Republic of the Philippines
DEPARTMENT OF AGRICULTURE
PHILIPPINE FISHERIES DEVELOPMENT AUTHORITY
PCA Annex Building, Elliptical Road, Diliman, Quezon City
Telefax No. 8925-61-41

BIDDING DOCUMENTS

CONSTRUCTION OF EL NIDO MUNICIPAL FISH PORT (DESIGN & BUILD)

Brgy. Teniguiban, El Nido, Palawan

NOVEMBER 2021

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Glossary of
Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

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

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

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

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

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

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Republic of the Philippines
DEPARTMENT OF AGRICULTURE
PHILIPPINE FISHERIES DEVELOPMENT AUTHORITY
PCA Annex Building, Elliptical Road, Diliman, Quezon City
Telefax Telefax No. 925-61-41

Invitation to Bid

Construction of El Nido, Palawan Fish Port (Design and Build)

1. The Philippine Fisheries Development Authority (PFDA), through the National Government Subsidy intends to apply the sum of **₱72,443,642.69** being the Approved Budget for the Contract (ABC) to payments under the contract for the **Construction of El Nido, Palawan Fish Port (Design and Build)** located at Brgy. Teniguiban, El Nido, Palawan.

2. The PFDA now invites bids for the above Procurement Project. Completion of the work is **300 calendar days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Instructions to Bidders (ITB).

   Subject to existing rules, the PFDA adopts the Filipino First policy in the award of Government's procurement contracts.

3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. A complete set of Bidding Documents may be acquired by interested bidders onthe following schedules and venue:

Schedules	Venue
November 13 - 29, 2021	PFDA - Central Office, Diliman, Quezon City
December 1 - 2, 2021	Navotas Fish Port Complex (NFPC), Navotas City

   The complete set of Bid Documents maybe acquired by interested bidders in the amount of **₱ 50,000.00**.

5. Bids must be duly received by the BAC Secretariat through manual submission at the NFPC - Conference Room, GADCenter, Navotas City on or before **December 2, 2021; 8:00 AM. Late bids shall not be accepted**.

6. The PFDA will hold a Pre-Bid Conference **November 19, 2021; 10:00 AM** onwards at the **NFPC Conference Room - GAD Center, Navotas City** which shall be open to prospective bidders.

7. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in theBid Documents/ITB.

8. Bid opening shall be on **December 2, 2021; 10:00 AM** onwards at the given address above. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

9. In observance of the health protocols, only one (1) designated/authorized representative per bidder shall be allowed to participate and/or attend the bidding activities.

10. The PFDA 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 the revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

11. The Department of Agriculture – PFDA does not condone any form of solicitation on any prospective winning and losing bidders by any of our staff/employees or any other party. Any sort of this kind shall be reported immediately to the Office of the General Manager or the National Bureau of Investigation for entrapment and proper investigation.

12. For further information, please refer below within official business hours:

    Mr. Ernest Carlo DC. Garcia
    Head, PFDA-BAC Secretariat
    PCA Annex Bldg.
    Elliptical Road, Diliman, Quezon City
    bac.co@pfda.gov.ph
    (02) 8925-7850
    (02) 8925-6146

13. You may visit the following websites:

    Copy of the ITB will be uploaded here:

    https://pfda.gov.ph/index.php/bac/invitation-list

    Per PhilGEPS Advisory No. 11 - PhilGEPS Alternative Posting Tool, copy of the Bid Documents will be uploaded here:

    https://notices.ps-philgeps.gov.ph/main/index.php

    November 12, 2021

JOSE A. RUIZ, JR.
Chairperson
Bids and Awards Committee

Section II. Instructions to Bidders

Instructions to Bidders

1. Scope of Bid

The Procuring Entity, Philippine Fisheries Development Authority (PFDA) invites Bids for the **Construction of El Nido Municipal Fish Port (Design & Build), Brgy. Teniguiban, El Nido, Palawan**.

The Procurement Project (referred to herein as "Project") is for the design and construction, as described in Section VI (Minimum Performance Standard and Specifications, MPSS).

2. Funding Information

2.1. The GOP through the National Government Subsidy in the total amount of **₱ 72,443,642.69**.

2.2. The source of funding is:

a. National Government Subsidy

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:

Subcontracting is not allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS,** which shall not exceed fifty percent (50%) of the contracted Works.

7.2. 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.

7.3. 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.

7.1. 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 as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

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

10. Documents Comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section 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**.

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 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**.

The Bid and bid security shall be valid until one hundred twenty (120) calendar days from the date of the opening of bids. 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 (1) Original and two (2) Copies of the first and second components of its Bid.

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

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time at its physical address as indicated in paragraph 7 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 16 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

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th></th></tr>
<tr><td>5.2</td><td>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work for Ports, Harbor and Offshore Engineering.</td></tr>
<tr><td>7.1</td><td>Subcontracting is not allowed.</td></tr>
<tr><td>10.3</td><td>The required PCAB license for this contract is as follows:

a. Size Range : Medium A for Ports, Harbor and Offshore Engineering
b. License Category : B for Ports, Harbor and Offshore Engineering

Note:

For joint venture bidders, a Joint Special License issued by the PCAB pursuant to Section 38 of RA 4566, and the PCAB license and registration individually issued to each joint venture partner must be submitted. Failure of the joint venture bidder to submit a Joint Special License may be a ground for its disqualification despite the submission of the individual licenses of each joint venture partner.</td></tr>
<tr><td>10.4</td><td>Lists of key personnel for the preparation of Detailed Engineering Design and for Construction Works of the contract to be bid with their respective curriculum vitae showing, among others, their educational attainment, professional qualification and experiences.

Key Staff Requirement for Detailed Engineering Design

<table>
<tr><th>Position</th><th>No.</th><th>Minimum Total Work Experience (years)</th><th>Minimum Total Similar Work Experience (years)</th><th>Type of Experience</th></tr>
<tr><td>Team Leader</td><td>1</td><td>10</td><td>5</td><td>A licensed Civil Engineer with DED experience as Team Leader preferably with Master’s Degree in Structural Engineering</td></tr>
<tr><td>Sr. Architect</td><td>1</td><td>8</td><td>5</td><td>A licensed Architect and has undertaken at least 1 architectural design for port and harbor projects.</td></tr>
<tr><td>Sr. Civil Engineer</td><td>1</td><td>8</td><td>5</td><td>A licensed Civil Engineer preferably with Master’s Degree in Structural Engineering and has undertaken at least 3 structural designs for the ports and harbors projects.</td></tr>
</table>
</td></tr>
</table>

	Professional Electrical Engineer	1	8	5	A license Professional Electrical Engineer with experience in planning, engineering design and/or installation of electrical systems for vertical structures as well as power supply/distribution systems and telecommunication systems.
	Professional Mechanical Engineer	1	8	5	A licensed Professional Mechanical Engineer with experience in planning, engineering design, and/or installation of refrigeration facilities with knowledge in HVAC-R and fire protection and emergent alternative efficient HVAC-R technologies.
	Sr. Sanitary Engineer	1	8	5	A licensed Sanitary Engineer with experience in engineering design of water, sewage and waste water treatment systems and other public health services.
	Geotechnical Engineer	1	8	5	A licensed Civil Engineer with experience in soil testing and analysis for ports and harbor projects.
	Environmental Specialist	1	8	5	A BS Environmental Engineering/ Science with experience in ports and harbor projects.
	Quantity/Cost Engineer	1	8	5	A Civil Engineer with experience as Estimator in at least 10 civil works projects.
	Document Specialist/Specs. Engineer	1	8	5	A license Civil Engineer or Architect and should have successful track record as document specialist for at least 10 projects.

Total 12

Key Staff Requirement for Construction Works

Position	No.	Minimum Total Work Experience (years)	Minimum Total Similar Work Experience (years)	Type of Experience
Project Manager	1	8	5	A licensed Civil Engineer with construction experience as Project Manager in port and harbor projects.
Project Engineer	1	8	5	A licensed Civil Engineer with construction experience in port and harbor projects
Registered Electrical Engineer	1	8	5	A licensed Electrical Engineer with construction experience in the supervision/installation of electrical systems for vertical structures as well as power supply/distributions systems and communication systems.
Registered Mechanical Engineer	1	8	5	A licensed Mechanical Engineer with experience in supervision/installation of refrigeration facilities with knowledge in HVAC-R and fire protection and emergent alternative efficient HVAC-R technologies.
Materials/Quality Control Engineer	1	5	3	A DPWH Accredited Materials Engineer II
Safety Officer/ Engineer	1	5	3	Certified by the Bureau of Working Conditions of DOLE or with Certificate of 40 hours training in Construction

					Occupational Safety and Health (COSH).
	Foreman	1	10	5	With experience as Foreman of at least 3 Ports, Harbor and Offshore Engineering construction projects
	Total	11			

Note:

(1) The total work experience (in years) shall refer to the number of years of work experience of the key personnel in the exercise of his profession regardless of the type of Project he had undertaken.

(2) Bidder shall also submit duly signed Statement of Availability of Key Personnel

10.5 The minimum major equipment requirements are the following:

No. of Units		Equipment (Capacity)
2	unit	Backhoe, 0.80 cu.m. capacity
1	unit	Vibro Hammer
1	unit	Grader, 140 Hp
2	units	Dump Truck, 10 cu.m. capacity
1	unit	Vibratory Roller Compactor, 10 Tons
1	unit	Transit Mixer, 5 cu.m. capacity
1	unit	Truck Mounted Crane, 41-45 Tons
1	unit	Payloader, 1.5 cu.m. capacity
1	unit	Water Truck, 1000 gal.
2	units	Concrete Mixer, 1-bagger
2	units	Welding Machine
2	units	Jackhammer, 5 Hp

12 Alternative Bid is not allowed.

15.1 The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:

a. The amount of not less than **₱ 1,448,872.85**, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;

b. The amount of not less than **₱ 3,622,182.13** if bid security is in Surety Bond.

19.1 BID EVALUATION

For the detailed evaluation of the design and build proposals a two-step

	procedure shall be adopted by the BAC, which may be undertaken with the assistance of the DBC. 26.6.1. First-Step Procedure: i. The first step of the evaluation shall involve the review of the preliminary conceptual designs and track record submitted by the contractor as indicated in the Bidding Documents using a nondiscretionary "pass/fail" criteria that involve compliance with the following requirements: a. Adherence of preliminary design plans to the required performance specifications and parameters and degree of details; b. Concept of approach and methodology for detailed engineering, design and construction with emphasis on the clarity, feasibility, innovativeness and comprehensiveness of the plan approach, and the quality of interpretation of project problems, risks, and suggested solutions; c. Quality of personnel to be assigned to the project which covers suitability of key staff to perform the duties of the particular assignments and general qualifications and competence including education and training of the key staff; ii. For complex or unique undertakings, such as those involving highly specialized or advanced engineering technology, eligible bidders may be required, at the option of the agency concerned, to make an oral presentation within fifteen (15) calendar days after the deadline for submission of technical proposals. 26.6.2. Second-Step Procedure: Only those bids that passed the above criteria shall be subjected to the second step of evaluation. The BAC shall open the financial proposal of each "passed" bidder and shall evaluate it using non-discretionary criteria - including arithmetical corrections for computational errors - as stated in the Bidding Documents, and thus determine the correct total calculated bid prices. The BAC shall automatically disqualify any total calculated bid price which exceeds the ABC. The total calculated bid prices (not exceeding the ABC) shall be ranked, in ascending order, from lowest to highest. The bid with the lowest total calculated bid price shall be identified as the Lowest Calculated Bid (LCB).
19.2	Partial bids are not allowed.

20	Only tax returns filed and taxes paid through the BIR Electronic Filing and Payments System (EFPS) shall be accepted. ***NOTE:*** *The latest income and business tax returns are those within the last six months preceding the date of bid submission.*
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, PERT/CPM or other acceptable tools of project scheduling and Contractor's All Risk Insurance.

Section IV. General Conditions of Contract

General Conditions of Contract

1. Scope of Contract

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

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

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

Special Conditions of Contract

<table>
<tr><th>GCC Clause</th><th></th></tr>
<tr><td>2</td><td>The Intended Completion Date is Three Hundred (300) calendar days.

The breakdown of the computation for the total contract time is as follows:
<table>
<tr><td>1</td><td>Total actual number of working days (Counted six (6) days a week)</td><td>240</td></tr>
<tr><td>2</td><td>Allowance for Holidays and Weekends</td><td>60</td></tr>
<tr><td>3</td><td>Allowance for Inclement Weather</td><td>-</td></tr>
<tr><td></td><td>Total Contract Time</td><td>300 calendar days</td></tr>
</table>
NOTE: The contract duration shall be reckoned from the start date and not from contract effectivity date.</td></tr>
<tr><td>4.1</td><td>The Procuring Entity shall give possession of all parts of the Site to the Contractor beginning on the date of effectivity of contract until the date of its termination and/or project completion.</td></tr>
<tr><td>6</td><td>The site investigation reports are: none</td></tr>
<tr><td>7.2</td><td>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: Fifteen (15) years.

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: Five (5) years.

In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures: Two (2) years.</td></tr>
<tr><td>10</td><td>Dayworks are applicable at the rate shown in the Contractor’s original Bid.</td></tr>
<tr><td>11.1</td><td>The Contractor shall submit the Program of Work to the Procuring Entity’s Representative within 7 calendar days of delivery of the Notice of Award.</td></tr>
<tr><td>11.2</td><td>The amount to be withheld for late submission of an updated Program of Work is five percent (5%) of the previous work accomplishment.</td></tr>
<tr><td>13</td><td>The amount of the advance payment is 15% of the total contract price to be made in lump sum amount.</td></tr>
<tr><td>14</td><td>No further instruction.</td></tr>
</table>

15.1	The date by which “as-built drawings” (one original in Mylar, two blue print copies and electronic file in USB) are required to be submitted is before the release of final payment. The date by which the “Operations and Maintenance Manuals” are required is before the release of final payment.
15.2	No final payment shall be made by the Procuring Entity unless the Contractor prepares and submits the required as-built plans.
Additional Clause	
16	**NEGATIVE SLIPPAGE** The Procuring Entity shall ensure the timely implementation of infrastructure projects by monitoring the performance of the contractors. When the contractor incurs negative slippage during the contract duration, the Procuring Entity shall implement the calibrated measures provided under GPPB Circular No. 03-2019 dated 8 March 2019, entitled “Guidance on Contract Termination Due to Fifteen Percent (15%) Negative Slippage by the Contractor in Infrastructure Projects.” See attached Annex “A” of SCC.

ANNEX “A”
Special Conditions of Contract

Republic of the Philippines
gppb
Government Procurement Policy Board

ANNEX "A"

CIRCULAR 03-2019
8 March 2019

TO: Heads of Departments, Bureaus, Offices and Agencies of the National Government including State Universities and Colleges, Government Owned and/or Controlled Corporations, Government Financial Institutions, and Local Government Units

SUBJECT: Guidance on Contract Termination Due to Fifteen Percent (15%) Negative Slippage By the Contractor in Infrastructure Projects

1.0 PURPOSE

This Circular is issued to further guide procuring entities on the actions to be undertaken when contractors incurred negative slippage in the implementation of infrastructure projects.

2.0 SCOPE

All Departments, Bureaus, Offices and Agencies of the National Government including State Universities and Colleges, Government-Owned and/or Controlled Corporations, Government Financial Institutions and Local Government Units.

3.0 CONTRACT TERMINATION DUE TO DEFAULT BY CONTRACTORS IN INFRASTRUCTURE PROJECTS

3.1 The provisions for the grounds contract termination of on-going infrastructure project under GPPB Resolution No. 018-2004 remain effective and continue to be the basis by which both the procuring entities and contractors should be guided, thus:

"2. In contracts for Infrastructure Projects:

The Procuring Entity shall terminate a contract for default when any of the following conditions attend its implementation:

a) Due to the Contractor's fault and while the project is on-going, it has incurred negative slippage of fifteen percent (15%) or more in accordance with Presidential Decree 1870;[1]

[1] Authorizing the Government's Take Over by Administration of Delayed Infrastructure Projects or Awarding of the Contract to other Qualified Contractors, issued on 12 July 1983.

4.0 GUIDELINES

4.1 The provisions of the Guidelines on Termination of Contracts as embodied in GPPB Resolution No. 018-2004 remain to be the basis for contract termination in infrastructure projects.

4.2 To ensure the timely implementation of infrastructure projects and effective management of the performance of contractors, the following calibrated actions in response to delays in the implementation of infrastructure projects are hereby adopted:

4.2.1 Negative slippage of five percent (5%) –

The contractor shall be given a warning and be required to:

4.2.1.1 Submit a detailed "catch-up" program every two weeks in order to eliminate the slippage and to restore the project to its original schedule;

4.2.1.2 Accelerate work and identify specific physical targets to be accomplished over a definite period of time; and

4.2.1.3 Provide additional input resources such as the following: money, manpower, materials, equipment, and management, which shall be mobilized for this action.

The Implementing Unit shall exercise closer supervision and meet the contractor every other week to evaluate the progress of work and resolve any problems and bottlenecks.

4.2.2 Negative slippage of ten percent (10%) –

The contractor shall be issued a final warning and be required to come-up with a revised detailed "catch-up" program with weekly physical targets together with the required additional input resources.

The implementing unit shall intensify on-site supervision and evaluation of the project performance to at least once a week and prepare contingency plans for a possible termination of the contract or take-over of the work by administration or contract.

4.2.3 Negative slippage of fifteen percent (15%) –

The contractor shall be issued a final warning and be required to come-up with a revised detailed "catch-up" program with weekly physical targets together with the required additional input resources.

The implementing unit shall intensify on-site supervision and evaluation of the project performance to at least once a week and prepare contingency plans for a possible termination of the contract or take-over of the work by administration or contract.

5.0 All procuring entities are enjoined to apply this Guidelines on all government infrastructure projects.

6.0 This Circular shall take effect fifteen (15) days after publication.

7.0 For guidance and compliance.

SGD

LAURA B. PASCUA
Alternate Chairperson

Section VI. Minimum Performance Standards and Specifications

1. PURPOSE

The purpose of the Minimum Performance Standards and Specifications is to establish the minimum requirements that the Concessionaire must comply with in order to design and construct the Project.

2. BASIC CONFIGURATION

The Project involves the design and construction/improvement of El Nido Municipal Fish Port (MFP). The scope of the project design is presented in Table 1.

Table 1. Scope of Project Design

Main Items	Project Scope	Description of Works
A. General Items	Permits, Licenses & Other Government Documents	
	Mobilization / Demobilization of Equipment	
	Occupational Safety & Health Program	
	Clearing & Grubbing	
	Rental of Service Vehicle for PFDA Engineers	
	Provision of Resident Engineer's Office (including office equipment, furniture & communication expenses)	
B. Site Development Works	Embankment and Slope Protection	Banda y Banda
		Class III Rocks
		Fabric Filter
	Piling Works	Steel Sheet Pile
	Stairlanding	
	Concrete Pavement	
	Mooring System	Stainless Steel Mooring Ring
		Mooring Post
	Storm Drain & Sewerage System	
	Outside Water Distribution System	
	Outside Lighting & Power Distribution System	
	Miscellaneous Work Items	Pavement Markings
		Signage

		Landscape
C. Building Facilities	**Market Hall**	5 bays (5.0m x 5.0m each bay)
	➢ Roof Slab	Concrete
	➢ Stair	Covered access to Roof deck
		Stainless steel Handrail
	➢ Sewage Holding Tank	5.0 cu.m
	➢ Screening Tank	2-units
	➢ Water System Supply	
	➢ Storm Drain & Sewerage System	
	➢ Lighting & Power System	
	Administration Office with Public Toilet	
	➢ Reception Area	
	➢ Cashier Area	
	➢ Office Area	
	➢ Admin Toilet	Common for employee
	➢ Public Toilet	Male / Female / PWD
	➢ Water Supply System	
	➢ Storm Drain & Sewerage System	
	➢ Septic Tank	3-chamber
	➢ Lighting & Power System with air-conditioning	
	➢ Fire Protection / Alarm System	
	Ice Plant & Ice Storage	
	➢ Office Area with Cashier	
	➢ Staff Quarters	
	➢ Storage Room	
	➢ Toilets	
	➢ Ice Making Plant	
	➢ Ice Storage	Insulated Panel
	➢ Generator Room	
	➢ Compressor Room	
	➢ Receiver Room	
	➢ Water Supply System	
	➢ Storm Drain & Sewerage System	
	➢ Lighting & Power System	
	➢ Fire Protection / Alarm System	
	Guard House & Elevated Water Tank	
	➢ Furniture	Table & Shelves
	➢ Urinal ➢ Lighting & Power System	1-unit
	➢ Entrance Arc	
	➢ Access barrier	
	➢ Elevated Water Reservoir	25.0 cu.m capacity
	➢ Cistern Tank	5.0 cu.m capacity
	➢ Pump Room ➢ Lighting & Power System	
	Ice Making Equipment	

D. Electro-Mechanical and other Related Works	➢ Ammonia Compressor, Condenser, Receiver, Accumulator oil separator, Condenser pump, etc.	
	➢ Refrigerant pipes and fittings, controls and miscellaneous materials	
	➢ Brine tank including insulation, evaporator coils, brine agitator, can grid, cladding of brine tank	
	➢ Ice Cans	
	➢ Block Ice	50.0 kgs
	➢ Motorized hoist	Including girder assembly
	➢ Dip tank & ice filling tank and ice can dumper including concrete foundation	
	➢ Crystalizing equipment including pipelines and accessories	
	➢ Ice crusher including electrical control & accessories	
	➢ Miscellaneous materials & consumables such as refrigerant and brine solution	
	Ice Storage Room	
	➢ Condensing unit composed of compressor, air cooled condenser, liquid receiver, & other standard accessories	
	➢ Refrigerant pipes & fittings, control & misc. Materials	
	➢ Miscellaneous materials & consumables such as refrigeration oil, etc.	
	➢ Pre-fabricated Insulated Panel Including doors and accessories including floor slab	
	➢ Unit cooler and accessories	
	Generator Set	Standby / Prime Power
	Supply of tools, spare parts and consumables	
	Motor Control Center (Including Concrete Pedestal)	
	Air Conditioning Unit	
	Fire Detection/ Protection Alarm System	

3. DESIGN OUTPUTS

The Contactor shall coordinate and report to the PFDA-TSD for uniformity and cohesiveness in the preparation of related documents, consistent with the latest edition of the Design Guidelines, Criteria and Standards for Public Works and

Highways, AASHTO guidelines and other applicable provisions of existing laws, codes and Department Orders.

All reports and other created documents prepared by the Contractor shall be in a format agreed and accepted by the PFDA-TSD. The Contractor shall undertake the following surveys and design works:

(1) Topographic and Bathymetric Surveys
(2) Harbor Basin Elevations
(3) Harbor Basin Section – Longitudinal (Plan & Sections)
(4) Harbor Basin Section – Cross Section (Plan & Sections)
(5) Geotechnical Investigation
(6) Environmental Impact Study and Assessment
(7) Coastal Engineering Study
(8) Hydrologic and Hydraulic Study
(9) Road Network and Pavement Design
(10) Architectural Design
(11) Structural Analysis and Design (Pier, Buildings, Roads, etc.)
(12) Exterior Plumbing Works
    - Exterior Water Distribution
    - Exterior Sewer System
    - Exterior Storm Drainage Design
(13) Building Plumbing System
    - Water Supply
    - Storm Drainage Design
(14) Solid Waste Disposal System
(15) Mechanical System (Refrigeration and Air conditioning system)
(16) Electrical System
(17) Landscape Design
(18) Detailed Specifications of Materials
(19) Navigational Clearances
(20) Others as may be required by PFDA

Plans (in CAD and PDF formats) and technical report, in electronic files and hard copies for the work prepared, must be submitted by the Contractor to the PFDA - TSD for review and approval.

