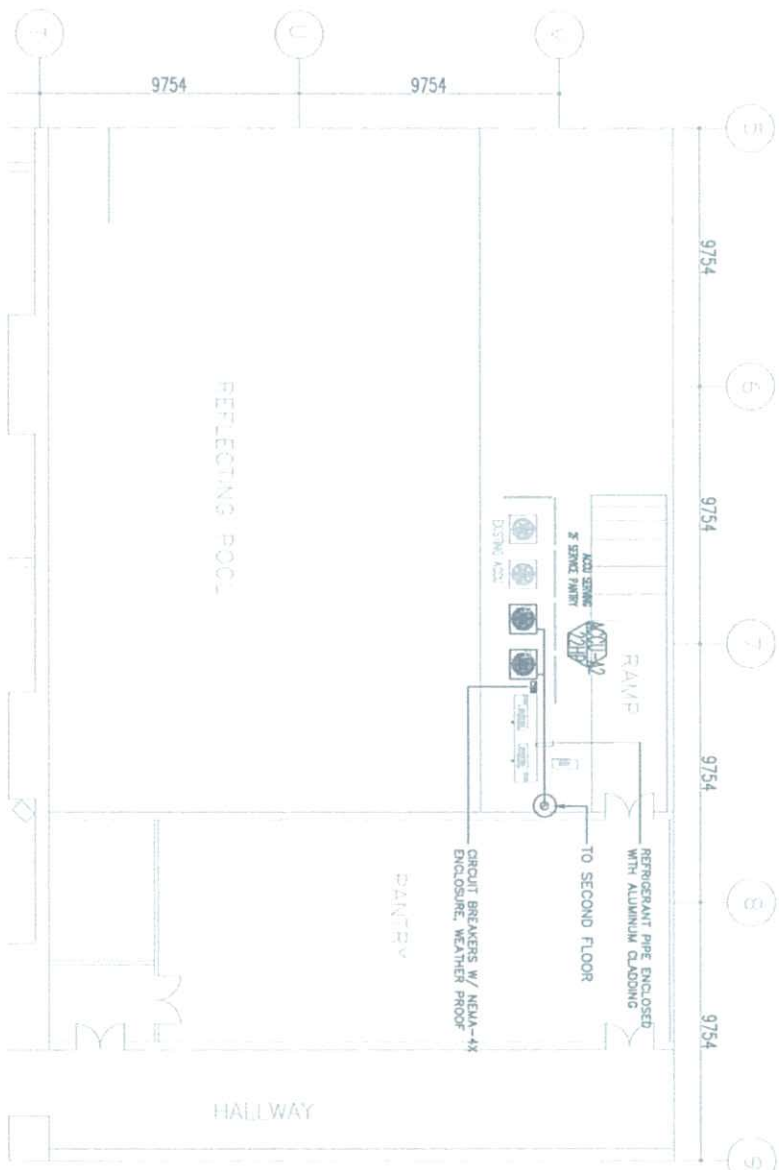
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PROPOSED VRF/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		11-08-2022		ROLAND H. JUBILADO SHIFT SUPERVISING ENGINEER, MSD		ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		ATTY. RICHARD O. PADILLA GENERAL MANAGER	
LOCATION		REVISION		CHECKED BY					
PICC COMPLEX, PASAY CITY		00		ENGR. MARLO B. MACANAS ASSISTANT DIRECTOR, MSD					

AREA-2
2F SECRETARIAT SERVICE PANTRY
PROPOSED AIRCONDITIONING LAYOUT
SCALE: 1:200



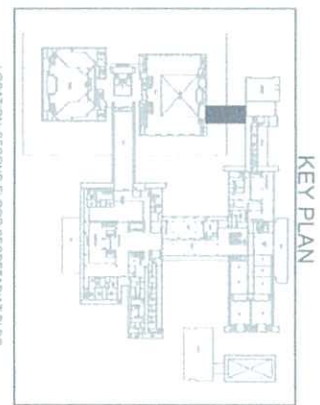
- GENERAL NOTES:
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT 2/F SECRETARIAT BLDG. AHU ROOM.
 2. PICC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRF/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP-DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V / 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-L0T ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT G/F OF THE SECRETARIAT BLDG. ADJACENT OF REFLECTING POOL. (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).

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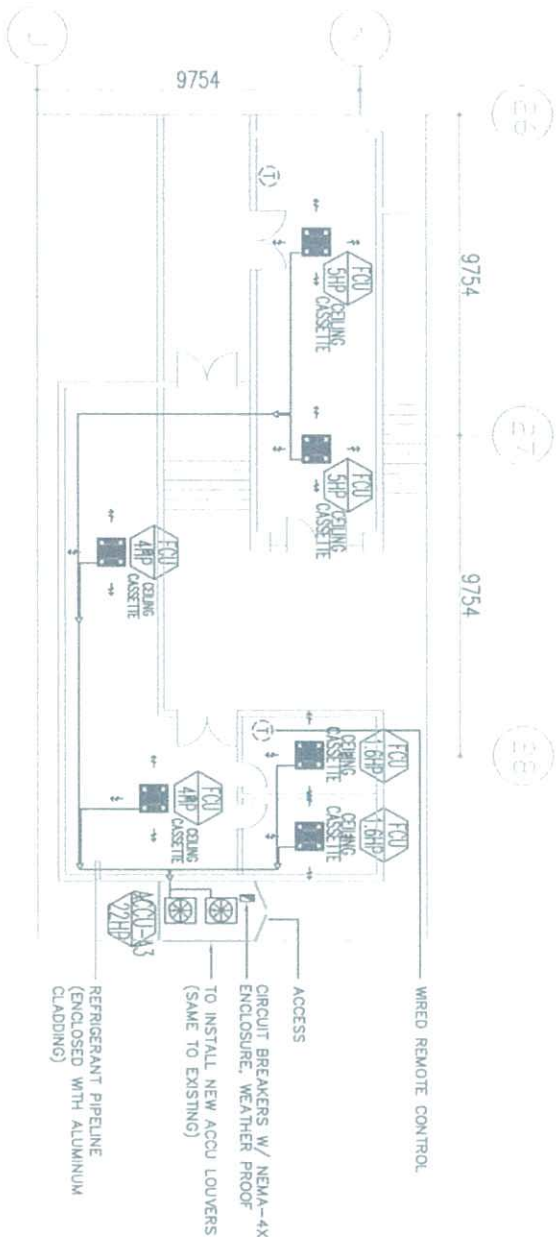
AREA-2
LOCATION OF VRV/VRF OUTDOOR UNIT
PROPOSED AIRCONDITIONING LAYOUT
 SCALE: 1:250

- GENERAL NOTES:
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT 2/E SECRETARIAT BLDG. ARU ROOM.
 2. PICC SHALL PROVIDE 440-480V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP-DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V / 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-HOUR ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT G/E OF THE SECRETARIAT BLDG. ADJACENT OF REFLECTING POOL (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).



