

PHILIPPINE BIDDING DOCUMENTS

Procurement of INFRASTRUCTURE PROJECTS

Government of the Republic of the Philippines

**PROPOSED INSTALLATION OF SOLAR POWER SYSTEM
AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET
METERING APPLICATION**

**Project number:
24-00140**

**Sixth Edition
July 2020**

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the “Works”) through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv) the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

TABLE OF CONTENTS

GLOSSARY OF TERMS, ABBREVIATIONS, AND ACRONYMS	5
SECTION I. INVITATION TO BID.....	8
SECTION II. INSTRUCTIONS TO BIDDERS	9
1. Scope of Bid	10
2. Funding Information	10
3. Bidding Requirements.....	10
4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices	10
5. Eligible Bidders.....	11
6. Origin of Associated Goods	11
7. Subcontracts	11
8. Pre-Bid Conference	12
9. Clarification and Amendment of Bidding Documents.....	12
10. Documents Comprising the Bid: Eligibility and Technical Components	12
11. Documents Comprising the Bid: Financial Component	13
12. Alternative Bids	13
13. Bid Prices	13
14. Bid and Payment Currencies	13
15. Bid Security.....	14
16. Sealing and Marking of Bids.....	14
17. Deadline for Submission of Bids	14
18. Opening and Preliminary Examination of Bids	14
19. Detailed Evaluation and Comparison of Bids	14
20. Post Qualification.....	15
21. Signing of the Contract	15
SECTION III. BID DATA SHEET	16
SECTION IV. GENERAL CONDITIONS OF CONTRACT	19
1. Scope of Contract.....	20
2. Sectional Completion of Works	20
3. Possession of Site.....	20
4. The Contractor's Obligations	20

5.	Performance Security	20
6.	Site Investigation Reports	21
7.	Warranty.....	21
8.	Liability of the Contractor.....	21
9.	Termination for Other Causes	21
10.	Dayworks	21
11.	Program of Work.....	22
12.	Instructions, Inspections and Audits	22
13.	Advance Payment.....	22
14.	Progress Payments	22
15.	Operating and Maintenance Manuals.....	22
SECTION V. SPECIAL CONDITIONS OF CONTRACT		24
SECTION VI. SPECIFICATIONS.....		26
SECTION VII. DRAWINGS		28
SECTION VIII. BILL OF QUANTITIES		29
SECTION IX. CHECKLIST OF TECHNICAL AND FINANCIAL DOCUMENTS		31

Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

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

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

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

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



October 15, 2024

Invitation to Bid

No.	Project No.	Project Name	Location	Amount	Duration Cal. Days	Office	Source Fund
<u>Building – Small B</u>							
1	24-00125	Proposed Construction of Perimeter Wall at Cong. R. Calalay Memorial Elementary School	Damayan	1,217,312.38	60	Engineering Department	Special Education Fund
2	24-00126	Proposed Rehabilitation of Covered Court at Doña Juana Elementary School	Holy Spirit	5,132,804.11	90	Engineering Department	Special Education Fund
3	24-00127	Proposed Upgrading of Electrical System at Kalantiyaw Elementary School in Barangay Bagumbuhay	Bagumbuhay	8,235,656.93	120	Engineering Department	Special Education Fund
4	24-00128	Proposed Waterproofing of Roof Deck and Rehabilitation of Ceiling (15th Floor) at Main Building in Quezon City Hall Compound	Central	8,697,155.64	120	Engineering Department	General Fund – Continuing Appropriation
5	24-00129	Proposed Upgrading of Plumbing System and Rehabilitation of Comfort Rooms at Tomas Morato Elementary School in Barangay Kamuning	Kamuning	8,913,447.29	150	Engineering Department	Special Education Fund
6	24-00130	Proposed Upgrading of Waterline System and Rehabilitation of Comfort Rooms at Mines Elementary School in Barangay Vasra	Vasra	11,575,042.08	150	Engineering Department	Special Education Fund
7	24-00131	Proposed Upgrading of Waterline System and Rehabilitation of Comfort Rooms at Doña Josefa Elementary School	San Roque	13,922,881.76	150	Engineering Department	Special Education Fund
8	24-00132	Proposed Construction of Perimeter Fence at Teresa Heights in Barangay Pasong Putik Proper	Pasong Putik Proper	14,356,791.59	120	Engineering Department	General Fund – Continuing Appropriation
9	24-00133	Proposed Construction of Covered Activity Area and Pathwalk and Rehabilitation of Fernando C. Amorsolo Senior High School	Kamuning	18,868,533.38	180	Engineering Department	Special Education Fund
10	24-00134	Proposed Upgrading of Waterline System and Rehabilitation of Comfort Rooms at Camp General Emilio Aguinaldo High School	San Roque	19,876,954.60	180	Engineering Department	Special Education Fund

11	24-00135	Proposed Upgrading of Waterline System and Rehabilitation of Comfort Rooms at North Fairview Elementary School	North Fairview	19,944,137.23	150	Engineering Department	Special Education Fund
<u>Building – Medium A</u>							
12	24-00136	Proposed Rehabilitation of Tandang Sora Women's Museum at Barangay Tandang Sora	Tandang Sora	39,953,160.12	60	Engineering Department	Fund from Sen. Risa Hontiveros
<u>Building – Large A</u>							
13	24-00137	Proposed Construction of Amoranto Indoor Sports Facility Building and Improvement of Existing Multi-Purpose Building at Amoranto Sports Complex, Quezon City	Paligsahan	358,866,379.62	450	Engineering Department	20% Community Development Fund – Continuing Appropriation
14	24-00138	Proposed Construction of Six (6) Storey with Deck Multi-Purpose Building	Central	431,193,763.95	720	Engineering Department	20% Community Development Fund – Continuing Appropriation
<u>Building – Large B</u>							
15	24-00139	Proposed Construction of Five (5) Storey with Two (2) Basement and Roof Deck Multi-Purpose Building (Public Market, Barangay Hall, Public Library, Health Center and Day Care Center) at Barangay Damayan	Damayan	661,398,881.76	540	Engineering Department	20% Community Development Fund – Continuing Appropriation
<u>Electrical Work – Small B</u>							
16	24-00140	Proposed Installation of Solar Power System at Manuel A. Roxas High School Including Net Metering Application	Paligsahan	12,080,386.87	120	Engineering Department	Special Education Fund
17	24-00141	Proposed Installation of Solar Power System at Pasong Tamo Elementary School Including Net Metering Application	Pasong Tamo	12,148,723.93	120	Engineering Department	Special Education Fund
18	24-00142	Proposed Installation of Solar Power System at Novaliches High School Including Net Metering Application	San Agustin	12,228,497.23	120	Engineering Department	Special Education Fund
19	24-00143	Proposed Installation of Solar Power System at San Agustin Elementary School Including Net Metering Application	San Agustin	12,242,281.06	120	Engineering Department	Special Education Fund
20	24-00144	Proposed Installation of Solar Power System at San Bartolome High School Including Net Metering Application	San Bartolome	12,307,218.93	120	Engineering Department	Special Education Fund

21	24-00145	Proposed Installation of Solar Power System at Commonwealth Elementary School Including Net Metering Application	Commonwealth	12,317,262.22	120	Engineering Department	Special Education Fund
22	24-00146	Proposed Installation of Solar Power System at Camp General Emilio Aguinaldo High School Including Net Metering Application	Camp Aguinaldo	12,346,151.11	120	Engineering Department	Special Education Fund
23	24-00147	Proposed Installation of Solar Power System at Ramon Magsaysay Elementary School Including Net Metering Application	Lourdes	12,355,546.17	120	Engineering Department	Special Education Fund
24	24-00148	Proposed Installation of Solar Power System at Tandang Sora Elementary School Including Net Metering Application	Tandang Sora	12,406,483.24	120	Engineering Department	Special Education Fund
25	24-00149	Proposed Installation of Solar Power System at Batasan Hills National High School Including Net Metering Application	Batasan Hills	12,468,274.28	120	Engineering Department	Special Education Fund
26	24-00150	Proposed Installation of Solar Power System at Placido Del Mundo Elementary School Including Net Metering Application	Talipapa	12,544,398.72	120	Engineering Department	Special Education Fund
27	24-00151	Proposed Installation of Solar Power System at Judge Feliciano Belmonte Sr. High School Including Net Metering Application	Holy Spirit	12,607,622.07	120	Engineering Department	Special Education Fund
28	24-00152	Proposed Installation of Solar Power System at Lagro High School Including Net Metering Application	Greater Lagro	12,629,898.96	120	Engineering Department	Special Education Fund
29	24-00153	Proposed Installation of Solar Power System at Culiati Elementary School Including Net Metering Application	Culiati	12,652,507.89	120	Engineering Department	Special Education Fund
30	24-00154	Proposed Installation of Solar Power System at Quirino High School Including Net Metering Application	Duyan-Duyan	12,655,519.95	120	Engineering Department	Special Education Fund
31	24-00155	Proposed Installation of Solar Power System at Holy Spirit Elementary School Including Net Metering Application	Holy Spirit	12,771,548.68	120	Engineering Department	Special Education Fund
32	24-00156	Proposed Installation of Solar Power System at New Era High School including Net Metering Application	New Era	12,776,202.97	120	Engineering Department	Special Education Fund
33	24-00157	Proposed Installation of Solar Power System at Culiati High School Including Net Metering Application	Culiati	12,870,990.71	120	Engineering Department	Special Education Fund

34	24-00158	Proposed Installation of Solar Power System at Juan Sumulong High School Including Net Metering Application	Tagumpay	13,035,914.96	120	Engineering Department	Special Education Fund
<u>Building – Small B</u>							
35	24-00159	Proposed Upgrading of Electrical System at Sta. Lucia High School	Sta. Lucia	18,093,988.07	90	Engineering Department	Special Education Fund
<u>Flood Control – Small B</u>							
36	24-00160	Proposed Construction of Slope Protection (Steel Sheet Pile) Along Katipunan Avenue (Center Island Area) at Barangay Pansol	Pansol	7,200,191.98	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
37	24-00161	Proposed Drainage System at Usaffe Road from AFP Road (Sta 0+000) to Creek (Sta 0+070) at Barangay Holy Spirit	Holy Spirit	10,099,069.10	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
38	24-00162	Proposed Drainage System at Dunhill Street from Viceroy Street (Sta. 0+000 to Sta. 0+050) in Barangay Fairview	Fairview	11,576,060.33	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
39	24-00163	Proposed Drainage System at Valiant Street from Fairview Avenue (Sta. 0+000) to Gate (Sta.0+060) in Barangay Fairview	Fairview	12,309,581.99	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
40	24-00164	Proposed Drainage System at Rachel Lane from Regina Lane (Sta.0+000) to Carmen Drive (Sta.0+085) in Barangay Kaligayahan	Kaligayahan	13,505,820.84	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
41	24-00165	Proposed Drainage System at West Riverside Street from Valencia Street (Sta.0+000) to Florencia Road (Sta. 0+100) in Barangay Del Monte	Del Monte	19,449,533.38	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
42	24-00166	Proposed Construction of Slope Protection (Reinforced Concrete Retaining Wall) Along Kamuning Public Market (Sta. 0+000 - Sta. 0+068.5) at Barangay Kamuning	Kamuning	20,180,401.70	150	Engineering Department	Local Disaster Risk Reduction and Management Fund
43	24-00167	Proposed Drainage System at Mangga Street (Sta.0+000 to Sta.0+180) in Barangay Katipunan	Katipunan	22,374,396.77	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
44	24-00168	Proposed Drainage System at Capoas Street from Gasan Street (Sta.0+000) to Inaman Street (Sta. 0+200) in Barangay Masambong	Masambong	23,079,798.79	90	Engineering Department	Local Disaster Risk Reduction and Management Fund

45	24-00169	Proposed Drainage System at Castro Street from Santa Marcela (Sta 00+000) to Creek (Sta 00+250) in Barangay Sta. Lucia	Sta. Lucia	24,742,951.11	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
<u>Flood Control – Medium A</u>							
46	24-00170	Proposed Drainage System at Kaliraya Street from ROTC Hunter (Sta. 0+000) to San Juan River (Sta. 0+280) in Barangay Tatalon	Tatalon	42,499,586.57	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
47	24-00171	Proposed Construction of Slope Protection (Steel Sheet Piles) at Tullahan River Near Odelco Subdivision in Barangay San Bartolome	San Bartolome	60,764,822.59	90	Engineering Department	Local Disaster Risk Reduction and Management Fund
<u>Road – Small B</u>							
48	24-00172	Proposed Rehabilitation (Surface Improvement) of Barangay Hall Compound at Barangay U.P. Village	U.P. Village	2,449,872.89	60	Engineering Department	20% Community Development Fund

1. The **QUEZON CITY LOCAL GOVERNMENT**, through *funding source of various years* intends to apply the sum stated above being the Approved Budget for the Contract (ABC) to payments under the contract *for the above stated Projects*. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The **QUEZON CITY LOCAL GOVERNMENT** now invites bids for the above Procurement Project. Completion of the Works is required *as stated above*. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
4. Interested bidders may obtain further information from **QUEZON CITY LOCAL GOVERNMENT – BAC Secretariat** and inspect the Bidding Documents at the address given below *weekdays from 8:00 am. – 5:00 p.m.*
5. A complete set of Bidding Documents may be acquired by interested bidders on **16 October 2024 (Wednesday)** from given address and website/s below *and upon payment of a non-refundable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *presented in person*.