The Contractor shall deliver to the PFDA Procuring Entity the following outputs of the Detailed Engineering Design (DED) of the Project:

A. General:

1. Cover Sheet
2. General Index
3. Vicinity and Key Map

4. Location Plan/Layout
5. Legend, Abbreviation and Symbols
6. General Notes
7. Hydrographic and Topographic Plans

B. Site Development Plan

1. Perspective
2. Elevation and Section Plans

C. Building Plans

1. Perspective
2. Elevation and Sectional Plans
3. Detailed Structural Plans
4. Detailed Plumbing and Sanitary Plans, including Rainwater and Storm Water Retention and Use Plans
5. Detailed Electrical Plans, including Emergency Power
   i. Fire Detection and Alarm System

(1) Detailed Mechanical Plans, including Engineered Mechanical Building Utilities and Ventilation Systems
   i. Air-Conditioning and Condensing System
   ii. Air Changing or Air Cleaning System

(2) Scope of Works and Technical Specifications
(3) Detailed Estimates, Bill of Quantities
(4) Walk-through & Fly through Presentation 3D Model
(5) Proposed Design and Construction Schedule
(6) Occupational Health and Safety Program for the Construction Phase

j. Road Network Plans:

a. Typical Roadway Section
b. Summary of Quantities
c. Soils and Materials Investigation Maps/Plans
d. Grading Quantities
e. Plan and Profile with the final alignment incorporated in the Topographic/Hydrographic Plans
f. Detailed Cross Section
g. Detailed Drainage Plans and Cross Sections
h. Geometric Road Design Elements and Standards
i. Road Standards and Details
j. Pavement Joint Details
k. Slope Protection Details
l. Drainage Standards and Details
m. Pavement, Drainage and Slope Protection Design Parameters
n. Roadway Lighting

The Contractor shall submit the reports/data on DED to PFDA as shown below.

a. Survey Data: 5 copies, one (1) month after the effectivity of the Contract
b. Detailed Geotechnical Investigation report: 5 copies, two (2) Months after the effectivity of the contract
c. Design Analysis: 5 copies, two and a half (2 ½) months after the Effectivity of the contract
d. Detailed Engineering plans including quantity calculations: 5 Copies, six (6) months after the effectivity of the contract
e. As-Built Plans: 5 copies, two months after project completion
f. Maintenance Manual, two months after project completion
g. Others, if required by PFDA.

k. Value Engineering Studies

The Contractor shall undertake "value engineering (VE) studies" as part of the DED, where appropriate, to minimize and/or reduce non-essential Project features and costs and to reduce the life cycle cost of the Project without sacrificing the quality and integrity of the structures while attaining their essential functions consistent with the required performance, reliability and safety. The Contractor shall observe the DPWH Guide to VE (Appendix A of the Main Guidelines of the DPWH Procurement Manual for Infrastructure).

VE shall essentially involve the following phases:

a. Information Phase. Under this phase, the activities include Project information gathering and investigation and performing functional analysis of systems and subsystems to identify high cost areas of the project.

b. Speculative/Creative Phase. Activities under this phase involve developing effective and efficient group interaction process (brainstorming) to identify alternative ideas, proposals and solutions for accomplishing the function of a system or subsystem.

c. Evaluation/Analytical Phase. During this phase, the Contractor shall evaluate and analyze process to determine which ideas, solutions and measures would show greater potential for cost savings and project improvement.

d. Development/Recommendation Phase. Activities under this phase include description of project components, preparation of sketches, and estimation of life cycle cost to be used in justifying and supporting value engineering recommendations.

e. Report or Presentation Phase. During this phase, the Contractor shall prepare and present his report, which should contain information, such as list of items or processes examined, alternatives, functional and the life cycle analyses, value engineering proposals and supporting information.

l. Design Analyses and Computations

m.Sources of Construction Material

n. Performance Specifications for Materials and Equipment

4. DESIGN CODES

The DED of the Project shall comply with the relevant provisions of different codes and standards.

4.1 LOCAL CODES AND STANDARDS

It should note that many Philippine codes and standards are based on American equivalents including DPWH and NSCP, e.g. NSCP is based on ACI 318, and similarly with the DPWH

a. DPWH Design Guidelines, Criteria and Standards, Volume 1 and 2
b. DPWH Highway Safety Design Standards, Part 1, Road Safety Design Manual and Part 2, Road Signs and Pavement Marking Manual, February 2004
c. DPWH Philippine Manual on Pavement Marking, 1980
d. DPWH Standard Specifications, Volume 2, Highways Bridges and Airports
e. National Structural Code of the Philippines (NSCP C102-97), Volume II — Bridges, 2nd Edition, 1995
f. National Building Code (NBC)
g. National Plumbing Code of the Philippines
h. Philippine Electrical Code, Part I and II
i. The Fire Code of the Philippines and Regulations
j. Code on Sanitation of the Philippines
k. Department of Environmental and Natural Resources (DENR) Publications and Standards
l. Bureau of Fisheries and Aquatic Resources (BFAR) Publications and Standards
m. PPA Engineering Standard for Port and Harbor Structures - Design Manual, March 2009
n. Philippine Society of Mechanical Engineers (PSME) Code

4.2 INTERNATIONAL CODE AND STANDARDS

A. AASHTO A Policy on Geometric Design of Highways and Streets, 2004 Edition
B. AASHTO Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT <400), 2001 Edition
C. AASHTO Standard Specification for Highways Bridges, 16th Edition, 1996

D. AASHTO 1998 Supplemental Guide for Design of Pavement Structures
E. American Society for Testing and Materials (ASTM) Publications
F. National Fire Protection Association (NFPA)
G. Illumination Engineering Society (IES) Lighting Handbook
H. Occupational Safety and Health Association (OSHA)
I. Uniform Plumbing Code (UPC)
J. American Society of Plumbing Engineers (ASPE)
K. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
L. American Society of Testing Materials

4.3 Other Design Criteria and Standards

The following codes may be used as references for more specialized aspects of design not covered in the ruling design code:

A. PTI "Recommendations for Stay Cable Design, Testing and Installation.
B. Batas Pambansa (BP) Blg.344 (Accessibility Law)
C. Gender and Development (GAD) Toolkit

The structural design and detailing shall comply with the Philippine Codes and Regulations and other relevant International Standards. Details are given below.

A. DESIGN CRITERIA

1. ACI 318-14, Building Code Requirements for Structural Concrete
2. ACI 350-06, Code Requirements for Environmental Engineering Concrete Structures
3. ACI 315-04, Details and Detailing of Concrete Reinforcement
4. American Society of Civil Engineers (ASCE), ASCE 7-10 Minimum Design Loads for Buildings and Other Structures
5. AISC 360-16 — Specification for Structural Steel Buildings
6. AISC 341-16 — Seismic Provisions for Steel Buildings
7. Association of Structural Engineers of the Philippines (ASEP), National Structural of the Philippines (NSCP), 2015

B. CONCRETING

1. ASTM 0150 — Standard Specification for Portland Cement
2. ASTM C33 — Standard Specification for Concrete Aggregates
3. ASTM C330 — Standard Specification for Lightweight Aggregates for Structural Concrete
4. ASTM 094 — Standard Specification for Ready Mixed Concrete
5. ASTM C260 — Standard Specification for Air-Entraining Admixtures for Concrete
6. ASTM C494 Type A — Standard Specification for Chemical Admixtures for Concrete Water-Reducing Admixtures

7. ASTM 0494 Type E - Standard Specification for Chemical Admixtures for Concrete Water-Reducing and Accelerating Admixtures
8. ASTM C494 Type F - Standard Specification for Chemical Admixtures for Concrete Water-Reducing, High Range Admixtures
9. ASTM C171 — Standard Specification for Sheet Materials for Curing Concrete
10. ASTM 0309 Type 1 — Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete - Class A
11. ASTM 0309 Type 1 — Water-Based Acrylic Membrane Curing Compound - Class B
12. ASTM C881 — Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete
13. ASTM C172 — Standard Practice for Sampling Freshly Mixed Concrete
14. ACI 304 — Guide for Measuring, Mixing, Transporting and Placing Concrete

C. CONCRETE FORMWORK

1. ACI 347 — Guide to Formwork for concrete

D. QUALITY CONTROL TESTING FOR STRUCTURAL ELEMENTS

1. ASTM 0143 — Standard Test Method for Slump of Hydraulic-Cement Concrete
2. ASTM C173 — Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
3. ASTM 0231 — Standard Practice for Air Content of Freshly Mixed Concrete by the Pressure Method
4. ASTM C31 — Standard Practice for Making and Curing Concrete Test Specimens in the Field
5. ASTM C39 — Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
6. ASTM A370 — Standard Test Methods and Definitions for Mechanical Testing of Steel Products
7. ASTM E29 — Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
8. ASTM E154 — Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or Ground Cover
9. ASTM E96 — Standard Test Methods for Water Vapor Transmission of Materials
10. ASTM D2240 — Standard Test Method for Rubber Property — Durometer Hardness

11. ASTM C311 — Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use as a Mineral Admixture in Portland Cement Concrete

E. MASONRY

1. ASTM C90 — Standard Specification for Load-Bearing Concrete Masonry Units
2. ASTM C129 — Standard Specification for Non-Load-Bearing Concrete Masonry Units
3. ASTM C270 — Standard Specification for Mortar for Unit Masonry
4. ASTM C476 — Standard Specification for Grout for Masonry
5. ASTM A82 — Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
6. ASTM 091 — Standard Specification for Masonry Cement
7. ASTM C140 — Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
8. ASTM C144 — Standard Specification for Aggregates for Masonry Mortar
9. ASTM 0150 — Standard Specification for Portland Cement
10. ASTM 094 — Standard Specification for Ready Mixed Concrete
11. ASTM C109 — Standard Test Method for Compressive Strength of Hydraulic Cements Mortars (Using 2 inches or 50 mm Cube Specimens)
12. ASTM 033 — Standard Specification for Concrete Aggregates
13. ASTM C143 — Standard Test Method for Slump of Hydraulic-Cement Concrete
14. ASTM 0207 — Standard Specifications for Hydrated Lime for Masonry Purposes
15. ASTM C404 — Standard Specifications for Aggregates for Masonry Grout
16. ASTM C881 — Standard Specifications for Epoxy-Resin-Base Bonding Systems for Concrete
17. ASTM 0979 — Standard Specification for Pigments for Integrally Colored Concrete

F. REINFORCING BARS

1. ASTM A706 — Standard Specification for Low-Alloy Steel Deformed and Plain Bars for concrete Reinforcement
2. ASTM A615 — Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
3. ASTM A775 — Standard Specification for Epoxy-Coated Reinforcing Bars
4. ASTM A185 — Standard Specification for Steel Welded Fabric, Plain, for Concrete Reinforcement
5. ASTM A370 — Standard Test Methods and Definitions for Mechanical Testing of Steel Products

6. ASTM A510 — Standard Specification for General Requirements for Wire rods and Coarse Rounds Wire, Carbon Steel
7. ASTM A700 — Standard Practices for Packaging, Marking and Loading Methods for Steel Products for Domestic Shipment

G. STRUCTURAL STEEL

1. ASTM A36 — Standard Specifications for Carbon Structural Steel
2. ASTM A500, Grade B — Standard Specifications for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
3. ASTM A501 — Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
4. ASTM A307 — Standard Specification Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength (anchor bolts, regular low-carbon steel bolts and nuts)
5. AWS D1.1 — Structural Welding Code – Steel
6. ANSI/AWS D1.1 — Conformance of Welder Qualification Test Requirement
7. AWS D1.6 — Structural Welding Code - Stainless Steel
8. ASTM A325 — Standard Specification for Structural Bolts, Steel, Heat Treated, 830 MPa (120/105 ksi) Minimum Tensile Strength
9. ASTM A490 — Standard Specification for High Strength Steel Bolts, Classes 10.9 and 10.9.3 for Structural Steel Joints 1040 MPa (150 ksi) minimum Tensile Strength
10. ASTM F1554 — Standard Specification for Anchor Bolts, Steel, 36, 55, and 105 ksi Yield Strength
11. ASTM A594 — Specification for Stainless Steel Nuts
12. ASTM F959 — Standard Specification for Compressible-Washer Type Direct Tension Indicators for Use of Structural Fasteners (Metric)
13. ASTM E709 — Standard Guide for Magnetic Particle Examination
14. ASTM E94 — Standard Guide for Radiographic Examination using Industrial Radiographic Film
15. ASTM E164 — Standard Practice for Ultrasonic Contact Examination of Weldments
16. ASTM A53 — Standard Specification for Pipe, Steel, Black and Hot Dipped, Zinc Coated Welded and Seamless

5. MINIMUM PERFORMANCE SPECIFICATIONS AND PARAMETERS (MPSP)

5.1 ARCHITECTURAL DESIGN

A. CLIMATE AND SOLAR ORIENTATIONS

If possible, the long axis of buildings must run along a North-South (N-direction inasmuch as the actual sun-paths actually run along the

southeast (SE-SW) direction for about seven (7) months a year and along a northeast to northwest (NE-NW) direction for about three and a half months and the one and a half months in between are transition months, part of which has the sun traversing an east to west direction twice a year

B. TOPOGRAPHY

The New Buildings shall adapt to the proposed site grading elevations of the Fish port.

C. ENERGY AND EMISSIONS

The building façade design development injected the DIPS (Decorative Insulated Panel System) to provide beauty and sustainability elements in the materials used as accents in majority of the main structures. This will lessen the heat absorption at the walls and easy maintenance of its solid rough surface.

Energy Efficient Systems and Appliances: Building fit outs, if possible, should install the energy-efficient appliances and systems to minimize building operational costs. These include the following:

1. Air-conditioning Systems;
2. Lighting Systems; and
3. Water Heating Systems

Renewable energy: Adapting Solar Power help lessen greenhouse gas emissions and increase energy security. The roof deck area of the building can be provided with solar panels which can provide solar electricity use for the buildings.

Use of WPC (Wood Plastic Composite): For the consideration of lesser cost and easy maintenance we recommend replacing majority of exterior steel elements in the building with Wood Plastic Composite materials, such as steel grilles, louvre doors and gates.

5.2 ROAD NETWORK

A. REFERENCES

1. NCHRP Report 362, Roadway Widths for Low-Traffic-Volume Roads, Transportation Research Board, 1994
2. Manual on Uniform Traffic Control Devices (MUTCD), Millennium Edition
3. Civilised Streets: A Guide to Traffic Calming
4. AASHTO’s Guide for the Development of Bicycle Facilities, 1999

B. DESIGN CRITERIA

1. HORIZONTAL & VERTICAL ALIGNMENTS

Road engineering is basically confined on horizontal and vertical alignments with emphasis on the geometry of intersections. The design criteria for the project are presented in Table below.

Vertical parabolic curves was provided at grade changes and determined by the basic formula:

L = KA

where

L = Minimum length of Parabolic Curve

K = Rate of Vertical Curvature (Refer to Table for K Values)
A = Algebraic difference in Grade %

2. ROAD DESIGN GUIDELINES AND CRITERIA

Road Classification		Major Road	Collector Road	Minor Road
Geometry				
Design Speed	kph	40	30	20
Average Daily Traffic	vpd	>400	250-400	≤250
Design Radius, minimum	m	50	30	10
Road friction, maximum	-	0.160	0.170	0.70
Maximum superelevation (if necessary)	%	4	4	4
Minimum Sight Distance, horizontal	m	40	30	30
Minimum Stopping Sight Distance	m	50	30	30
Minimum Intersection Sight Distance with no Traffic Control	m	35	25	25
Turning Radius, minimum	m	7.30 for Car, 12.80 for SU, 13.70 for WB-15		

Gradient, maximum	%	7	8	9
Gradient, minimum	%	0.50	0.50	0.50
Minimum Length of Vertical Curve	m	See Table for minimum K value		
Road Section				
Lane width, minimum	m	3.30	3.00	3.00
Lane width with parking, minimum	m	5.0	4.5	4.5
Cross-section slope, concrete	%	1.50	1.50	1.50
Concrete Curb - raised, width	mm	150	150	150
height	mm	170	170	170
Concrete gutter, minimum width	mm	300	300	300
Cul-de-Sacs, outside radius	m	10 for Car, 15 for SU, 15 for WB-15		
Cul-de-Sacs, pavement width	m	6 for Car, 10 for SU, 10 for WB-15		
Right-of-Way width, minimum	m	15	12	10
Painting Strip, minimum	m	1.3	0.8	0.8
Sidewalk width, minimum	m	1.2	1.2	1.2
Pavement Type		PCCP	PCCP	PCCP
Pavement Thickness, minimum	mm	200	200	200
Aggregate Subbase Course				
Access Roads	mm	200	200	200
Internal Roads	mm	150	150	150
Other				
Parking stall width	m	2.50		

Parking length	m	6.00
Shoulder width, minimum	m	1.20

Table 7 Table for K Values

	Minimum K Value			
Design Speed, kph	20	30	40	50
Crest	1	2	4	7
Sag	3	6	9	13

where SU is vehicle designation for single unit trucks and WB-15 is for large semi-trailer.

3. LENGTH OF TAPER

The length of taper was calculated from the following formula:

For design speed equal to or greater than 70 km/h L=0.6 SW
For design speed equal to or less than 60 km/h L=WS2 / 155

where L= Length of taper, in meter
S = Design speed, in kph
W = Offset, in meter

4. ACCESSIBILITY RAMPS

The curb-cut ramps for the disabled are referred from the Accessibility Law (BP-344) and its implementing rules and regulations and the National Building Code of the Philippines. The ramp is designed with a minimum width of 900 mm and a gradient of 12:1. The lowest point of dropped curb should not exceed 25-mm height above the road or gutter.

5. ROAD SIGNS

The regulatory, warning and informative signs for the road should be in accordance with DPWH Road Signs Manual and Manual on Uniform Traffic Control and Devises (MMUTCD).

6. PAVEMENT MARKINGS

Pavement markings such as lines, arrows, chevrons, letters are in accordance with the DPWH Manual on Pavement Markings.

7. PARKING REQUIREMENTS

Different land uses generate different levels of parking needs. Minimum parking provisions for each identified land use / occupancy are set out by the National Building Code (NBC) of the Philippines.

5.3 STRUCTURAL

A. CONCRETE

Foundation, Pile Caps	-	27.6 MPa
Piles	-	34.5 MPa
Columns, Footing-tie-beams, beams & suspended slabs	-	27.6 MPa
Slab on grade	-	27.6 MPa
Shear Wall	-	27.6 MPa

B. REINFORCING BARS

All reinforcement used in the design of concrete elements shall have a minimum yield stress fy=276 MPa for 12mmØ and smaller Ø, and fy=414 MPa for 16mmØ and larger Ø all in accordance with ASTM A706 or ASTM A615M/PNS 49 (weldable bars).

Structural steelwork shall be Grade 36 (ASTM A36), fy=248 MPa

C. MATERIAL DENSITIES

Reinforced Concrete	-	24 kN/m^3
Steel	-	77 kN/m^3
Soil	-	19 kN/m^3
Water	-	9.91 kN/m^3
Masonry	-	21.2 kN/m^3
Glass	-	25.1 kN/m^3

1. DESIGN LOADS

The following design loading were generally adopted

Table 1. Superimposed Dead Load

Component	Dead Load (kPa)

MEPF Utilities	0.20
Floor finish/topping	1.20
100 mm thk CHB wall (plastered)	2.63
150 mm thk CHB wall (plastered)	3.69
200 mm thk CHB wall (plastered)	4.75
Movable partition	1.00
Mechanical pad	2.40
Provision for Roof Solar Modules	0.25

Table 2. Live Load

Type of Occupancy	Live Load (kPa)
Market Hall	
• Common floor areas	4.80
• Stairs	4.80
• Roof Deck	2.40
Administration Building	
• Common floor areas	4.80
• Office	2.40
• Roof deck	2.40
• Toilets	2.40
Ice Plant & ice Storage	
• Storage (Heavy)	12.00
• Storage (Light)	6.00
• Lobby	4.80
• Office	2.40
• Ramps	4.80
• Roof Deck	4.80
• Mechanical Equipment	12.00
Guard House	2.40
Elevated Water Tank	1.90

D. LIVE LOAD REDUCTION

The design live load may be reduced on members supporting 15 m^2, except for floors in places of public assembly and floor live loads greater than 4.80 kPa, in accordance with the following equation:

$$R=r(A-15)$$

The reduction shall not exceed 40 percent for members receiving load from one level only, 60 percent for other members or R, as determined by the following equation:

$$R=23.1(1+D/L)$$

Where:

A = area of floor or roof supported by the member, square meter
D = dead load per square meter or area supported by the member
L = unit live load per square meter or area supported by the member
R = reduction in percentage
R = rate of reduction equal to 0.08 percent for floors

For storage loads exceeding 4.8 kPa, no reduction shall be made, except that design live load on columns may be reduced by 20 percent

E. LATERAL LOADS

1. WIND LOADS

The building structures are designed to withstand wind forces in accordance with ASCE 7-10 with a 50-year return period using the following parameters:

Design Code - NSCP 2015/ASCE 7-10

Occupancy category

a. Administration Building - IV - Standard Occupancy
b. Market Hall - III - Special Occupancy
c. Ice Plant & Ice Storage - III - Special Occupancy
d. Toilet Building - IV - Standard Occupancy
e. Elevated Water Tank - I - Standard Occupancy

Basic Wind Speed

a. For Special Occupancy - 240 kph
b. For Standard Occupancy - 240 kph
c. For Essential Facilities - 260 kph
d. Velocity Pressure, q - $0.613\ K_z\ K_{zt}\ K_d\ V^2$ (N/m^2; V in m/s)
e. Exposure Category - C
f. Design Wind Pressure - $P=q\ G\ C_p - q_i\ (GC_{pi})$

2. **EARTHQUAKE LOADS**

Seismic Code	-	NSCP 2015
Seismic Zone	-	Zone 4, Z=0.40
Soil Profile Type	-	[Awaiting Geotechnical Investigation Report]
Building Base	-	Ground Level
Seismic Source Type	-	

Importance Factor, I

Standard Occupancy	-	I = 1.00
Special Occupancy	-	I = 1.00
Essential Facility	-	I = 1.50

Design Earthquake Load, $E = \rho E_h + E_v$

Where:

E = the earthquake load on an element of the structure resulting from the combination of the horizontal component, E_h, and the vertical component, E_v

E_h = the earthquake load due to the base shear, V or the design lateral force, F_ρ

E_v = the load effect resulting from the vertical component of the earthquake ground motion and is equal to an addition of 0.5CaID to the dead load effect, D, for Strength Design, and may be taken as Zero for Allowable Stress Design.

P = reliability/redundancy factor as given by the following equation:

$$\rho = 2 - \left(\frac{6.1}{r_{max}}\sqrt{A_B}\right)$$

r_{max} = the maximum element-storey shear ratio
A_B = the ground floor area of the structure in square meter

Design Base Shear for Static Force Procedure:

$$V = \frac{C_v I}{RT} W_D \leq \frac{2.5\, C_a I}{R} W_D$$

$$\geq 0.11 C_a I W_D$$

$$\geq \frac{0.8 Z N_v I}{R} W_D$$

Where:

V	=	total design lateral force or shear at the base
Z	=	seismic zone factor for Zone 4 = 0.40
I	=	importance factor
	=	1.0 for Standard & Special Occupancy
	=	1.5 for Essential Facilities
T	=	$C_t(h_n)^{3/4}$, elastic fundamental period of vibration of the structure, in second, in the direction under consideration
Ct	=	numerical coefficient for structure
	=	0.0853 for steel moment-resisting frame, (0.0350-ft)
	=	0.0731 for reinforced concrete moment-resisting frames, (0.0300-ft)
	=	0.0408 for other structures, (0.0200-ft)
hn	=	the height of the structure in meters
Ca	=	seismic coefficient for structure, NSCP 2015 Table 208-7
Cv	=	seismic coefficient for structure, NSCP 2015 Table 208-8
Na	=	near source factor used in the determination of Ca
Nv	=	near-source factor used in the determination of Cv
R	=	numerical coefficient representative of the inherent overstrength and global ductility of the lateral-force resisting system
WD	=	total seismic dead load

Design Response Spectrum

An elastic design response spectrum constructed in accordance with Figure 208-3 of NSCP 2015, using the values of C_a & C_v in relation to the considered seismic source type, soil profile type, and distance of source from the site will used for the structure.