		TITLE PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		DATE 11-08-2022		PREPARED BY ROLDAN H. JOBLADO SHIFT SUPERVISING TECHNICIAN MSD		RECOMMENDING FOR APPROVAL		APPROVED BY	
LOCATION PICC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MARIO B. MACANASA ASSISTANT DIRECTOR, MSD		ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		ATTY. RICHARD B. PADILLA GENERAL MANAGER			

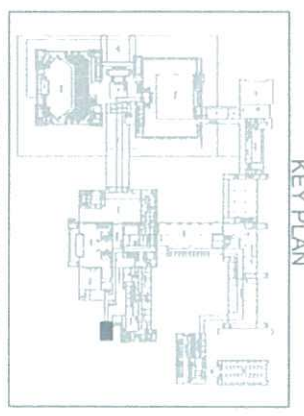
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AREA-3
 FOOD PREPARATION AREA
 SATELLITE KITCHEN AREA
 GF DELEGATION BUILDING
 PROPOSED AIRCONDITIONING LAYOUT

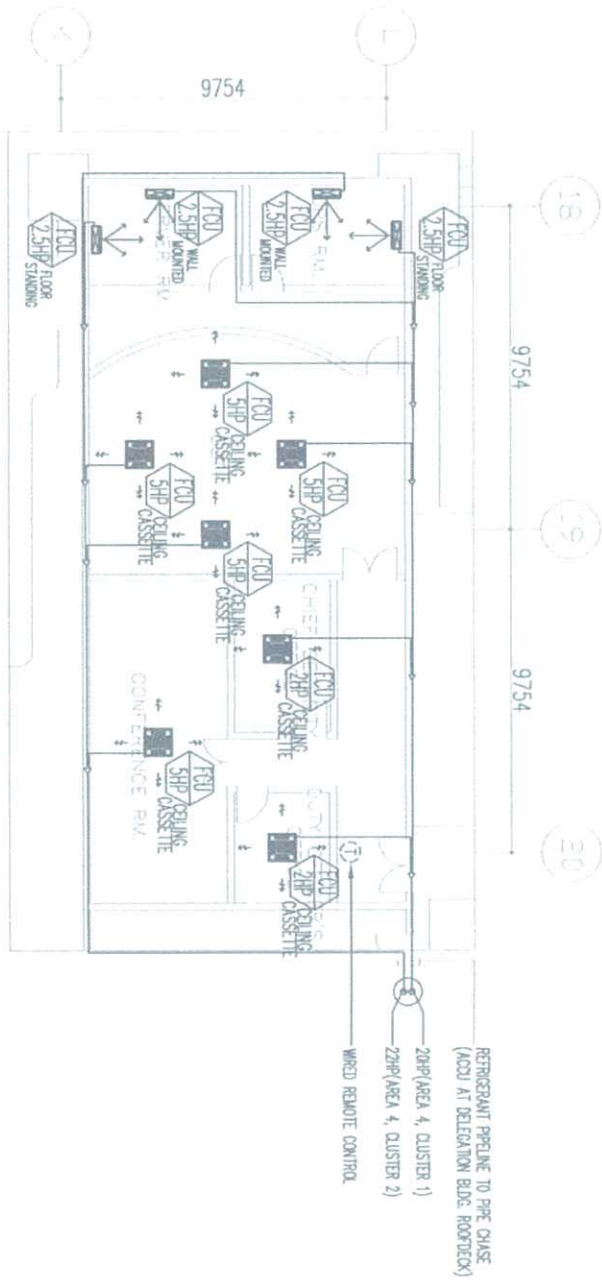
6
 M SCALE: 1:200

- GENERAL NOTES:
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F DELEGATION BLDG. EE ROOM.
 2. PICC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS. MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-LOT ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT ROOFDECK OF PLENNARY HALL (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).



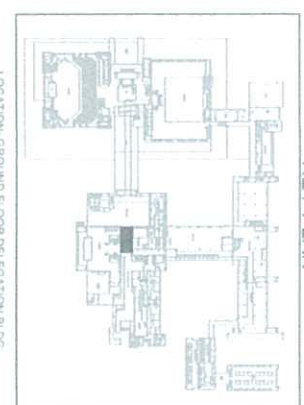
		TITLE PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		DATE 11-08-2022		PREPARED BY ROLDAN M. SIBLADO SHIFT SUPERVISING ENGINEER, MSD		RECOMMENDING FOR APPROVAL ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		APPROVED BY ATTY. RENZO B. PADILLA GENERAL MANAGER	
LOCATION PICC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MARVIN B. WACANAS ASSISTANT DIRECTOR, MSD		RECOMMENDING FOR APPROVAL ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		APPROVED BY ATTY. RENZO B. PADILLA GENERAL MANAGER			

W



**AREA-4
SECURITY OFFICE
GF DELEGATION BUILDING
PROPOSED AIRCONDITIONING LAYOUT**

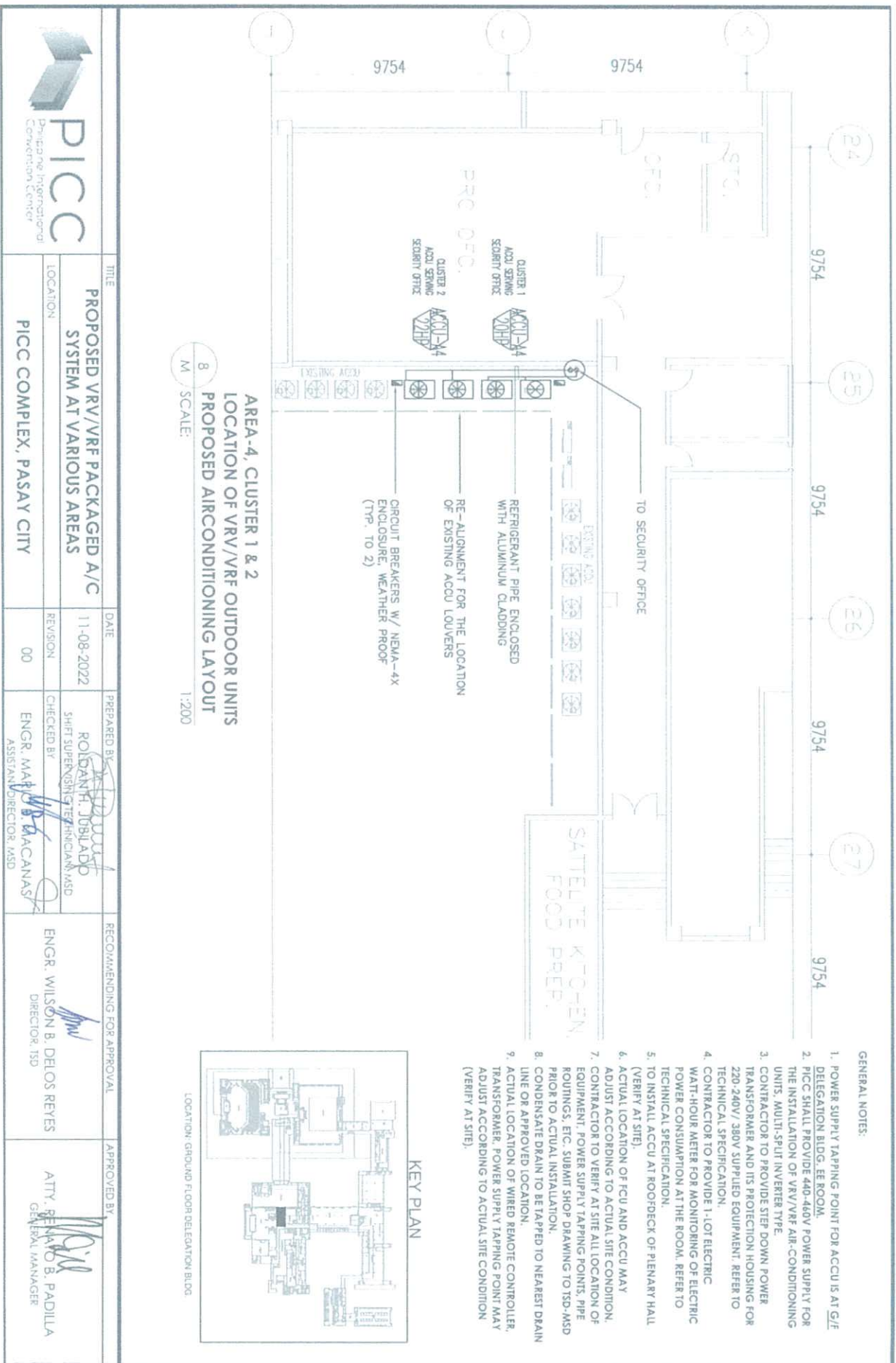
7
M SCALE: 1:200



- GENERAL NOTES:**
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F DELEGATION BLDG. EE ROOM.
 2. PICC SHALL PROVIDE 440-480V POWER SUPPLY FOR THE INSTALLATION OF VRF/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V / 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-LINE ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT ROOFDECK OF PENARY HALL (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).