STANDARD RATES:

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

The following are the requirements for purchase of Bidding Documents;

1. PhilGEPS Registration Certificate (Platinum – 3 Pages)
2. Document Request List (DRL)

3. Authorization to purchase bidding documents
 - 3.1 Secretary's Certificate (for corporation)
 - 3.2 Special Power of Attorney (for sole proprietorship)
4. Notarized Joint Venture Agreement (if applicable)
5. Letter of Intent

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

6. The **QC- BAC- INFRASTRUCTURE & CONSULTANCY** will hold a Pre-Bid Conference¹ on **October 24, 2024 at 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP)** which shall be open to prospective bidders.

Virtual Conference (ZOOM APP)

Meeting ID: 854 9489 0133

Password: 273320

7. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below, on or before **November 05, 2024 – 9:00 AM**. Late bids shall not be accepted.
8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB Clause 16**.
9. Bid opening shall be on **November 05, 2024 – 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or via Zoom. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

Virtual Conference (ZOOM APP)

Meeting ID: 810 3646 5257

Password: 201522

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

ATTY. DOMINIC B. GARCIA

OIC, Procurement Department

2nd Floor, Procurement Department,

Finance Building, Quezon City Hall Compound

Elliptical Road, Barangay Central Diliman, Quezon City.

Tel. No. (02)8988-4242 loc. 8506/8710

Email Add: bacinfra.procurement@quezoncity.gov.ph

Website: www.quezoncity.gov.ph

12. You may visit the following websites:

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

By:



MS. MARIAN C. ORAYANI

Chairperson, BAC-Infra and Consultancy

¹ May be deleted in case the ABC is less than One Million Pesos (Php1,000,000) where the Procuring Entity may not hold a pre-bid conference.

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, **Quezon City Government** invites Bids for the **PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION**, with Project Identification Number **24-00140**.

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

The Procurement Project (referred to herein as “Project”) is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **2024** in the amount of **Twelve Million Eighty Thousand Three Hundred Eighty-Six Pesos and 87/100 Cts. (P 12,080,386.87)**.

2.2. The source of funding is:

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

3. Bidding Requirements

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

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

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

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

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

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

5. Eligible Bidders

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

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

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

6. Origin of Associated Goods

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

7. Subcontracts

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

The Procuring Entity has prescribed that:

a. Subcontracting is not allowed.

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

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

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

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address on **October 24, 2024 at 10:00 AM at 2nd Floor, Procurement Department-Bidding Room, Finance Building, Quezon City Hall Compound** and/or we encourage the prospective bidders to join through our **Virtual Conference (ZOOM APP) Meeting ID: 854 9489 0133 Password: 273320**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

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

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

11. Documents Comprising the Bid: Financial Component

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

12. Alternative Bids

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

13. Bid Prices

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

14. Bid and Payment Currencies

- 14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.
- 14.2. *Payment of the contract price shall be made in:*
 - a. Philippine Pesos.

15. Bid Security

- 15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.
- 15.2. The Bid and bid security **in no case shall exceed One Hundred Twenty (120) calendar days from the date of opening of bids, unless duly extended by the bidder upon the request of the Head of the Procuring Entity (HoPE) of the Quezon City Local Government**. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

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

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

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

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 5 of the **IB**.

18. Opening and Preliminary Examination of Bids

- 18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

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

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC

shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

- 19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.
- 19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

ITB Clause																																									
5.2	For this purpose, similar contracts shall refer to contracts which have the same major categories of work.																																								
7.1	Subcontracting is not allowed.																																								
10.3	<i>No additional contractor license or permit is required</i> <i>In addition, eligible bidders shall qualify or comply with the following:</i> 1. Bidders with valid Philippine Contractors Accreditation Board (PCAB) Type Electrical Work - Small B																																								
10.4	<table><tr><td colspan="4">The minimum work experience requirements for key personnel are the following:</td></tr><tr><td>Qty.</td><td>Key Personnel</td><td>General Experience</td><td>Relevant Experience</td></tr><tr><td>1</td><td>Project-in-Charge (Project Engineer)</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>General Foreman</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineers/Leadman for Civil Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Trade Engineers/Leadman for Electrical Works</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Safety Officer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>DPWH duly accredited Materials/ QA/ QC Engineer</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Cost Engineer/ Project Scheduler</td><td>3 years</td><td>3 years</td></tr><tr><td>1</td><td>Quality Assurance/ Quality Control Engineer</td><td>3 years</td><td>3 years</td></tr></table> <i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing personnel shall perform work exclusively for the project until its completion. Please see attached bid forms.</i>	The minimum work experience requirements for key personnel are the following:				Qty.	Key Personnel	General Experience	Relevant Experience	1	Project-in-Charge (Project Engineer)	3 years	3 years	1	General Foreman	3 years	3 years	1	Trade Engineers/Leadman for Civil Works	3 years	3 years	1	Trade Engineers/Leadman for Electrical Works	3 years	3 years	1	Safety Officer	3 years	3 years	1	DPWH duly accredited Materials/ QA/ QC Engineer	3 years	3 years	1	Cost Engineer/ Project Scheduler	3 years	3 years	1	Quality Assurance/ Quality Control Engineer	3 years	3 years
The minimum work experience requirements for key personnel are the following:																																									
Qty.	Key Personnel	General Experience	Relevant Experience																																						
1	Project-in-Charge (Project Engineer)	3 years	3 years																																						
1	General Foreman	3 years	3 years																																						
1	Trade Engineers/Leadman for Civil Works	3 years	3 years																																						
1	Trade Engineers/Leadman for Electrical Works	3 years	3 years																																						
1	Safety Officer	3 years	3 years																																						
1	DPWH duly accredited Materials/ QA/ QC Engineer	3 years	3 years																																						
1	Cost Engineer/ Project Scheduler	3 years	3 years																																						
1	Quality Assurance/ Quality Control Engineer	3 years	3 years																																						
10.5	<table><tr><td colspan="3">The minimum major equipment requirements are the following:</td></tr><tr><td>Equipment</td><td>Capacity</td><td>Number of Units</td></tr><tr><td>Dump Truck</td><td>12yd3</td><td>1</td></tr><tr><td>Chipping Gun</td><td></td><td>1</td></tr></table> <i>In addition, the bidder must execute an affidavit of undertaking duly notarized stating that the foregoing equipment shall be used exclusively for</i>	The minimum major equipment requirements are the following:			Equipment	Capacity	Number of Units	Dump Truck	12yd3	1	Chipping Gun		1																												
The minimum major equipment requirements are the following:																																									
Equipment	Capacity	Number of Units																																							
Dump Truck	12yd3	1																																							
Chipping Gun		1																																							

	<i>the project until its completion. Please see attached bid forms.</i>
12	<i>[Insert Value Engineering clause if allowed.]</i>
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration with project number, or any of the following forms and amounts:</p> <ul style="list-style-type: none"> a) The amount of not less than Php 241,607.74 or equivalent to two percent (2%) of ABC if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b) The amount of not less than Php 604,019.34 or equivalent to five percent (5%) of ABC if bid security is in Surety Bond.
19.2	Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20	No additional requirement.
21	<p>Additional Contract Documents relevant to the Project as required:</p> <ol style="list-style-type: none"> 1. Construction Schedule and S-curve, 2. Manpower Schedule, 3. Construction Methods, 4. Equipment Utilization Schedule, 5. PERT/CPM or other acceptable tools of project scheduling, shall be included in the submission of Technical Proposal.

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

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

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

2. Sectional Completion of Works

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

3. Possession of Site

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

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

4. The Contractor's Obligations

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

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

5. Performance Security

- 5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.
- 5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

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

7. Warranty

- 7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.
- 7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. Liability of the Contractor

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

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

9. Termination for Other Causes

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

10. Dayworks

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

11. Program of Work

- 11.1. The Contractor shall submit to the Procuring Entity’s Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC**.
- 11.2. The Contractor shall submit to the Procuring Entity’s Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC**. If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity’s Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

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

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex “E” of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

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

15. Operating and Maintenance Manuals

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

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

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	Completion of work shall be within 120 calendar days.
4.1	The Procuring Entity shall give possession of all parts of the Site to the Contractor upon receipt of the Notice to Proceed.
6	The site investigation reports are: <i>[list here the required site investigation reports.]</i>
7.2	<p><i>[Select one, delete the other.]</i></p> <p><i>[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]</i> Fifteen (15) years.</p> <p><i>[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]</i> Five (5) years.</p> <p><i>[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]</i> Two (2) years.</p>
10	Dayworks are applicable at the rate shown in the Contractor's original Bid.
13	The amount of the advance payment is no more that fifteen percent (15%) of the Contract Price subject to approval by the HOPE and compliance with the conditions under RA 9184 and its IRR.
14	No further instructions.
15.1	<p>The date by which operating and maintenance manuals are required is <i>thirty (30) days</i></p> <p>The date by which "as built" drawings are required as part of final payment</p>
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is ten (10%) percent of the contract price.

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted

subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.



Republic of the Philippines
Quezon City
DEPARTMENT OF ENGINEERING
Civic Center Building B, Quezon City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Trunkline: +63 2 8988 4242
E-mail address: engineering@quezoncity.gov.ph



PROJECT TITLE : **PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS
HIGH SCHOOL INCLUDING NET METERING APPLICATION**

LOCATION : **BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY**

**GENERAL AND SPECIAL CONDITIONS OF CONTRACT AND TECHNICAL
SPECIFICATIONS**

Table of Contents

I. GENERAL CONDITIONS 3

1. DEFINITIONS 3

2. EXAMINATION OF MEMBER..... 3

3. LOCATION 3

4. EXECUTION, CORRELATION AND INTENT OF DOCUMENTS..... 3

5. DETAILED DRAWINGS AND INSTRUCTIONS 3

6. PLANS AND PROJECT SITE..... 3

7. SHOP DRAWINGS..... 3

8. REVISIONS..... 4

9. PROJECT SCHEDULE..... 4

10. WORKMANSHIP 4

11. MATERIALS..... 4

12. INSPECTION OF WORK..... 4

13. SUBSTANDARD WORK 4

14. LAWS AND REGULATIONS 4

15. MANNER OF PAYMENT 4

16. RETENTION MONEY 4

17. TEMPORARY FACILITIES..... 4

18. SITE CLEARING 5

19. TEMPORARY BARRICADES, SIGNAL LIGHTS, BILLBOARDS, ETC. 5

20. PERFORMANCE AND GUARANTEE BOND 5

21. TESTING AND COMMISSIONING 5

22. WARRANTY OBLIGATION 5

23. CONDITIONS OF WARRANTY 5

24. QUESTIONS AND DISAGREEMENTS 5

II. SPECIAL CONDITION..... 6

III. TECHNICAL SPECIFICATIONS 7

1. GENERAL REQUIREMENTS..... 7

2. ELECTRICAL WORKS..... 9

 A. Photovoltaic Modules..... 9

 B. Rapid Shutdown Switch (RSS) 9

 C. DC Combiner Box..... 9

 D. Support Structures..... 9

 E. Grid-tied Inverter/Power Conditioning Unit (PCU)..... 9

 F. AC Collection System..... 10

 G. Online Monitoring and Control..... 10

 H. DC and AC Wires and Cables 11

 I. Metal Enclosures, Conduits, Cable Trays 11

 J. Protective Devices (DC and AC) 11

 K. Ancillary Materials..... 11

3. INSTALLATION 12

 A. General Installation Activities 12

 B. Cabling 12

 C. Access..... 12

 D. Coring Work..... 12

 E. Lightning Protection 13

 F. Corrosion Management 13

 G. Housekeeping..... 13

 H. Monitoring System 13

 I. Labelling..... 13

 J. Equipment Weather Protection..... 14

I. GENERAL CONDITIONS

1. DEFINITIONS

- A. OWNER : Local Government of Quezon City
- B. CONTRACTOR: Any person, entity, company, partnership, or association that enters an agreement with the Owner to provide materials, labor, tools, equipment, machinery, and other necessary facilities for the construction and finalization of the project as outlined in the accompanying plans and drawings.

2. EXAMINATION OF MEMBER

The Contractor must thoroughly inspect the premises prior to submitting any bids to ensure they have the complete understanding of the existing conditions.

3. LOCATION

The project is situated and must be referred to the approved Location Plan.

4. EXECUTION, CORRELATION AND INTENT OF DOCUMENTS

- A. The Contract Documents shall be signed by all parties in an adequate number of copies. Should any party fail to sign any item within the set of contract documents, identification by the Implementing Agency shall serve as sufficient validation.
- B. The items, specifications, and all other documents that constitute the contract are interrelated. Anything depicted in the plans but not explicitly detailed in the specifications, or vice versa, and anything not expressly stated in either but inherently implied, shall be provided or executed as if explicitly shown and stated in both, without additional cost. Where dimensions are provided numerically, they take precedence over measurements taken by scale.
- C. Carry out the work in strict accordance with the agreement, refraining from making any alterations or deviations without prior approval from the Implementing Agency.
- D. The Contractor is responsible for verifying and cross-checking all dimensions, particularly those specified in the plans. Any discrepancies found during the execution of the work will be the Contractor's direct responsibility.

5. DETAILED DRAWINGS AND INSTRUCTIONS

The supplementary documents and/or additional details / drawings and instructions necessary for the proper execution of the work shall be provided at the jobsite as required. These supplementary documents shall have equal authority as if they were originally included.