3. ***LOAD COMBINATIONS***

a. ULTIMATE STRENGTH DESIGN OR LRFD

The structural elements will be designed based on ACI 318-14 to resist the most critical forces under the following load combinations:

Dead Load + Live Load
1.4D
1.2D + 1.6L + 0.5L_r

Dead Load + Live Load + Wind Load
1.2D + f_1L + 1.0W
0.9D + 1.0W

Dead Load + Live Load + Seismic Load
1.2D + f_1L + 1.0E

0.9D + 1.0E

Where:

D = Dead Load
L = Live Load
Lr = Roof Live Load
W = Wind Load
E = Earthquake Load
f1 = 1.0 for floors in places of public assembly, for live loads in excess of 4.80 kN/m2, and for garage live load
= 0.5 for other live loads

b. FOR ALLOWABLE STRESS DESIGN LOAD COMBINATIONS

Dead Load + Live Load
D + L

Dead Load + Live Load + Wind Load
D + 0.75 (L + 0.6W)
D + 0.6W
0.6D + 0.6W
D + L + 0.6W

Dead Load + Live Load + Seismic Load
D + 0.75 (L + E/1.4)
D + E/1.4 0.6
D + E/1.4
D + L + E/1.4

Earth and hydrostatic pressure were considered as dead loads under various load combinations if these are applicable.

4. ***DEFLECTION CRITERIA***

a. LATERAL DEFLECTION (WIND)

Overall Deflection	<	Height/500
Storey Defection	<	Storey height/500

b. VERTICAL DEFLECTION OF BEAMS AND SLABS DUE TO GRAVITY LOADS

Total Deflection (D + L) < Span/240 up to 25mm maximum Live Load Deflection < Span/360
Incremental deflection after application of finishes <
Span over 500 or 20mm, whichever is lesser

5. ***STORY DRIFT LIMITATION***

a. WIND LOAD

Maximum drift index limit was set at 0.002. The design wind loads will be calculated using the guidelines of NSCP 2015. Calculated drift shall include translational, torsional deflections and PΔ effects.

b. SEISMIC LOAD

Calculated story drift using Δm shall not exceed 0.025 times the story height for structures having fundamental period of less than 0.7 second. For structures having a fundamental period of 0.7 second or greater, the story drift shall not exceed 0,020 time the story height.

The maximum inelastic response displacement, Δm shall be computed as follows:

$$\Delta = 0.7\ R\Delta s$$

Where Δs is the resulting deformations from a static, elastic analysis of the lateral force-resisting system prepared using the design seismic forces.

The analysis used to determine the Maximum Inelastic Response Displacement Δm shall consider P-Delta (PΔ) effects.

6. ***TORSION AND P-DELTA EFFECT***

Torsion is typically classified as actual or accidental. Actual torsion arises from an eccentricity between the centers of mass and stiffness. Accidental torsion is intended to cover a variety of factors, including the rotational component of ground motion, strengths, and dead-load masses of structural and non-structural components and unfavorable distributions of dead-and-live-load masses.

Accidental torsion, due to uncertainties in the mass and stiffness distribution, must be added to the calculated eccentricity. This is done by adding a torsional moment at each floor equal to the story shear multiplied by 5% of the floor dimension, perpendicular to the direction of the force. This procedure is equivalent to moving the center of mass by 5% of the plan dimension in a direction perpendicular to the force. If the deflection at either end of the building is more than 20% greater than the average deflection, it is classified as torsionally irregular and accidental eccentricity must be amplified using the formula:

$$A_x = \left[\frac{\delta_{max}}{1.2\delta_{avg}}\right]^2 \leq 3.0$$

Where:

δ_{avg} = the average of the displacements at the extreme points of the structure at level x

δ_{max} = the maximum displacements at level x

7. ***ORTHOGONAL EFFECT***

The NSCP requires that in Seismic Zone 4, provisions shall be made for the effects of earthquake forces acting in a direction other than the principal axes in each of the following circumstances:

a. The structure has non-parallel lateral force resisting systems
b. The structure has torsional irregularity
c. A column of a structure forms part of two or more intersecting lateral force- resisting systems

If the axial load in the column due to seismic forces acting in either principal axis is less than 20% of the column allowable axial load, then the above provision need not apply.

The requirement that orthogonal effects be considered may be satisfied by designing an element for 100% of the prescribed seismic forces in one (1) direction, plus 30% of the prescribed forces in the perpendicular direction. The combination requiring the greater component strength must be used for design.
Alternatively, the effects of the prescribed seismic forces along two orthogonal directions may be combined on a square root of the sum of the squares (SRSS) basis.

F. *ANALYSIS*

1. GENERAL

The analysis shall be carried out in accordance with the latest National Structural Code of the Philippines (NSCP 2015). A three-dimensional model will be used in the analysis using STAAD Pro Software.

2. VERTICAL LOAD ANALYSIS

The vertical load analysis shall be carried out on the basis of the loads given in 4.3.3. Procedure was as follows:

1. Identify the structural system used, occupancy and height of building
2. Layout the floor framing system

3. Determine floor slab dead and live load
4. Analyze and determine required thickness of floor slab
5. Distribute floor loads to beam using method recommended by ACI and/or NSCP
6. Use a three-dimensional model for the structural analysis and apply the corresponding dead and live load.
7. For concrete structural members, use $I_{effective}$ (Effective Moment of Inertia) of structural members as required by ACI/NSCP e.g. $0.70(I_{gross})$ for columns, $0.35(I_{gross})$ for beams and cracked walls (See ACI 318-14 Section 6.6.3.1.1, NSCP 2015 Section 406.6.6.3.1.1). For steel members, full stiffness shall be used.

3. LATERAL LOAD ANALYSIS

a. WIND LOAD ANALYSIS

Wind load analysis shall be carried out on the basis of the design parameters and loads given. Wind assumed to come from any direction. No reduction in wind pressure for shielding effect of adjacent structures.

The base overturning moment for the entire structure, or for any one of its primary lateral resisting elements, is check and shall not exceed two-thirds of the dead-load-resisting moment. For an entire structure having a height-to-width ratio of 0.5 or less in the wind direction and a maximum height of 60 feet (18,290 mm), the combination of the effects of uplift and overturning shall be reduced by one-third as allowed by NSCP/ASCE-7. The weight of earth superimposed over footings was used to calculate the dead-load-resisting moment.

Procedure is as follows:

1. Determine design wind pressure at each level.
2. Apply wind load to the three-dimensional model.

b. EARTHQUAKE LOAD ANALYSIS

Earthquake load analysis shall be carried out on the basis of the design parameters given. A static seismic analysis was carried out and was performed are required and the detailed procedure illustrated in NSCP 2015 208.5.2.

Procedure is as follows:

1. Determine building mass
2. Determine design base shear for static force procedure
3. Determine minimum accidental torsion
4. Perform static analysis

G. *STRUCTURAL SYSTEM*

The structural systems of buildings and other vertical structure shall be Special Moment Resisting Frame (SMRF) which consist a combination of reinforced concrete and steel members.

H. *FLOOR SLAB SYSTEM AND ROOF SYSTEM*

Slab on grade shall be used for all ground floor slabs. Soil/ground supporting the slab on grade shall be compacted and have at least 95% maximum dry density (MDD).

Suspended reinforced concrete slabs shall be used for second floor and roof deck for all buildings.

I. *GEOTECHNICAL INVESTIGATIONS AND DESIGN PARAMETERS*

1. GENERAL

The geotechnical investigation shall be conducted. The work comprised of routine drilling, sampling and laboratory testing of boreholes to be drilled. Standard Penetration Testing (SPT) shall be conducted at soft layers and employ coring at stiff soil formations.

2. GROUND CONDITIONS

The required depth of Boreholes shall be determined based on the soil conditions in the area.

3. SOIL PROPERTIES

The Geotechnical Investigation Report shall detail the results for each borehole.

Liquefaction. Given that saturated loose sand deposits compose the dominant soil profile, all borehole locations were investigated for liquefaction. Liquefaction Factor of Safety is evaluated at earthquake magnitude 7.5m and GWT of 2m to 3m. Given the calculations on the estimated probable liquefaction induced settlements, it could be deduced that the site is vulnerable to liquefaction. This is confirmed by the Hazard Hunter of Phivolcs.

The Hazard Hunter Map reports the following regarding the SFP site:

c. Safe against ground rupture;
d. Generally susceptible to liquefaction;
e. Highly susceptible to flood, with more than 2m flood height and more than three (3) days flooding; and

f. The nearest potentially active volcano is located 150.9km away.

A. GROUND WATER CONDITIONS

The ground water level for each borehole was determined by the direct lowering of a weight tape into the hole. Periodic readings were made after water was allowed to stand for a minimum period of 12 hours following completion of the drilling and also before the start of the drilling operation. The reading done during this period is assumed to be the ground water level.

B. FOUNDATIONS

Shallow Foundations. For shallow foundations applicable to lightweight structures i.e. inland structures, warehouse and up to 2-storey structures, the table below shows the evaluation for the general/local/punching shear and were analyzed for settlement that ultimately governs. Adapt tie beams as applicable.

Deep Foundations. For deep foundations applicable to heavy and offshore structures, the table below applies. It is recommended that pile caps and tie beams be adapted as applicable and appropriate.

PSC pile shall be installed at its refusal depth which shall be beyond the soil layers that pose risks to liquefaction or as tabulated below whichever is deeper. Should the actual depth of refusal be shallower or deeper than the tabulated depths, use Janbu formula or other pile driving formula (in lieu of Engineering News Record (ENR) formula) to determine the allowable capacity of the pile. Refer to the details described in the Geotechnical Investigation Report for this project.

5.4 SANITARY PLUMBING WORKS

A. GENERAL

This section describes the scope of work, design criteria and the outline concept for each of the following sanitary utility services:

1. Exterior Water Distribution and Fire Protection Systems
2. Exterior Sanitary Sewer System
3. Plumbing System

B. GUIDELINES, CODES AND REFERENCES

The design of the Sanitary Plumbing Works shall comply with the latest requirements of the following locally used standards as well as other acceptable International Codes and Standards:

1. GUIDELINES AND CODES

a. Uniform Plumbing Code of the Philippines 2013
b. International Association of Plumbing and Mechanical Officials
c. National Building Code of the Philippines
d. National Fire Code of the Philippines
e. Sanitation Code of the Philippines (P.D. 856)
f. Water Quality Guidelines and General Effluent Standards of 2016, DENR AO No. 2016-08
g. Philippine National Standards for Drinking Water 2017
h. Philippine Green Building Code of 2015
i. Applicable Local Codes and Ordinances of the Sual, Pangasinan

2. STANDARDS

a. AWWA American Water Works Association
b. ASTM American Society for Testing Materials
c. ANSI American National Standard Institute
d. ASME American Society of Mechanical Engineers
e. NEMA National Electrical Manufacturer's Association
f. MSS Manufactures Standardization Society of the Valves and Fittings Industry
g. PDI Plumbing and Drainage Institute
h. NFP National Fire Protection Association
i. FM Factory Manual
j. UL Underwriters Laboratories
k. IEEE Institute of Electrical and Electronics Engineers

*5.5 EX*TERIOR WATER DISTRIBUTION AND FIRE PROTECTION SYSTEMS

A. DESIGN CRITERIA

For the design of the water distribution network, the design criteria set in the LWUA Technical Standards Manual shall form the basis of design as follows:

1. The domestic water distribution mains will be sized to handle the weak hour demand. The peaking factors that will be used in the design of the water distribution mains are as follows:
2. Average Day Demand. PF=1.00
3. Maximum Day Demand, PF=1.50
4. Peak Hour Demand, PF=2.00
5. The allowable maximum and minimum velocities in the distribution mains will be 3.00 m/s and 0.40 m/s, respectively.
6. The maximum pressure to be maintained in the distribution system is 49 m (70 psi) while the minimum pressure is 14 m (20 psi).

7. The maximum allowable friction head loss is ii meters for every 1000 meters length of pipeline.
8. Hazen-Williams Coefficient, HW C-value of 140 for High Density Polyethylene Pipes and 120 for Steel Pipes.
9. Maximum spacing of hydrant is 130 meters.

B. SYSTEM DESCRIPTION

1. POTABLE WATER SUPPLY WATER STORAGE

Storage facilities are constructed to meet variations in water demand and to meet emergency requirements. The size of the storage facility depends on the water source and the required volume of the water for emergency purposes.

The storage capacity will be computed at 200% of the Average Day Demand, 10% Unaccounted-for water, and Fire flow of 2-22 lps (350 gpm) at 90 minutes.

The new steel tank will be made of stainless steel for longevity.

2. SEA WATER SUPPLY INTAKE AND BOOSTER PUMP

Seawater will be supplied at the Market Hall fish handling area in order to maintain freshness of fish. A new seawater intake facility will be constructed.

To ensure public health and safety, the seawater will undergo UV disinfection to destroy disease-causing microorganisms such as E-coli bacteria. Multi-media Filter and Activated Carbon Filter will be provided as pre-treatment to remove organics as well as help clear the water before it goes through the UV sterilizer.

3. TRANSMISSION FACILITIES

New HDPE transmission lines will be laid to convey the water from the existing ground storage reservoirs/booster pump station to the proposed elevated steel tank, and from the proposed deepwell to the proposed Market Hall elevated tank.

4. DISTRIBUTION PIPE NETWORK

The distribution system will consist of new HDPE distribution pipes, installed as extensions to new service areas.

A hydraulic analysis will be undertaken to check the capacity of the entire distribution network.

5. FIRE HYDRANTS

This is not part of the scope of work, but the maximum hydrant spacing of 130 meters should be adopted if this will be put in place.

5.6 EXTERIOR SANITARY SEWER SYSTEM

A. GENERAL

To comply with DENR regulations and requirements of the Philippine Clean Water Act, installation and use of a suitable wastewater treatment facility within the SFP is mandatory.

B. ON-SITE DISPOSAL SYSTEMS

For the new buildings, 3-chambered septic tanks will be constructed to process domestic wastewater. The capacity of the septic tanks shall be based on the estimated waste/sewage design flow rate or the number of plumbing fixture units. The septic tank effluents will be discharged into the storm drainage system.

In addition, the kitchen sinks at the Commercial Building shall be conveyed to a centralized grease trap to intercept the oil and grease before discharging into the storm drainage canal.

5.7 PLUMBING SYSTEM

A. DESIGN CRITERIA

All systems are designed in accordance with the following criteria:

1. DOMESTIC WATER SUPPLY SYSTEM

a. Operating Pressure
   - Minimum = 1.4kg/sq.cm (20 psi)
   - Maximum = 5.63 kg.sq.cm (80 psi)

b. Pressure Drop Due to Friction: 0.46 kg/sq.cm/meter (5 psi/100 ft.)

c. Velocity
   - Mains (maximum) = 3.0 m/s (10fps)
   - Risers (maximum) = 2.4 m/s (8 fps)
   - Branches (maximum) = 1.8 m/s (6 fps)

d. Pipe Sizing - Pipe Sizing will be in accordance with Hazen-William's formulae. "C" values will be as follows:

- for Galvanized Iron (GI) Pipe = 120
- for Polypropylene (PP-R) Pipe = 140
- for Polyethylene (PE) Pipe = 140

e. Water Requirements

Water flow requirements will be developed in accordance with the fixture unit method. Seventy-five percent (75%) of the total fixture units shall be used as a design point for mains and risers. Branches will be calculated at one hundred percent (100%)

Fixture Type	Fixture Unit
Tank Operated Water Closet	5
Valve Operated Water Closet	10
Wall Urinal	5
Pantry Sink	4
Kitchen Sink	4
Slop Sink	4
Shower	4
Lavatory	2
Hose Bibb	2

B. SANITARY WASTE AND VENT SYSTEMS

1. Sanitary waste piping system inside the building shall be designed using the following fixture unit method:

Fixture Type	Fixture Unit
Tank Operated Water Closet	5
Valve Operated Water Closet	10
Wall Urinal	5
Pantry Sink	4
Kitchen Sink	4
Slop Sink	4
Shower	4
Lavatory	2
Hose Bibb	2
Floor Drain	3

2. Sanitary and waste pipes will be designed with a minimum slope of two percent (2%) for pipe sizes 75mm diameter and smaller, and one percent (1%) for pipes 100 mm diameter and larger.

   Sizes will be computed using the following:

   - Manning Equation

   $$V = \frac{1}{n} R^{2/3} S^{1/2} \text{ and } Q = Av$$

   - Velocity of Sewage Flow
     min. velocity = 0.75 m/s (2.5 fps)
     max. Velocity = 3.00 m/s (10 fps)

- Coefficient of Roughness, n = 0.011

3. Vents will be designed with a slope to drain. All vent pipes shall be free from drops or sags and shall be sloped or graded as to drip back by gravity to the drainage it ***serves.***

C. STORM DRAINAGE SYSTEM

Storm drainage will have a minimum slope of one (1) percent or as permitted by the code. Storm drainage piping shall be designed using the following:

1. Return period of design rainfall = 50 years
2. Duration period of design rainfall = 10 minutes

D. HOSEBIBBS

Hose bibbs will be provided at a minimum, in accordance with the following schedule:

1. Mechanical equipment rooms
2. Waste Disposal Area
3. Outdoor Planting
4. One minimum on each exterior face of the building. However, maximum spacing will not exceed 60m on center.

E. FLOOR DRAINS

Floor Drains will be provided at a minimum, in accordance with the following
schedule.

1. Mechanical equipment rooms - per equipment arrangement
2. Trash rooms
3. Toilet
4. Rooms
5. Ramps
6. Food service kitchens
7. Fire sprinkler alarm drains -sized to carry away one-minute full drain flow test and/or complete drainage of system
8. Local air conditioning units
9. Planters

F. ROOF DRAINS

Storm drainage will be provided at a minimum, in accordance with the following schedule. However, all areas receiving rain water will be provided with two drain points at a minimum and will be sized for a maximum rainfall intensity of 300 mm/hr.

Roofs - 15m on center maximum, 8m from parapets maximum, 200 sqm. (maximum).

1. Areaways
2. Canopies
3. Planter

5.8 MECHANICAL SYSTEM

The project is subjected to various mechanical engineering services such as air conditioning, ventilation, fire protection and refrigeration. These services are either all applied or some only to several buildings located inside the fish port complex. The buildings are the Administration Building, Market Hall, Commercial Building, Refrigeration Building Complex, solid waste facility, wastewater treatment facility, and public toilets.

A. APPLICABLE CODES AND STANDARDS

1. Philippine Mechanical Engineering Code
2. Fire Code of the Philippines RA 9514
3. ASHRAE 62.1 Ventilation for Acceptable Indoor Air Quality
4. ASHRAE Guide for Sustainable Refrigerated Facilities and Refrigeration Systems
5. NFPA 13 Standard for the Installation of Sprinkler System
6. NFPA 14 Standard for the Installation of Standpipe and Hose Systems
7. NFPA 20 Standard for the Installation of Stationary Pumps for Fire Protection
8. NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances
9. NFPA 291 Standard Recommended Practice for Fire Flow Testing and Marking of Hydrants

B. DESIGN CONDITION AND PARAMETERS

1. AIR CONDITIONING

a. Outdoor DB Temperature: 35.0 °C
b. Outdoor WB Temperature: 27.7 °C
c. Indoor Temperature: 23.0 °C DB

2. REFRIGERATION

a. Outdoor Temperature: 35 °C DB and 27.7 °C WB
b. Cold Storage (Meat/Fish) — Existing Refrigeration Building
- Product Weight : 6600 kg/day
- Freezing Temp.: -3.3 °C
- Freezing Time: 20 hours

- Entering Temp.: -18.0 °C
- Final Temp. : -25.0 °C

c. Ante Room
- Final Temp.: 0 °C

d. Food Processing
- Final Temp. (New): 4.0 °C

e. Sampling/Repacking Room
i. Final Temp. (Existing): 10.0 °C

f. Ice Storage — Existing Refrigeration Building
- Final Temp.: -5.0 °C

g. Cold Storage(Meat/Fish)
- Product Weight: 4800 kg/day
- Freezing Temp.: -3.3 °C
- Freezing Time : 20 hours
- Entering Temp.: -18.0 °C
- Final Temp.: -25.0 °C

h. Tunnel Freezer Room
- Final Temp. 0-5 °C

i. Contact Freezer Room
- Final Temp.: 0-5 °C

j. Loading/Unloading Bay
- Final Temp.: 8.0 °C

3. **FIRE PROTECTION SYSTEM**

a. Automatic Fire Sprinkler System

- Machine Room — Refrigeration Building Ordinary Hazard (Group 1)

b. Fire Hydrant System

- Machine Room — Refrigeration Building Ordinary Hazard (Group 1)

C. EQUIPMENT SELECTION

1. AIR CONDITIONING SYSTEM

The air conditioner is a factory assembled inverter and non-inverter direct expansion single split type consisting of an outdoor and an indoor unit. The energy savings inverter units are used to spaces that operate longer hours, either 24 hours or more than 12 hours.

The outdoor unit or the air-cooled condensing unit covered by a weather proof type housing is made up of condenser coil, hermetic scroll compressor, fan and other standard accessories.

The indoor or the cooler unit consists of an evaporator coil, fan and standard accessories. The type of indoor units to use are the ceiling cassette, the ceiling suspended, and the window mounted.

2. REFRIGERATION SYSTEM

The factory assembled equipment are as follows:

The ammonia compressor to use is either reciprocating type or screw type.

The ammonia reciprocating compressor includes vertical oil separator with coalescing filters, full lube pump, compressor jacket water cooling, and with VFD motor.

The ammonia screw compressor is a variable stepless twin type includes horizontal oil separator with super X filters, L100 life roller bearings, on demand oil lube pump, thermosyphon oil cooling, and with VFD motor.

The evaporative condenser is a hybrid induced draft type having stainless steel 304 casing construction, with VFD fan motor, constant speed pump motor, and other accessories needed to complete the system.

The ammonia tunnel freezer floor and enclosure is fully welded stainless steel, stainless steel and food grade conveyor belt, with preinstalled cleaning nozzles, and other accessories to complete the system.

The ammonia contact freezer plates are stainless steel and food grade, and have two separate accesses for easy loading, unloading and cleaning, and other accessories to complete the system.
The ammonia flake ice maker is complete with stainless steel freezing drum and scrapper, adjustable ice thickness and width, and other accessories to complete the system.

The unit cooler is either single throw or double throw, includes fan motors, refrigeration control, stop valves, check valve, filters, equipment support, factory insulated hot dip galvanized drip pan with strip heater and other accessories to complete the system.

The ammonia air handling unit with washable MERV 8 filter, UVC disinfection system, hot gas reheat, fan motors, refrigeration control, stop valves, check valve, filters, equipment support, factory insulated hot dip galvanized drip pan with strip heater, and other accessories to complete the system. In addition, the unit is equipped with USDA approved fabric duct (with one spare).

Refrigeration SCADA control system for the whole refrigeration plant. Ammonia leak detector centralized system with exhaust ventilators.

3. **FIRE PROTECTION SYSTEM**

The factory assembled equipment are as follows:

The fire pump is a horizontal split case motor driven, UL/FM approved, single stage double suction, bronze fitted, with coupling and guard, mounted on a steel base plate. Complete with pump controller, main relief valve, enclosed waste cone, auto air release valve, suction and discharge gages, and flow meter.

The jockey pump is a vertical in-line multi-stage motor driven centrifugal pump, constructed with stainless steel casing and impeller, having mechanical shaft seal, with pump controller.

The fire hydrant is a wet barrel type, with 150mm diameter inlet, two 65mm diameter hose connections, and one 115mm diameter pumper connection.