 <p>PICC Philippine International Construction Center</p>		<p>TITLE: PROPOSED VRF/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS</p>	
<p>LOCATION: PICC COMPLEX, PASAY CITY</p>	<p>DATE: 11-08-2022</p>	<p>PREPARED BY: ROLANDAN H. JOBLADO SHIFT SUPERVISOR/TECHNICIAN, MSD</p>	<p>RECOMMENDING FOR APPROVAL: ENGR. WILSON B. DELOS REYES DIRECTOR, TSD</p>
<p>REVISION: 00</p>	<p>CHECKED BY: ENGR. MARCO B. MACANASY ASSISTANT DIRECTOR, MSD</p>	<p>APPROVED BY: ATTY. REYNOLDO B. PADILLA GENERAL MANAGER</p>	

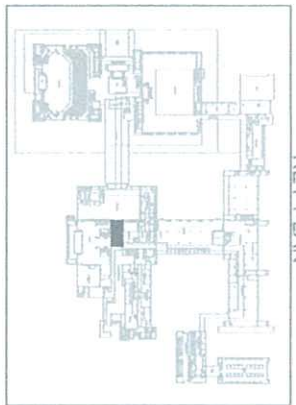
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**AREA-4, CLUSTER 1 & 2
LOCATION OF VRV/VRF OUTDOOR UNITS
PROPOSED AIRCONDITIONING LAYOUT**

8
M SCALE: 1:200

- GENERAL NOTES:**
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/E DELEGATION BLDG. EE ROOM.
 2. PICC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-LOT ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT ROOFDECK OF PLENARY HALL (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
 8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).



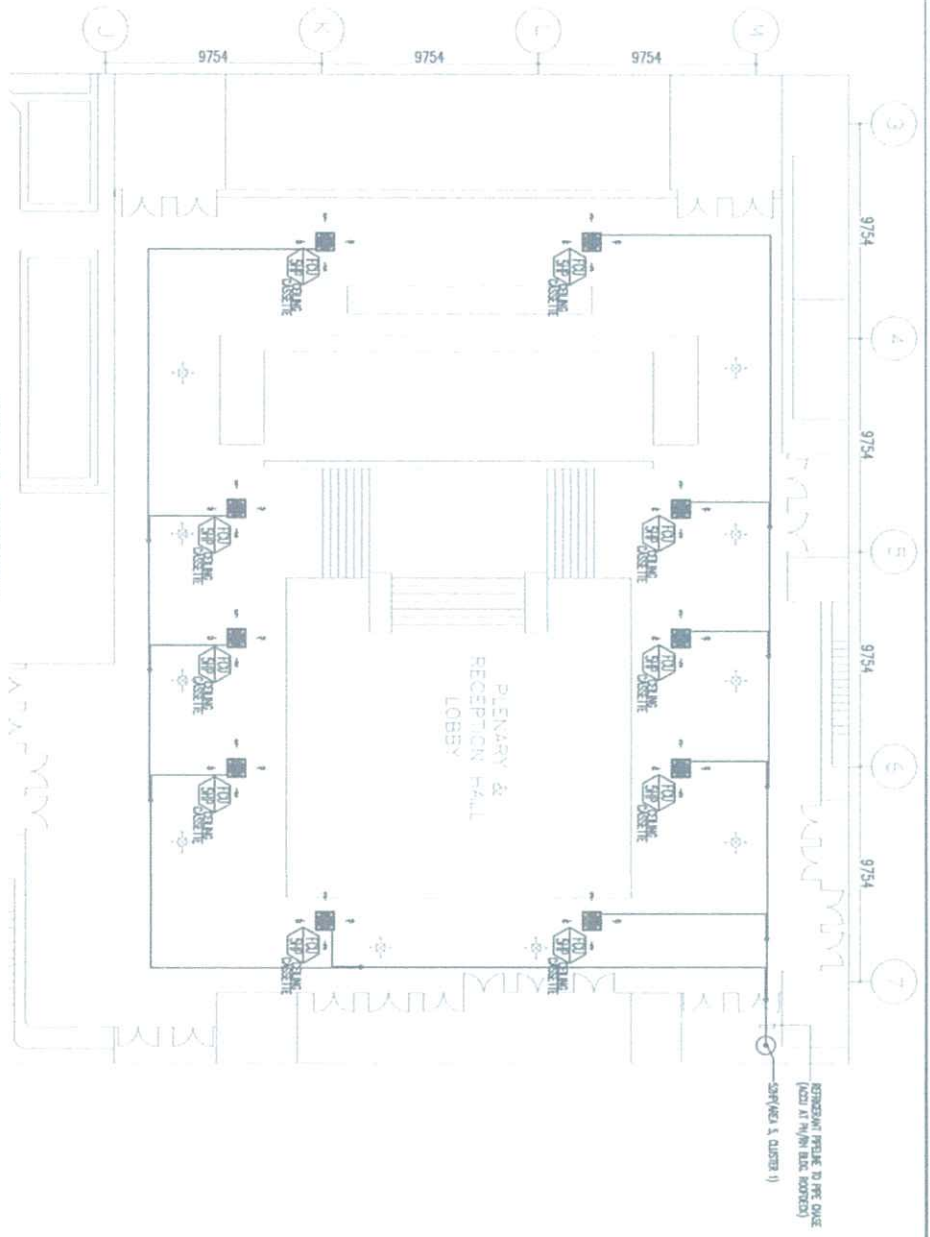
		TITLE PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		DATE 11-08-2022		PREPARED BY ROLDAN H. JOBLADO SHIFT SUPERVISING TECHNICIAN, MSD		RECOMMENDING FOR APPROVAL		APPROVED BY ATTY. RENATO B. PADILLA GENERAL MANAGER	
LOCATION PICC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MARVIN B. MACANASY ASSISTANT DIRECTOR, MSD		ENGR. WILSON B. DELLOS REYES DIRECTOR, TSD					

A



TITLE		DATE	PREPARED BY	RECOMMENDING FOR APPROVAL	APPROVED BY
PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		11-08-2022	ROBERTA M. JUBILADO SHIFT SUPERVISOR/TECHNICIAN/MSD	ENGR. WILSON B. DELOS REYES DIRECTOR, ISD	ATTY. REYNOLDO B. PADILLA GENERAL MANAGER
LOCATION		REVISION	CHECKED BY		
PICCC COMPLEX, PASAY CITY		00	ENGR. MARCO E. MACANAS ASSISTANT DIRECTOR, MSD		

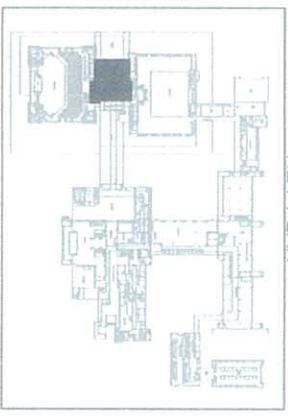
AREA-5, CLUSTER 1
 GF PLENARY/RECEPTION HALL LOBBY
 PROPOSED AIRCONDITIONING LAYOUT
 9
 M SCALE: 1:300



GENERAL NOTES:

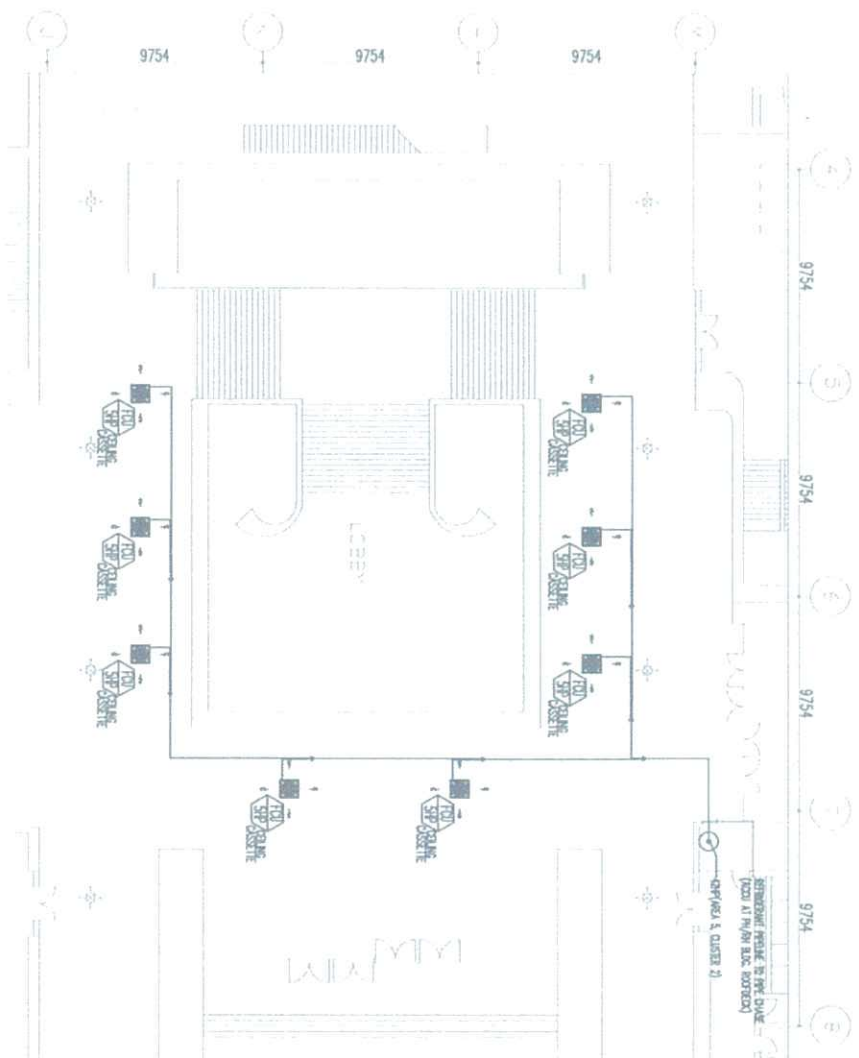
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F RECEPTION HALL BLDG. EE ROOM.
2. PICCC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS. MULTI-SPLIT INVERTER TYPE.
3. CONTRACTOR TO PROVIDE STEP-DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
4. CONTRACTOR TO PROVIDE 1-LINE 1-LOT ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
5. TO INSTALL ACCU AT ROOF-DECK OF THE SECRETARIAT BUILDING (VERIFY AT SITE).
6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO ISD-MSD PRIOR TO ACTUAL INSTALLATION.
8. CONDENSATE DRAIN TO BE TAPPED TO NEAREST DRAIN LINE OR APPROVED LOCATION.
9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).

KEY PLAN



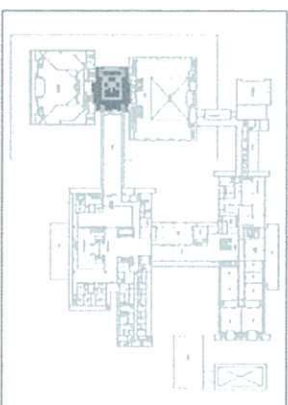
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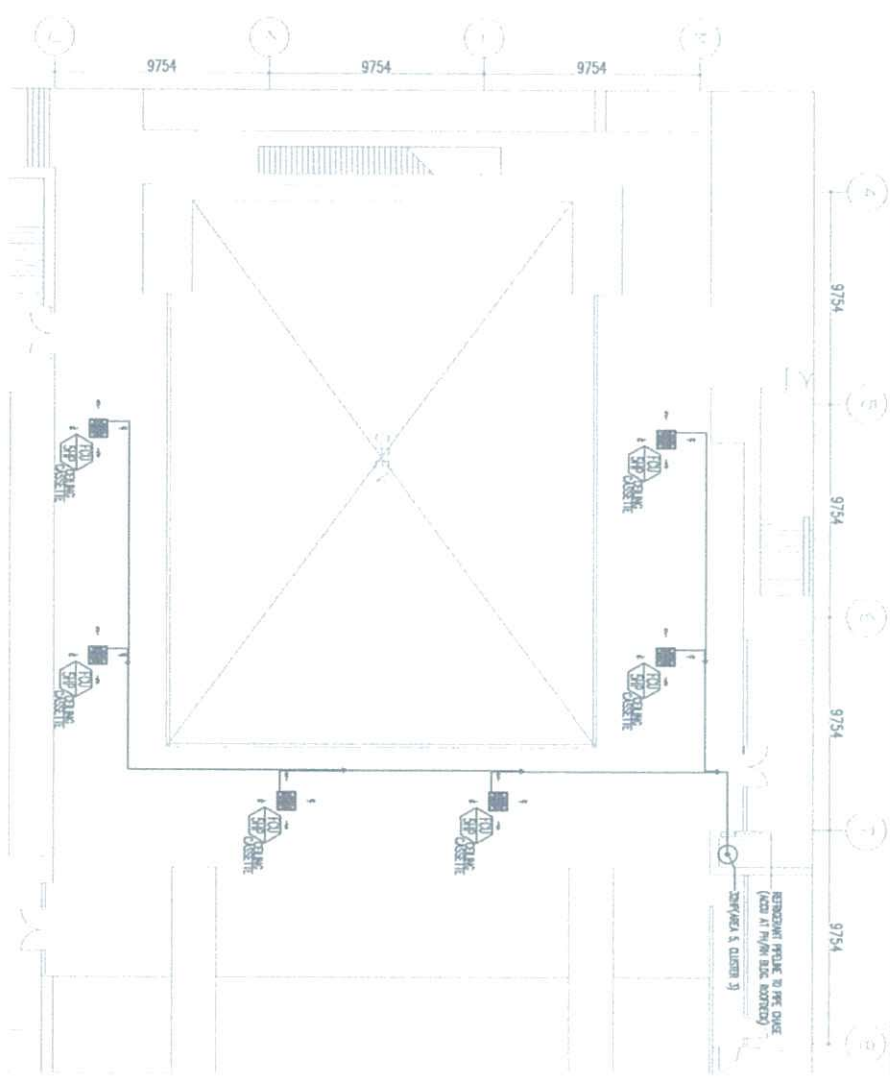
AREA-5, CLUSTER 2
 2F PLENNARY/RECEPTION HALLWAY
 PROPOSED AIRCONDITIONING LAYOUT
 10 M SCALE: 1:300

- GENERAL NOTES:
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F RECEPTION HALL BLDG. EE ROOM.
 2. PICC SHALL PROVIDE 440-480V POWER SUPPLY FOR THE INSTALLATION OF VRF/VRF AIR-CONDITIONING UNITS. MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/ 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
 4. CONTRACTOR TO PROVIDE 1-LOT ELECTRIC WATT-HOUR METER FOR MONITORING OF ELECTRIC POWER CONSUMPTION AT THE ROOM. REFER TO TECHNICAL SPECIFICATION.
 5. TO INSTALL ACCU AT ROOF-DECK OF THE SECRETARIAT BUILDING. (VERIFY AT SITE).
 6. ACTUAL LOCATION OF FCU AND ACCU MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION.
 7. CONTRACTOR TO VERIFY AT SITE ALL LOCATION OF EQUIPMENT, POWER SUPPLY TAPPING POINTS, PIPE ROUTINGS, ETC. SUBMIT SHOP DRAWING TO TSD-MSD PRIOR TO ACTUAL INSTALLATION.
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 9. ACTUAL LOCATION OF WIRED REMOTE CONTROLLER, TRANSFORMER, POWER SUPPLY TAPPING POINT MAY ADJUST ACCORDING TO ACTUAL SITE CONDITION (VERIFY AT SITE).