6. PLANS AND PROJECT SITE

Ensure that one (1) complete set of approved plans, specifications, supplementary detail drawings, and instructions is kept in good order and condition at the project site.

7. SHOP DRAWINGS

During construction, the Implementing Agency and/or Contractor shall provide shop drawings if deemed necessary. The Contractor must refrain from installing any item requiring shop drawings until such drawings have been duly approved by the Implementing Agency.

8. REVISIONS

The Owner and the Implementing Agency may alter or revise the plans, including changes during the project's progress, without breaching the terms of the agreement as much as possible within the project schedule. Any additional costs incurred for labor or materials will be added to or deducted from the original contract price as necessary and validated.

9. PROJECT SCHEDULE

The Contractor is required to prepare and submit to the Implementing Agency, prior to commencing project operations, a comprehensive work schedule outlining the entire construction duration. This schedule must include estimated timeframes for completing each project stage and phase (Milestone).

10. WORKMANSHIP

The project shall be completed with top-tier workmanship in strict accordance with the plans and specifications, ensuring full approval and acceptance from the Implementing Agency.

11. MATERIALS

Only materials of the highest quality for their respective types shall be used unless otherwise stated in the plans and technical specifications. They must be stored and protected adequately to prevent damage.

12. INSPECTION OF WORK

The Contractor shall make the work accessible for inspection by the Implementing Agency, the Owner, and other authorized personnel overseeing the project.

13. SUBSTANDARD WORK

Any work or materials deemed unacceptable by the Architect must be promptly removed and replaced with suitable alternatives at no additional cost. Disposed materials must be promptly removed from the premises.

14. LAWS AND REGULATIONS

The Contractor is responsible for adhering to all current labor laws and regulations. They shall indemnify the Owner from any associated liabilities, and at their own cost, promptly settle all taxes, fees, and licenses owed to the government—both national and local—resulting from their work on the project.

15. MANNER OF PAYMENT

Payments to the Contractor will be made based on the progress of work completed within each period, subject to verification, approval, and recommendation by the Implementing Agency.

16. RETENTION MONEY

Progress payments will have a ten percent (10%) retention withheld. The retained funds will be released upon satisfactory completion of the work and issuance of the Certificate of Final Completion and Acceptance.

17. TEMPORARY FACILITIES

The Contractor is responsible for arranging temporary water, power, and telephone services from local utility companies throughout the construction period. All associated costs is included in the contract and shall be shouldered by the Contractor. The Contractor

must provide a temporary restroom in a discreet and sanitary manner, and it must be removed once the work is completed.

18. SITE CLEARING

The site must be clean, cleared and ready for occupancy prior to the issuance of the certificate of completion and acceptance. No construction debris must be left on the site premises.

19. TEMPORARY BARRICADES, SIGNAL LIGHTS, BILLBOARDS, ETC.

The contractor shall provide all necessary measures such as but not limited to temporary enclosures, billboards and safety signages that must be visible on the site premises.

20. PERFORMANCE AND GUARANTEE BOND

To ensure the Contractor's faithful performance under the contract, they must provide a Performance Bond equivalent to thirty percent (30%) of the contract price. The bond can be in the form of cash, manager's check, or surety bond, callable upon request.

21. TESTING AND COMMISSIONING

The Contractor shall ensure that comprehensive testing and commissioning of the equipment/system is included as an integral part of the performance obligations under this Contract. Testing shall be conducted in accordance with industry standards and shall verify that the equipment/system meets all specified performance criteria and operational requirements set forth in the Contract documents.

22. WARRANTY OBLIGATION

The Contractor hereby warrants that the equipment/system provided under this Contract shall be free from defects in materials and workmanship for a period stated in the technical documents such as but not limited to plans and technical specifications from the date of commissioning. This warranty includes, but is not limited to, ensuring that the equipment/system functions in accordance with its specifications and is suitable for its intended purpose as outlined in the Contract.

23. CONDITIONS OF WARRANTY

The warranty provided herein shall be subject to the following conditions: a. Any defect or non-conformance discovered during the warranty period shall be promptly reported to the Contractor in writing. b. The Contractor shall, at its own cost and expense, promptly repair or replace any defective parts or components of the equipment/system covered under this warranty. c. The warranty shall not cover damages or defects resulting from misuse, neglect, improper installation, alterations, accidents, or unauthorized repair or modification of the equipment/system.

24. QUESTIONS AND DISAGREEMENTS

Any questions or disputes between the Contractor and the Owner regarding the interpretation of the plans and specifications shall be referred to the Implementing Agency. The decision of the Implementing Agency on such matters shall be binding and final.

II. SPECIAL CONDITION

Apart from the warranty period covered by General Condition, hereunder, added Special Condition for the specific items.

EQUIPMENT	WARRANTY PERIOD	COVERAGE	TERMS AND CONDITIONS
SOLAR PV PANEL	<ul style="list-style-type: none">At least 15 Years Product WarrantyAt least 30 Years Performance Warranty	<p>Covered Componets:</p> <ul style="list-style-type: none">Solar PV ModulesBypass DopdesService and Repairs:ReplacementRepair Services	<ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Failures caused by surrounding equipment or facility of the products or defective compontets in the construction on which the module is mounted.Harmful objects that may cause damaged to the Solar PV Panel.
INVERTER	At least 10 Years Product Warranty	<p>Covered Components:</p> <ul style="list-style-type: none">Inverter UnitInternal ComponentsCooling SystemService and Repairs:ReplacementRepair Services	<ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Harmful objects that may cause damage to the Inverter.Unwanted damage due to the penetration of pest and/or animals.
RAPID SHUTDOWN DEVICE (MODULE TYPE)	5 Years Production Warranty	<p>Covered Components:</p> <ul style="list-style-type: none">RSD ModuleControl UnitService and Repairs:ReplacementRepair Services	<ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Harmful objects that may cause damaged to Rackings.
RACKINGS	10 Years Product Warranty	<p>Covered Components:</p> <ul style="list-style-type: none">Module RailsMounting BracketsClamps and HardwareService and Repairs:ReplacementRepair Services	<ul style="list-style-type: none">Alteration, disassemble, reinstallation, and/or improper installation or application.Harmful objects that may cause damaged to Rackings.

Note: The Contractor shall provide the complete contact details of the supplier for the above-mentioned equipment under Special Condition.

III. TECHNICAL SPECIFICATIONS

1. GENERAL REQUIREMENTS

- A. Comply with the current and existing laws, ordinances and applicable codes, rules and regulations, and standards. Any works performed contrary to the existing laws, rules and regulations, ordinances and standards without notice shall bear all cost arising therefrom.
- B. Drawings, specifications, codes and standards are minimum requirements. Where requirements differ, the more stringent apply.
- C. Should there be any change(s) in drawings or specifications, it is required to comply with the governing regulations, notify the implementing agency.
- D. On behalf of the City Government, shall secure and seek approval of necessary documentary requirements from MERALCO including the Distribution Asset Study.
- E. **Certification of Structural Stability of the Public School** where the Solar Panels have to be installed prior to the delivery and installation of solar power system on the project shall be provided.
- F. Site verification / inspection shall be conducted to validate the scope of works. No extra compensation and extension of time shall be given due to negligence or inadvertence. In cases where creation of new rooms for inverters is required to complete the Project, all necessary cost of materials and labor shall be shouldered by the Contractor.
- G. The quality of materials shall be of the best grade of their respective kinds for the purpose. The work shall also be performed in the best and most capable manner in strict accordance with requirements of the plans and details. All materials not conforming to the requirements of these specifications shall be considered as defective.
- H. All equipment and installations shall meet or exceed minimum requirements of the standards and codes.
- I. Upon completion of the installation of the Solar Power System, the Contractor shall perform testing as well as pre-commissioning and commissioning tests in the presence of the City Department of Engineering and other concerned offices to validate compliance with the Bid Documents, Latest Philippine Electrical Code and other related and existing codes and regulations
- J. Roof buildings where the Solar Power System were installed must ensure to be free of leaks.
- K. Photographs shall be taken as, when and where directed at intervals of not more than one month. The photographs shall be sufficient in number and location, to record the exact progress of the works. The photographs shall be retained and will become the property of the Government.
- L. Mobilization and Demobilization (if applicable)
 1. Mobilization shall include all activities and related costs for transportation of personnel, equipment, and operating supplies to the site; establishment of offices, buildings, and other necessary general facilities for the operations at the site.
 2. Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not anymore required within the construction site including the disassembly, removal and site clean-up of offices and other facilities assembled on the site specifically for this contract.

- M. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced, full-time supervisor who is authorized to make decisions on behalf of the Contractor.
- N. Temporary Facilities and Utilities
1. All facilities shall be near the job site, where necessary and shall conform to the best standard for the required types.
 2. Temporary facilities shall be provided and maintained including sanitary facilities and first aid stations.
 3. Temporary utilities shall be sufficiently provided until the completion of the project such as water, power and communication.
 4. Temporary enclosure shall be provided around the construction site with adequate guard lights, railings and proper signage.
 5. Temporary roadways shall be constructed and maintained to sustain loads to be carried on them during the entire construction period.
 6. Upon completion of the work, the temporary facilities shall be demolished, hauled-out and disposed properly.
- O. Adequate construction safety and health protection shall be provided at all times during the execution of work to both workers and property.
1. A fully-trained Medical Aide shall be employed permanently on the site who shall be engaged solely to medical duties.
 2. The medical room shall be provided with waterproofing; it could be a building or room designated and used exclusively for the purpose and have a floor area of at least 15 square meters and a glazed window area of at least 2 square meters.
 3. The location of the medical room and any other arrangements shall be made known to all employees by posting on prominent locations and suitable notices in the site.
 4. Additional safety precautions shall be provided in the event of a pandemic. Protocols set forth by the government shall be strictly followed.
 5. Construction safety shall consist of construction canopy and safety net.
- P. Necessary protections to the adjacent property shall be provided to avoid untoward incidents / accidents.
- Q. A systematic approach for managing vehicular and pedestrian traffic within the project area shall be provided adhering to relevant regulations and standards, prioritizing the safety of workers, motorists, and pedestrians while maintaining the flow of traffic during construction activities. It shall delineates designated traffic routes, temporary signage, and traffic control measures such as flagging operations or temporary traffic signals.
- R. Final cleaning of the work shall be employed prior to the final inspection for the certification of final acceptance. Final cleaning shall be applied on each surface or unit of work and shall be of condition expected for a building cleaning and maintenance program.

2. ELECTRICAL WORKS

A. Photovoltaic Modules

The PV Modules shall be of the crystalline silicon terrestrial type and conform to PNS IEC 61215-1-1:2018 - Terrestrial photovoltaic (PV) modules - Design qualification and type approval, PNS IEC 61730-1:2018 - Photovoltaic (PV) module safety qualification, PNS IEC 62790:2016 - Junction boxes for photovoltaic modules - Safety requirements and tests. The PV module shall be supported by a specific qualification certificate issued by an internationally recognized test facility in accordance with the abovementioned standard. Only PV modules from manufacturers classified as **Tier 1** are acceptable (latest BloombergNEF PV Module Tier 1 List).

For each module delivered a flash protocol shall be furnished. The flash test of the individual module shall be submitted showing the I-V (current vs. voltage) curve with positive power tolerance. The final electro luminescence test of the individual module shall be submitted showing the absence of any mechanical or electrical defects of the cells in the module.

B. Rapid Shutdown Switch (RSS)

The PV system circuits installed in the schools shall include a rapid shutdown function in accordance with PEC 2017 article 6.90.2.6(A) through (D). Power optimizers used in the PV strings must have RSS functionality.

C. DC Combiner Box

Each string of the PV Modules shall be connected to a junction box with a dedicated cable. Combiner boxes integrated with the inverter can be used. The Supplier shall prepare the detailed plans and methods of connection of cables. The output voltage of each string shall be consistent with the input of the power conditioner.

D. Support Structures

The support structures that will hold the solar PV modules in place will be roof mounted with fixed tilt. Flush mount will be used for pitched roofs. Ballasted mounting will be adapted on flat concrete slab roofs with the optimum tilt as recommended by solar design tools for maximum generation, soiling considerations, and ventilation.

Mounting materials and clamps should be manufactured from anodized aluminum with stainless steel bolts and nuts and must meet the installation guidelines and requirements of the solar PV module manufacturer. Spacers for dissimilar metals shall be used to prevent galvanic corrosion.

The design of the mechanical systems shall take into consideration the design of the support structure adopting the JIS C 8955:2017 "Load design guide on structures for PV array" with wind loads specific for Quezon City as defined in the latest Philippine Building Code.

E. Grid-tied Inverter/Power Conditioning Unit (PCU)

The Inverters used for this project are intended to be grid connected without batteries. These shall be compliant to PNS IEC 61727:2016 - Photovoltaic (PV) systems - Characteristics of the utility interface and meet the requirements of the Philippine Distribution Code 2017.

The inverters shall be three phase with frequency of 60 Hz and tapped on the electrical system of the schools. A matching transformer can be used to match the grid form of the inverter output and the tapping point of the electrical system. This transformer must be compliant to IEC 60076-1, 2, 3, 10, 18 for Power Transformers. The total output of the PV system shall be measured by the REC meter to be supplied by the Supplier. The Supplier shall also provide all other components necessary mounting structure and components necessary on the output side of the PV System.