The fire hose cabinet is with a hose valve for the 30 meter long 40mm diameter rubber hose with textile reinforcement, and with 2A 10BC rated 10 lbs portable fire extinguisher.

5.9 ELECTRICAL AND ELECTRONIC SYSTEM

Electrical systems to be provided for the project will be based on the latest edition of the following codes and standards:

A. CODES

a. (IEEE C2) National Electrical Safety Code
b. (NEMA 250) Enclosures for Electrical Equipment
c. (NFPA 70) National Electrical Code
d. (NFPA 72) Fire Alarm Code
e. (NFPA 101) Life Safety Code
f. (NFPA 110) Standard for Emergency and Stand-By Power System
g. (UL 96) Standard for Emergency and Stand-By Power System
h. Fire Code of the Philippines
i. (PEC) Philippine Electric Code
j. Applicable Local Ordinances

B. STANDARDS

a. American National Standards Institute (ANSI)
b. Insulated Cable Engineers Association (ICEA)
c. Electrical Testing Laboratories (ETL)
d. Electronic Industries Alliance (EIA)
e. illuminating Engineering Society (IES)

f. Institute of Electrical and Electronics Engineers (IEEE)
g. International Electro-Mechanical Commission (IEC)
h. National Electrical Manufacturer's Association (NEMA)
i. National Fire Protection Association (NFPA)
j. National Cable and Telecommunications Association (NCTA)
j. Underwriters' Laboratories (UL)
k. Department of Energy (DOE)
l. Other Internationally Accepted Standards

C. DESIGN CRITERIA

1. LOAD DENSITIES

Lighting and receptacle load densities for respective areas will be based on the
Philippine Electrical Code.

Ventilation and air conditioning loads will be based on the actual ratings of equipment.

Other miscellaneous loads such as elevators, pump motors, etc. will be based on the actual rating of equipment.

2. ILLUMINATION LEVEL

Illumination levels for respective locations will be based on IES standard or PEC recommendations as appropriate.

D. ELECTRICAL SYSTEMS

1. INCOMING POWER SUPPLY

Electrical power will be supplied from the local Electric Cooperative

2. MDP / Panelboard

Provide Main Distribution Panel / Panelboard for every service of main transformer.

3. POWER CONSUMPTION METERING

Power consumption metering that to be provided shall be in compliance to standard metering requirements of ERC.

4. STANDBY/PRIME POWER

Provide a generator with a rating sufficient to provide power for the selected essential load of a particular building. The standby power generation system will be provided with complete automatic transfer

switch equipment and control for starting on loss of normal power and for load transfer.

5. SECONDARY POWER DISTRIBUTION

a. Separates wires in conduit will be provided for each of the following loads.

- Ventilation and Air Conditioning System
- Elevators
- Plumbing System Loads
- Lighting and General Purpose Receptacles
- Fire protection system loads

b. Branch circuit design will be based upon a maximum 3600 volt-ampere for 20 amperes, 230V circuit.
c All electric motors will be serve at 230V, 60Hz.
d. In general, branch circuit wiring will be inside metallic conduit for exposed and concealed runs. PVC conduit will be used for embedded runs.
e. Minimum size of conduit will be 20mm diameter for flexibility.

6. CIRCUIT PROTECTOR

Circuit protectors will be resettable molded case circuit breakers mounted in electrical panel boards, enclosures or switchboard with voltage, number of poles and interrupting ratings suitable for the application.

7. RECEPTACLES

Receptacles will be single or duplex, grounding type with voltage and ampere rating as required. Receptacles will be mounted 300mm above the finished floor unless otherwise required by the Architectural features of the space.

8. LIGHTING

Interior and exterior lighting will be provided by LED lamps.

Fixture types will be recessed, surface, wall or pendant mounted as required by the Architectural features and will be selected suitable for intended applications and location.

Lighting will be locally, centrally or automatically controlled depending on the final detailed design. AII switches will be mounted 1500mm above floor finished unless otherwise required by the Architectural features of the space.

In common areas, such as lobby, staircase etc. light control switches or dimmers (where specified) will be located in a separate control room and will be operated only by authorized personnel.
Outdoor lighting control will be photo-electric with manual override.

9. **TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)**

The transient voltage surge suppressor will be provided for computer panel boards to protect equipment from damage due to switching surges or surges associated with events like power outages.

10. **DISTRIBUTION BRANCH CIRCUIT PANELBOARDS**

Distribution and branch circuit panels will be of the dead-front type. Panels will be equipped with molded case circuit breakers having quick break toggle mechanism, and will be trip free on overloads or short circuit conditions.

11. VOLTAGE DROP

The combined voltage drop on feeders and branch circuits within the building will not exceed 3%. Approximately 1% drop will be apportioned to the feeders and 2% to the branch circuit. The voltage drop in service feeders will not exceed 2%. Voltage drop for the combined secondary circuits will not exceed 5%.

12. GROUNDING

System Grounding

Grounding will be in accordance with the latest edition of Philippine Electrical Code.

Equipment Grounding

Electrical motor frames and the ground terminal of general/special purpose receptacles will be grounded by means of providing separate ground wire. Metal frames switchboards, motor control centers, distribution and branch circuit panel boards and transformers will be bonded to the electrical power system ground.

E. LIGHTNING PROTECTION SYSTEM

The building lightning protection system will include a roof-mounted single lightning system, grounding conductors, ground rods, conduits, clamps, and auxiliary equipment as required for a complete and operational lightning protection system.

F. EMERGENCY LIGHTING SYSTEM

Battery power pack exit lights with capacity for two hours operation will be provided at all exit areas. Exit light will have an illuminated bottom to illuminate the exit doors. All light will be connected to the emergency generator set.

G. FIRE DETECTION AND ALARM SYSTEM

Installation, locations and spacing for manual pull stations, heat and smoke detectors and notification appliances will be based on NFPA 72 and the Fire Code of the Philippines. Actuation of the protective signaling system will occur by the following means of initiation:

Manual Pull Station - These will be in the natural path of escape near each exit.

Smoke or Heat Detectors - These will be installed in areas where required by the appropriate NFPA standard or the authority having jurisdiction.

H. EQUIPMENT AND MATERIALS

1. LIGHTING FIXTURE

a. Parking Areas- LED enclosed and gasketed or as recommended by the Architect
b. Processing, Electrical, Machine, Storage, Cold Storage rooms & similar area – LED, enclosed and gasketed suitable for the area.
c. Meeting Rooms — fluorescent or LED, troffer type, recessed mounted
d. Exit Lights — fluorescent or LED, self-contained
e. Other Areas — As recommended by interior designer

2. OVERCURRENT PROTECTION

Low Voltage — Molded Case Circuit Breaker

3. WIRING DEVICES

a. Receptacle Outlets — universal slot, grounding type 15A, 250V
b. Switches — Quiet type, UA, 250V

4. CABLES

Low Voltage — Type THHN/THWN

5. CONDUITS

a. Feeders — RSC or IMC
b. Branches — IMC. RSC, or EMT

6. **FIRE DETECTION AND ALARM SYSTEM**

a. FACP — Microprocessor Base — Addressable type
b. Automatic Detection — Addressable type
c. Manual Detection-Addressable type
d. Notification Appliance — Audio/ Video Alarm Horn

(8) LIGHTNING PROTECTION SYSTEM
a. Lightning Arrester shall be in accordance with UL 96
b. Down Conductor/ Grounding Conductor
c. Lighting Strike Counter
d. Grounding Rod- Provide ground rods not less than 20mm in diameter and 3000mm in length.

5.10 SITE DEVELOPMENT

1) Slope Protection

(1) Sheet Piles

This shall consist of furnishing, driving and cutting off the specified kinds and types of piles in accordance with the specifications and in conformity to the lines and grades shown on the drawings.

Steel sheet piles shall be of the type, weight and section modulus indicated on the plans or special provisions, and shall conform to the requirements of ASTM A572M, Grade 50 with minimum yield strength of 345 MPa (50ksi). The joints shall be practically water-tight when piles are in place.

Shop painting/coating of sheet piles: Prior to application of protective coating, surface preparation shall be in accordance with SSPC-SP-16. Protective coating of sheet pile shall conform to SSPC Coating Standard No. 16 – Coal Tar Epoxy Polyamide, Black (or Dark Red) Coating.

The heads of all piles shall be protected during driving by suitable caps, rings, heads, blocks, mandrels, and other devices.

Sheet piles shall be driven to elevation shown on the plans or as directed by the Engineer. Where impractical to drive to plan elevation due to subsurface conditions, the driving of piles may be stopped at a higher elevation with the written permission of the Engineer. However, before granting permission, the Engineer Shall ascertain that the Contractor has adequate equipment for the required driving and that the piles can be driven to the plan elevation with the proper use of this equipment.

Steel sheet piles shall be cut off in clean, straight lines as shown on the drawings. Any irregularities shall be leveled off with deposits of weld metal or by grinding before placement of bearing caps. The length of pile cut off shall be sufficient to permit the removal of all damage material.

(2) Rock Protection

This work shall consist of bunds with rubble mound as core, protected by armour rock with quarry run as leveling berm and concrete structure of any kind and type provided to protect the embankment works from wave erosion.

The Contractor shall take account of all temporary works, drainage, pumping, and so on, necessary to satisfactorily undertake this work, whether specifically indicated on the drawings or not.
Rocks shall be durable with no cracks. Argillaceous type of rock is not allowed to be used.

The dimensions, slope, grading and thickness of the rockwork shown on the drawings shall be strictly observed and alterations shall be made, only after the written approval of the Engineer.

Rock Grading – Primary Protection

Armour Rock shall be supplied in the grading classes defined in Table 1 below.

Table 1: Primary Protection Grading

Rock Type	Distribution by Weight (kg) [Distribution by diameter (m)]		
	W15 [D15]	W50 [D50]	W85 [D85]
I	0.59 [0.71]	1.55 [0.98]	3.50 [1.29]
II	0.23 [0.52]	0.60 [0.72]	1.50 [0.97]

Rock Grading – Under layer

Filter rock (under layer) to the primary armour rock shall be supplied in the grading classes defined in Table 2 below.

Table 2: Filter Rock Protection Gradings

Rock Type	Distribution by Weight (kg) [Distribution by diameter (m)]		
	W15 [D15]	W50 [D50]	W85 [D85]
II	32 [0.27]	100 [0.40]	240 [0.53]
III	22 [0.23]	63 [0.33]	150 [0.45]

Quarry Run (Leveling Berm)

Quarry run shall be evenly graded stones from 27 kg down, with not more that 5% finer than 0.1 kg. Quarry run shall have the gradation shown in Table 3 below.

Table 3: Quarry Run Distribution

Distribution by Weight (kg)		
W15 (kg)	W50 (kg)	W85 (kg)
1	9	27
Distribution by Diameter (mm)		
D15 (mm)	D50 (mm)	D85 (mm)
8.5	17	25

Rock Shape Ratio

Rock in Armour and under layer grades shall not contain more than 50% by weight of stone with a length to thickness (L/d) ratio greater than 2. Not more than 5% of the rocks shall have a length to thickness (L/d) ratio greater than 3, where the length, L, is longest side of the rock and the thickness, d, its shortest side. Testing for shape ratio determination shall be undertaken on samples of at least 50 pieces taken at random form stones of mass W15 or greater.

2) **Earthworks (Marine Works)**

Maximum Particle Size: In addition to any grading requirements, the maximum size of any fill material shall be no more than two-thirds of the compacted layer thickness.

Sulfate Content Exceeding 2%: Materials with a water soluble sulphate content exceeding 2% of sulphate (SO3) when tested shall not be

deposited within a distance of 500mm of concrete, cement bound materials, or other cementitious materials forming part of the Permanent Works.

Chlorides: The total chloride content of fill shall not exceed 2% when tested in accordance with ASTM D512.

Maximum Water Soluble Salt Content of General Fill: Unless otherwise indicated in the Contract, the maximum water soluble salt content of general fill shall be 2%.

Water: Water used to increase the moisture content of fills prior to compaction shall have a sulphate (SO3) content not exceeding 2,500mg/l when tested in accordance with ASTM D512. For material within 300mm of the underside of concrete slabs, within 3m of buildings or for backfill around concrete structures, sweet water shall be used for which the sulphate (SO3) content shall not exceed 500mg/l, and the chloride ion content shall not exceed 350mg/l.

Geotextiles Used to Separate Earthwork Materials: Geotextiles as part of the Permanent Works to separate earthworks materials shall be in the form of thin permeable membranes and shall conform to the requirements shown on the Drawings. The geotextile shall be a woven or non-woven fabric consisting only of long chain polymeric filaments or yarns formed into a stable network such that the filaments or yarns retain their relative position to each other. The fabric shall be stored and protected in accordance with the manufacturer's instructions, shall be inert to commonly encountered chemicals and the chemical properties of the in-situ soil and water, and shall conform to the minimum requirements.

Construction of Fills: All fills, including embankments, shall be constructed:

a. To the locations, lines and levels detailed on the Drawings
b. Off Classes of materials required or permitted in Table 1 below
c. By deposition, as soon as practicable after excavation, in layers to meet the compaction requirements as required for the material in Table 1 except that:
    - Material requiring end-product compaction shall be deposited in layers not exceeding 200mm un-compacted thickness
    - Material placed into open water shall be deposited by end tipping without compaction
    - Materials deposited in areas to receive ground improvement (if required) by dynamic compaction shall be deposited and compacted to the specific requirements of that process.
      The construction of any section of embankment shall not be commenced until the preparation for that section has been inspected and accepted by the Engineer.

Table 1 – Requirements for Acceptability and Testing of Earthworks General Granular Fill

Class	General Material Description	Typical Use	Permitted Constituents	Material Properties				Compaction Requirements
				PROPERTY	TEST	LIMITS		
						LOWER	UPPER	
1A	Well graded granular Non Plastic material	General fill from bottom to 600mm above maximum tide level	Any material or combination of materials, excavated from site, borrow fill or dredged materials.	Grading	ASTM D6913-17 ratio of D60 to D10	Table 2	Table 2	Will require Standard Penetration Testing at 1.0 m interval as proof that the fill attained Dense relative density
				Uniformity coefficient		10	-	
1B	Uniformly graded granular slightly plastic material	Dry fill	Any material or combination of materials, excavated from site, borrow fill or dredged materials.	Grading	ASTM D6913-17 ratio of D60 to D10	Table 2	Table 2	End Product at least 95% of maximum dry density in accordance with ASTM D1557-12
				Uniformity coefficient		10	-	

Table 2 – Grading Requirements for Acceptable Earthworks Materials

Percentage by Mass Passing the Size Sieve														
Class	Size (mm)		Size (mm)											
	500	300	125	90	75	37.5	25	20	14	9.5	6.3	4.75	2.36	2	1.18
1A			100	90-100	86-90		34 38			12-16		2 6	2-9		0-3
1B			100	90-100	86-90		36-40			15-20		512	2-9		0-3
1C		100			20-95										

3) Embankment (Marine Works)

The embankment work comprises the placing of specific fill types to specific permanent locations within the embankment areas as shown on the Drawings. The Contractor shall control the fill material in order to avoid localized build-up of fine material and the potential formation of areas of compressible fill. Control of all fill, land based and hydraulic, shall be such as to avoid material which retains significant amounts of water and does not readily drain. The fill shall attain the specified level of compaction and losses of fines in the discharge water must be closely controlled. There may be a requirement for settlement lagoons and for drying areas for the fine materials trapped in them.

Embankment fill may be placed by hydraulic means above or below the maximum water level, but shall be required to meet specified compaction standards as defined in the Specification. Testing of placed fill shall be carried out. The Contractor shall give details of any further ground improvement techniques to be used in areas where testing of the as-placed fill shows that it does not meet the specified compaction or other specified performance criteria.

Above water level, dry fill from any source shall be placed in layers using acceptable materials and approved compaction equipment, in accordance with the Earthworks Specification.

Embankment fill may be placed directly into stockpiles above final embankment level for subsequent reuse as general fill placed and compacted by conventional land based equipment.

Build-up of Fine Materials: The suspended sediment concentration of the water discharged into the sea from any point on the embankment areas

shall not exceed the values indicated in the EIA or as agreed with the Engineer or relevant Authority at any time. The requirements for temporary stilling ponds to ensure that this limit is not exceeded must be clearly stated.

Unless otherwise shown on the Drawings, locations of stilling ponds and drying area for the fine materials are to be proposed by the Contractor and agreed with the Engineer. The suspended solids content shall be measured continuously at the pipes on the seaward side of the weir boxes, and the results submitted to the Engineer within 24 hours.

The Contractor shall, at least three weeks prior to commencement of embankment activities, submit a comprehensive method statement for the control of fine materials throughout the embankment process, especially towards the end of the process, together with measurement of suspended sediment concentrations in discharge water, and elsewhere in the embankment area as appropriate, for the approval of the Engineer. This method statement must cover in detail how he intends to deal with the likely build-up of fine materials and how he would deal with them if the amounts exceed his expectations.

Treatment and Disposal of Fine Materials: The Contractor will be permitted to concentrate the fine materials into lagoons and to transfer those materials into drying areas where he will also be permitted to treat the material, prior to its incorporation into the Works, or removal from site. These operations must not impact on the completion of the Works in any way or interfere with the operations of any other Contractor and will require the prior consent of the Engineer.

Should the Contractor wish or have to dispose of such materials off site, he will be entirely responsible for obtaining all the necessary approvals and for all the costs associated with that disposal.

Placing of Fill Material: Filling in Embankment Areas: The position, areas and materials for ancillary works such as bunds, drainage channels, discharge points and settling lagoons, and so on, shall be agreed with the Engineer. All vegetation, organic material, debris and soft deposits of unsuitable material on the seabed shall be cleared, prior to deposition of fill.

Measures shall be taken to prevent seawater encroachment into areas that have not been allocated to the Contractor.

4) Geotextile

Geotextile filter fabric shall be an approved proprietary geotextile complying with the following material property requirements:

Form	Non-woven, needle-punched; manufactured from stable fibres
Polymer	Polyester, polypropylene, polyamide mix
Minimum Mass	>200 g/m^2
Thickness under 2kN/m^2	>2.0 mm
Tensile Strength of 5 cm wide strip	>700 N
Extension at 30% of Tear Strength	>365 N
Effective Pore Size	>0.08 mm
Permeability, k	>3.2 x 10^{-3} m/sec

Notwithstanding the above minimum characteristics, the Contractor shall ensure that the geotextile is appropriate for the intended usage and is sufficiently robust to withstand, without being damaged, the placing of the under layer rock. Any conflicts between Geotextile Manufacture's recommendations and the criteria above should be referred to the Engineer. The geotextile shall be demonstrated to be appropriate for the sea water environment and to ultra-violet light exposure.

Laying of Filter Fabric

Filter fabric shall be laid on prepared surfaces as indicated on the drawings and in accordance with the manufacturer's recommendations. O sloping surfaces, the fabric shall be laid with its longitudinal axis down the slope.

Where fabric is laid under water it shall be secured against floating.

Filter fabric shall be laid with minimum 1m overlaps between adjacent sheets/ rolls unless detailed or specified otherwise. The stitching of adjacent sheets in accordance with the manufacturer's instructions may be considered by the Engineer, as an alternative to lapping.
The Contractor shall ensure that filter is not exposed to direct sunlight for more than one week. If, because of the nature of the work, the entire area of geotextile cannot be covered within one week of laying, then exposed areas shall be rolled and protected from sunlight, or shaded by other approved means.

Care should be taken not to damage the geotextile during subsequent rock placing. Bedding layers shall be used if necessary to achieve this. Any damaged sections shall be removed and replaced before being covered-up.

5) **Existing Outfalls:**

The Contractor shall ensure that all existing channels or outfalls in the area of the Works remain unblocked and that their discharge is not impeded in any way.

6) **Environmental Monitoring and Mitigation**

Suspended Sediment Concentration Monitoring: Measurement of suspended sediment concentrations outside the embankment area will be undertaken.

Readings shall be taken weekly at five positions outside the embankment area over a period of three hours at each position throughout the embankment operations. The Contractor and Engineer shall agree these monitoring locations.

Results shall be submitted in writing to the Engineer within seven days of taking the measurement.

The Contractor shall take all reasonable measures within accepted embankment practice, including the use of temporary stilling ponds and drying areas if necessary, to ensure that the losses arising from the Works do not exceed the allowable limits.

The Contractor is required to minimize the impact of the embankment works on the local marine habitat, including those during the construction of any external bunds.

5.11 LANDSCAPE DESIGN

Following the guidance of the design principles[2], the design seeks to address the goals and detailed requirements of PFDA with regards to landscape design, in order to provide the following:

A. Identify and enhance all significant environmental features in the site

B. Propose suitable response to the site conditions, heritage, and existing landscape
C. Provide a design scheme sensitive to the character of the locality
D. Create an appropriate, considerate relationship between landscaped areas and the adjacent structures

1. **GENERAL**

a. SOFTSCAPE

Landscape design for the fish port revolves around creating specific points of interest within the site, and providing spaces for leisure and activity. The softscape will make use of natural and local trees, shrubs, and plants to increase appeal and ensure sustainability of the environment. Native flora that can provide food and shelter to other native life forms within the area such as birds, bats, and insects; will help keep the ecosystem in balance. Increasing the plant area and reducing impervious cover can reduce the vulnerability of the project to flooding by reducing stormwater runoff.

b. **HARDSCAPE**

The use of decorative stamped concrete flooring can also be considered in lieu of pavers. This type of hardscape treatment has been tested to withstand high temperatures and weather due to its sealed finish which resists moisture, fading, chipping, stains, or peeling. It is easy to maintain and low in cost.

2. DESIGN CRITERIA

a. EASE OF MAINTENANCE

The primary consideration for planting is ease of maintenance with minimal expense, and this can be achieved with emphasis on the following:

- Use of plants that do not need complicated plant care
- Use of plants that have a long bloom period, so they look good all season
- Use of plants that have a natural resistance to pests and diseases

b. WIND RESISTANCE

One of the primary considerations for its design is protection from wind. This need shall be satisfied through maximizing usage of plants that can withstand the buffeting of high winds brought by weather. Plants specified should have a habit of growth that provide canopies and have a top-to-bottom foliage character is necessary.

c. SALT-SPRAY TOLERANCE

Strong and salt-laden onshore winds-and actual salt spray- are basic factors preventing the use of most common landscape species in seaside environments. Using those type of plants with the greatest resistance to salt is critical.

d. FULL SUN ENDURANCE

Full sun is commonly defined as direct sunlight for at least 6 hours during the middle part of the day during the growing season. When choosing plants for areas with full sun, it's generally better to stick with native plantings whenever possible. These plants are well suited to your particular area and climate, giving them the best chance for survival.

e. GOOD SOIL BASE

For plants to grow well, they must have their roots in good soil. Low soil fertility is one of the first environmental factors that must be dealt with on mostly concrete development and the other environmental factor is the acidity of the soil.

6. SCOPE OF CONSTRUCTION

The Contractor shall undertake the Construction of the Project in accordance with the DED.

The Contractor shall undertake the construction of the Project in accordance with the certified /approved DED. The Contractor shall also carry out in accordance with all relevant regulatory and statutory instrument including complying with the pertinent provisions of the DPWH Standard Specifications ("Blue Book"), particularly;

- Volume II: Highways, Bridges and Airports, 2013 and
- Volume III: Public Works Structures, 1995
- D.O. 143, series of 2017, Revised Standardized Pay Items of Work for Infrastructure Projects

The Blue Book prescribes, among other things, the material requirements and construction requirements for different items of work, including the tests to be

conducted during Construction by the Contractor. The Blue Book incorporates provisions of the AASHTO, ASTM, and ACI, pertaining to construction.