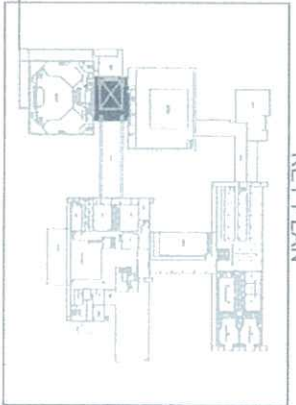
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LOCATION PICC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MAJOR B. MACANAS ASSISTANT DIRECTOR, MSD		ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		ATM. RENATO B. PADILLA GENERAL MANAGER			

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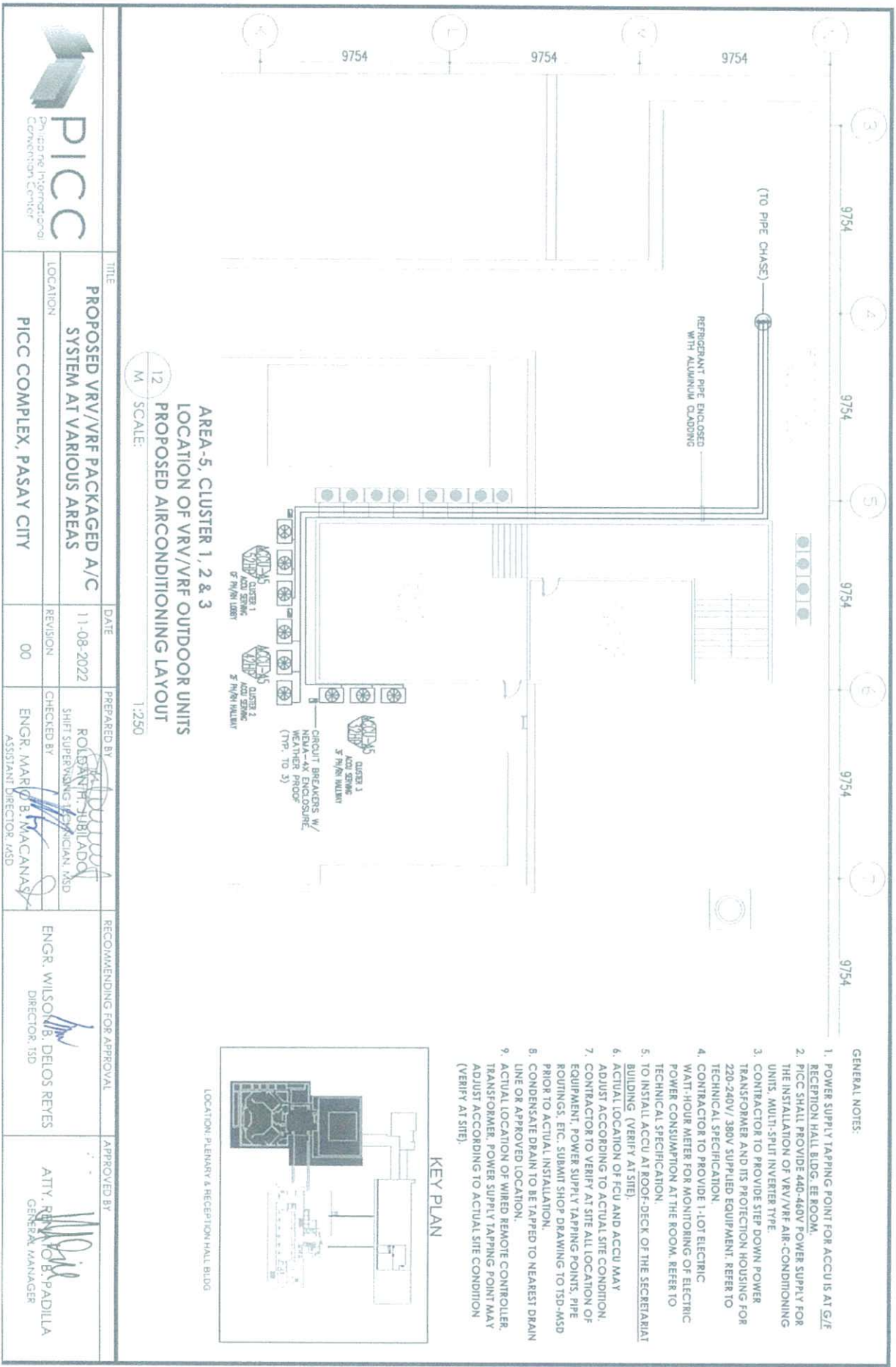


AREA-5, CLUSTER 3
 3F PLENNARY/RECEPTION HALLWAY
 PROPOSED AIRCONDITIONING LAYOUT
 11
 M SCALE: 1:300

- GENERAL NOTES:
1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/F RECEPTION HALL BLDG. SEE ROOM.
 2. PICC SHALL PROVIDE 440-460V POWER SUPPLY FOR THE INSTALLATION OF VRF/VRF AIR-CONDITIONING UNITS, MULTI-SPLIT INVERTER TYPE.
 3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/ 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
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		TITLE PROPOSED VRF/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS		DATE 11-08-2022		PREPARED BY ROLAND M. JOYALDO SHIFT SUPERVISING TECHNICIAN, MSD		RECOMMENDING FOR APPROVAL ENGR. WILSON B. DELOS REYES DIRECTOR, TSD		APPROVED BY ATTY. RINA APPELLA GENERAL MANAGER	
LOCATION PICC COMPLEX, PASAY CITY		REVISION 00		CHECKED BY ENGR. MARCO B. MACANASTI ASSISTANT DIRECTOR, MSD							



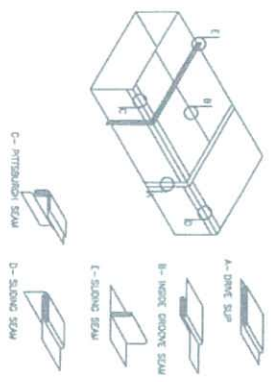
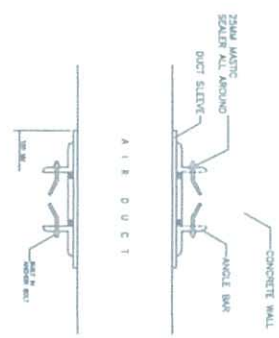
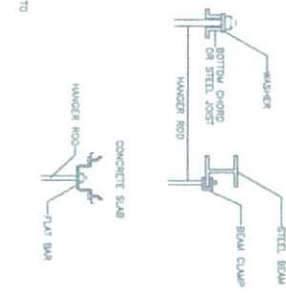
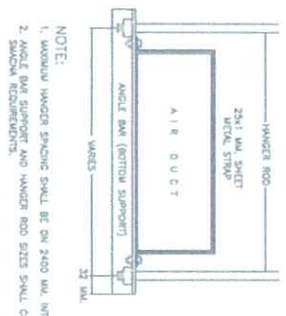
GENERAL NOTES:

1. POWER SUPPLY TAPPING POINT FOR ACCU IS AT G/E RECEPTION HALL BLDG. EE ROOM.
2. PICC SHALL PROVIDE 440-440V POWER SUPPLY FOR THE INSTALLATION OF VRV/VRF AIR-CONDITIONING UNITS. MULTI-SPLIT INVERTER TYPE.
3. CONTRACTOR TO PROVIDE STEP DOWN POWER TRANSFORMER AND ITS PROTECTION HOUSING FOR 220-240V/ 380V SUPPLIED EQUIPMENT. REFER TO TECHNICAL SPECIFICATION.
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TITLE	DATE	PREPARED BY	RECOMMENDING FOR APPROVAL	APPROVED BY
PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS	11-08-2022	ROLEBANTH-SUBLALDO SHIFT SUPERVISING TECHNICIAN, MSD	ENGR. WILSON B. DELOS REYES DIRECTOR, ISD	ATTY. REYNOLDO B. PADILLA GENERAL MANAGER
LOCATION	REVISION	CHECKED BY		
PICC COMPLEX, PASAY CITY	00	ENGR. MARIO B. MACANASY ASSISTANT DIRECTOR, MSD		



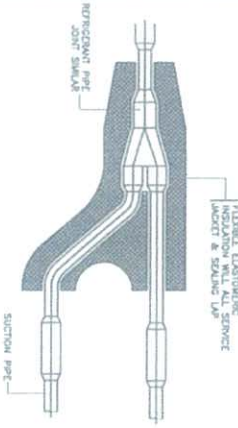
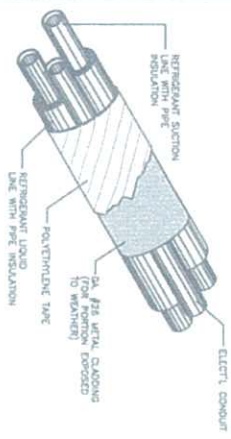
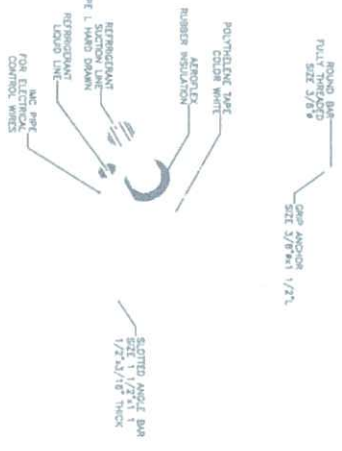
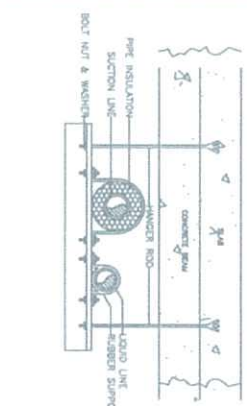
36



DUCT HANGER DETAIL

DUCT SLEEVE DETAIL

DUCT JOINT CONNECTION DETAIL



REFRIGERANT PIPES HANGER & SUPPORT DETAIL

REFRIGERANT PIPING DETAIL


VRF REFRIGERANT PIPES CONNECTION DETAIL

13 DETAILED DRAWINGS
M SCALE: NTS

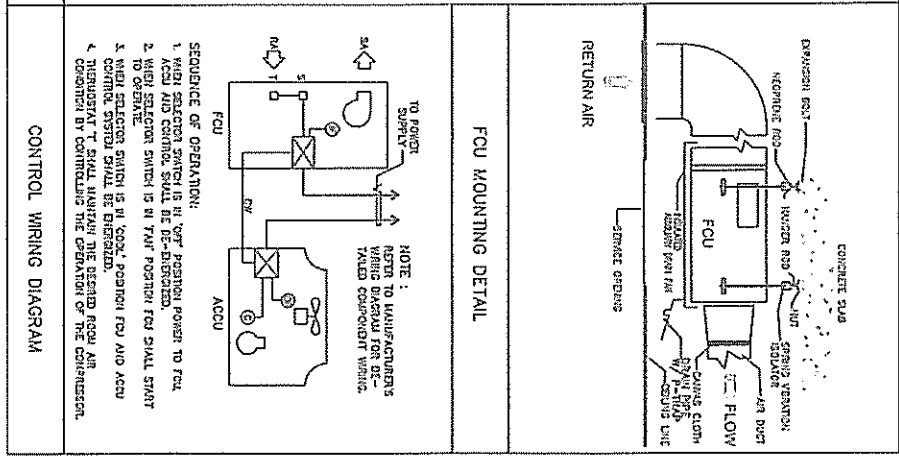
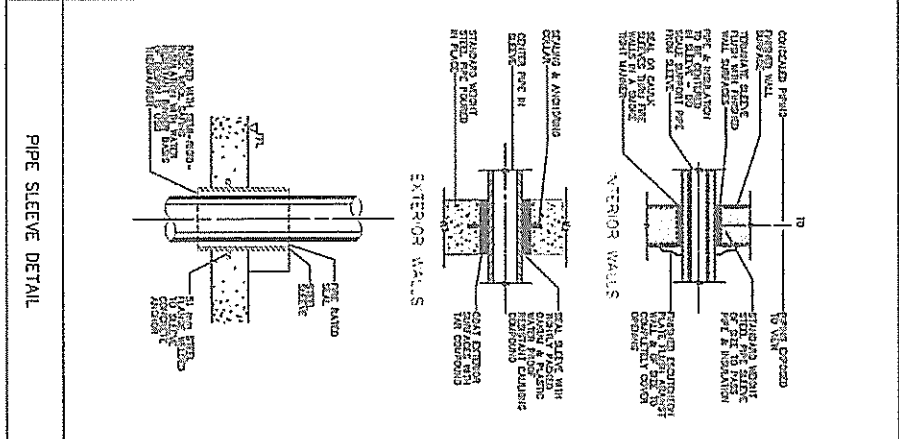
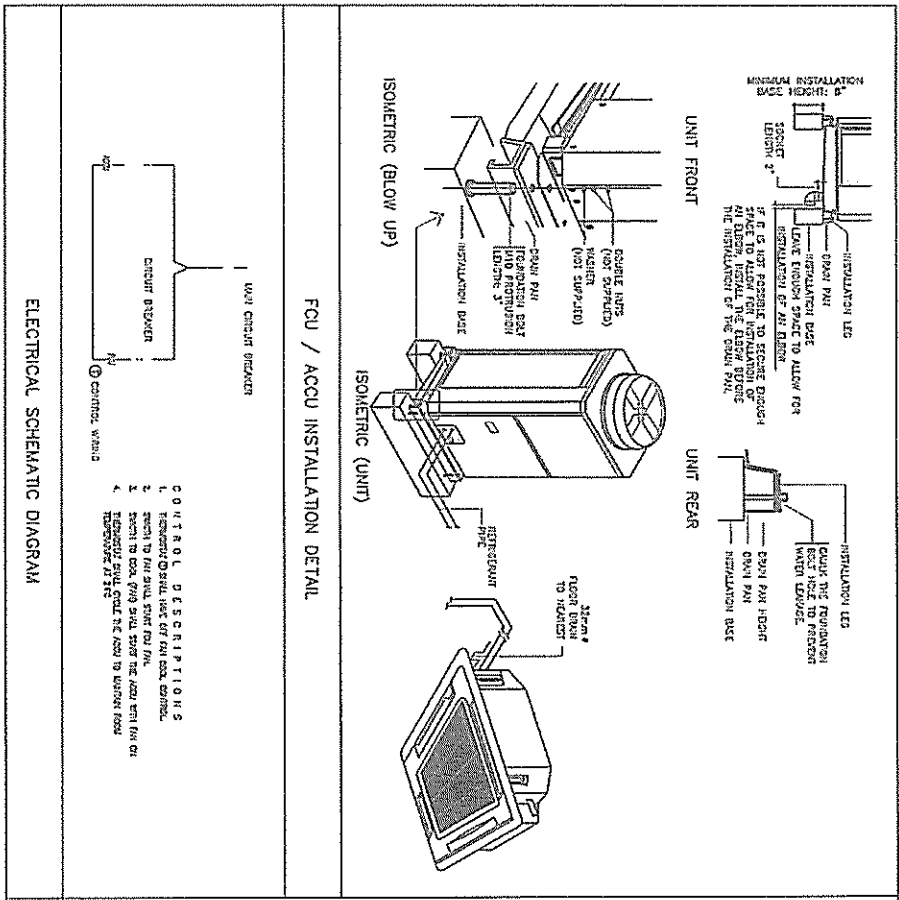
TITLE	DATE	PREPARED BY	RECOMMENDING FOR APPROVAL	APPROVED BY
PROPOSED VRF/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS	11-08-2022	ROLDAN N. JURIBADO SHIFT SUPERVISING TECHNICIAN, MSD	ENGR. WILSON B. DELOS REYES DIRECTOR, TSD	ATTY. RICHARD B. PADILLA GENERAL MANAGER
LOCATION	REVISION	CHECKED BY		
PICC COMPLEX, PASAY CITY	00	ENGR. MARIO B. MORGAN ASSISTANT DIRECTOR, MSD		