The specifications of the Inverter shall meet the following minimum requirements:

- Nominal AC Output Voltage range of 230/400/480V, 3-Phase $\pm 6\%$, 60 Hz (as per the grid code);
- Equipped with a DC switch which safely isolates DC circuits;
- Ambient temperature of -10°C to 50°C ;
- IP65 protection class on sensitive components (Overall IP54 with forced ventilation will also be acceptable)
- Compatible communication protocol with the selected monitoring system;
- Harmonic distortion which shall not exceed limits set by the DU; and
- Accepted and approved by the DOE and ERC, and must be approved or inspected by the Department of Trade and Industry (DTI).

The grid-connected inverters shall be equipped with an anti-islanding function to disconnect from the grid in the event of a grid failure within the stipulated time frame primarily defined by the DU and by local/international standards.

F. AC Collection System

AC Distribution Boards shall be installed as a collection system from the grid-connected inverters and shall achieve the following as a minimum:

- Overcurrent protection on the Inverters and the mains of appropriate trip rating and short-circuit (kA) rating of the circuit breakers;
- Residual or leakage current protection such as earth leakage relay (ELR) or earth fault relay (EFR);
- Surge protection devices with appropriate rated voltage and surge current;
- Suitable enclosure pertaining to site conditions; and
- For indoor installations, the enclosure shall have a minimum protection class of IP42. For outdoor installations, the enclosure shall be designed to weatherproof conditions with a minimum protection class of IP54.

Circuit Breakers shall be of fixed type and equipped with a trip unit that offers the appropriate level of protection performance to fit to the application and shall comply with IEC 60947-1 and 2 on the following:

- Operation and behavior in normal service; and
- Operation and behavior in case of overload and operation and behavior in case of short-circuit, including co-ordination in service (discrimination and back-up protection)

The design of the AC Distribution Boards shall be capable of *Lock-Out, Tag-Out* protocols. Color codes of phase circuits applicable to the internal components shall conform to local standards.

Any AC switchboards installed outdoor shall be made of materials stable against UV for mechanical strength and discoloring by UV.

G. Online Monitoring and Control

The Solar PV System shall be equipped with a high-level online monitoring system via the WIFI-network of the respective school buildings as mentioned under III E. The system should allow QC LGU to have real-time 24/7 access to the software through mobile phones and computers. A synchronized LED display will be installed at one public area in each of the hospital. Information on the system status, output power, voltage, current shall be available in real time as the minimum parameters. Storage of 15-minute data with cumulative daily, monthly, annual, and total operating time shall be available for viewing and download in CSV to text software format. The Supplier shall provide secured online access to authorized personnel of the City Government.

Environmental monitoring instruments and sensors shall be integrated into the online monitoring and control systems. Instruments include among others, irradiance sensors installed for plane of the array and GHI measurements; and temperature sensors (such as RTDs or

thermocouples) for ambient and solar PV module temperatures. The sensor mounting location shall be prearranged and approved with the City Government.

H. DC and AC Wires and Cables

Selection of cable type, sizing and use of connectors shall be in accordance to the Philippine Electrical Code 2017 particularly Article 6.90 on photovoltaic systems.

For DC Cables, the following are the standards and requirements:

- Solar Cables shall be Ultraviolet (UV) resistant for outdoor application and with a minimum insulation rating of 1kV (core to earth) and shall be certified to H1Z2Z2-K according to EN50618;
- Positively charged cables shall be colored red, negatively charged cables shall be colored black;
- Solar Cables selected shall be appropriately sized according to the full short-circuit current of the Solar Modules;
- DC cable design shall not exceed a voltage drop of 1.5%;
- DC cable installation must be free from physical damage and from the possibility of damages caused by vermin;
- Only single core, double insulated cables shall be used; and
- Minimum cable cross-section of 6mm² or equivalent.

AC Cables selected shall conform to local standards and appropriately sized according to the full load current it is designed to operate at, not exceeding a voltage drop limit of 1% at full load current.

I. Metal Enclosures, Conduits, Cable Trays

Design, selection, lay-out and mounting metal enclosures, conduits, and cable trays shall be in accordance with the latest Philippine Electrical Code.

The design of the enclosures shall be capable of Lock-Out, Tag-Out protocols. Color codes of phase circuits applicable to the internal components shall conform to local standards.

Appropriate AC and DC cable conduits, cable trays, and supports shall be selected and sized appropriately to cater for the corresponding number of AC and DC cables. The selected material shall be resistant to effects of corrosion during the 25-year lifespan of the solar PV system.

J. Protective Devices (DC and AC)

Protection System - Philippine Electrical Code 2017 Article 6.90.2.6 Rapid Shutdown, Over Current Protection, Surge Protective Devices, Lightning Protection, Grounding and Bonding.

K. Ancillary Materials

Other ancillary materials necessary to facilitate a complete installation shall be deemed to be included in the scope of the Supplier. These items may include, but are not limited to:

- Cable glands, bushings, terminations, and lugs;
- Flexible conduits and cable ties;
- Support brackets and mounting accessories;
- Labels and tags; and
- Safety equipment and signages.

Not all ancillary materials may be required, the necessity of the materials shall be determined in accordance to the assessment of the Supplier. All materials shall be specified based on external conditions and intended use (e.g., UV resistant for exposure to sun and others) and must comply with relevant international or local standards.

3. INSTALLATION

A. General Installation Activities

The Contractor shall undertake the following scope of installation works in accordance to the approved design drawings, site conditions, and relevant local standards, generally as stipulated below:

- All site preliminaries and establishment such as site offices, work areas, and appropriate signages. The implementation plan must include the operational requirements and work instructions of the City Government;
- Compliance to safety regulations for site work as per requirement;
- Installation of all supplied equipment necessary for the fully operational solar PV system in accordance to the approved design, recommended manufacturer installation parameters, as well as relevant local and international standards and codes;
- Earthing and grounding of all metal structures and equipment to the building earth, including design and installation of a lightning protection system in accordance with IEC 62305 with Class III protection (Philippine Electrical Code 2017, Articles 2.5 and 2.9) as a minimum and in compliance to local standards;
- Provide fire extinguishers and sand buckets for fire protection;
- Restoration and repair of any structures or building components damaged during project execution (such as wall and ceiling penetration repairs, including fire sealant materials – for cable routing, repainting, clearing of concrete chippings and other debris, roof leaks, water proofing, and others);
- Proper housekeeping practices which include cleaning of site, debris removal, and strict enforcement of Health, Safety, and Environmental (HSE) plans and policies;
- Adhere to the planned timeline of the construction phase and arrange for milestone meetings when necessary; and
- Overall testing, commissioning and final inspection of the system, including the attendance of the necessary parties for each part.

B. Cabling

Physical separation of AC and DC cables shall be achieved. All data or control cables shall be installed in separate cable containments from normal power cables to minimize signal interference.

Conduits, trunking, trays and ladders are acceptable methods of a cable support system in areas not exposed to the sun. In areas exposed to the sun the cable support system shall be HDG metal trunking. Earth conductors shall be sized in accordance with local electrical codes. Where multiple cables are installed, proper cable management system shall be used to bundle them in a neat fashion. The cable management systems installed outdoors shall be made of stainless steel. UV rated cable ties are not permissible.

Points of entry and exit of cables into enclosures and support systems shall be secured with water-tight and flame-resistant cable glands or cable connectors.

C. Access

All associated equipment and components of the system shall be accessible for future servicing and maintenance. The Supplier shall provide permanent methods of access to areas where parts of the system are inaccessible. For example, vertical high walls without a caged ladder or confined areas where the parts of the system will be installed in are considered inaccessible.

D. Coring Work

When coring is necessary, all openings to areas prone to fire shall be sealed with firestop protection with proper fire-protection labels and certification. Rectification and recertification may be necessary if penetration will be done through existing fire-sealant boards or fire-stop material.

For openings with exposure to outdoor environment or areas subjected to water ingress, openings shall be properly sealed with waterproof sealant material to prevent any seepage of water.

E. Lightning Protection

Solar PV roof-top installations do not pose an additional risk for lightning strike. On buildings which due to their exposure are equipped with lightning protection, the PV installation must be integrated into the system in compliance IEC 62305, EN 50539-11, and Philippine Electrical Code 2017, Article 2.90. Equipotential bonding of the modules and mounting structure shall be performed and connected into the lightning protection system. Cable sizing for such shall comply with local codes and standards.

F. Corrosion Management

The Supplier shall take into consideration the effect of corrosion for any related works on site which involve metal objects. All joints and cuttings shall be of quality standards. Dents, fractures or incompatible joints which will lead to water seepage into the cable support system or cable enclosure which can cause rust, corrosion or retention of water will not be acceptable.

Practice of selection of metals for permanent installation of associated materials shall consider, but not limited to, the following pointers as guidelines:

- Stainless steel fasteners will be required to prevent galvanic corrosion;
- Use one material to fabricate electrically isolated systems or components where practical; and
- Cutting and modification must be minimized. Materials of galvanized steel that undergo modification or cutting process shall be re-coated with zinc spray or equivalent anticorrosion agent.

The Supplier shall provide a Corrosion Management Plan containing detailed strategies towards managing the occurrence of corrosion and enhancing the resistance of the support structure against corrosion. The Corrosion Management Plan shall be integrated as part of operations and maintenance procedures for the solar PV system structures and buildings on site, considering the designed lifetime of the facility.

G. Housekeeping

During the progress of the installation phase, the Supplier shall ensure that housekeeping activities, which includes proper disposal of waste material and debris will be performed on a daily basis.

The Contractor must strictly enforce HSE Plans and Policies, including among others, fall protection, materials handling, electrical safety, use of PPE, emergency response, and appropriate signages, during the installation phase of the project.

H. Monitoring System

The monitoring system will utilize data loggers and a communication system to receive and log the transmitted signals from the sensors, inverters, panels and meters. The Supplier shall ensure that all communication channels from the various devices to the data logger shall be without interference to the signal transmissions. The Supplier shall have suitably qualified personnel present during commissioning to establish connection of the logger to the relevant system parts/sections.

I. Labelling

As a minimum, labelling shall be done for all the associated cabling for future service and maintenance of the system, equipment labels shall be engraved traffolyte labels colour coded to comply with AS1319. Labeling requirements and guidelines shall consider, but not limited to, the following:

- Module string numbers for each individual string on the rooftop;
- Module string numbers for each individual pair of solar or DC cables at the Module strings, Combiner Boxes, and at the DC inputs of the Inverters;
- Inverter numbers and string numbers on DC Surge Protection devices, DC isolators, DC circuit breakers or fuses where applicable;
- Inverter numbers on each individual Inverter, associated AC cables, AC circuit breakers and AC isolators where applicable;
- Designated tag labels for monitoring equipment, metering and sensors;
- Designated tag labels for associated enclosures i.e., Array Junction Boxes, AC Switchboards, Monitoring Accessories; and
- Designated tag labels for DC Cable Support System, AC Cable Support System and Data or Control Cable Support System at 3 m intervals.

At areas where live conductors may be exposed, labels to caution users to danger of electric shock shall be implemented, including the exterior of enclosure cubicles or boxes and protective screens where applicable.

Labels to warn users of a dual supply network shall likewise be implemented on all AC Equipment installed as a collection system for the solar PV system.

The same label designations for the above shall be consistent with the labels as indicated in as-built drawings and assigned designation labels for any monitoring matters.

All labels installed outdoors shall be made of materials stable against UV for mechanical strength and discoloring by UV.

J. Equipment Weather Protection

If inverters or monitoring panels will be installed outdoors or in areas with direct sunshine, the Contractor shall provide a canopy to provide cover from rain and direct sunshine. The canopy should include proper spacing and design for air circulation to the inverters as per manufacturer manuals.