7. CONSTRUCTION GUIDELINES

Construction of the Project shall be in accordance with the relevant sections of the Blue Book. Attention shall be given to the relevant items of work in the following Parts of the Blue Book:

Volume II: Highways, Bridges and Airports:

- Part C – Earthwork
- Part D – Sub-base and Base Course
- Part E – Surface Courses
- Part F – Bridge Construction
- Part G – Drainage and Slope Protection
- Part H – Miscellaneous Structures
- Part I – Materials Details

8. CONSTRUCTION PLAN

The Construction Plan, which forms part of the DED, shall be based on the Preliminary Engineering Design Plan (PEDP) submitted as part of the Contractor's bid and updated and detailed to be consistent with the elements of the DED. The Construction Plan must identify the procedures, processes and management systems that the Contractor will apply to ensure the implementation of the Construction of the Project.

As a minimum, the Construction Plan must present the following outputs:

a. Mobilization Plan – human resource and equipment that demonstrates that the use of local labor is maximized.
b. Construction organization and management structures for the Construction, identifying key personnel and positions, and sub-contractors.
c. Construction, methodology and procedures.
d. Quality control and assurance system.
e. Construction Schedule, milestones, and S-curve covering all components of the Construction.
f. Major construction equipment to be used for each major stage of the work.
g. Updated traffic management plan during construction.
h. Periods for review of specific outputs and any other submissions and approvals.
i. Sequence of timing for inspections and tests proposed.
j. Construction health, safety, and security program in accordance with the guidelines of the Department of Labor and Employment.
k. Proposed system of work types and locations that will be used to identify each Construction package.
l. Environmental monitoring and management process.
m. Measures and procedures for:

A. control and monitoring of the Construction Schedule as against actual Construction;
B. supervision and monitoring of the quality control and assurance system for the Project, including the integrity of tests conducted;
C. monthly updating of the Construction Plan and the Monthly Progress Reports;
D. development and approval of Construction documentation; and
E. survey and condition monitoring.

n. Strategies for:

A. managing risks;
B. obtaining all necessary approvals permits and licenses necessary for the Project; and
C. Details of records management and indexing protocols that will enable referencing of all design and construction records back to the DED and DFC.

9. TRAFFIC MANAGEMENT PLAN DURING CONSTRUCTION

a. Obligations to Minimize Disruption

During Construction, the Contractor shall carry out the following obligations to ensure that traffic disruption is minimized in the construction area and its immediate surrounding area:

A. Safe, efficient and continuous passage of the vehicle is provided.

B. The traffic carrying capacity of the immediate surrounding roads is maintained.

C. Traffic congestion and disruption to public transport is minimized.

D. Pedestrian Safety and as required, alternative means of walking within or near the Construction Area is provided.

b. Traffic Management Plan for Construction

The Contractor must submit to the PFDA, for approval, an updated and detailed Traffic Management Plan for Construction based on the preliminary Traffic Management plan submitted as part of the Technical Proposal in its Bid. The updated/detailed Traffic Management Plan must provide the following:

A. The minimum disruption obligation set out in clause 5.3 (a) above.

B. The roads in and around the construction area that are proposed to be used as alternate or detour routes by motor vehicles during construction to reduce traffic congestion.

C. The proposed timing of road or lane closures for existing roads to facilitate the construction of the Project, having regard to the minimum disruption obligations. Construction activities shall be so scheduled as to cause the least congestion during peak hours.
D. The personnel of the Contractor will be managing and providing the traffic enforcement and management services.

E. The information, education and communication program to advise the motorists, residents, business, and the general public on the above. This program shall involve the use of media – print, radio and TV, including billboards to inform the public on the updated/detailed Traffic Management Plan before and during Construction. It shall include a mechanism to give updates on the traffic situation, to receive complaints on traffic and road condition, accidents, and emergencies and to respond to these incidents so as to ease traffic congestion in the Construction Area and on the alternate routes.

10. TEST REQUIREMENTS

The Contractor shall undertake tests during Construction in accordance with the schedule of minimum testing requirements for items of work and materials covered by the Blue Book, as shown in **APPENDIX A of Section VI (MPSS)**.

In cases wherein the material or items of Work proposed by the Contractor are not covered by the DPWH Standard Specifications (Volume II and III) or Special Items of Works (SPL) that is required to be utilized in the project, the Contractor shall obtain the prior approval for its use from the DPWH-Bureau of Research and Standards (BRS) submitting the Generic Technical Specifications of such with the corresponding references as per Department Order No. 143, Series of 2017.

11. PROJECT COMPLETION

a. The DPWH shall determine if the Contractor has fully complied with the following requirements:

   i. All tests for construction with the pertinent provisions of the DPWH Blue Book and other test requirements of the MPSS for Construction.

   ii. All parts of the project have been completed in accordance with the approved plans and specifications for the project, including the rectification of all defects, if any.

   iii. The Project can be safely and reliably open to traffic.

b. For this purpose, the PFDA shall determine and certify that the requirements in MPSS are fully met by the Contractor.

c. Contractor must submit one (1) softcopy and five (5) hard copies of all as-built drawings and other supporting documents to the PFDA not later than two (2) months after the date of Final Completion.

d. Considering that this is a priority project that needs to be completed on a tight schedule, the Contractor shall complete this project with 300 calendar days.

12. WARRANTY

The Contractor shall guarantee the completed structure against structural defects and failure for its satisfactory performance vis-à-vis the prescribed MPSS during the lifetime of the structure. For this purpose, the Contractor shall be required to put up Warranty Security in the form of Bank Guarantee confirmed by Universal or Commercial Bank-10% of accepted Contract Price for Fifteen (15) years.

APPENDIX A of Section VI (MPSS).

Schedule of Minimum Test Requirements for Construction

For the information of the Bidders and the Winning Bidder, below is the schedule of minimum test requirements of the DPWH Bureau of Research and Standards based on the DPWH Standard Specifications for Highways, Bridges and Airports, Volume II, 2004, otherwise known as the Blue Book. These test requirements will be used for the applicable items of work and materials in the Winning Bidder's Construction Works under the Design and Build Services for the construction of El Nido Municipal Fish Port.

If any Construction items of work or materials proposed by the Winning Bidder are not covered by the Blue Book, these items of work or materials, together with the corresponding technical test requirements, must first be certified by the PFDA-TSD before they are used in the Project.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
PART C - EARTHWORK	
Item 100 – Clearing and Grubbing	None
Item 101 – Removal of Structure and Obstruction	None
Item 103 – Structure Excavation If excavated materials are wasted, the volume involved shall be reported so that Quality control requirements may be adjusted accordingly. Submit Project Engineer's Certificate of Waste	If excavated materials are incorporated into the work: For every 1,500 cu. m or fraction thereof: 1-G , Grading Test 1-P, Plasticity Test 1-C, Laboratory Compaction Test For every 150 mm layer in uncompacted depth: 1-D, Field Density
Item 104 – Embankment	Same test as specified in item 103 of the Specs.
Item 105 – Sub-grade Preparation	Same test as for Item 104
Item 106 – Compaction Equipment and Density Control Strips	Same test as for Item 104, 105, 200, 201, 202, 203, 204, 205, 206 and 300.
Item 107 - Overhaul	None
PART D – SUBBASE AND BASE COURSE	
Item 200 – Aggregate Subbase Course	For every 1,500 cu.m. of fraction thereof: 1-Q, Quality Test for Grading, Plasticity and Abrasion For every 300 cu. m or fraction thereof: 1-G, Grading Test 1-P, Plasticity Test For every 1,500 cu. m or fraction thereof: 1-C, Laboratory Compaction Test For every 2,500 cu. m or fraction thereof: 1-CBR, California Bearing Ratio Test For every layer of 150 mm of compacted depth/based on the

	result of compaction trials: At least one group of three in-situ density test for each 500 sq. m. of fraction thereof.
ITEMS OF WORK	**MINIMUM TEST REQUIREMENTS**
Item 201 – Aggregate Base Course	For every 300 cu. m or fraction thereof: 1-G, Grading test 1-P, Plasticity Test (LL, PL, PI) For every 1,500 cu. m or fraction thereof: 1-Q, Quality Test for Grading, Plasticity and Abrasion 1-C, Laboratory Compaction Test For every 2,500 cu. m or fraction thereof: 1-CBR, California Bearing Ratio Test For every layer of 150 mm of compacted depth/based on the results of compaction trials: At least one group of three in-situ density tests from each 500 sq. m or fraction thereof.
Item 202 – Crushed Aggregate Base Course	Same test as for Item 201. For every 1,500 cu. m or fraction thereof: 1-F, fractured face
Item 203 – Lime Stabilized Road Mix Base Course	A. Soil Aggregate For every 300 cu. m or fraction thereof: 1-G, Grading test 1-P, Plasticity Test (LL, PL, PI) For every 1,500 cu. m or fraction thereof: 1-Q, Quality Test for Grading, Plasticity and Abrasion B. Mix For every 300 cu. m or fraction thereof: 1-C, Laboratory Compaction Test 1-UC, Unconfined Compression Test 1-CBR, California Bearing Ratio Test C. Compacted Base Course For every layer of 150 mm of compacted depth: 1-D, Field Density Test for every 150 m or fraction thereof. D. Hydrated Lime For every 100 tons of fraction thereof 1-Q, Quality Test
Item 204 – Portland Cement Stabilized Road Mix Base Course Amount of Cement to be added : 6 to 10 mass % of dry soil aggregate	A. Soil Aggregate: Same test as for Item 203. B. Cement: 1-Q, Quality Test for every 2,000 bags or fraction thereof. C. Water 1-Q, Quality Test/Project Engineer's Certificate D. Mix

ITEMS OF WORK	**MINIMUM TEST REQUIREMENTS**
	For every 300 cu. m or fraction thereof: 1-C, Laboratory Compaction Test 1-UC, Unconfined Compression Test 1-CBR, California Bearing Ratio Test E. Compacted Base Course For every layer of 150 of compacted depth: 1-D, Field Density Test for every 150 m or fraction thereof. 1-T, Thickness Determination for every 150 m or fraction thereof:

Item 205 – Asphalt stabilized Road Mix Base Course	A. Soil Aggregate: Same tests as for Item 203. B. Emulsified Asphalt: 1-Q, Quality Test for every 40 to 200 drums or fraction thereof. C. Mix: Same tests as for Item 203. D. Compacted Base Course: Same tests as for Item 203.
Item 206 – Portland Cement Treated Plant Mix Base Course	A. Soil Aggregate: Same tests as for Item 203. B. Cement: For every 2,000 bags or fraction thereof: 1-Q, Quality Test C. Water 1-Q, Quality Test/Project Engineer's Certificate D. Mix: Same tests as for Item 204 E. Compacted Base Course For every layer of 150 mm of compacted depth: 1-D, Field Density Test for every 150 m or fraction thereof. 1-T, Thickness Determination for every 150 m or fraction thereof:
Item 207 – Aggregate Stockpile	Same tests as Specified in Item No. 207 of the Specs.
PART E – SURFACE COURSE	
Item 300 – Aggregate Surface Course	For every 1,500 cu.m. or fraction thereof: 1-Q, Quality Test for Grading, Plasticity and Abrasion For every 300 cu. m or fraction thereof: 1-G, Grading test 1-P, Plasticity Test (LL, PL, PI) For every 1,500 cu. m or fraction thereof: 1-C, Compaction Test for Grading, Plasticity and Abrasion For every layer of 150 mm of compacted depth/based on the results of compaction trials: At least one group of three in-situ density test for each 500 sq. m or fraction thereof. For Crushed Gravel or Crushed Stone, 1,500 cu. m of fraction thereof: 1-F, Fractured Face
ITEMS OF WORK	**MINIMUM TEST REQUIREMENTS**
Item 301 – Bituminous Prime Coat	Quantity: 1 to 2 liters/sq. m 1-Q, Quality Test for every 40 tons or 200 drums
Item 302 – Bituminous Tack Coat	Quantity: 0.2 to 0.7 liters/sq. m 1-Q, Quality Test for every 40 tons or 200 drums
Item 303 - Bituminous Seal Coat	A. Bituminous Materials Quantity: 0.2 to 1.5 liters/sq. m 1-Q, Quality Test for every 40 tons or 200 drums B. Cover Aggregate Quantity: From 5 to 14 kg/sq. m For every 75 cu. m /200 kg or fraction thereof:

	1-G, Grading test
Item 304 – Bituminous Surface Treatment	A. Aggregates Quantity: Using Cut-Back Asphalt or Asphalt Cement – 13.6 to 38.0 kg/sq. m Using Emulsified Asphalt – 13.6 to 19.04 kg/sq. m For every 75 cu. m /200 kg or fraction thereof: 1-G, Grading test 1-P, Plasticity Test (LL, PL, PI) For every 1,500 cu. m or fraction thereof: 1-Q, Quality Test for Grading, Plasticity, Abrasion, Stripping and Bulk Specific Gravity 1-F, Fractured Face B. Bituminous Materials Quantity: Using Cut-Back Asphalt or Asphalt Cement – 1.58 to 2.04 kg/sq. m Using Emulsified Asphalt – 1.58 to 2.04 kg/sq. m Same test as for Item 301.
Item 305 – Bituminous Penetration Macadam Pavement	A. Aggregates Quantity: 1. Using Asphalt Cement or Rapid Curing Course (Crushed) – 90 kg/sq. m Key (Crushed) – (13 & 11) – 24 kg/sq. m Cover (Crushed & Screened) – 8 kg/sq. m 2. Using Emulsified Asphalt – 13.6 to 19.04 kg/sq. m Course (Crushed) – 90 kg/sq. m Choker (Crushed) – 10 kg/sq. m Key (Crushed) – (13 & 11) – 18 kg/sq. m Cover (Crushed & Screened) – 8 kg/sq. m Same test as for Item 304 B. Bituminous Materials Quantity: 7.2 to 11 liters/sq. m

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
Item 306 – Bituminous Road Mix Surface Course	A. Aggregates Same test as for Item 304 B. Bituminous Materials Quantity: 1. Using Cut-Back Asphalt – 4.5 to 7.0 mass % of total dry aggregate 2. Using Emulsified Asphalt – 6.0 to 10.0 mass % of total dry aggregate. Same test as for Item 301 C. Mix Test: For every 75 cu. m/130 tons or fraction thereof: 1-G, Grading test

	1-Extr, Extraction 1-Sty, Stability 1-C, Laboratory Compaction D. Hydrated Lime For every 100 tons or fraction thereof: Tests: 1-Q, Quality Test E. Compacted Pavement For every full day's operation: Test: D & T, Density and Thickness Tests – at least 1 but not more than 3 samples shall be taken.
Item 307 – Bituminous Plant Mix Surface Course General	A. Aggregates For every 75 cu. m/200 tons or fraction thereof: 1-G & P, Grading and Plasticity Tests For every 1,500 cu. m or fraction thereof: 1-Q, Quality Test for Grading, Plasticity, Abrasion, Stripping and Bulk Specific Gravity 1-F, Fractured Face B. Bituminous Materials Quantity: 5.0 to 8.0 mass % of total dry aggregate Test: 1-Q, Quality Test for each 40 tons or fraction thereof. C. Mix For every 75 cu. m/130 tons or fraction thereof: 1-G, Grading test 1-Extr, Extraction 1-Sty, Stability 1-C, Laboratory Compaction D. Hydrated Lime For every 100 tons or fraction thereof: Tests: 1-Q, Quality Test

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	E. Mineral Filler For every 75 cu. m or fraction thereof: 1-G & P, Grading and Plasticity Tests (LL, PL, PI) For each full day's operation: D & T, Density and Thickness Tests – at least 1 but not more than 3 samples shall be taken.
Item 308 – Cold Asphalt Plant Mix	A. Aggregates Same Tests as for Item 307 B. Bituminous Materials Quantity: 1. Using Cut-Back Asphalt – 4.5 to 7.0 mass % of total dry aggregate 2. Using Emulsified Asphalt – 6.0 to 10.0 mass % of total dry aggregate. Test: 1-Q, Quality Test for each 40 tons or 200 drums

	or fraction thereof. C. Mix Same test as for Item 307 D. Hydrated Lime Same test as for Item 307 E. Mineral Filler For every 75 cu. m or fraction thereof: 1-G & P, Grading and Plasticity Tests (LL, PL, PI) F. Compacted Pavement Same test as for Item 307
Item 309 – Bituminous Plant Mix (Stockpile Maintenance Mixture)	A. Aggregates Same test as for Item 307 B. Bituminous Materials Quantity: 4 to 10 mass % of total mix Test: 1-Q, Quality Test for each 40 tons or 200 drums or fraction thereof. C. Mix Same test as for Item 307 D. Hydrated Lime Same test as for Item 307 E. Mineral Filler Same test as for Item 307 F. Compacted Pavement Same test as for Item 307
Item 310 – Bituminous Concrete Surface Course, Hot Laid	A. Aggregates Same test as for Item 307 B. Bituminous Materials Quantity: 5 to 8 mass % of total dry aggregates Test: 1-Q, Quality Test for each 40 tons or 200 drums or fraction thereof.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	C. Mix Same test as for Item 307 D. Hydrated Lime Same test as for Item 307 E. Mineral Filler Same test as for Item 307 F. Compacted Pavement Same test as for Item 307
Item 311 – Portland Cement Concrete Pavement	A. Cement Quantity: 9.00 bags/cu. m (40 kg/bag) Test: For every 2,000 bags or fraction thereof 1-Q, Quality Test B. Fine Aggregate Quantity:

	1. 0.5 cu. m/cu. m of concrete if rounded coarse aggregate is used. 2. 0.54 cu. m/cu. m of concrete if angular coarse aggregate id used. Tests: for every 1,500 cu. m or fraction thereof a. For a source not yet tested or that failed in previous quality tests: 1-Q, Quality Test for Grading, Elutriation (Wash), Bulk Specific Gravity, Absorption, Mortar Strength, Soundness, Organic Impurities, Unit Weight, %Clay Lumps and Shale. b. For a source previously tested and that passed quality test: 1-Q, Quality Test for Grading, Elutriation (Wash), Bulk Specific Gravity, Absorption, Mortar Strength For every 75 cu. m or fraction thereof: 1-G, Grading test C. Coarse Aggregate Quantity: 1. 0.77 cu. m/cu. m of concrete if rounded coarse aggregate is used. 2. 0.68 cu. m/cu. m of concrete if angular coarse aggregate is used. Tests: for every 1,500 cu. m or fraction thereof a. For a source not yet tested or that failed in previous quality test: 1-Q, Quality Test for Grading, Bulk Specific Gravity, Absorption, Abrasion and Unit Weight

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	b. For a source previously tested and that passed quality test: 1-Q, Quality Test for Grading, Absorption, Bulk Specific Gravity and Abrasion. For every 75 cu. m or fraction thereof: 1-G, Grading test D. Water Tests: 1-Certificate from Project Engineer 1-Q, Quality Test, if source is questionable. E. Joint Filler 1. Poured Joint Filler 1-Q, Quality Test on each type of ingredient for each shipment. 2. Premolded Joint Filler 1-Q, Quality Test on each thickness of filler for each shipment F. Special Curing Agents 1-Q, Quality Test for each shipment G. Steel Bars For every 10,000 kg or fraction thereof for each size: 1-Q, Quality Test for Bending, Tension and Chemical

	Analysis. H. Concrete Flexural Strength Test on Concrete Beam Sample 1-set consisting of 3 beam samples shall represent a 330 sq. m. of pavement, 230 mm depth or fraction thereof placed each day. Volume of concrete not more than 75 cu. m I. Completed Pavement Thickness determination by concrete core drilling on a lot basis. 5 holes per km per lane or 5 holes per 500 m when 2 lanes are poured concurrently.
PART F – BRIDGE CONSTRUCTION	
Item 400 - Piling	A. Concrete Piles 1. Concrete: Same tests as for Item 405. 2. Reinforcement Steel: Same tests as for Item 404. B. Structural Piles 1-Q, Quality Test/Mill Test Certificate 1-IR, Inspection Report
Item 401 - Railings	A. Concrete: Same tests as for Item, 405, Class C B. Reinforcement Steel: same tests as for Item 404.
Item 403 – Metal Structures	1-Q, Quality Test/Mill Test Certificate for each type of material used.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	1-IR, Inspection Report for each type and shipment of Metal used
Item 404 – Reinforcement Steel	A. Bar Reinforcement for Concrete for every 10,000 kg or fraction thereof for each size: 1-Q, Quality Test for Bending, Tension and Chemical Analysis B. Wire and Wire Mesh 1-Q, Quality Test
Item 405 – Structural Concrete	A. Cement Quantity: (40 kg/bag) Class A --------- 9.0 bags/cu. m of concrete Class B --------- 8.0 bags/cu. m of concrete Class C --------- 9.5 bags/cu. m of concrete Class P --------- 11.0 bags/cu. m of concrete Tests: for every 2,000 bags or fraction thereof 1-Q, Quality Test B. Fine Aggregate Quantity: cu. m/cu. m of concrete For Rounded For Angular Class A --------- 0.50 ---------- 0.54 Class B --------- 0.45 ---------- 0.52 Class C --------- 0.53 ---------- 0.50 Class P --------- 0.44 ---------- 0.47

	Tests: for every 1,500 cu. m or fraction thereof a. For a source not yet tested or that failed in previous quality tests: 1-Q, Quality Test for Grading, Elutriation (Wash), Bulk Specific Gravity, Absorption, Mortar Strength, Soundness, Organic Impurities, Unit Weight, %Clay Lumps and Shale. b. For a source previously tested and that passed quality test: 1-Q, Quality Test for Grading, Elutriation (Wash), Bulk Specific Gravity, Absorption and Mortar Strength. For every 75 cu. m or fraction thereof: 1-G, Grading Test C. Coarse Aggregate Quantity: cu. m/cu. m of concrete For Rounded For Angular Class A --------- 0.77 ---------- 0.68 Class B --------- 0.82 ---------- 0.73 Class C --------- 0.70 ---------- 0.68 Class P --------- 0.68 ---------- 0.65