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 PICC Pasay International Convention Center		TITLE PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS LOCATION: PICC COMPLEX, PASAY CITY		DATE 11-08-2022 REVISION 00		PREPARED BY ROLDAN V. ADO SHIFT SUPERVISOR/TECHNICAL ASD CHECKED BY ENGR. MARVIN MACANAN ASSISTANT DIRECTOR ASD		RECOMMENDING FOR APPROVAL ENGR. WILSON B. DELOS REYES DIRECTOR, ISD		APPROVED BY ATTY. RICHARD B. PADILLA GENERAL MANAGER	
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14
 DETAILED DRAWINGS
 M SCALE: NTS



<p>BRANCH DUCT CONNECTION DETAIL</p>	<p>BRANCH DUCT TAKE OFF DETAIL</p>	<p>BRANCH DUCT TEE CONNECTION DETAIL</p>	<p>BRANCH DUCT CONNECTION DETAIL</p>
<p>DUCT INSULATION DETAIL</p>	<p>DIFFUSER DETAIL</p>	<p>CEILING CASSETTE (ROUND FLOW TYPE)</p>	<p>ACCU MOUNTING DETAIL</p>

15
M
SCALE: NTS

DETAILED DRAWINGS

	<p>TITLE: PROPOSED VRV/VRF PACKAGED A/C SYSTEM AT VARIOUS AREAS</p> <p>LOCATION: PICC COMPLEX, PASAY CITY</p>	<p>DATE: 11-08-2022</p> <p>REVISION: 00</p> <p>PREPARED BY: <i>REYDAN B. PADILLA</i> SHIFT SUPERVISING TECHNICIAN, JSD</p> <p>CHECKED BY: <i>ENGR. MARVIN W. CANANAS</i> ASSISTANT DIRECTOR, MSD</p>	<p>RECOMMENDING FOR APPROVAL: <i>ENGR. WILSON B. DELOS REYES</i> DIRECTOR, TSD</p>	<p>APPROVED BY: <i>ATM RENANO B. PADILLA</i> GENERAL MANAGER</p>
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*Section VIII. Checklist of Technical and
Financial Documents*

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

- (a) Certified Photocopy of the Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); if any of the documents mentioned in Annex "A" is not current, the new document should be submitted
Or in case of expired PhilGEPS Registration Certificate (Platinum Membership);
- (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
- (d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).

Provided, that the current PhilGEPS Registration Certificate (Platinum Membership) shall be part of the post-qualification documents to be submitted by the Lowest Calculated Bidder

Technical Documents

- (e) 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 (*Annex "A"*); and
- (f) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided for in Sections 23.4.1.3 and 23.4.2.4 of the 2016 revised IRR of RA No. 9184, within the relevant period as provided in the Bidding Documents (*Annex "B"*); and
- (g) 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 (*Annex "C"*); and
- (h) Fully accomplished Section VI (Schedule of Delivery Requirements) and Section VII (Technical Specifications), signed on each and every page; and
- (i) Original duly signed Omnibus Sworn Statement (OSS)(*Annex "D"*); and if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- (j) The Supplier's audited financial statements, showing, among others, the Supplier's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the immediately preceding calendar year; **and**
- (k) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) (*Annex "E"*);
or
A committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.

Class "B" Documents

- (l) If applicable, a duly signed joint venture agreement (JVA) 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

- (m) Original of duly signed and accomplished Financial Bid Form;
- (n) Original of duly signed and accomplished Bill of Quantities.

SINGLE LARGEST COMPLETED CONTRACT
WHICH IS SIMILAR TO THE CONTRACT TO BE BID

Business Name:

Business Address:

Name of Contract	a. Owner' Name b. Address c. Telephone Nos.	Nature of Item/Service	a. Amount of Award b. Amount at Completion c. Duration	a. Date Awarded b. Contract Effectivity c. Date Completed

Note: This statement shall be supported with:

1. Contract
2. Certificate of Completion and Acceptance or Official Receipt/s or Sales Invoice issued for the contract

Note: *The Single Largest Completed Contract shall be completed within the last three (3) years from the date of submission and receipt of bids, that is similar to the contract to be bid, the amount of which shall be at least fifty percent (50%) of the ABC.*

Submitted by:

(Printed Name & Signature)

Designation:

Date:

BID SECURING DECLARATION FORM

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.

X-----X

BID SECURING DECLARATION
Invitation to Bid: *[Insert Reference number]*

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

I/We², 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 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 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;
 - (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]*.

² Select one and delete the other. Adopt the same instruction for similar terms throughout the document.

*[Insert NAME OF BIDDER'S AUTHORIZED
REPRESENTATIVE]
[Insert Signatory's Legal Capacity]
Affiant*

SUBSCRIBED AND SWORN to before me this ____ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. _____ and his/her Community Tax Certificate No. _____ issued on ____ at _____.

Witness my hand and seal this ____ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. _____ *[date issued]*, *[place issued]*

IBP No. _____ *[date issued]*, *[place issued]*

Doc. No. _____

Page No. _____

Book No. _____

Series of _____

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical

Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

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

IN WITNESS WHEREOF, I have hereunto set my hand this__day of____, 20__at _____, Philippines.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

PHILIPPINE INTERNATIONAL CONVENTION CENTER

Name of the Project **Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3rd floor Secretariat Hallway/Lobby, 2nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby**

FINANCIAL DOCUMENTS FOR ELIGIBILITY CHECK

A. Summary of the Applicant Supplier's/Distributor's/Manufacturer's assets and liabilities on the basis of the attached Income Tax Return and Audited Financial Statement, stamped "RECEIVED" by the Bureau of Internal Revenue or BIR authorized collecting agent, for the immediately preceding year and a certified copy of Schedule of Fixed Assets particularly the list of construction equipment.

		Year 20__
1.	Total Assets	
2.	Current Assets	
3.	Total Liabilities	
4.	Current Liabilities	
5.	Net Worth (1-3)	
6.	Net Working Capital (2-4)	
7	Value of all outstanding or uncompleted portions of the project under ongoing contracts, including awarded contracts yet to be started coinciding with contract to be bid.	

B. The Net Financial Contracting Capacity (NFCC) based on the above data is computed as follows:

NFCC = [(Current assets minus current liabilities) (15)] minus value of all outstanding or uncompleted portions of the project under ongoing contracts, including awarded contracts yet to be started coinciding with contract to be bid.

NFCC = P _____

The values of the bidder's current assets and current liabilities shall be based on the data submitted to the BIR.

or

A committed Line of Credit, in an amount to at least ten percent (10%) of the ABC, issued by a Universal of Commercial Bank.