ENGR. KELVIN M. MARZONIA
E.E., Planning and Design Division


ENGR. CHRISTIAN A. CLEOFE
C.E., Planning and Design Division

Section VII. Drawings

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

18/8/24

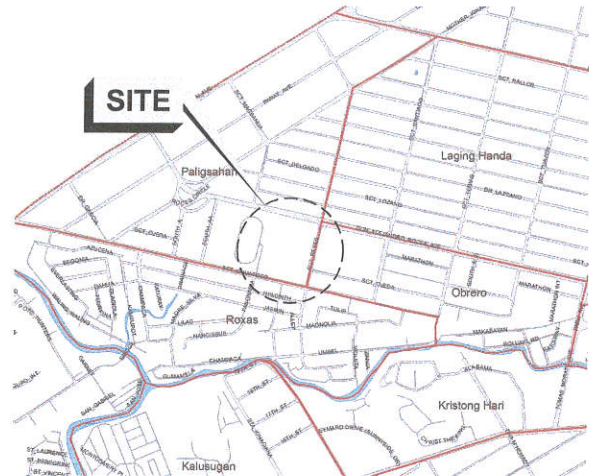
TABLE OF CONTENTS

ELECTRICAL

EL-01	TABLE OF CONTENTS
	LOCATION MAP
	VICINITY MAP
	SITE DEVELOPMENT PLAN
EL-02	SOLAR PANEL LAYOUT
	SOLAR PANEL PLAN
	SOLAR PANEL DETAIL
EL-03	GENERAL NOTES
	RISER DIAGRAM
EL-04	MISCELLANEOUS DETAILS
EL-05	INVERTER AND COMBINER BOX MOUNTING LAYOUT
EL-06	RAPID SHUTDOWN WIRING DEVICE

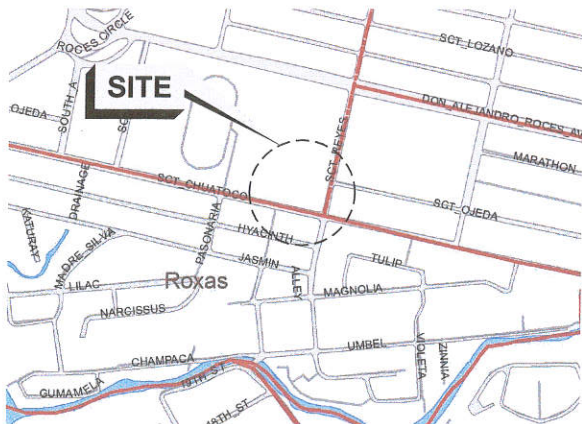
CIVIL WORKS

CW-01	INVERTER ENCLOSURE DETAILS
	CANOPY DETAILS



1 VICINITY MAP

SCALE: NTS

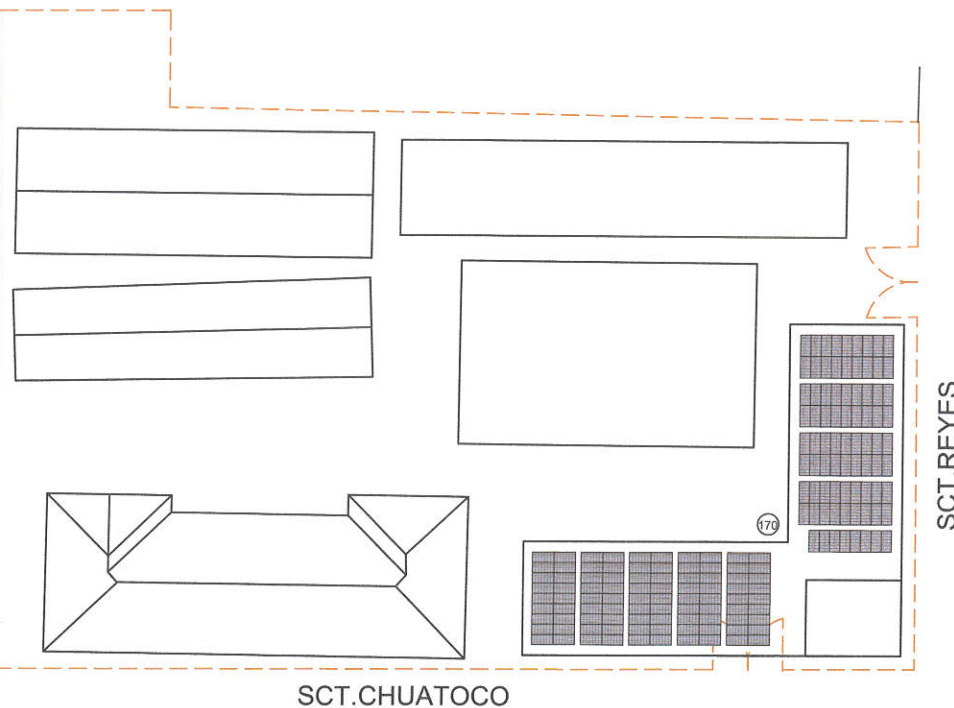


2 LOCATION MAP

SCALE: NTS

3 SITE DEVELOPMENT PLAN (MANUEL A. ROXAS HIGH SCHOOL)

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
DEPARTMENT OF ENGINEERING
City Center Building 3, City Hall Compound, Elipistol Road
Diliman, Central 1100 Quezon City
Telephone: +63 2 8988 4242
E-mail address: eng@quezoncity.gov.ph

PROJECT TITLE :

**PROPOSED INSTALLATION OF SOLAR
POWER SYSTEM AT MANUEL A. ROXAS
HIGH SCHOOL INCLUDING NET METERING
APPLICATION**

LOCATION:

BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY

DATE:

DESIGNED BY:

KELVIN MARZONIA
ELECTRICAL ENGINEER

DRAWN BY: CFA

CHECKED BY: RDN

REVISION NO.:

SUBMITTED BY:

ENGR. FREDISWINDA DL. DE GUZMAN
HEAD, PLANNING & DESIGN DIVISION

RECOMMENDING APPROVAL :

ATTY. MARK DALE DIAMOND P. PERRAL
CITY ENGINEER

APPROVED BY :

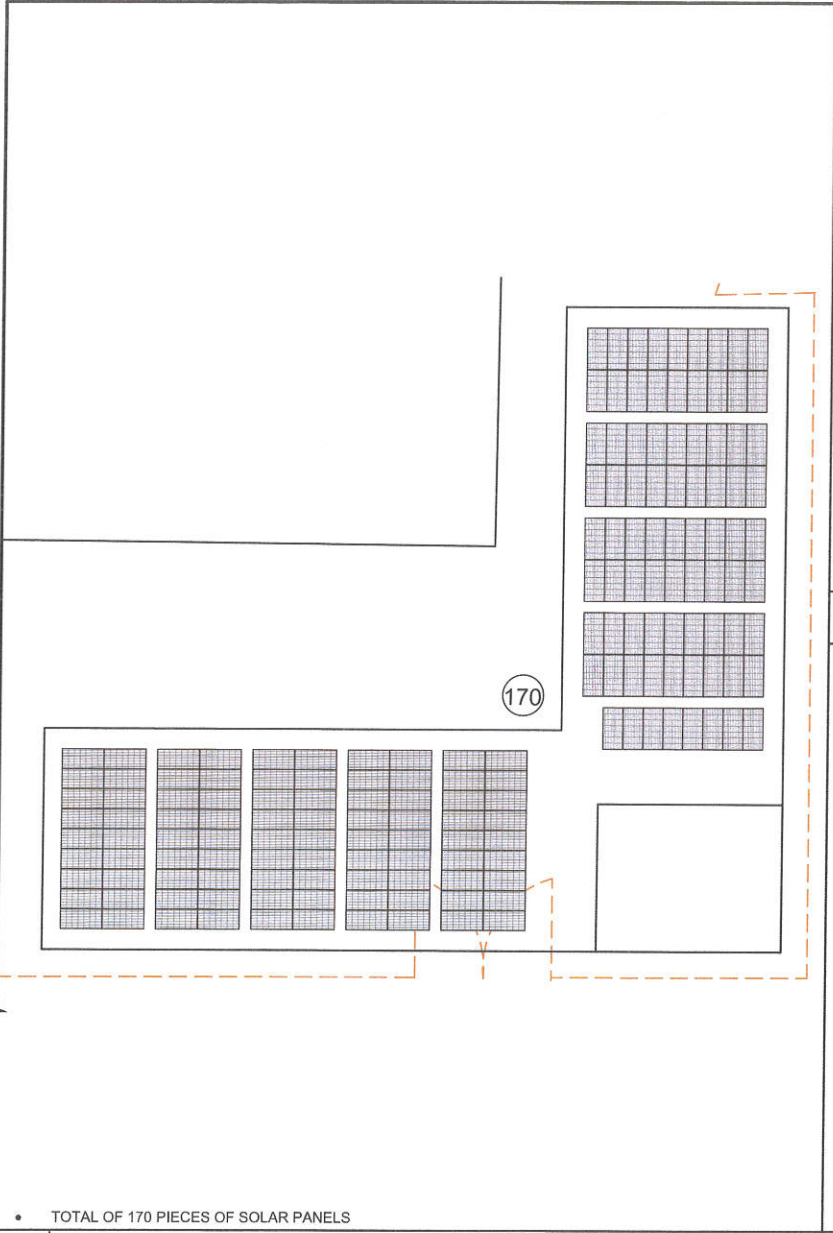
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT

VICINITY MAP
LOCATION MAP
SITE DEVELOPMENT PLAN

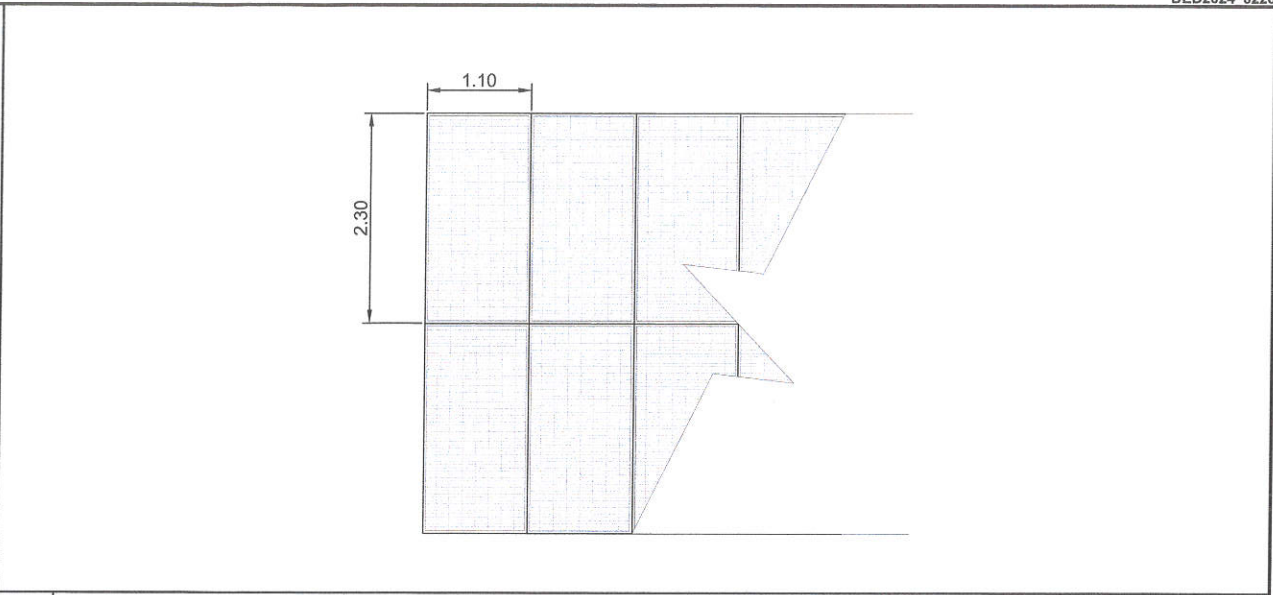
SHEET NO.

**EL-01
01 07**

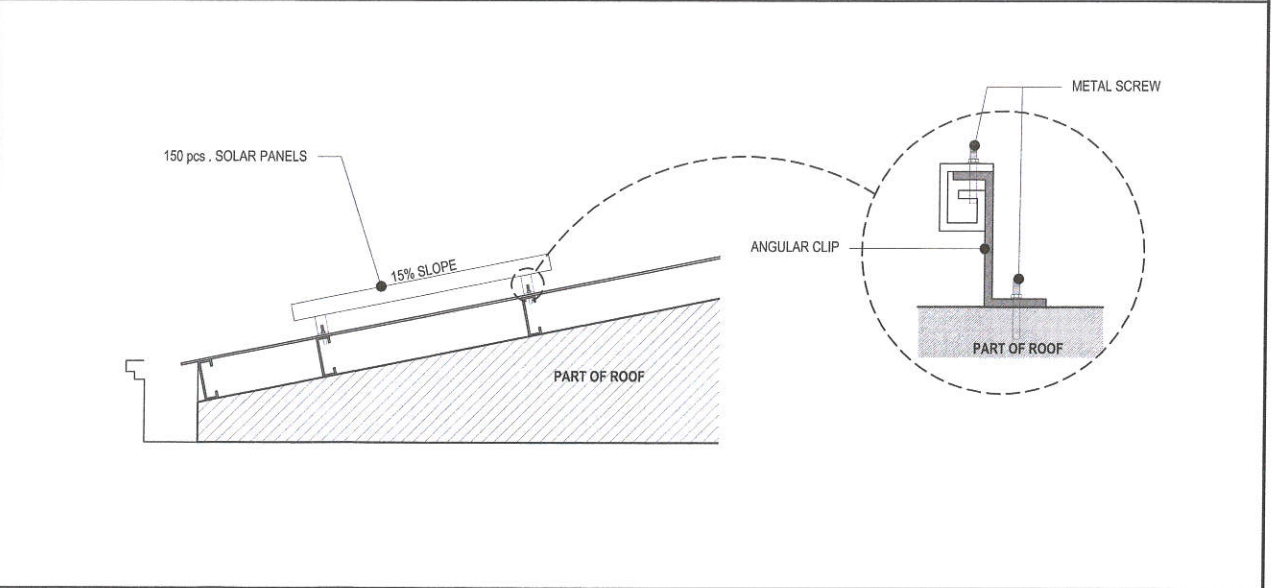


• TOTAL OF 170 PIECES OF SOLAR PANELS





1 ROOF SOLAR PANEL LAYOUT
(MANUEL A. ROXAS HIGH SCHOOL)
SCALE: NTS



2 SOLAR PANEL PLAN
(MANUEL A. ROXAS HIGH SCHOOL)
SCALE: NTS



3 SOLAR PANEL DETAIL
(MANUEL A. ROXAS HIGH SCHOOL)
SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon DEPARTMENT OF ENGINEERING Civic Center Building B, City Hall Compound, Elliptical Road Diliman, Central 1100 Quezon City Telephone: +63 2 8988 4242 E-mail address: engr@luna.quezoncity.gov.ph</p>	PROJECT TITLE :	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL :	APPROVED BY :	SHEET CONTENT	SHEET NO.	
	PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION	DESIGNED BY:  KELVIN MARZONIA ELECTRICAL ENGINEER	DRAWN BY:  CHECKED BY: RDN	ENGR. FREDISWINDA DL. DE GUZMAN HEAD, PLANNING & DESIGN DIVISION	ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	SOLAR PANEL LAYOUT SOLAR PANEL PLAN SOLAR PANEL DETAIL	
		LOCATION: BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY	REVISION NO.:					

EXISTING PLUMBING VENTS, EXHAUST OUTLETS, VENTILATION INTAKE AIR OPENINGS SHALL NOT BE COVERED BY THE PHOTOVOLTAIC SYSTEM.