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	Tests: for every 1,500 cu. m or fraction thereof a. For a source not yet tested or that failed in previous quality tests: 1-Q, Quality Test for Grading, Bulk Specific Gravity, Absorption, Abrasion and Unit Weight. c. For a source previously tested and that passed quality test: 1-Q, Quality Test for Grading, Absorption, Bulk Specific Gravity and Abrasion. For every 75 cu. m or fraction thereof: 1-G, Grading Test D. Water 1-Certificate from Project Engineer 1-Q, Quality Test, if source is questionable. E. Premolded Filler for expansion joints 1-Q, Quality Test on each thickness of filler for each shipment F. Steel Reinforcement 1-Q, Quality Test for every 10,000 kg or fraction thereof. G. Concrete Compressive strength on concrete cylinder samples. 1 set consisting of 3 concrete cylinder samples shall be

	taken from each day's pouring and to represent not more than 75 cu. m or fraction thereof.
Item 406 – Prestressed Concrete Structures	A. Concrete : Same tests as Item 405, Class P B. Reinforcing Steel: Same tests as Item 404 C. Wire Strand 1-Q, for every 20 tons or fraction thereof.
Item 407 – Concrete Structures	Same tests as for Items 403, 404, 405 and 411. Elastomeric Bearing Pad will be tested to determine its quality.
Item 408 – Steel Bridges	Same tests as for Items 403 and 411. Painting: 1-Q, One 20-liter can for every 100 cans or fraction thereof, or 1-Q, One 4-liter can for every 100 cans or fraction thereof.
Item 409 – Welded Structural Steel	Same tests as for Item 403 and Inspection Report.
Item 411 - Paint	1-Q, One 20-liter can for every 100 cans or fraction thereof, or 1-Q, One 4-liter can for every 100 cans or fraction thereof.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
DRAINAGE AND SLOPE PROTECTION	
Item 500 – Pipe Culverts and Strom Drains	A. Pipes Pipe for every 50 pieces: Strength, Absorption and Dimension. Alternative Requirements: 1-set consisting of 3 concrete cylinder samples for not more than 25 pipes cast in the field and 1-Inspection Report for each size for not more than 25 pipes cast in the field. B. Mortar for Joint Cement, Fine Aggregates and Water – Same tests as for Item 405.
Item 501 - Underdrains	A. Concrete Pipe (Non-Reinforced) 0.5% of the number of pipes of each size but not less than 2, for strength, Absorption and Dimension. Alternative Requirements: 1-set consisting of 3 concrete cylinder samples for not more than 25 pipes cast in the field and 1-Inspection Report for each size for not more than 25 pipes cast in the field. B. Clay Pipe I-Pipe for every 200 pieces each size, with a minimum

	of 2 specimens for Strength, Absorption and Dimension.
Item 502 – Manholes, Inlets and Catch Basins	A. Concrete Same tests as for item 405, Class A B. Lids, Cast Iron Frames and Grating Inspection Report
Item 503 – Cleaning and Reconditioning Existing Drainage Structures	Inspection Report
Item 504 – Riprap –Grouted Riprap	Same tests as for Item 505
Item 505 – Stone Masonry	A. Cement Quantity: 2 bags/cu. m of concrete Tests: for every 2,000 bags or fraction thereof 1-Q, Quality Tests B. Fine Aggregate Quantity: 0.17 cu. m/cu. m of concrete. Tests: for every 2,000 bags or fraction thereof. 1-Q, Quality Test – same as for Item 405. For every 75 cu. m or fraction thereof. C. Stone Inspection report D. Water 1-Certificate from Project Engineer 1-Q, Quality Test, if source is questionable.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
Item 506 – Hand-Laid Rock Embankment	Inspection Report
Item 507 – Sheet Piles	A. Concrete Sheet Piles Same tests as for Item 404. B. Steel Sheet Piles Same tests as for Item 403.
Item 508 – Concrete Slope Protection	A. Bed Course Same tests as for Item 200. B. Steel Reinforcement Same tests as for Item 404. C. Concrete Same tests as for Item 404.
Item 509 - Gabions	1-Q, Quality Test for each shipment
PART H – MISCELLANEOUS STRUCTURES	
Item 600 – Curb and Gutter	A. Concrete Quantity: 0.078 cu. m/m (Curb only) 0.092 cu. m/m (Curb and Gutter, Type A) 0.149 cu. m/m (Curb and Gutter, Type B) 0.074 cu. m/m (Curb and Gutter, Type C) Same tests as for Item 405. B. Joint Filler Same tests as for Item 311.
Item 601 - Sidewalk	A. Concrete Same tests as for Item 405, Class A. B. Premolded Expansion Joint Filler Same tests as for Item 311.
Item 602 – Monuments, Markers and Guide Posts	A. Concrete Same tests as for Item 405. B. Reinforcement Steel Same tests as for Item 404. C. Paint Same tests as for Item 411.
Item 604 - Fencing	A. Barbed Wire, Chain Link Fabric 1-Q, Quality Test B. Concrete Post Same tests as for Item 405. Steel Reinforcement: Same tests as for Item 404.
Item 605 – Road Sign (Reflective Sheets)	Quantity: 6 pieces of 1 inch x 6 inch reflective sheets Test Perform: 1 – Adhesion Test 1 – Solvent Resistant Test Resistance to Heat Thickness of Sheeting Reflectivity

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
Item 606 – Pavement Markings (Thermoplastic Paint)	Quantity: 1 Quality Test per 100 bags or fraction thereof: A. Physical Properties 1. Condition in Container

	2. Specific Gravity 3. Drying Time (min.) 4. Softening Point B. Paint Composition 1. Total Dry Solids, % 2. Titanium Dioxide, % 3. Extenders (Fillers), % 4. Binders, % 5. Glass Beads, % 6. Grading, % Passing
Item 607 – Reflective Pavements Studs	Quantity: 3 samples per 10,000 pcs. Test: 1 Compression Test
Item 608 - Topsoil	Inspection Report
Item 609 - Sprigging	Inspection Report
Item 610 - Sodding	Inspection Report
Item 611 – Tree Planting	Inspection Report
Item SPL 614– Street Lighting including Footing, Steel poles, wires, conduits and etc.	A. Wires and Cables 1. Perform Continuity Test; 2. Perform Insulation Resistance Test. B. Molded Case Circuit Breakers Visual and Mechanical Inspection: 1. Compare nameplate data with specifications and approved shop drawings; 2. Inspect circuit breaker for correct mounting; 3. Operate circuit breaker to ensure smooth operation; 4. Inspect case for cracks or other defects; 5. Inspect all bolted electrical connections for high resistance using low resistance ohmmeter, verifying tightness of accessible bolted connections and/or cable connections by calibrated torque-wrench method, or performing thermographic survey; 6. Inspect mechanism contacts. Electrical Tests: 1. Perform contact-resistance tests; 2. Perform insulation-resistance tests. C. Time Switch and Contactors 1. Field Quality Control: Upon completion of installation, verify that equipment is properly installed, connected, and adjusted. Conduct an operating test to show that equipment operates in accordance with requirements.

ITEMS OF WORK	MINIMUM TEST REQUIREMENTS
	D. Lighting Fixtures Field Testing: Demonstrate that all lighting fixtures and their accessories operate satisfactorily in the presence of the Owner. Perform operational tests in

	accordance with referenced standards in this specifications. E. Project Engineers Inspection Report.
PART I – MATERIAL DETAILS	
Item 700 – Hydraulic Cement	Same tests as for Item 405.
Item 701 – Construction Lime (Hydrated)	1-Q, Quality Test for every 100 tons or fraction thereof.
Item 702 – Bituminous Materials	Same tests as for Items 301, 302, 303, 306, 307, 308, 309 and 310.
Item 703 - Aggregates	Same tests as for Item of work specified in the Bill of Quantities.
Item 703A – Mineral Filter	Same tests as for Item 405.
Item 704 – Masonry Units	1-Q, Quality Test for every 10,000 units or fraction thereof.
Item 705 – Joint Materials	Same tests as for Items 311 and 500.
Item 706 – Concrete, Clay, Plastic and Fiber Materials	A. Concrete Pipes Same tests as for Item 500. B. Clay and Other Types of Pipes Refer to applicable requirements of AASHTO Tests and Specifications.
Item 707 – Metal Pipe	Same tests as for Item 400.
Item 708 – Chemical Admixtures for Concrete	1-Q, Quality Test for each shipment
Item 709 - Paints	Same tests as for Item 411.
Item 710 – Reinforcing Steel and Wire Rope	A. Reinforcing Steel Same tests as for Item 404. B. Wire Rope Same tests as for Item 406.
Item 711 – Fence and Guardrail	A. Fence Same tests as for Item 604. B. Guardrail Same tests as for Item 603.
Item 712 – Structural Metal	Same tests as for Items 403 and 409
Item 713 - Water	1-Certificate from Project Engineer 1-Q, Quality Test, if source is questionable.

Section VII. Procuring Entity's Concept Design Drawings and Other Reference Data

Section VIII. Terms of Reference (TOR)

Terms of Reference (TOR)

1. PROJECT INFORMATION

1.1 Project Title : Design and Build for the Construction of El Nido Municipal Fish Port (ENMFP)

1.2 Basic Information

The country's agriculture sector is expected to play a major role in pursuing a socio-economic response framework to the Covid-19 pandemic recovery efforts. Be that as it may, economic growth in agriculture is more effective at reducing poverty and maintaining food security than growth in other sectors considering that most livelihood especially in the country side rests on agri-fishery sector. Hence, investments in agriculture can help revive food production and create jobs, following a crisis, and enable rural communities to recover.

To avoid serious disruption to rural economies, it is essential to ensure that agriculture, food chain, markets and trade should continue to function. That is why investments in this sector is given attention particularly in the provision of fishery infrastructure and post-harvest facilities to ensure that losses are minimized or eliminated and at the same time maintain the high quality of fishery products.

Likewise, to improve efficiencies in production, and enhance projects and activities to ensure affordability and availability of food supply, the stakeholders should be involved in government-led actions to prevent food scarcity.

With the help of the private sector and LGUs, this partnership could improve our productivity and food supply chain through farm consolidation and clustering, provision of accessible financing, stronger linkages between production and marketing, and establishment of more post-harvest and processing facilities.

One of the projects identified, is the construction of El Nido Municipal Fish Port in Brgy. Teniguiban, El Nido, Palawan which is proximate to the rich fishing ground of West Philippine Sea.

Figure 1. Location Map

1.3 Project Description

The Project involves the design and construction of El Nido Municipal Fish Port which includes the following:

Table 1. Scope of Project Design

Main Items	Project Scope	Description of Works
A. General Items	Permits, Licenses & Other Government Documents	
	Mobilization / Demobilization of Equipment	
	Occupational Safety & Health Program	
	Clearing & Grubbing	
	Rental of Service Vehicle for PFDA Engineers	

	Provision of Resident Engineer's Office (including office equipment, furniture & communication expenses)	
B. Site Development Works	Embankment and Slope Protection	Banda y Banda
		Class III Rocks
		Fabric Filter
	Piling Works	Steel Sheet Pile
	Stairlanding	
	Concrete Pavement	
	Mooring System	Stainless Steel Mooring Ring
		Mooring Post
	Storm Drain & Sewerage System	
	Outside Water Distribution System	
	Outside Lighting & Power Distribution System	
	Miscellaneous Work Items	Pavement Markings
		Signage
		Landscape
C. Building Facilities	**Market Hall**	5 bays (5.0m x 5.0m each bay)
	➢ Roof Slab	Concrete
	➢ Stair	Covered access to Roof deck
		Stainless steel Handrail
	➢ Sewage Holding Tank	5.0 cu.m
	➢ Screening Tank	2-units
	➢ Water System Supply	
	➢ Storm Drain & Sewerage System	
	➢ Lighting & Power System	
	Administration Office with Public Toilet	
	➢ Reception Area	
	➢ Cashier Area	
	➢ Office Area	
	➢ Admin Toilet	Common for employee
	➢ Public Toilet	Male / Female / PWD
	➢ Water Supply System	
	➢ Storm Drain & Sewerage System	
	➢ Septic Tank	3-chamber
	➢ Lighting & Power System with air-conditioning	
	➢ Fire Protection / Alarm System	
	Ice Plant & Ice Storage	
	➢ Office Area with Cashier	
	➢ Staff Quarters	
	➢ Storage Room	
	➢ Toilets	
	➢ Ice Making Plant	
	➢ Ice Storage	Insulated Panel
	➢ Generator Room	
	➢ Compressor Room	
	➢ Receiver Room	

	➢ Water Supply System	
	➢ Storm Drain & Sewerage System	
	➢ Lighting & Power System	
	➢ Fire Protection / Alarm System	
	Guard House & Elevated Water Tank	
	➢ Furniture	Table & Shelves
	➢ Urinal ➢ Lighting & Power System	1-unit
	➢ Entrance Arc	
	➢ Access barrier	
	➢ Elevated Water Reservoir	25.0 cu.m capacity
	➢ Cistern Tank	5.0 cu.m capacity
	➢ Pump Room ➢ Lighting & Power System	
D. Electro-Mechanical and other Related Works	**Ice Making Equipment**	
	➢ Ammonia Compressor, Condenser, Receiver, Accumulator oil separator, Condenser pump, etc.	
	➢ Refrigerant pipes and fittings, controls and miscellaneous materials	
	➢ Brine tank including insulation, evaporator coils, brine agitator, can grid, cladding of brine tank	
	➢ Ice Cans	
	➢ Block Ice	50.0 kgs
	➢ Motorized hoist	Including girder assembly
	➢ Dip tank & ice filling tank and ice can dumper including concrete foundation	
	➢ Crystalizing equipment including pipelines and accessories	
	➢ Ice crusher including electrical control & accessories	
	➢ Miscellaneous materials & consumables such as refrigerant and brine solution	
	Ice Storage Room	
	➢ Condensing unit composed of compressor, air cooled condenser, liquid receiver, & other standard accessories	
	➢ Refrigerant pipes & fittings, control & misc. Materials	
	➢ Miscellaneous materials & consumables such as refrigeration oil, etc.	
	➢ Pre-fabricated Insulated Panel Including doors and accessories including floor slab	
	➢ Unit cooler and accessories	
	Generator Set	Standby / Prime Power

	Supply of tools, spare parts and consumables	
	Motor Control Center (Including Concrete Pedestal)	
	Air Conditioning Unit	
	Fire Detection/ Protection Alarm System	

1.4 Contractual Framework

The contractual arrangement to be used for the project is the Design-and-Build (DB) scheme. Under this scheme the procuring entity awards a single contract for the architectural/engineering design and construction to a single firm, partnership, corporation, joint venture or consortium.

2. SCOPE OF THE CONTRACT

2.1 Major Obligations of the Contractor

a. Undertake Architectural and Engineering (A&E) Plans and Detailed Designs, Technical Specifications, Bill of Quantities, and Design Reports for the ENMFP including Site and Landscape Development Structures and Facilities in conformance with the MPSS.

   Such plans and designs, specifications, bill of quantities, and design reports shall be subject to review and approval by the PFDA. The Concept Design and Plans prepared and issued by the PFDA-TSD as part of this TOR shall be the basis for the Schematic Design, Design Development, and the Contract Documents phases of the design, which shall continue after the bid is awarded. These shall likewise be subject to review and approval of PFDA.

b. Undertake the Construction of the ENMFP including structures and facilities in conformance with the MPSS. The bid shall be based on the preliminary Conceptual Design and Plans prepared and issued by the PFDA-TSD, which have been pre-approved by the PFDA Top Management and supplemented by the issuance of bid bulletins, if any, from the date of original advertisement.

c. Aside from the A&E professional design fees, other incidental expenses that is also to the account of the winning bidder shall include Preliminary Survey and Mapping of the project site which shall determine the boundaries and provide stationing along control lines to establish feature and design criteria location, and identify existing future right-of-way-limits and construction easements associated with the PFDA's Conceptual Design and Plans. The winning bidder shall also conduct Preliminary Investigations including, among others, geodetic and topographic survey of the project lot, information on the soil and geotechnical investigations, geologic and geomorphologic surveys, hydrology and hydraulic analysis, seismic tests, traffic analysis, environmental conditions of

the site, and other design and construction requirements.

d. Compliance with all applicable permits/licensing and documentary requirements.

e. The Contractor shall be held liable for any additional costs that may be incurred by the Government due to major changes in plans from faulty or defective design or any aspect of the detailed engineering.

f. Be held liable for design and structural defects and/or failure of the completed project within the warranty period specified in Section 62.2 or the revised IRR or RA 9184.

g. Provide Traffic Management Plans and be responsible for traffic management during construction.

h. Conduct Value Engineering study to determine the most economical scheme during DED and Construction.

2.2 Major Obligations of PFDA

a. Provide the Contractor the area required for staging, office/bunk house and stockpiling of construction materials and debris.
b. Review and certify the Contractor's design without diminishing the Contractor's full and sole responsibility for the quality and integrity of the Project.
c. Supervise and monitor the implementation of the Project.
d. Pay the accomplishment accepted in conformance with the MPSS under the Design and Build Contract.
e. Provide assistance to the Contractor in any issues and concerns that may affect the project implementation.

3. SCOPE OF THE DESIGN

3.1 Preliminary Engineering Design Plan (PEDP) by Bidder

At the bidding stage, the Bidder shall prepare a PEDP based on the PFDA MPSS for the Project as shown in Section VI and submit the PEDP as part of the Bidder's Technical Proposal.

The Bidder shall prepare the PEDP with a degree of accuracy of approximately plus/minus fifteen percent (+/-15%) of the final quantities, and in conformance with the MPSS.

3.2 Detailed Engineering Design by the Winning Bidder

During the implementation of the Project, the Winning Bidder shall prepare the Detailed Engineering Design (DED) of the Project and submit

the DED to the PFDA for approval prior to the execution of the Construction works.

The Winning Bidder shall prepare the DED based on its PEDP as accepted by the PFDA and in accordance with the MPSS. The DED shall be undertaken with a degree of accuracy that will allow estimates to be made within approximately plus or minus five percent (+/-5%) of the final quantities.
Once approved by the PFDA, the Winning Bidder's DED shall form part of the MPSS. The PFDA-approved DED, together with the MPSS provisions on Construction, shall govern the actual Construction undertaken by the Winning Bidder.

The Winning Bidder shall undertake the necessary field surveys and investigation in accordance with Criteria and Standards in the preparation of detailed engineering plans.

4. PROCURING ENTITY'S CONCEPT DESIGN

The project is the Design and Build for the Construction of ENMFP. The scope of the project design is presented in Table 1 of the MPSS.

5. MINIMUM PERFORMANCE STANDARDS AND SPECIFICATIONS (MPSS)

The Contractor shall undertake the Design and Build of the Project in conformance with the MPSS as shown in Section VI.

6. MANPOWER REQUIREMENT

Table 1

Key Staff Requirement for Detailed Engineering Design

Position	No.	Minimum Total Work Experience (years)	Minimum Total Similar Work Experience (years)	Type of Experience
Team Leader	1	10	5	A licensed Civil Engineer with DED experience as Team Leader preferably with Master's Degree in Structural Engineering
Sr. Architect	1	8	5	A licensed Architect and has undertaken at least 1 architectural design for port and harbor projects.

Sr. Civil Engineer	1	8	5	A licensed Civil Engineer preferably with Master's Degree in Structural Engineering and has undertaken at least 3 structural designs for the ports and harbors projects.
Professional Electrical Engineer	1	8	5	A license Professional Electrical Engineer with experience in planning, engineering design and/or installation of electrical systems for vertical structures as well as power supply/distribution systems and telecommunication systems.
Professional Mechanical Engineer	1	8	5	A licensed Professional Mechanical Engineer with experience in planning, engineering design, and/or installation of refrigeration facilities with knowledge in HVAC-R and fire protection and emergent alternative efficient HVAC-R technologies.
Sr. Sanitary Engineer	1	8	5	A licensed Sanitary Engineer with experience in engineering design of water, sewage and waste water treatment systems and other public health services.
Geotechnical Engineer	1	8	5	A licensed Civil Engineer with experience in soil testing and analysis for ports and harbor projects.
Environmental Specialist	1	8	5	A BS Environmental Engineering/ Science with experience in ports and harbor projects.
Quantity/Cost Engineer	1	8	5	A Civil Engineer with experience as Estimator in at least 10 civil works projects.

Document Specialist/Specs. Engineer	1	8	5	A license Civil Engineer or Architect and should have successful track record as document specialist for at least 10 projects.
Total	10			

Table 2

Key Staff Requirement for Construction Works

Position	No.	Minimum Total Work Experience (years)	Minimum Total Similar Work Experience (years)	Type of Experience
Project Manager	1	8	5	A licensed Civil Engineer with construction experience as Project Manager in port and harbor projects.
Project Engineer	1	8	5	A licensed Civil Engineer with construction experience in port and harbor projects
Registered Electrical Engineer	1	8	5	A licensed Electrical Engineer with construction experience in the supervision/installation of electrical systems for vertical structures as well as power supply/distributions systems and communication systems.
Registered Mechanical Engineer	1	8	5	A licensed Mechanical Engineer with experience in supervision/installation of refrigeration facilities with knowledge in HVAC-R and fire protection and emergent alternative efficient HVAC-R technologies.
Materials/Quality Control Engineer	1	5	3	A DPWH Accredited Materials Engineer II

Safety Officer/ Engineer	1	5	3	Certified by the Bureau of Working Conditions of DOLE or with Certificate of 40 hours training in Construction Occupational Safety and Health (COSH).
Foreman	1	10	5	With experience as Foreman of at least 3 Ports, Harbor and Offshore Engineering construction projects
Total	7			

7. APPROVED BUDGET FOR THE CONTRACT (ABC)

The Approved Budget for the Contract (ABC) is **₱ 72,443,642.69**. This is the ceiling for acceptable bids. Bids higher than the ABC shall be automatically rejected.

8. PROPOSED IMPLEMENTATION SCHEDULE

Description	2021				2022			
	1st	2nd	3rd	4th	1st	2nd	3rd	4th
1. Detailed Engineering Design Stage								
a. Surveys & Investigations								
b. Drawings & Specifications.								
c. Approval from PFDA								
2. Construction Stage								
a. Mob. & Demob.								
b. Construction								

9. ELIGIBILITY CRITERIA FOR BIDDERS

3.1 General

The Eligibility Requirements for this DB Project shall adopt the provisions of Annex 'G" of the Implementing Rules and Regulations of RA 9184 (e.g. Eligibility Requirement). However, a prospective bidder who has no experience in DB project on its own may opt to enter a subcontracting agreement with a design or engineering firm for the design portion of the project.

3.2 Legal Requirements

a. Valid Contractor's License issued by the Philippine Contractor's Accreditation Board
b. Valid license of the Contractor's designer issued by the Professional Regulation Commission.

3.3 Technical Requirements

a. The Contractor must have built one structure similar to the project at hand with a construction cost of at least 50% of the ABC.

b. The Contractor's designer must have designed one project similar to the project at hand with a construction cost of at least 50% of the ABC

3.4 Financial Requirements

a. The Contractor must have a Net Financial Contracting Capacity (NFCC) of at least equivalent to the ABC of **₱ 72,443,642.69**.

b. The Contractor must submit a written comment from a reputable bank to extend to him a credit line of at least 10% of the ABC, if the contract is awarded to him.

10. CONTENTS OF THE BID

a. Conceptual Design Plans for the Project which shall comply with the prescribed MPSS. The plans should contain the following:

General

1. Location plan/vicinity map, Index of Drawings
2. General Notes on Design Parameters and Construction Procedures
3. Legends, Symbols and Abbreviations

Site Development Plan

1. General Plan Showing Contour lines, Cross Section and Elevation
2. Details of Slope Protection
3. Details of Water Supply System
4. Details of Drainage System
5. Street Lighting

Building Design Plans

1. General Plan and Elevation
2. Typical Architectural Plans
3. Typical Structural Plans
4. Typical Plumbing and Sanitary Plans
5. Typical Electrical Plans
6. Electrical Auxiliary Plans
7. Typical Mechanical Plans

8. Miscellaneous Details (Drainage, Roadways, etc.)
9. Summary of Quantities
10. Typical Lighting Facilities

Causeway Plan

1. Plan, Profile, and Cross Sections
2. Typical Details of the Causeway
3. Typical Details of Wave Deflector
4. Mooring System
5. Summary of Quantities

b. Required Bid Security

c. Design and Construction Method and Schedule

d. Constructor's Organizational Chart and List of Key Personnel for the Project. The required Contractor's key staff requirement for DED and construction works is presented in Table 2 and Table 3 respectively.

e. List of Major Equipment Owned/Leased/Under Purchase for the project
f. Quality Control Program
g. Bank Commitment to provide the required Credit Line if the Contractor is awarded the contract.

11. PROCEDURE AND CRITERIA FOR BIDS EVALUATION

For the detailed evaluation of the DB proposals for the Project, a three-step procedure shall be adopted by the BAC, as follows:

a. Evaluation of Eligibility

The BAC shall evaluate the Eligibility Documents submitted by each bidder to determine compliance with the Eligibility Requirements in **ITB** Clause 5.

If the bidder meets all of the Eligibility Requirements, the BAC shall declare the bidder as "eligible" and proceed with the detailed evaluation of its Technical Proposal. If not, the BAC shall issue the Notice of Ineligibility to the bidder and return its unopened Technical and Financial Proposals to the bidder.

b. Evaluation of Technical Proposal

The BAC shall then conduct the evaluation of the Technical Proposal of each eligible bidder, particularly against the requirements in **ITB** Clause 13, using non- discretionary "pass/fail" criteria. Aside from the aspects that are evaluated in conventional (non-DB) projects, the BAC shall look into the Conceptual Design for the Project and the track record for DB projects submitted by the Contractor as indicated in the Bidding Documents. The BAC shall evaluate these aspects, using non-discretionary "pass/fail" criteria, to check for compliance with the following requirements:

(1) Concept of approach and methodology for DED and construction, with emphasis on the clarity, feasibility, innovativeness and comprehensiveness of the plan approach, and the quality of interpretation of project problems, risks, and suggested solutions.

(2) Quality of personnel to be assigned to the Project which covers suitability of key staff to perform the duties of the particular assignments and general qualifications and competence, including education and training of the key staff.