Submitted by:

Name of Supplier / Distributor / Manufacturer

Signature of Authorized Representative

Date: _____

Note:

1. If Partnership or Joint Venture, each Partner or Member Firm of Joint Venture shall submit the above requirements.

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, offer to **Supply and Installation of VRV/VRF Multi-Split, Packaged Air Conditioners at the following Areas: 3rd floor Secretariat Hallway/Lobby, 2nd floor Service Pantry (Bakeshop), Satellite Kitchen and Food Preparation Area, Security Office and Plenary and Reception Hall Lobby** the sum of:

TOTAL AMOUNT: INCLUSIVE OF VALUE ADDED TAX (VAT)
_____ (P _____)
(Amount in Words) (Amount in figures)

or the total calculated bid price, as evaluated and corrected for computational errors, and other bid modifications in accordance with the Price Schedules attached herewith and made part of this Bid. 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 or in the Price Schedules (see attached),

If our Bid is accepted, we undertake:

- a. to deliver the services in accordance with the schedule specified in the Schedule of Requirements of the Philippine Bidding Documents (PBDs);
- b. to provide a performance security in the form, amounts, and within the times prescribed in the PBDs;
- c. to abide by the Bid Validity Period specified in the PBDs and it shall remain binding upon us at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

We understand that you are not bound to accept the Lowest Calculated Bid or any Bid you may receive.

We certify/confirm that we comply with the eligibility requirements pursuant to the PBDs.

The undersigned is authorized to submit the bid on behalf of *[name of the bidder]* as evidenced by the attached *[state the written authority]*.

We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, 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: _____

BILL OF QUANTITIES

Project Title : Supply, Delivery & Installation of VRV/VRF Multi-split, Inverter-type, Packaged Airconditioners

Location : 3/F Secretariat Lobby

Date:

ITEM NO.	ITEM	QTY	UNIT	UNIT COST	TOTAL
	MECHANICAL WORKS				
1.0	Direct Cost				
1.1	5Hp Ceiling Cassette, 4way Indoor Unit, Fan Coil Unit	4	unit/s		
1.2	1.6Hp Ceiling Cassette, 4way Indoor Unit, Fan Coil Unit	10	unit/s		
1.3	Inverter Outdoor Units, 380V/60Hz/3P (VRV-X)	1	lot		
1.4	Panel(front)/signal reciever for 5Hp Ceiling Cassette	4	unit/s		
1.5	Panel(front)/signal reciever for 1.6Hp Ceiling Cassette	10	unit/s		
1.6	Wired Remote Controller for 5Hp Ceiling Cassette	4	unit/s		
1.7	Wired Remote Controller for 1.6Hp Ceiling Cassette	10	unit/s		
1.8	Spare Drain Pumps for 5Hp Ceiling Cassette	1	unit/s		
1.9	Spare Drain Pumps for 1.6Hp Ceiling Cassette	1	unit/s		
1.10	Spare Indoor Printed Circuit Board for 5Hp Ceiling Cassette	1	unit/s		
1.11	Spare Indoor Printed Circuit Board for 1.6Hp Ceiling Cassette	1	unit/s		
1.12	Spare Outdoor Printed Circuit Assembly Board #1 for 18Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.13	Spare Outdoor Printed Circuit Assembly Board #2 for 18Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.14	Spare Outdoor Printed Circuit Inverter Assembly Board for 18Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.15	Spare Outdoor Printed Circuit Assembly Board #1 for 20Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.16	Spare Outdoor Printed Circuit Assembly Board #2 for 20Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.17	Spare Outdoor Printed Circuit Inverter Assembly Board for 20Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.18	Branch piping header / piping joint/refnet	1	lot		
1.19	Watt-hour Meter	1	unit/s		
1.20	Hard drawn copper pipes (Type L)	1	lot		
1.21	Close-cell rubber insulation	1	lot		
1.22	Condensate Drain Pipes w/ insulation	1	lot		
1.23	Electrical Wires and related items	1	lot		
1.24	Refrigerant R410A	1	lot		
1.25	Environment-friendly cleaning agent R-141B	1	lot		
1.26	Nitrogen gas for flushing and cleaning of pipes	1	lot		
1.27	Oxygen-acetylene gas for cutting and welding works	1	lot		
1.28	Silver rods and other miscellaneous materials	1	lot		
1.29	Angle bar, 3/16" thk for base of fcu 1/8" for supports	1	lot		
1.30	Epoxy primer, enamel paints and other parts materials	1	lot		
1.31	Transformer and other related accessories	1	lot		
1.32	Restoration Works affected by Installation / Miscellaneous	1	lot		
1.33	Testing & Commissioning	1	lot		
	<i>Total Direct Cost</i>				
2.0	Indirect Cost				
2.1	Labor Cost	1	lot		
	<i>Total Indirect Cost</i>				
	Total (Supply & Installation of Multi-split VRF/VRV PACU at 3/F Secretariat Lobby)				

Prepared by:

Company Name _____

Name / Signature

Position

BILL OF QUANTITIES

Project Title : Supply, Delivery & Installation of VRV/VRF Multi-split, Inverter-type, Packaged Airconditioners

Location : 2/F Service Pantry (Bake Shop)

Date:

ITEM NO.	ITEM	QTY	UNIT	UNIT COST	TOTAL
	MECHANICAL WORKS				
1.0	Direct Cost				
1.1	5Hp Ceiling Cassette, 4way Indoor Unit, Fan Coil Unit	4	unit/s		
1.2	Inverter Outdoor Units, 380V/60Hz/3P (VRV-X)	1	lot		
1.3	Panel(front)/signal reciever for 5Hp Ceiling Cassette	4	unit/s		
1.4	Wired Remote Controller for 5Hp Ceiling Cassette	4	unit/s		
1.5	Spare Drain Pumps for 5Hp Ceiling Cassette	1	unit/s		
1.6	Spare Indoor Printed Circuit Board for 5Hp Ceiling Cassette	1	unit/s		
1.7	Spare Outdoor Printed Circuit Assembly Board #1 for 10Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.8	Spare Outdoor Printed Circuit Assembly Board #2 for 10Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.7	Spare Outdoor Printed Circuit Inverter Assembly Board for 10Hp Ceiling Cassette	1	unit/s		
1.8	Spare Outdoor Printed Circuit Assembly Board #1 for 12Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.9	Spare Outdoor Printed Circuit Assembly Board #2 for 12Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.10	Spare Outdoor Printed Circuit Inverter Assembly Board for 12Hp Air-Cooled Condensing Unit (ACCU)	1	unit/s		
1.12	Branch piping header / piping joint/refnet	1	lot		
1.13	Watt-hour Meter	1	unit/s		
1.14	Hard drawn copper pipes (Type L)	1	lot		
1.15	Close-cell rubber insulation	1	lot		
1.16	Condensate Drain Pipes w/ insulation	1	lot		
1.17	Electrical Wires and related items	1	lot		
1.18	Refrigerant R410A	1	lot		
1.19	Environment-friendly cleaning agent R-141B	1	lot		
1.20	Nitrogen gas for flushing and cleaning of pipes	1	lot		
1.21	Oxygen-acetylene gas for cutting and welding works	1	lot		
1.22	Silver rods and other miscellaneous materials	1	lot		
1.23	Angle bar, 3/16" thk for base of fcu 1/8" for supports	1	lot		
1.24	Epoxy primer, enamel paints and other parts materials	1	lot		
1.25	Transformer and other related accessories	1	lot		
1.26	Restoration Works Affected by Installation / Miscellaneous	1	lot		
1.27	Testing & Commissioning	1	lot		
	<i>Total Direct Cost</i>				
2.0	Indirect Cost				
2.1	Labor Cost	1	lot		
	<i>Total Indirect Cost</i>				
	Total (Supply & Installation of Multi-split VRF/VRV PACU at 2/F Service Pantry)				

Prepared by:

Company Name _____

Name / Signature

Position