ALL EQUIPMENTS SHALL BE LISTED AND LABELED BY A RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS.

ALL OUTDOOR EQUIPMENT SHALL BE NEMA 3R RATED, INCLUDING ALL ROOF MOUNTED TRANSITION BOXES AND SWITCHES.

ALL EQUIPMENT SHALL BE PROPERLY GROUNDED AND BONDED.

ALL CIRCUITS CONNECTED TO MORE THAN ONE SOURCE SHALL HAVE OVER CURRENT DEVICES LOCATED SO AS TO PROVIDE OVER CURRENT PROTECTION FROM ALL SOURCES.

ALL PHOTOVOLTAIC (PV) MODULES SHALL BE MOUNTED ON THE ROOF. OTHER EQUIPMENT OF THE PV SYSTEM SHALL BE LOCATED INSIDE THE BUILDING NEAR THE MAIN ELECTRICAL SERVICE.

THE UTILITY INTERACTIVE INVERTERS SHALL AUTOMATICALLY DE-ENERGIZE ITS OUTPUT TO THE CONNECTED ELECTRICAL PRODUCTION AND DISTRIBUTION NETWORK UPON LOSS OF VOLTAGE IN THE SYSTEM AND SHALL REMAIN IN THE STATE UNTIL THE GRID PROVIDER VOLTAGE HAS BEEN RESTORED.

DUE TO THE FACT THAT PV MODULES ARE ENERGIZED WHENEVER EXPOSED TO LIGHT, PV CONTRACTOR SHALL DISABLE THE ARRAY DURING INSTALLATION AND SERVICE BY SHORT CIRCUITING, OPEN CIRCUITING OR COVERING THE ARRAY.

ALL VONDUIT EXPOSED TO THE WEATHER SHALL BE LISTED FOR PV WIRE.

ALL CONDUCTORS SHALL BE MARKED ON EACH END FOR UNIQUE IDENTIFICATION.

PV MODULE NEGATIVE SHALL BE GROUNDED. ALL GROUNDED CONDUCTORS SHALL BE PROPERLY COLOR IDENTIFIED IN WHITE OR GREEN.

ALL THE NEC REQUIRED WARNING SIGNS, MARKINGS AND LABELS SHALL BE POSTED ON EQUIPMENT AND DISCONNECTS PRIOR TO ANY INSPECTION TO BE PERFORMED BY THE INSPECTOR.

PV SYSTEM CONNECTED ON THE LOAD SIDE OF THE SERVICE DISCONNECTING MEANS OF THE OTHER SOURCE(S) AT ANY DISTRIBUTION. EQUIPMENT ON THE PREMISES SHALL MEET THE FOLLOWING:

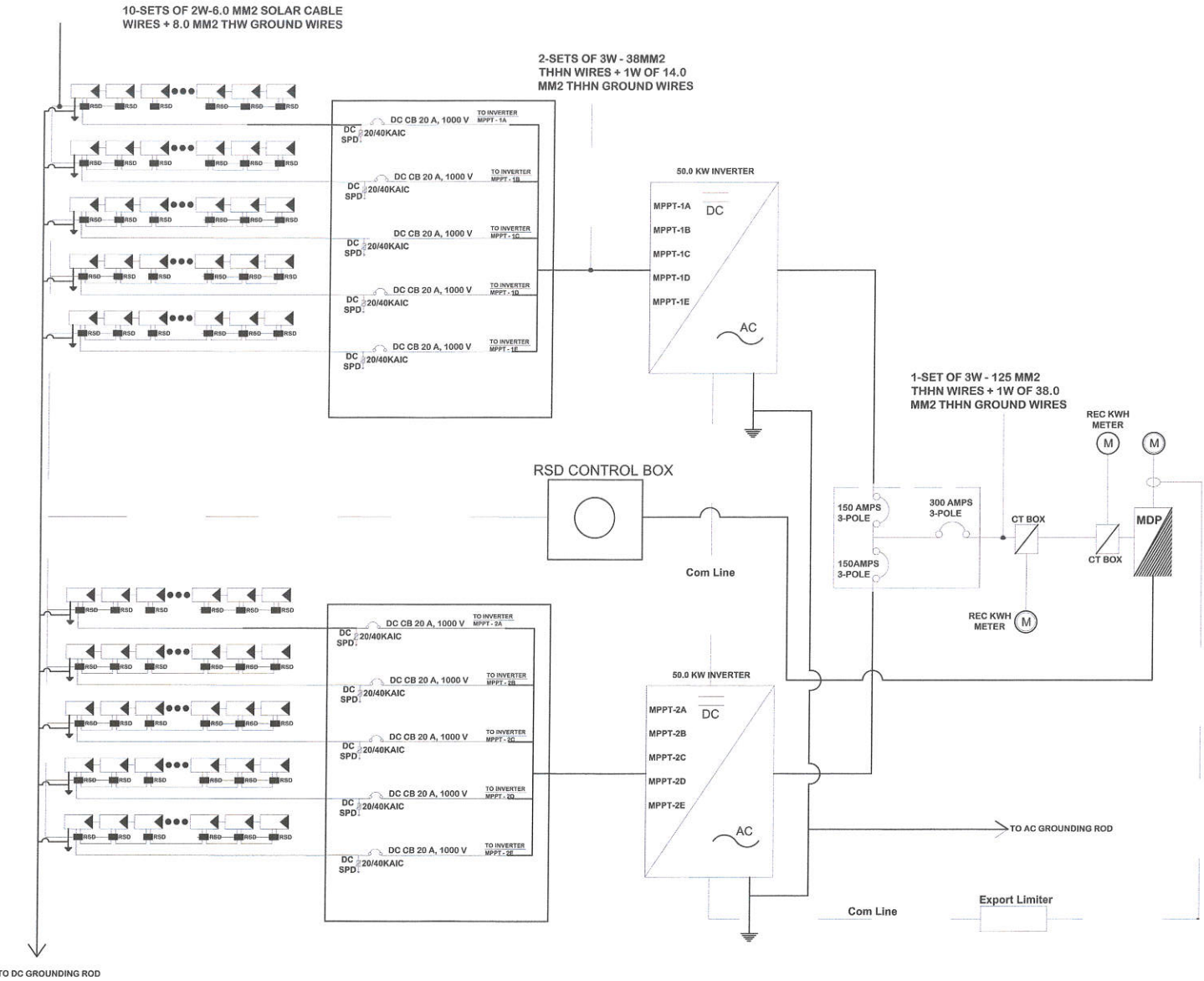
- A. EACH SOURCE CONNECTION SHALL BE MADE AT A DEDICATED CIRCUIT BREAKER OR FUSIBLE MEANS.
- B. THE SUM THE AMPERE RATINGS OF THE OVERCURRENT PROTECTION DEVICES IN CIRCUITS SUPPLYING POWER TO THE BUS BAR SHALL NOT EXCEED 120% OF THE BUS BAR RATING OR CONDUCTOR.
- C. THE INTERCONNECTION POINT SHALL BE ON THE LINE SIDE OF ALL GROUND-FAULT PROTECTION EQUIPMENTS.
- D. EQUIPMENT CONTAINING OVERCURRENT DEVICES IN CIRCUITS SUPPLYING POWER TO A BUS BAR OR CONDUCTOR SHALL BE MARKED TO INDICATE THE PRESENCE OF ALL SOURCES.
- E. CIRCUIT BREAKER, IF BACKFIRED SHALL BE SUITABLE FOR SUCH OPERATION.
- F. METALLIC RACEWAYS OR METALLIC ENCLOSURES ARE REQUIRED METHOD FOR INSIDE A BUILDING FOR PV SYSTEM.

METALLIC RACEWAYS OR METALLIC ENCLOSURES ARE REQUIRED METHOD FOR INSIDE A BUILDING FOR PV SYSTEM.

FLEXIBLE FINE STRANDED CABLES SHALL BE TERMINATED ONLY WITH TERMINALS, LUGS, DEVICES OR CONNECTORS THAT ARE IDENTIFIED AND LISTED FOR SUCH USE.

CONNECTORS SHALL BE LATCHING OR LOCKING TYPE.


EQUIPMENT GROUNDING CONDUCTOR FOR PV MODULES SMALLER THAN 6 AWG SHALL BE PROTECTED FROM PHYSICAL DAMAGE BY RACEWAY OR CABLE ARM.



1 GENERAL NOTES

2 PV SYSTEM SINGLE LINE DIAGRAM (MANUEL A. ROXAS HIGH SCHOOL)

SCALE: NTS

<div><p>Republika ng Pilipinas Lungsod ng Quezon DEPARTMENT OF ENGINEERING Civil Center Building 2, City Hall Compound, Episcopal Road Diliman, Central 1100 Quezon City Telephone: +63 2 8988 4242 E-mail address: eng@lq.gov.ph</p></div>	<p>PROJECT TITLE :</p> <p>PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION</p> <p>LOCATION:</p> <p>BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY</p>	<p>DATE:</p> <p>DESIGNED BY:</p> <p><i>KELVIN MARICONIA</i> ELECTRICAL ENGINEER</p> <p>DRAWN BY:</p> <p><i>CH</i></p> <p>CHECKED BY:</p> <p>RDN</p> <p>REVISION NO.:</p>	<p>SUBMITTED BY:</p> <p><i>Frediswinda D. de Guzman</i> HEAD, PLANNING & DESIGN DIVISION</p>	<p>RECOMMENDING APPROVAL :</p> <p><i>Mark Dale Diamond P. Perral</i> CITY ENGINEER</p>	<p>APPROVED BY :</p> <p><i>Hon. Ma. Josefina G. Belmonte</i> CITY MAYOR</p>	<p>SHEET CONTENT</p> <p>GENERAL NOTES PV SYSTEM SINGLE LINE DIAGRAM</p>	<p>SHEET NO.</p> <p>EL-03 03 07</p>
---	---	--	--	--	---	---	---

GENERAL NOTES

ALL ELECTRICAL INSTALLATION SHALL COMPLY WITH THE MIX REQUIREMENTS OF THE PEC AND OTHER INTERNATIONAL INSTALLATION STANDARD, THE RULES AND REGULATIONS OF LOCAL AUTHORITIES AND OF THE POWER UTILITY.

SOLAR PV SYSTEM SHALL BE DONE IN ACCORDANCE WITH ARTICLE 6.9 AND 7.8

A PERMANENT PLAQUE OR DIRECTORY DENOTING ALL ELECTRICAL POWER PRODUCTION SERVICES ON OR IN THE PREMISES SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION.

ALL EXPOSED NON CURRENT CARRYING METALLIC PARTS OF MODULE FRAME EQUIPMENT AND CONDUCTOR ENCLOSURES SHALL BE GROUNDED REGARDLESS OF THE VOLTAGE

AC - COMPUTATIONS

INVERTER 1:

Iac OUTPUT = INVERTER CAPACITY / SYSTEM VOLTAGE / 1.732 (% Efficiency)
= 50,000 Watts / 240 Volts / 1.732 x (98.6 %)
= 118.60 Amps

SIZE OF AC OUTPUT CONDUCTOR

USE: 150 AMPS MOLDED CASE CIRCUIT BREAKER
USE: 3 - 38mm2 THHN CABLE OR EQUIVALENT + 1 - 8.0mm2 THHN GROUND WIRE

INVERTER 2:

Iac OUTPUT = INVERTER CAPACITY / SYSTEM VOLTAGE / 1.732 (% Efficiency)
= 50,000 Watts / 240 Volts / 1.732 x (98.6 %)
= 118.60 Amps

SIZE OF AC OUTPUT CONDUCTOR

USE: 150 AMPS MOLDED CASE CIRCUIT BREAKER
USE: 3 - 38mm2 THHN CABLE OR EQUIVALENT + 1 - 14.0mm2 THHN GROUND WIRE

TOTAL INVERTER OUTPUT:

TOTAL Iac OUTPUT = Iac OUTPUT x 2
= 118.60Amps x 2
= 237.20Amps

SIZE OF AC OUTPUT CONDUCTOR

USE: 300 AMPS MOLDED CASE CIRCUIT BREAKER
3 - 125mm2 THHN CABLE OR EQUIVALENT + 1 - 38mm2 THHN GROUND WIRE

DC - COMPUTATIONS

INVERTER 1:

STRING 1
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 2
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 3
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 4
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 5
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

INVERTER 2:

STRING 6
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 7
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 8
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

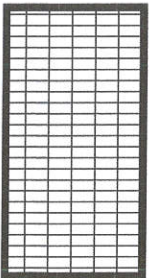
STRING 9
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

STRING 10
Vmax = (Voc) x (no. of PV units) x (Temperature Coefficient @ 30 °C)
= (51.30 Volts) x (17 Panels) x (1)
= 872.1 Volts
Imax = Isc x 1.25
= 14.28 Amps x 1.25
= 17.85 Amps

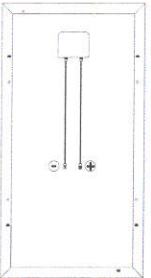
SIZE OF BREAKER:
USE 20AMPS, 1,000 VOLTS ON EACH STRING

USE: 2 - 6.0 mm2 PV CABLE OR EQUIVALENT+
2 - 5.5 mm2 THHN GROUND WIRE ON EACH STRING

MODULE INFORMATION



FRONT PANEL



REAR TERMINALS

MODULE INFORMATION

ELECTRICAL DATA

Peak Power : 580Watts
Max Power Voltage : 43.11 Volts
Max Power Current : 13.45 Amps
Open Circuit Voltage : 51.30 Volts
Short Circuit Current : 14.28 Amps

MECHANICAL DATA

Solar Cells : Mono-crystalline
Cell Orientation : 144 cells (6x24)
Module dim. : 2278 x 1134 x 30 mm
Weight : 32.1 kg
Glass : Solar glass 4.0 mm
Frame : Aluminum, Silver Anodized

GENERAL INFORMATION SHELT

TOTAL SPV CAPACITY: 98.60 KW

NUMBER OF PV MODULES: 170 PANELS
NUMBER OF STRINGS: 10 STRING
NUMBER OF INVERTER: 2 UNITS

The SPV modules generate electricity when exposed to light. Array of many modules can cause lethal shock and burn hazards. Only authorized and trained personnel should have access to these modules. To reduce the risk of electrical shock or burns, modules may be covered with an opaque material during installation to avoid shocks or burns.