If the bidder passes and meets the Technical Proposal requirements and criteria, the BAC shall declare as "technically complying." All technically complying bidders shall be treated on the same footing for purposes of the evaluation of the Financial Proposals, i.e., no technical ranking of the bids is made.

In the event that no bidder has reach the minimum passing score, the top three bidders shall be considered to qualify for the second stage, provided, that they pass the requirements in Part I (Eligibility Criteria) and Part II (Adherence of preliminary design plans to the required performance specifications and parameters and degree of details).

c. Evaluation of Financial Proposals:

The BAC shall then open the Financial Proposal – which is simply the lump-sum bid price - of each "passed" bidder using non-discretionary criteria – including arithmetical corrections if any, and thus determine the correct total calculated bid prices. The BAC shall automatically disqualify the total calculated bid price which exceeds the ABC.

The total calculated bid prices (not exceeding the ABC) shall be ranked, in ascending order, from lowest to highest. The bid with the lowest total calculated bid price shall be identified as the Lowest Calculated Bid (LCB).

If the bidder with the LCB passes the post-qualification, his bid is declared as the Lowest Calculated Responsive Bid (LCRB) and shall be considered for award.

12. DATA TO BE PROVIDED BY PFDA

Data provided by PFDA are for reference only. The PFDA does not guarantee to the Bidders that the data provided are correct, free from error, and applicable to the Project at hand. The Bidder is responsible for the accuracy or applicability of any data that will be used in the design and build proposal and services. The following data shall be provided in electronic forms:

a. Conceptual Design Drawings,
b. Type of Vessels Docking at ENMFP

13. REPORTS AND TIME SCHEDULES

The Contractor shall submit the following deliverable reports containing the desired outputs to the PFDA on the deadlines set with the corresponding payments upon approval by the PFDA of the corresponding deliverables:

Deliverable Report/Output	Deadline	Payment
Inception Report	Three (3) weeks after the effectivity of the contract	5 % of DED Contract Amount **upon submission and approval by PFDA of the Inception Report*
Topographic and Hydrographic Survey Reports	End of the 1st month	15% of the DED Amount **upon submission and approval by PFDA of Survey Reports*
Geotechnical Investigation Reports	End of the 1st month	25% of the DED Amount **upon submission and approval by PFDA of Geotechnical Investigation Reports*
Preliminary Design Plans and Reports	End of the 1st month	50% of the DED Amount **upon submission and approval by PFDA of the Preliminary Design Plans and Reports*
Final Detailed Engineering Design (DED) Plans and Reports	End of the 2nd month	100% of the DED Amount **upon submission and approval by PFDA of Final DED Plans and Reports*

14. DOCUMENTS TO BE PROVIDED BY THE CONTRACTOR DURING CONTRACT IMPLEMENTATION

13.1 For DED Works

a. Detailed Engineering Plans
b. Structural Design Analysis
c. Boundary Survey
d. Survey Data
e. Quantity Calculation
f. Detailed Geotechnical Investigation Report
g. Hydrologic/Hydraulic Analysis

h. Design Report
i. Other relevant documents

13.2 For Construction Works

In accordance with the Conditions of Contract, the Contractor shall submit a fully detailed and time-related program in bar chart and critical path form, supported with equipment planning and other inputs required showing the order of procedures and method he proposes to adopt to execute the Works. The critical path shall be clearly shown on this program. The contractor shall obtain advance approval of the format and style of the bar chart from the Engineer who shall be entitled to direct changes to be made in the bar chart to his satisfaction.

The Contractor shall submit with this program a cash-flow estimate in accordance with the Conditions of the Contract. If at any time the Engineer considers that the actual progress of the Works does not conform to the Contractor's program the contractor shall, upon request from the Engineer, prepares and submits for the Engineers Consent a revised program showing the revisions necessary to ensure completion of the Works within the time for completion as define in the Conditions of Contract.

The programme shall include, but is not limited to the following:

a. Contractor's Mobilization Plan
b. Contractor's Safety Plan
c. Drawings Schedule, Shop Drawings, as built drawings;
d. Traffic Control Plan
e. Environmental Control Plan
f. Quality Control Plan, and
g. Schedule of Materials
h. Maintenance schedule and procedures after completion
i. Other Relevant documents, such as monthly progress report, quarterly report, final Completion Report etc. as required in the Contract.

Section IX. Bill of Quantities

CONSTRUCTION OF EL NIDO MUNICIPAL FISH PORT

BILL OF QUANTITIES

NOTE:

1.0 The items, description and quantities given on the first three columns of this list guides only to the Bidder interpreting the plans and specifications. The PFDA is not responsible for any mistakes, inaccuracies, duplications or omissions in these list special quantities which shall never be a basis for additions nor deletions to the scope of work. Only the entries of the Bidder on the last three columns consisting of his own take off quantities from the plans and his unit cost and corresponding sums shall be considered.

2.0 These bill of quantities and costing as prepared by the Bidder cannot be used as basis for claims for any extra work, but may only be used solely by the Owner as aid in judging if bid is a responsive bid.

3.0 The unit and total bid prices must include all direct and indirect cost/expenses such as overhead, contingencies and miscellaneous (OCM); profit; value added tax, and other obligations of any kind under which the contract must be borne by the Contractor since they are necessary to install, construct and complete the whole of the contract in accordance with the bid documents.

4.0 Use the Form, “Detailed Estimates (Detailed Unit Price Analysis) in the preparation of Detailed Cost Estimate (Derivation of Unit Cost and Lump Sum Item) for every work item.

Contract Name : Construction Of El Nido Municipal Fishport

Location of the Project : Brgy. Teneguiban, El Nido, Palawan

BID SUMMARY

ITEM NO.	DESCRIPTION	TOTAL BID AMOUNT
PART A.	GENERAL ITEMS	
PART B.	SITE DEVELOPMENT WORKS	
PART C.	BUILDING FACILITIES	
PART D.	ELECTRO-MECHANICAL AND OTHER RELATED WORKS	
GRAND TOTAL		
Total Amount in words **Pesos** _____		
and centavos		

Date :_____ day of _____

Signature_____

Printed Name : _____

In the Capacity as : _____

Duly authorized to sign Bid and on behalf of _____

Contract Name : Construction Of El Nido Municipal Fishport

Location of the Project : Brgy. Teneguiban, El Nido, Palawan

BILL OF QUANTITIES

Pay Item No.	Description (Unit Price in words)	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
(1)	(2)	(3)	(4)	(5)	(6)
Part A.	General Items				
	Permits, Licenses & Other Government Documents	Lump sum	1	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Mobilization / Demobilization of Equipment	Lump sum	1	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Occupational Safety and Health Program	Lump sum	1	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Clearing and Grubbing	Lump sum	1	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Rental of Service Vehicle for PFDA Engineers	Lump sum	1	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____

	Provision of Resident Engineer's Office (including office equipment, furniture & communication expenses)	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
Total Cost Part A: **In words : Pesos** _____ _____ _____ **In Figures : Php** _____					

Prepared by:

_____ **Date:** _____

Name and Signature of Bidder's Authorized Representative

_____

Position

_____

Name of Bidder

Contract Name : Construction Of El Nido Municipal Fishport

Location of the Project : Brgy. Teneguiban, El Nido, Palawan

BILL OF QUANTITIES

Pay Item No.	Description (Unit Price in words)	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
(1)	(2)	(3)	(4)	(5)	(6)
Part B.	Site Development Works				
	Embankment and Slope Protection	Cu. m.	12,012.00	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Piling Works	L. m	2,992.00	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Stairlanding	L. m	28.00	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Concrete Pavement	Sq. m.	2,145.00	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____
	Mooring System	Lump Sum	1.00	In words: Pesos _____ _____ In Figures: Php _____	In Figure: Php _____ _____ _____

	Causeway	**Sq. m.**	**709**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Storm Drain & Sewerage System	**Lump Sum**	**1.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Outside Water Distribution System	**Lump Sum**	**1.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Outside Lighting & Power Distribution System	**Lump Sum**	**1.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Miscellaneous Work Items	**Lump Sum**	**1.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
Total Cost Part B: **In words : Pesos** _____ _____ _____ **In Figures : Php** _____					

Prepared by:

_____ **Date:** _____

Name and Signature of Bidder's Authorized Representative

_____

Position

_____

Name of Bidder

Contract Name : Construction Of El Nido Municipal Fishport

Location of the Project : Brgy. Teneguiban, El Nido, Palawan

BILL OF QUANTITIES

Pay Item No.	Description (Unit Price in words)	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Part C.	**Building Facilities**				
	Market Hall Roof Slab, Stair, Sewage Holding Tank, Screening Tank, Water System Supply, Storm Drain & Sewerage System, Lighting & Power System	**Sq. m.**	**125.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Administration Office with Public Toilet Reception Area, Cashier Area, Office Area, Admin Toilet, Public Toilet, Water Supply System, Drain & Sewerage System, Septic Tank, Lighting & Power System with air-conditioning, Fire Protection / Alarm System	**Sq. m.**	**50.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Ice Plant & Ice Storage Office Area with Cashier, Staff Quarters, Storage Room, Toilets, Ice Making Plant, Ice Storage, Generator Room, Compressor Room, Receiver Room, Water Supply System, Storm Drain & Sewerage System, Lighting & Power System, Fire Protection / Alarm System	**Sq. m.**	**195.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____

	Guard House & Elevated Water Tank Furniture, Urinal, Lighting & Power System, Entrance Arc, Access barrier, Elevated Water Reservoir, Cistern Tank, Pump Room Lighting & Power System	**Sq. m.**	**4.00**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
Total Cost Part B: **In words : Pesos** _____ _____ _____ **In Figures : Php** _____					

Prepared by:

_____ **Date: _____**

Name and Signature of Bidder's Authorized Representative

_____

Position

_____

Name of Bidder

Contract Name : Construction Of El Nido Municipal Fishport

Location of the Project : Brgy. Teneguiban, El Nido, Palawan

BILL OF QUANTITIES

Pay Item No.	Description (Unit Price in words)	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
(1)	(2)	(3)	(4)	(5)	(6)
Part D.	**Electro-Mechanical and other Related Works**				
	Ice Making Equipment Ammonia Compressor, Condenser, Receiver, Accumulator oil separator, Condenser pump, etc., Refrigerant pipes and fittings, controls and miscellaneous materials Brine tank including insulation, evaporator coils, brine agitator, can grid, cladding of brine tank Ice Cans Block Ice Motorized hoist Dip tank & ice filling tank and ice can dumper including concrete foundation Crystalizing equipment including pipelines and accessories Ice crusher including electrical control & accessories Miscellaneous materials & consumables such as refrigerant and brine solution	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Ice Storage Room Condensing unit composed of compressor, air cooled condenser, liquid receiver, & other standard accessories, Refrigerant pipes & fittings, control & misc. Materials, Miscellaneous materials & consumables such as refrigeration oil, etc., Pre-fabricated Insulated Panel Including doors and accessories including floor slab, Unit cooler and accessories	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____

	Generator Set	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Supply of tools, spare parts and consumables	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Motor Control Center (Including Concrete Pedestal)	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Reliability trial testing of whole facility, (2-Weeks)	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
	Air Conditioning Unit	**Lump sum**	**1**	**In words: Pesos** _____ _____ **In Figures: Php** _____	**In Figure: Php** _____ _____ _____
Total Cost Part D: **In words : Pesos** _____ _____ _____ **In Figures : Php** _____					

Prepared by:

_____ **Date:** _____

Name and Signature of Bidder's Authorized Representative

_____

Position

_____

Name of Bidder

Section IX. Bidding Forms/ Contract Forms

CHECKLIST OF TECHNICAL AND FINANCIAL DOCUMENT

1. TECHNICAL COMPONENT ENVELOPE

CLASS "A" DOCUMENTS

Legal Documents	
☐	(a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages); **or**
☐	(b) Registration certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI) for sole proprietorship, or Cooperative Development Authority (CDA) for cooperatives or its equivalent document; **and**
☐	(c) Mayor's or Business permit issued by the city or municipality where the principal place of business of the prospective bidder is located, or the equivalent document for Exclusive Economic Zones or Areas; **and**
☐	(d) Tax clearance per E.O. No. 398, s. 2005, as finally reviewed and approved by the Bureau of Internal Revenue (BIR).
Technical Documents	
☐	(e) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
☐	(f) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**
☐	(g) 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**
☐	(h) 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**
	(i) Project Requirements, which shall include the following:
☐	a. Organizational chart for the contract to be bid;
☐	b. List of contractor's key personnel (For DED Phase *e.g.*, Team Leader, Sr. Architect, Sr. Civil Engineer, Prof. Electrical Engineer, Professional Mechanical Engineer, Sr. Sanitary Engineer, Geotechnical Engineer, Environmental Specialist, Quantity/Cost Engineer, and Document Specialist/Specifications Writer; and For Construction Phase e.g., Project Manager, Project Engineers, Electrical Engineer, Mechanical Engineer, Materials Engineers, and Foreman) , to be assigned to the contract to be bid, with their complete qualification and experience data;
☐	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; **and**

☐	d. Original duly signed Statement of Availability of Key Personnel and Equipment
☐	(j) 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.
☐	(k) Original Notarized Affidavit of Site Inspection;
☐	(l) Original and duly signed List of Proposed Subcontractors;
☐	(m) Original and duly signed Letter of Authority to Validate Submitted Documents.
Financial Documents	
☐	(n) 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**
☐	(o) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).
CLASS "B" DOCUMENTS	
☐	(p) 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.

2. FINANCIAL COMPONENT ENVELOPE

☐	(q) Original of duly signed and accomplished Financial Bid Form; **and**
Other documentary requirements under RA No. 9184	
☐	(r) Original of duly signed Bid Prices in the Bill of Quantities; **and**
☐	(s) 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**
☐	(t) Cash Flow by Quarter.

TECHNICAL COMPONENT ENVELOPE
Class "A" Document

Technical Documents

LIST OF ON-GOING GOVERNMENT and PRIVATE CONSTRUCTION CONTRACTS INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED

Business Name : _____

Business Address : _____

Name of Contract/Location Project Cost	a. Owner Name b. Address c. Telephone Nos.	Nature of Work	Contractor's Role		a. Date Awarded b. Date Started c. Date of Completion	% of Accomplishment		Value of Outstanding Works
			Description	%		Planned	Actual	
Government								
Private								
						Total Cost		

Note: This statement shall be supported with:

1 Notice of Award and/or Contract

2 Notice to Proceed issued by the owner

3 Certificate of Accomplishments signed by the owner or Project Engineer

Submitted by : _____
(Printed Name & Signature)

Designation : _____

Date : _____

STATEMENT SHOWING THE BIDDER'S SINGLE LARGEST COMPLETED CONTRACT WHICH IS SIMILAR IN NATURE

Business Name : _____

Business Address : _____

Name of Contract	a. Owner Name b. Address c. Telephone Nos.	Nature of Work	Contractor's Role		a. Amount at Award b. Amount at Completion c. Duration	a. Date Awarded b. Contract Effectivity c. Date Completed
			Description	%		
Government						
Private						

Note: This statement shall be supported with:

1 Owner's Certificate of Final Acceptance or the Certificate of Completion

2 Whenever applicable, the Constructor Performance Evaluation Summary (CPES) Final Rating which must be satisfactory.

3 Contract

Submitted by : _____
(Printed Name & Signature)

Designation : _____

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

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

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

NAME OF NOTARY PUBLIC

Serial No. of Commission _____
Notary Public for _____ **until** _____
Roll of Attorneys No. _____
PTR No. __**,** *[date issued], [place issued]*
IBP No. __**,** *[date issued], [place issued]*
Doc. No. ___
Page No. ___
Book No. ___
Series of ____**.**

BID SECURITY FORM (BANK GUARANTEE)

WHEREAS, __*(Name of Bidder)*__ (hereinafter called "the Bidder") has submitted his bid dated __*(Date)*__ for the __*(Name of Contract)*__ (hereinafter called "the Bid").

KNOW ALL MEN by these presents that We __*(Name of Bank)*__ of __*(Name of Country)*__ having our registered office at _____ (hereinafter called "the Bank" are bound unto __*(Name of the Procuring Entity)*__ (hereinafter called "the Employer") in the sum of _____ for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20___.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws his Bid during the period of bid validity specified in the Form of Bid; or

2. If the Bidder does not accept the correction of arithmetical errors of his bid price in accordance with the Instructions to Bidder; or

3. If the Bidder having been notified of the acceptance of his bid by the Employer during the period of bid validity:

    a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

    b) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owning to the occurrence of one or both of the two (2) conditions, specifying the occurred condition or conditions.

The Guarantee will remain in force up to and including the date _____ days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

** To be accompanied by a confirmation from the bank that it issued the Bank Guarantee*

BID SECURITY: SURETY BOND

BOND NO.: _____
DATE BOND EXECUTED: _____

By this bond, We __*(Name of Bidder)*__ (hereinafter called "the Principal") as Principal and __*(Name of Surety)*__ of the country of *(Name of Country of Surety)*, authorized to transact business in the country of __*(Name of Country of Employer)*__ (hereinafter called "the Surety") are held and firmly bound unto __*(Name of Employer)*__ (hereinafter called "the Employer") as Obligee, in the sum of _____, callable on demand, for the payment of which sum, well and truly to be made, we, the said Principal and Surety bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

SEALED with our seals and dated this _____ day of _____ 20 _____

WHEREAS, the Principal has submitted a written Bid to the Employer dated the _____ day of _____ 20 _____, for the _____ (hereinafter called "the Bid").

NOW, THEREFORE, the conditions of this obligation are:

1) If the Principal withdraws his Bid during the period of bid validity specified in the Form of Bid; or

2) If the Principal does not accept the correction of arithmetical errors of his bid price in accordance with the Instruction's to Bidders: or

3) If the Principal having been notified of the acceptance of his Bid by the Employer during the period of bid validity:

    a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

    b) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;

then this obligation shall remain in full force and effect, otherwise it shall be null and void.

PROVIDED HOWEVER, that the Surety shall not be:

    a) liable for a greater sum than the specified penalty of this bond, nor

    b) liable for a greater sum that the difference between the amount of the said Principal's Bid and the amount of the Bid that is accepted by the Employer.

This Surety executing this instrument hereby agrees that its obligation shall be valid for 120 calendar days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Surety is hereby waived.

PRINCIPAL _____ SURETY _____

SIGNATURE(S) _____ SIGNATURES(S) _____

NAME(S) AND TITLE(S) _____ NAME(S) _____

SEAL _____ SEAL _____

Insurance Commission

Logo

Republic of the Philippines
Department of Finance
INSURANCE COMMISSION
1071 United Nations Avenue

C E R T I F I C A T I O N

This is to certify that **[NAME OF INSURANCE COMPANY]** is licensed to transact non-life insurance business in the Philippines for [state lines such as **FIRE, MARINE, CASUALTY and SURETY]** lines under **Certificate of Authority No**. _____ effective **[date: day/month/year]** until **[date: day/month/year]**, unless sooner revoked or suspended for cause.

It is certified, moreover, that **[NAME OF INSURANCE COMPANY]** is authorized under its license to issue surety bonds required by the Implementing Rules and Regulations of R.A. No. 9184, and that the insurance company had issued [state surety bond: [type of surety bond] with **[BOND NUMBER]** which **callable upon demand** together with the principal [**NAME OF THE PRINCIPAL]** in favor of the obligee [**NAME OF THE OBLIGEE]** in the amount of [**AMOUNT OF WORDS]** (Php _____) for the project: **[NAME OF THE PROJECT],** certified photocopy [or duplicate] of said bond was submitted by the company to the Insurance Commission.

This Certification is issued upon the request of [**NAME OF THE REQUESTING PERSON**], [Position] of [Name of Insurance Company], pursuant to the Revised implementing Rules and Regulations of R.A. No. 9184.

Issued on this [*day/month/year*].

City of Manila, Philippines.

For the Insurance Commissioner:

[NAME OF THE IC DIVISION MANAGER]
IC Division Manager
Regulation, Enforcement,
& Prosecution Division

** To be accompanied by a certification from the Insurance Commission stating that the Bonding Company is authorized to issue a security*

CONTRACTOR'S ORGANIZATIONAL CHART FOR THE CONTRACT

Submit Copy of the Organizational Chart that the Contractor intends to use to execute the Contract if awarded to him to include in the chart, among others, the names of the required proposed Key Personnel as indicated in ITB Clause 10.4 of the Bid Data Sheet and other Key Engineering Personnel.

Attach the required Proposed Organizational Chart for the Contract as stated above

Note: This organization chart should represent the "Contractor's Organization" required for the Project, and not the organizational chart of the entire firm.

QUALIFICATION OF KEY PERSONNEL PROPOSED TO BE ASSIGNED TO THE CONTRACT (DESIGN PHASE)

			Team Leader	**Architect**	**Sr. Civil Engineer**	**Professional Electrical Engineer**	**Professional Mechanical Engineer**	**Sr. Sanitary Engineer**		**Geotechnical Engineer**		Environmental Specialist	Quantity/ Cost Engineer	**Specification Writer**
1	Name													
2	Address													
3	Date of Birth													
4	Employed Since													
5	Experience													
	Total Experience (Years)	Required	10	8	8	8	8	8		8		8	8	8
		Actual												
	Experience in Similar Project (Years)	Required	5	5	5	5	5	5		5		5	5	5
		Actual												
6	Previous Employment													
7	Education													
8	PRC License/Accreditation/Certification/ training (as required) Attached Supporting Documents for validation purposes													

Note: Refer to ITB Clause 10.4 of the Bid Data Sheet for the minimum work experience requirements for each key personnel.

Submitted by :_____
(Printed Name & Signature)

Designation :_____

Date :_____

QUALIFICATION OF KEY PERSONNEL PROPOSED TO BE ASSIGNED TO THE CONTRACT (CONSTRUCTION PHASE)

			Project Manager	Project Engineer	Electrical Engineer	Mechanical Engineer			Materials Engineer	Safety Officer/ Engineer			Foreman	
1	Name													
2	Address													
3	Date of Birth													
4	Employed Since													
5	Experience													
	Total Experience (Years)	Required	8	8	8	8			5	5			10	
		Actual												
	Experience in Similar Project (Years)	Required	5	5	5	5			3	3			5	
		Actual												
6	Previous Employment													
7	Education													
8	PRC License/Accreditation/Certification/ training (as required) Attached Supporting Documents for validation purposes													

Note: Refer to ITB Clause 10.4 of the Bid Data Sheet for the minimum work experience requirements for each key personnel.

Submitted by :_____
(Printed Name & Signature)
Designation :_____
Date :_____

KEY PERSONNEL
(FORMAT OF BIO-DATA/RESUME)

Give the detailed information of the following personnel who are scheduled to be assigned as full-time field staff for the project. Fill up a form for each person.

- Authorized Managing Officer / Representative
- Sustained Technical Employee

1. Name : _____
2. Date of Birth : _____
3. Nationality : _____
4. Education and Degrees : _____
5. Specialty : _____
6. Registration : _____
7. Length of Service with the Firm : _____ Year from ____ (months) _____ (year)
   To ____ (months) _____ (year)
8. Years of Experience : _____
9. If Item 7 is less than the required number of years, give name and length of service with previous employers. (attached additional sheet/s), if necessary:

Name and Address of Employer	Length of Service
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____
_____	_____ year(s) from _____ to _____

10. Experience:

    This should cover the number of years of experience required under ITB Clause 12.1b (ii.2) of the Bidding Documents for each of the required key personnel (Attached as many pages as necessary to show involvement of personnel in projects using the format below).

1. Name : _____
2. Name and Address of Owner : _____
3. Name and Address of the Owner's Engineer (Consultant) : _____
4. Indicate the Features of Project (particulars of the project components and any other particular interest connected with the project) : _____
5. Contract Amount Expressed in Philippine Currency : _____
6. Position : _____

7. Structures for which the employee was responsible : _____

8. Assignment Period : from _____ (months) _____ (years)
: to _____ (months) _____ (years)

_____
Name and Signature of Employee

It is hereby certified that the above personnel can be assigned to this project, if the contract is awarded to our company.