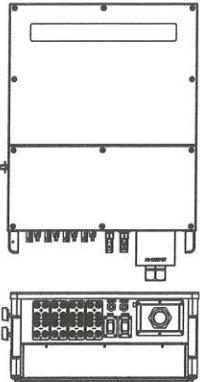
Do not touch live terminals with bare hands. Use insulated tools for electrical connections. Use appropriate methods to mount SPV modules. Fall of modules from high place will cause death, injury or damage.

Do not short the positive and the negative. Do not disconnect under load. Be sure connector no gap betwELn the insulators. In case there is a gap, a fire and/or an electrical shock may occur.

INSTALLATION PROCESS

- Complete the preparation before installation
- Read the user manual carefully
- Check the products and parts
- Check the installation environment
- Fix the panel of inverter
- Install inverter
- Check Electrical connection
- Connect DC side
- Connect AC side
- Ground joint
- Connect line of communication.
- Inspect PV array
- Inspect AC side
- Inspect DC side
- Inspect the line of grounding, communication and accessory connection

INVERTER SPECIFICATIONS



TECHNICAL DATA (INPUT DC)

Max DC Power : 50,000 Watts DC
Max Input Voltage : 1100 Volts DC
MPP Voltage Range : 200-950 Volts DC
Max Input Current (A) : 30 Amps

TECHNICAL DATA (OUTPUT AC)

Rated Power : 50,000 Watts
Max AC Power : 55,000 VA
Nominal AC Voltage : 240 Volts
AC Frequency Range : 60 Hz
Max Output Current : 80 Amps
Max Efficiency : 98.6%

1

MISCELLANEOUS DETAILS

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
DEPARTMENT OF ENGINEERING
Civil Center Building 10, City Hall Compound, Librosol Road
Diliman, Central 1100 Quezon City
Teleline: +63 2 8980 4242
E-mail address: engin@lun.gov.ph

PROJECT TITLE:

PROPOSED INSTALLATION OF SOLAR
POWER SYSTEM AT MANUEL A. ROXAS
HIGH SCHOOL INCLUDING NET METERING
APPLICATION

LOCATION:

BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY

DATE:

DESIGNED BY:

KELVIN MARZONIA
ELECTRICAL ENGINEER

DRAWN BY:

CHECKED BY: RDN

REVISION NO.:

SUBMITTED BY:

ENGR. FREDISWINDA DL. DE GUZMAN
HEAD, PLANNING & DESIGN DIVISION

RECOMMENDING APPROVAL:

ATTY. MARK DALE DIAMOND P. PERRAL
CITY ENGINEER

APPROVED BY:

HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

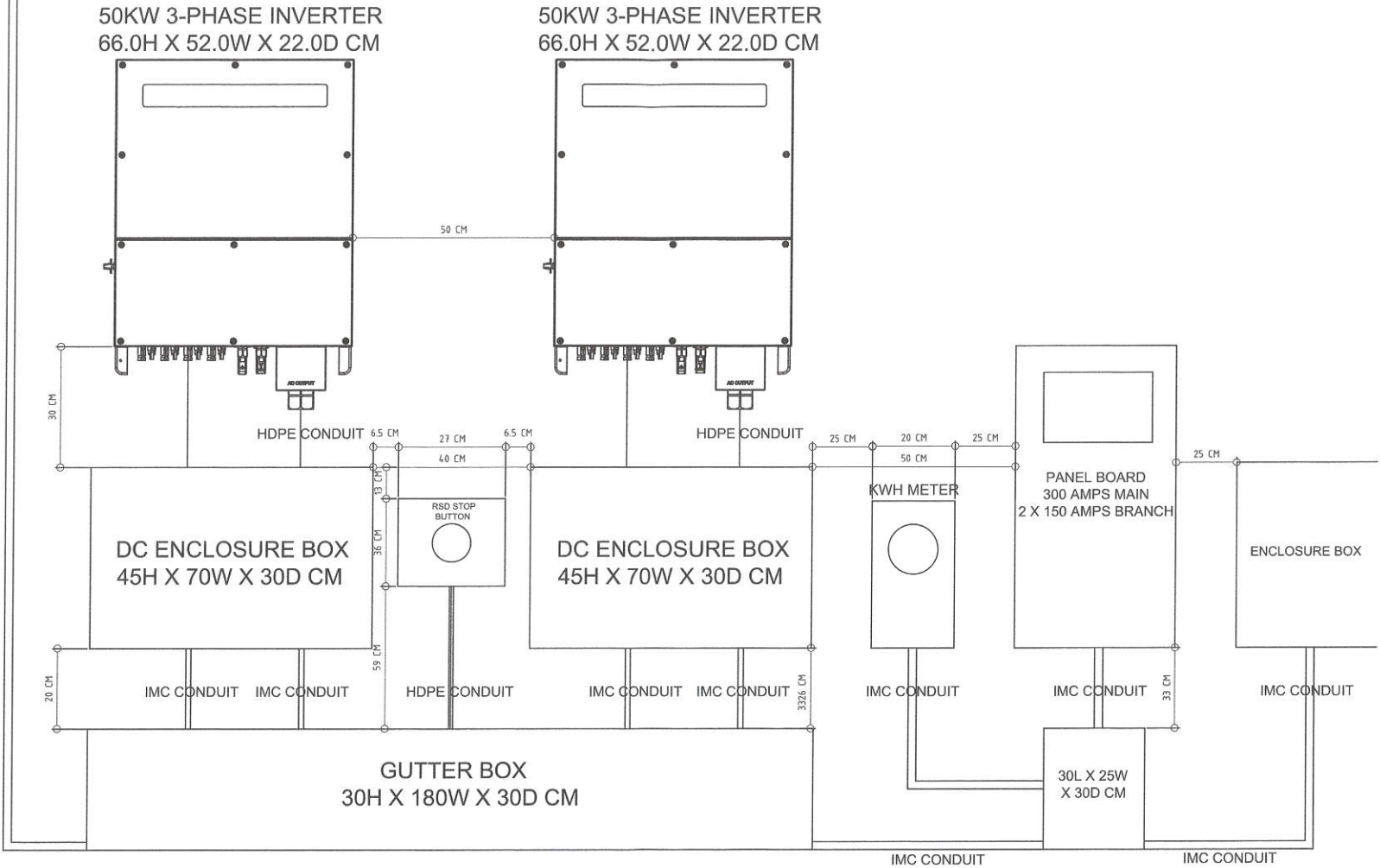
SHELT CONTENT

MISCELLANEOUS DETAILS

SHELT NO.

EL-04
04 07

IMC CONDUITS FROM
SOLAR PV MODULES



1 INVERTER AND COMBINER BOX MOUNTING LAYOUT

SCALE: NTS



Republika ng Pilipinas
Lungsod ng Quezon
DEPARTMENT OF ENGINEERING
Civic Center Building 11, City Hall Compound, Elliptical Road
Diliman, Central 1100 Quezon City
Trunkline: +63 2 8988 4242
E-mail address: engr@luna@quezoncity.gov.ph

PROJECT TITLE :

**PROPOSED INSTALLATION OF SOLAR
POWER SYSTEM AT MANUEL A. ROXAS
HIGH SCHOOL INCLUDING NET METERING
APPLICATION**

LOCATION:

BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY

DATE:

DESIGNED BY:

KELVIN MARAZONIA
ELECTRICAL ENGINEER

DRAWN BY: CFI

CHECKED BY: RDN

REVISION NO.:

SUBMITTED BY:

ENGR. FREDISWINDA D.L. DE GUZMAN
HEAD, PLANNING & DESIGN DIVISION

RECOMMENDING APPROVAL :

ATTY. MARK DALE DIAMOND P. PERRAL
CITY ENGINEER

APPROVED BY :

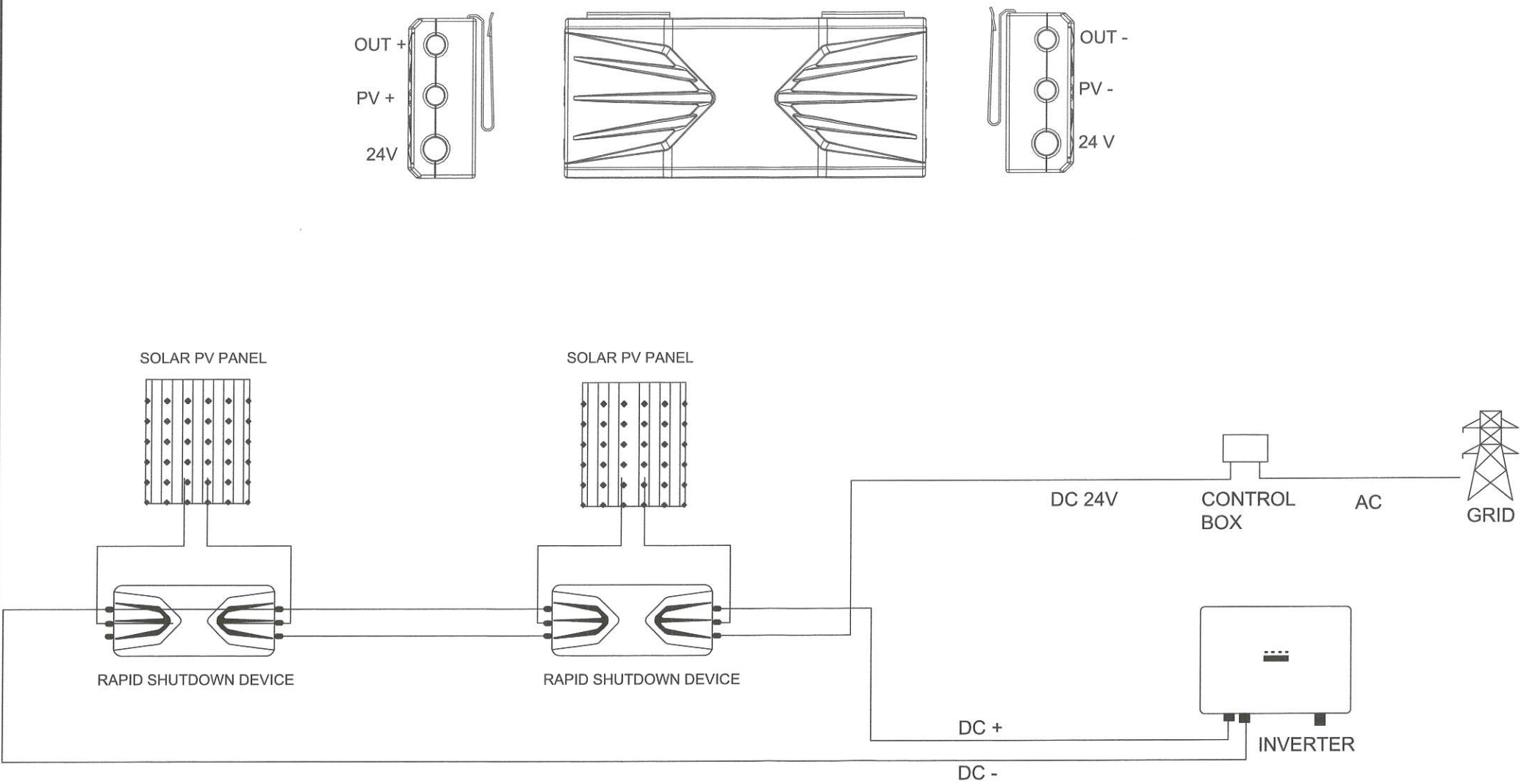
HON. MA. JOSEFINA G. BELMONTE
CITY MAYOR

SHEET CONTENT

INVERTER AND COMBINER
BOX MOUNTING LAYOUT




SHEET NO.

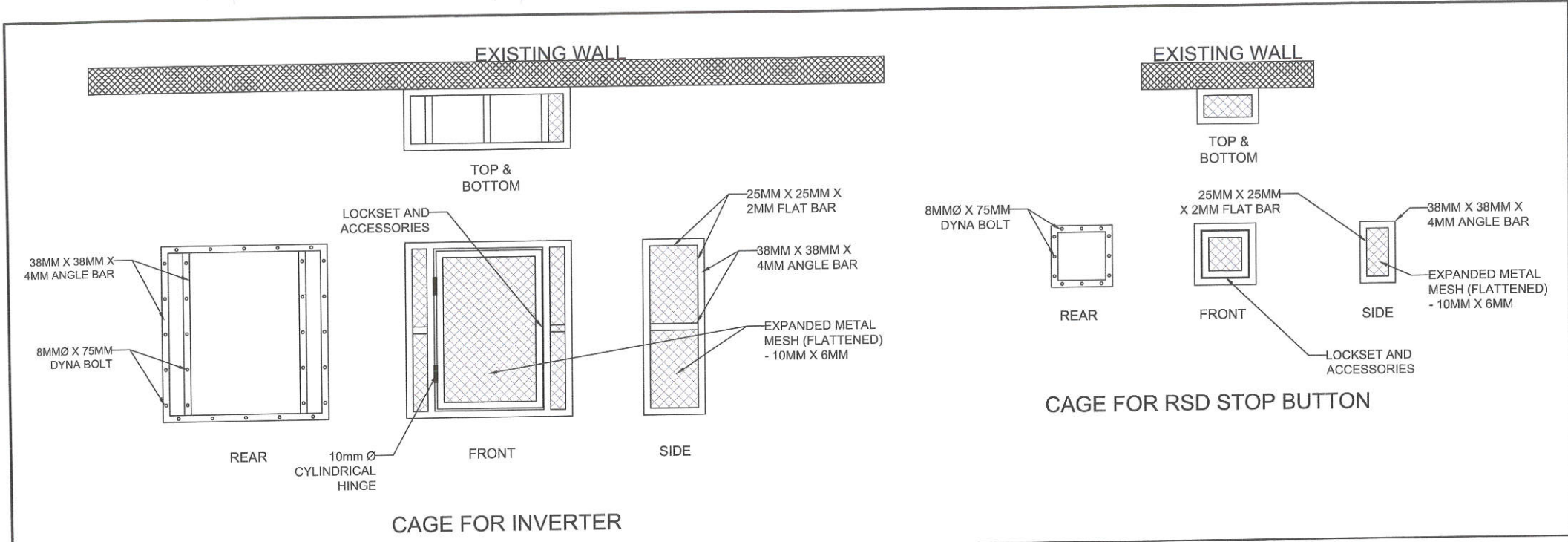
EL-05
05 07



1 RAPID SHUTDOWN WIRING DIAGRAM

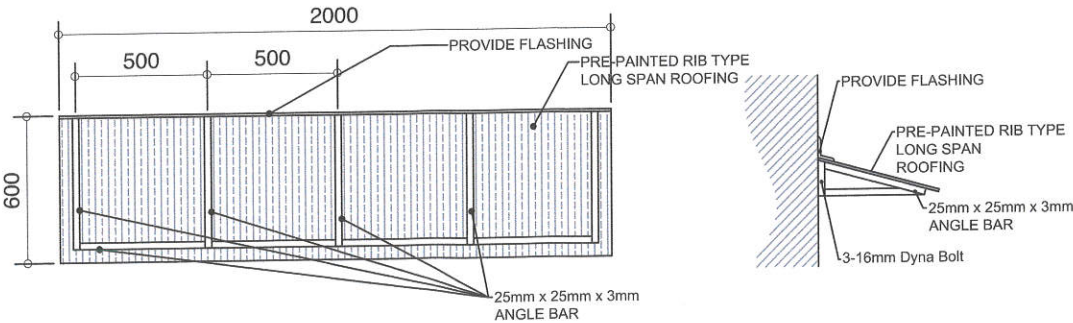
SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon DEPARTMENT OF ENGINEERING Civic Center Building 8, City Hall Compound, Elliptical Road Diliman, Central 1100 Quezon City Telephone: +63 2 8988 4242 E-mail address: engin@lucag.quezoncity.gov.ph</p>	PROJECT TITLE :	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL :	APPROVED BY :	SHELT CONTENT	SHELT NO.
	PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION	DESIGNED BY:  KELVIN MARZONIA ELECTRICAL ENGINEER	DRAWN BY:  CHECKED BY: RDN	ENGR. FREDISWINDA DL. DE GUZMAN HEAD, PLANNING & DESIGN DIVISION	ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	RAPID SHUTDOWN WIRING DEVICE
	LOCATION: BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY	REVISION NO.:					EL-06 06 07






1 STEEL ENCLOSURE DETAILS

SCALE: NTS



2 CANOPY DETAILS

SCALE: NTS

 <p>Republika ng Pilipinas Lungsod ng Quezon DEPARTMENT OF ENGINEERING Civic Center Building II, City Hall Compound, Elliptical Road Ortigues Center, Central 1500 Quezon City Trunkline: +63 2 8988 4242 E-mail address: engr@elr.org @quezoncity.gov.ph</p>	PROJECT TITLE :	DATE:	SUBMITTED BY:	RECOMMENDING APPROVAL :	APPROVED BY :	SHELT CONTENT	SHELT NO.
	PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION	DESIGNED BY:  KELVIN MABZONIA ELECTRICAL ENGINEER	DRAWN BY:  CHECKED BY: RDN	ENGR. FREDSWINDA DL. DE GUZMAN HEAD, PLANNING & DESIGN DIVISION	ATTY. MARK DALE DIAMOND P. PERRAL CITY ENGINEER	HON. MA. JOSEFINA G. BELMONTE CITY MAYOR	INVERTER ENCLOSURE DETAILS CANOPY DETAILS
	LOCATION: BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY	REVISION NO.:					CW-01 07 07

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

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

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

Daywork Schedule

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

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

Provisional Sums

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

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

Signature Box

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

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

PROJECT TITLE : PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION

LOCATION : BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY

PROJECT NO. : 24 - 000140

DURATION : One Hundred Twenty (120) Calendar Days

BREAKDOWN OF COST

ITEM NO.	DESCRIPTION	ESTIMATED DIRECT COST	TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST
			%	VALUE			
PART I	OTHER GENERAL REQUIREMENTS						
PART II	CIVIL AND ELECTRICAL WORKS						
PART A	REMOVAL WORKS						
PART B	EARTHWORKS						
PART C	FINISHING AND OTHER CIVIL WORKS						
PART D	ELECTRICAL WORKS						
TOTAL							

TOTAL COST P_____

LUMP SUM BID IN WORDS : _____

Contractor : _____

BILL OF QUANTITIES
(Electrical Works / Installation Project)

PROJECT TITLE : PROPOSED INSTALLATION OF SOLAR POWER SYSTEM AT MANUEL A. ROXAS HIGH SCHOOL INCLUDING NET METERING APPLICATION

LOCATION : BARANGAY PALIGSAHAN, DISTRICT 4, QUEZON CITY

PROJECT NO. : 24 - 00140

DURATION : One Hundred Twenty (120) Calendar Days

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
PART I	OTHER GENERAL REQUIREMENTS											
B.5	Project Billboard / Sign Board	1	each									
B.7(1)	Occupational Safety and Health	4	month									
B.9	Mobilization	1	unit									
B.9	Demobilization	1	unit									
	TOTAL OF PART I											
PART II	CIVIL AND ELECTRICAL WORKS											
PART A	REMOVAL WORKS											
801(3)	Chipping Works	1	sq.m.									
	TOTAL OF PART A											
PART B	EARTHWORKS											
803(1)a	Structure Excavation	4	cu.m.									
804(1)a	Embankment from Structure Excavation	4	cu.m.									
	TOTAL OF PART B											
PART C	FINISHING AND OTHER CIVIL WORKS											
C.1 Concrete Works												
1021(3)a	Floor Topping, Plain, 0.15m thick (Restoration)	1	sq.m.									
C.2 Masonry Works												
1027(1)	Cement Plaster Finish (Electrical Works)	1	sq.m.									
C.3 Fabricated Materials												
1047(1)	940mm x 1000mm x 350mm - Steel Cage (Inverter)	2	set									
1047(1)	350mm x 350mm x 200mm - Steel Cage (RSD Stop Button)	1	set									
1047(1)	Canopy Frame	1	set									
C.4 Painting, Varnishing and Other Related Works												
1032(1)a	Painting Works, Masonry Works / Concrete (Electrical Works)	1	sq.m.									
C.5 Roofing Works												
1014(1)b	Prepainted Metal Sheets, Rib Type, Ga.24	2	sq.m.									
1013(2)a1	Fabricated Metal Roofing Accessory, Gauge 24, Flashings / Ridge Roll	3	l.m.									
	TOTAL OF PART C											
PART D	ELECTRICAL WORKS											

ITEM CODE	DESCRIPTION	QUANTITY	UNIT	ESTIMATED DIRECT COST	MARK-UP IN %		TOTAL MARK-UP		VAT	TOTAL INDIRECT COST	TOTAL COST	UNIT COST
					OCM	PROFIT	%	VALUE				
D.1 Conduit, Boxes and Fittings												
1100 (2) c	25mmØ IMC Pipe	20	piece									
1100 (2) e	40mmØ IMC Pipe	10	piece									
1100 (2) g	65mmØ IMC Pipe	7	piece									
1100	25mmØ IMC Elbow	10	piece									
1100	40mmØ IMC Elbow	4	piece									
1100	65mmØ IMC Elbow	4	piece									
D.2 Wires and Wiring Devices												
1101	8.0mm² THHN Wire	300	l.m.									
1101	14mm² THHN Wire	10	l.m.									
1101	38mm² THHN Wire	50	l.m.									
1101	125mm² THHN Wire	60	l.m.									
1101	6.0mm² Single Core XLPE FR Cable	3,000	l.m.									
1101	580 Watts, N-Type Mono-Crystalline	170	piece									
1101	Grid Tied Inverter, 50kW Inverter, 230V AC 3P, 60Hz	2	piece									
1101	PV Mount, Aluminum Railings, 2400mm and Accessories	170	set									
1101	MC4 Connector Pair (M/F)	150	set									
D.3 Panelboard with Main and Branch Breakers												
1102	300AT, MDP Solar and ECB with Digital Meter and RSD Controller Box	1	assy									
1102	DC Breaker, 20AT, 1000Vdc, 4P	10	piece									
1102	DC SPD 4P 20KA/40KA	10	piece									
1102	Solar Panel Rapid Shutdown Device, 1:1	170	piece									
1102	DC Combiner Box, 2 input/2 Output 1000V	2	piece									
1102	Wire Gutter, 300mm x 300mm x 2000mm, with Terminal Lugs	2	unit									
1102	Grounding Lug	100	set									
D.4 Auxillary												
1105	Wifi Extender	1	set									
1105	UTP Cable, CAT6, 4-Pairs	50	l.m.									
	TOTAL OF PART D											
	TOTAL OF PART II											
	GRAND TOTAL											

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

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

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

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

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

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

Technical Documents

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

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

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

Additional Technical Requirements:

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

Financial Documents

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

Class "B" Documents

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

II. FINANCIAL COMPONENT ENVELOPE

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

Other documentary requirements under RA No. 9184

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

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

BID FORM

Date : _____
Project Identification No. : _____

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

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

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within the a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines¹ for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and
- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.

¹ currently based on GPPB Resolution No. 09-20^^

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

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign the Bid for and behalf of: _____

Date: _____

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

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

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

GPPB Resolution No. 16-2020, dated 16 September 2020

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, Procurement Agent if engaged, 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, Procurement Agent if engaged, 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, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of ____, 20__ at _____, Philippines.

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

[Jurat]

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

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

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

CONTRACT AGREEMENT

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

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

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - a. Philippine Bidding Documents (PBDs);
 - i. Drawings/Plans;
 - ii. Specifications;
 - iii. Bill of Quantities;
 - iv. General and Special Conditions of Contract;
 - v. Supplemental or Bid Bulletins, if any;
 - b. Winning bidder’s bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents submitted (e.g., Bidder’s response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity’s bid evaluation;

- c. Performance Security;
- d. Notice of Award of Contract and the Bidder’s conforme thereto; and
- e. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.
4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

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

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Procuring Entity]

[Insert Name of Supplier]

Acknowledgment

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

LIST OF ALL ON-GOING GOVERNMENT AND PRIVATE CONTRACTS

NAME OF CONTRACTOR: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

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

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page _____ of _____

SINGLE LARGEST COMPLETED CONTRACT SIMILAR TO THE CONTRACT TO BE BID

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page _____ of _____

LIST OF MAJOR EQUIPMENT TO BE USED FOR THE PROJECT

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

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

NAME OF CONTRACTOR: _____

PROJECT TITLE: _____

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

PHOTOCOPY ADDITIONAL FORMS, IF NECESSARY

Page_____of _____

COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

NAME OF BIDDER: _____

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

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

 ** BASED ON LIST OF ON-GOING AND AWRDED BUT NOT YEY STARTED CONTRACTS SUBMITTED

REPUBLIC OF THE PHILIPPINES)
_____) S. S.

AFFIDAVIT OF UNDERTAKING

I, _____, of legal age, Filipino, [OFFICER OR REPRESENTATIVE]

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

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

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

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

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

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

AFFIANT FURTHER SAYETH NAUGHT.

Affiant

SUBSCRIBED AND SWORN TO BEFORE ME this ____ day of _____
_____ in _____
affiant exhibiting to me his/her _____ issued at
_____ on _____.

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

Notary Public