_____ _____
(Place and Date) (The Authorized Representative)

Philippine Fisheries Development Authority (PFDA)

Contract Name:
Location of the Contract:

CONTRACTOR'S CERTIFICATION ON KEY PERSONNEL FOR THE CONTRACT

Date of Issuance:
Name of Head of Procuring Entity:
Position:
Name of Procuring Entity:
Address:

Dear Sir/Madame:

Supplementing our Organizational chart for the above stated Contract, we submit, and certify as true and correct, the following information:

1. We have engaged the services of the following key personnel to perform the duties of the position indicated in the above stated Contract if it is awarded to us:

a. For Design Services

Proposed Position	Name	Years of Experience in Similar Position
Team Leader		
Architect		
Sr. Civil Engineer		
Professional Electrical Engineer		
Professional Mechanical Engineer		
Sr. Sanitary Engineer		
Geotechnical Engineer		
Environmental Specialist		
Quantity/Cost Engineer		
Specification Writer		

b. Civil Works

Proposed Position	Name	Years of Experience in Similar Position
Project Manager		
Project Engineer		
Electrical Engineer		
Mechanical Engineer		
Materials/Quality Control Engineer		
Safety Officer/Engineer		
Foreman		

2. We submit the enclosed affidavits of Commitment to work on the Contract of these key personnel.

3. We ensure that the abovementioned personnel shall employ their best care, skill, and ability in performing the duties of their respective positions in accordance with the provision of the contract, including the Conditions of Contract, specifications, and Drawings, and that they shall be personally present it the jobsite during the period of their assignment in the contract.

4. In event that we choose to replace any of the abovementioned key personnel, we shall submit to you in writing at least fourteen (14) days before making the replacement, for your approval, the name and bio data of the proposed replacement whose experience shall be equal to or better than the person to be replaced.

5. We understand that any violation of the above stated conditions shall be a sufficient ground for us to be disqualified from this Contract and future biddings of the PFDA.

Very Truly Yours,

Name and Signature of Bidder's Authorized Representative

Philippine Fisheries Development Authority (PFDA)

Contract Name:
Location of the Contract: _____

KEY PERSONNEL'S AFFIDAVIT OF COMMITMENT TO WORK ON THE CONTRACT

Date of Issuance

Name of Head of Procuring Entity
Position
Name of Procuring Entity
Address

Dear Sir/Madame:

1. I confirm that *Name of Contractor* has engaged my services for the position of _____ in the above stated Contract if it is awarded to the Contractor.

2. I, therefore, commit to assume the said position in the above stated Contract once it is awarded to the Contractor, and I shall employ the best care, skill, and ability to perform the duties of such position in accordance with the Conditions of Contract, Specifications, Drawings, and other provisions of the Contract Agreement. I am aware that I have to stay in the jobsite for the duration of my assignment.

3. I do not allow the use of my name to enable the Contractor to qualify for the above stated Contract without my commitment to assume the said position, since I understand that to do so shall be a sufficient ground for my disqualification from this Contract and future biddings of the PFDA.

1. I submit, and certify as true and correct, my bio-data as follows:

   a. Name : _____
   b. Date of Birth : _____
   c. Nationality : _____
   d. Educational Attainment : _____
   e. Specialty : _____
   f. PRC License No. and Date : _____
   g. Tax Information No. (TIN) : _____
   h. Employment Record : _____

Name & Address of Employer	Position	From Mo./Yr.	To Mo./Yr.	Total Period Yrs. & Mos.

i. Work Experience (Projects Handled):

i. Proj. Name & Location ii. Owner's Name & Address iii. My Position	i. Proj. Description ii. Total Proj. Cost	i. Part of Proj. I Handled ii. Cost of Part	i. Start Date ii. Compl. Date
Completed Projects:			
On-going Projects:			

(use another sheet, if necessary)

Very truly yours,

Name and Signature of Personnel

Noted by:

Name and Signature of Contractor's Authorized Representative

REPUBLIC OF THE PHILIPPINES)
CITY OF _____)

SUBSCRIBED and SWORN TO before me this _____ day of _____, 20 ___ at _____, affiant exhibiting to me his/her Residence Certificate No. _____ issued at _____ on _____.

_____
Notary Public

Doc. No. _____
Page No. _____
Book No. _____
Series No. _____

Until _____
PTR No. _____
Issued at _____
Issued on _____

LIST OF EQUIPMENT, OWNED OR LEASED AND/OR UNDER PURCHASE AGREEMENTS, PLEDGED TO THE PROPOSED CONTRACT

Business Name : _____

Business Address : _____

Minimum Required Equipment	No. of units	Model/ Year Manufactured	Capacity/ Performance/ Size	Plate No.	Motor No./ Body No.	Specific Location	Condition	Status		
								Owned with attached Proof	Leased with attached Proof from the Lessor	Under Purchase Agreement with attached Proof from the Vendor

This Certifies that the above list of equipment are in good working condition and will be available for use during the execution of the Project.

Submitted by : _____
(Printed Name & Signature)

Designation : _____

Date : _____

Note:

(a) if owned: Submit proof of ownership of equipment i.e. receipt, etc.

(b) If leased and/or under purchase agreement: submit proof of lease and/or under purchase agreement (with corresponding engine numbers, chassis numbers and/or serial numbers) and Certification of availability of equipment in good working condition for the duration of the Project issued by the Equipment Lessor/Vendor.

STATEMENT OF AVAILABILITY OF KEY PERSONNEL AND EQUIPMENT

[Date of Issuance]

[Name of the Head of the Procuring Entity]
[Position of the Head of the Procuring Entity]
[Name of Procuring Entity]
[Address of Procuring Entity]

Attention : The Chairman
Bids and Awards Committee

Dear Sir:

In compliance with the requirements of the Philippine Fisheries Development Authority (PFDA) for the bidding of the Construction, Rehabilitation and Improvement of Sual Fish Port, we certify that *[Name of the Bidder]* has in its employ key personnel, such as Project Manager, Project Engineers, Electrical Engineer, Mechanical Engineer, Sanitary Engineer, Environmental Specialist, Materials Engineer, Safety Officer and Foremen who may be engaged for the construction of the said contract.

Further, we likewise certify the availability of equipment that *[Name of the Bidder]* owns, has under lease, and/or has under purchase agreement that may be used for the construction contracts.

Very truly yours,

[Name of the Representative]
[Position]
[Name of Bidder]

Omnibus Sworn Statement

[shall be submitted with the Bid]

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

7. *[Name of Bidder]* complies with existing labor laws and standards; and

8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:

   a. Carefully examining all of the Bidding Documents;
   b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
   c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
   d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.

9. *[*Name *of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. <u>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.</u>

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

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

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

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

AFFIDAVIT OF SITE INSPECTION

I, ___*(Representative of the Bidder)*___, of legal age, __*(civil status)*__, Filipino and residing at ___*(Address of the Representative)*_, under oath, hereby depose and say:

1. That I am the __*(Position in the Bidder)*__ of the ___*(Name of the Bidder)*___, with office at ___*(Address of the Bidder)*___;

2. That I have inspected the site for the Construction Salcedo Municipal Fish Port;

3. That I am making this statement as part of the requirement for the Technical Proposal of the ___*(Name of the Bidder)*___ for the Construction of Salcedo Municipal Fish Port.

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

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

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

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

LIST OF PROPOSED Subcontractors

The Bidder is required to insert below the names of all Subcontractors (to include the Specialty Subcontractors) proposed for the Project and to indicate the specific work they will be required to undertake:

Name of Subcontractors	Elements of Work to be Undertaken

Provision of the above information shall not be taken to mean that the above-named Subcontractors will be acceptable in the event that the Bidder is awarded the Contract. Before being allowed to sublet any element of work, the selected Contractor will be required to further demonstrate the capabilities of the proposed Subcontractor and seek permission from the Engineer to sublet such work to that Subcontractor.

(Signed by Authorized Representative of the Bidder):
Date: _____

LETTER OF AUTHORITY TO VALIDATE SUBMITTED DOCUMENTS

The General Manager
Philippine Fisheries Development Authority
PCA Annex Bldg., Elliptical Rd., Diliman
Quezon City

Attention : The Chairman
Bids and Awards Committee

Dear Sir/Madame:

Reference is made to our Application for eligibility and to Bid for the hereunder contract

Name of Contract : _____
Location : _____
Brief Description : _____

In accordance with Republic Act 9184 and its Implementing rules and Regulations (IRR), we/I hereby authorize the Philippine Fisheries Development Authority or its authorized representative/s to verify the statements, documents and information submitted herewith to substantiate our eligibility to participate in the bidding for the above-mentioned contract.

You may contact the following persons to provide further information with regard to this application:

	NAME	TEL. NUMBER	FAX NUMBER
a. Technical Matters			
b. Financial Matters			
c. Personnel Matters			

Very truly yours,

_____
Name of firm/Contractor

By:

_____
Name and Signature of Authorized Representative
Position/Designation: _____
Date: _____

TECHNICAL COMPONENT ENVELOPE
Class "A" Document

Financial Documents

COMPUTATION OF NET FINANCIAL CONTRACTING CAPACITY (NFCC)

A. Summary of the Firm's/Contractor's assets and liabilities on the basis of the audited financial statement, stamped "RECEIVED" by the Bureau of Internal Revenue or BIR authorized collecting agent, for the immediately preceding year and a certified copy of Schedule of Fixed Assets particularly the list of construction equipment.

		Year 20__
1.	Total Assets	
2.	Current Assets	
3.	Total Liabilities	
4.	Current Liabilities	
5.	Total Net Worth (1-3)	
6.	Current Net Worth or Net Working Capital (2-4)	

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

NFCC = [(current asset – current liabilities) (15)] minus value of all outstanding contracts including those awarded contracts but not yet started

NFCC = Php _____

Submitted by:

_____
Name of Firm / Contractor

_____
Signature of Authorized Representative

Date: _____

NOTE:

As per Section 23.1.b) of IRR of R.A.9184: For Joint Venture Bidder, the partner responsible to submit the NFCC shall likewise submit the Statement of all its on-going contracts and Audited Financial Statements.

FINANCIAL COMPONENT ENVELOPE

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 guidelines[3] 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

[3] currently based on GPPB Resolution No. 09-2020

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

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: _____

SUMMARY SHEET INDICATING THE UNIT PRICES OF CONSTRUCTION MATERIALS, LABOR RATES AND EQUIPMENT RENTALS

The Bidder shall submit Summary Sheets indicating the unit prices of construction materials, labor rates and equipment rentals/owned/leased used in coming up with the Bid.

AS ATTACHMENT

Contract Name : _____
Location : _____

CASH FLOW BY QUARTER AND PAYMENT SCHEDULE

PARTICULAR	% WT.	1ST Quarter	2nd Quarter	3rd Quarter	4th Quarter	5th Quarter	6th Quarter	7th Quarter	8th Quarter	9th Quarter	10th Quarter	11th Quarter	12th Quarter
ACCOMPLISHMENT													
CASH FLOW													
CUMULATIVE ACCOMPLISHMENT													
CUMULATIVE CASH FLOW													

Submitted by:

Name of the Representative of the Bidder Date: _____
Position
Name of the Bidder

One of the requirements from the bidder to be included in its Financial Component Envelope is the Cash Flow by Quarter and Payment Schedule.

DRAFT CONTRACT

CONTRACT AGREEMENT FORM

[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 Signatory's Legal Capacity]* *for:* *[Insert Procuring Entity]*	*[Insert Name and Signature]* *[Insert Signatory's Legal Capacity]* *for:* *[Insert Name of Supplier]*

Acknowledgment

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

DRAFT Contract Agreement

KNOW ALL PERSONS BY THESE PRESENTS:

This Contract, made and entered into this _____ day of _____ by and between:

> The PHILIPPINE FISHERIES DEVELOPMENT AUTHORITY (PFDA), a government-owned corporation, established under Presidential Decree No. 977, with principal office address at the 2nd-4th Floors, PCA Annex Building, Elliptical Road, Diliman, Quezon City, herein represented by its General Manager, ATTY. GLEN A. PANGAPALAN and hereinafter referred as the AUTHORITY.

- AND–

Whereas, the Philippine Fisheries Development Authority (PFDA) is empowered by the Department of Agriculture (DA) to implement the Post-Harvest and other Infrastructure Component of the _____;

WHEREAS, in a public bidding conducted by the Authority, the bid of the Contractor has been determined as the lowest calculated responsive bid;

WHEREAS, under Board Resolution No. _____ dated _____ the PFDA Board of Directors award the Contract for _____.

NOW, THEREFORE, for and in consideration of the foregoing premises and mutual covenants, stipulation and agreements herein contain, the Authority and the Contractor have agreed, as they do hereby agree and contract, as follows:

ARTICLE I

CONTRACT DOCUMENTS

The following documents, hereinafter referred to as Contract Documents, shall be deemed integral parts of this Contract, as fully as if hereto attached or herein stated, and shall continue to govern and control in full force and effects the rights and obligations of the parties as if the documents were set forth in full except as otherwise modified by mutual agreement in writing of both parties, to wit:

a) Contract Agreement

b) Conditions of Contract

c) Drawings/Plans

d) Specifications

e) Invitation to Bid

f) Instruction to Bidders

g) Addenda

h) Bid Form including the following Annexes in Two (2) Envelopes:

The First Envelope shall contain of the eligibility and technical documents:

(a) Eligibility Documents:

Class “A” Documents

1. Registration Certificate from Securities & Exchange Commission (SEC) or Department of Trade and Industry (DTI)
2. Mayor’s permit
3. Statement of all its on-going and completed government and private contracts
4. PCAB License
5. Audited financial statements
6. NFCC computation
7. Tax Clearance

Class “B” Document:

1. Joint Venture Agreement, if applicable

(b) Technical Documents

1. Bid security as to form, amount and validity period
2. Organizational chart
3. List of contractor’s personnel
4. List of contractor’s equipment units, owned or leased
5. Sworn statement in accordance with Section 25.3 of the IRR of RA 9184
6. Affidavit of Site Inspection

The Second Envelope (Financial Proposal) shall contain the following:

1. Bid prices in the bill of quantities in the prescribed bid form
2. Detailed estimates including a summary sheet indicating the unit prices of construction materials, labor rates and equipment rentals used in coming up with the bid
3. Breakdown of Lump Sum Bid items

4. Cash flow by the quarter and payment schedule

i) Performance Security

j) Notice of Award of contract and contractor's "conforme" thereto

k) Other contract documents that may be required by the Authority

The Contract Documents shall be complementary and supplementary to each other and what is called for or prescribed by one shall be considered as if called or prescribed by the other. In case of any discrepancy between, or of any defective prescription, errors, omissions, or ambiguity in any of the Contract Documents, the Contractor shall promptly submit the matter in writing. Such determination by the Authority shall be final and binding upon the Contractor and the latter shall accordingly proceed with the work strictly in accordance with such determination.

ARTICLE II

CONTRACTOR'S UNDERTAKING

The Contractor shall, in accordance with the provision and subject to the terms and conditions contained in the Contract Documents and supplied by the Authority and the Authority's written corrective determination mentioned in Article I hereof, fully and faithfully furnish to the satisfaction of the Authority all necessary labor, equipment, materials, tools, supplies, machinery and perform all operations (including mobilization, supervision and other similar or necessary acts) required for the _____ complete and ready for use and services as per plans and specifications.

ARTICLE III

CONTRACT PRICE

In consideration of the work to be performed by the Contractor as specified in Article II, the Authority shall pay the Contractor the fixed sum of _____ in the manner herein prescribed. It is understood that that all billings shall be based on work actually performed as verified by the Authority.

All payments made by the Authority to the Contractor shall be at all times subject to the usual government accounting and auditing procedures and requirements.

This amount is deemed full compensation for everything furnished and done by the Contractor under this Contract, including all works required but not specifically mentioned and also for all losses or damages arising out of the work aforesaid from the action of the elements or from any obstruction or difficulty encountered in the prosecution of this Contract, for all expenses incurred by or in consequence of the suspension or discontinuance of the Contract and the whole thereof, at the time and in the manner provided in the Contract Documents.

ARTICLE IV

MANNER OF PAYMENT

The Authority shall pay the Contractor the Price of _____ _____ subject to the following terms and conditions:

1. The CONTRACTOR, upon his request shall receive from the AUTHORITY an advance payment equivalent to fifteen percent (15%) of the total Contract Price.
2. The advance payment shall be made only upon submission to and acceptance by the AUTHORITY of an irrevocable standby letter of credit of equivalent value from a commercial bank or a guarantee payment bond, callable on demand, issued by a surety or insurance company duly licensed by the Office of the Insurance Commissioner and confirmed by the AUTHORITY.
3. The advance payments shall be repaid by the Contractor by deducting fifteen percent (15%) from its periodic progress payments.
4. The AUTHORITY shall have the right to deduct from the CONTRACTOR progress billing certain amount as may be necessary to cover third party liabilities, as well as uncorrected discovered defects in the project.
5. The CONTRACTOR, shall therefore, receive its progress payment less the retention money, 2.0% expanded withholding tax, 5% Final VAT and other deductions provided for the Contractor, if any.

ARTICLE V

WORK COMPLETION

The work called for in this Contract, as specified in Article II hereof, shall be completed within _____ calendar days. This Contract time shall commence to run after ten (10) calendar days following the receipt by the CONTRACTOR of the Notice to Proceed issued by the AUTHORITY.

The CONTRACTOR, may, however, ask for extension of the contract period through a written request submitted to the AUTHORITY prior to the expiration of the contract time and within thirty (30) calendar days after such work has been commenced or after the circumstances leading to such claim have arises.

Condition for the granting of extension of contract time shall be based on the applicable provisions of the Implementing Rules and Regulations of RA 9184.

ARTICLE VI

PERFORMANCE SECURITY

Before the signing of the Contract, the Contractor shall furnish the AUTHORITY a performance security in the form of cash, certified check, manager's check, cashier's check, bank draft, bank guarantee, letter of credit issued by a reputable bank, surety bond callable on demand, issued by the Government Service Insurance System or by a surety or insurance companies duly accredited by the Office of the Insurance Commissioner, or a combination thereof, in accordance with the following schedule:

a. Cash, or cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit issued by a Universal of Commercial Bank-ten percent (10%) of the total contract price.

b. Surety bond callable on demand issued by a surety or insurance company duly certified by the Insurance commission as authorized to issue such security-thirty percent (30%) of the contract price.

The performance security shall be posted in favor of the AUTHORITY and shall guarantee the faithful performance by the CONTRACTOR of its obligations under the contract prepared in accordance with the bidding documents.

The performance security shall be posted in favor of the AUTHORITY, and shall be forfeited in favor of the AUTHORITY in the event it is established that the CONTRACTOR is in default in its obligations in this contract.

The following provisions shall form part of the performance security: “The right to institute action on the penal bond pursuant to Act No. 3688 if any individual firm, partnership, corporation and association supplying the CONTRACTOR with labor and material for the prosecution of the work is hereby acknowledge and confirmed.

Subject to the conditions of the contract, the performance security may be released by the AUTHORITY after the issuance of the Certificate of Completion of the contract, provided that there are no claims for labor and materials filed against the contractor or the surety company.

The CONTRACTOR shall post an additional performance security to cover any cumulative increase of more than ten percent (10%) over the original value of the contract as a result of adjustments in unit prices, and/or change orders extra work orders, and supplemental agreements. The CONTRACTOR shall post the extension of the validity of the performance security to cover approved contract time extensions.

ARTICLE VII

RETENTIONS

The AUTHORITY shall deduct and withhold from every progress payment due to the Contractor an amount equivalent to ten percent (10%) of the amount due as retention. After fifty percent (50%) of the work shall have been completed to the satisfaction of the AUTHORITY and in accordance with the time schedule of work completion, no further amount shall be withheld or retained from any subsequent progress payments.

All amounts withheld or retained shall be paid to the Contractor upon final acceptance of the work and only after presentation to the Authority by the Contractor of a Guaranty Bond issued by the GSIS in an amount equivalent to ten percent (10%) of the total contract price including the cost of extra work if any, and affidavit executed by the Contractor stating that all wages and salaries of each employee, cost of materials and/or supplies, damages if any, or other obligations arising out this contract, whether directly or indirectly have all been fully paid or settled, subject to No. 5 Art. Hereof.

ARTICLE VIII

OPTION TO COMPLETE WORK

In any case the CONTRACTOR, at any time before the satisfactory completion of the work and acceptance by the Authority of the project, should fail, refuse or neglect to supply

the needed materials, equipment or workmen or should abandon the project, the Authority may, at its option, provide materials, equipment and all necessary labor, after giving the Contractor a written notice at least three (3) days before supplying the said materials, equipment or labor in order to complete the project.

The AUTHORITY may then proceed with the execution of the project in accordance with the plans and specifications until the same is completed. The AUTHORITY may, in the same event, engage the service of another Contractor to complete the work in accordance with the contract. In any case, the AUTHORITY shall have the right to charge the cost of completion of the project to the Contractor, directly against his performance security, if under this or if any other contract. Nothing in this Article shall relieve the Contractor or in any diminish its responsibility to the AUTHORITY for all cases, the Contractor shall be liable to the AUTHORITY for all forms of damages that may be suffered by it, by reason of the Contractor's failure, refusal or neglect to supply the necessary materials, equipment and labor or its abandonment of the project.

ARTICLE IX

DELAY AND LIQUIDATED DAMAGES

It is understood that in the execution of the work herein contracted, time is of essence. For that matter, if the Contractor refuses or fails to complete the undertaking called for within the contract period as specified herein, or any extension or extensions thereof, the Contractor shall pay the AUTHORITY the fixed and liquidated damages or to collect or charge such liquidated damages against the performance security filed by the Contractor or from the retention money, whichever is convenient and expeditious to the AUTHORITY; provided, however, that no liquidated damages or any excess cost shall be charged when the delay in the completion of the undertaking is due to unforeseeable of fortuitous events or causes beyond the control and without the fault or negligence of the Contractor, or to any cause directly attribution to the AUTHORITY.

The determination of the amount of liquidated damages shall be based on the applicable provisions of RA 9184.

ARTICLE X

LIABILITY TO THIRD PERSONS

All damages and losses of whatever nature that may be suffered by third persons as a result, directly or indirectly, of the fault or negligence of the Contractor in the execution of its work or performance of its undertaking under this contract shall be sole responsibility of the Contractor. The Contractor therefore shall save and hold the AUTHORITY free and exempt from all claims for damages, losses, penalties and liabilities of whatever kind or nature including all causes of action, suits, judgments arising from death or injury to person or damage to property resulting from the Contractor's fault or failure to exercise the diligence required in the execution of its work and in the performance of its undertakings.

It is the duty of the Contractor, in order to minimize if not eliminate the incidence of such damages or losses that may be inflicted upon third persons, to provide all necessary safeguards including the posting of warning signs strategic points of the work area and its

vicinity to the end that incidents that may result in injury or death to persons and damage to property may be avoided or prevented.

ARTICLE XI

WARRANTY

The Contractor shall assume full responsibility for the contract work from the time project construction commenced up to final acceptance by the AUTHORITY and shall be held responsible for any damage or destruction of the works except those occasioned by force majeure. The Contractor shall be fully responsible for the safety, protection, security, and convenience of his personnel, third parties, and the public at large, as well as the works, equipment, installation and the like to be affected by his construction work and shall be required to put up a warranty security in accordance with the following schedule:

a. Cash or letter of credit - five percent of the contract price

b. Bank guarantee – ten percent of the contract price

c. Surety bond callable on demand – thirty percent of the contract price

The warranty security shall remain effective during the applicable warranty period in Section 62.2; specifically under sub-sections 62.2.1; 62.2.2; 62.2.3; and 62.2.4 of RA 9184 and shall be returned only after the lapse of the said warranty period.

ARTICLE XII

NO EMPLOYER-EMPLOYEE RELATIONSHIP

The Contractor is not an employee of the AUTHORITY and there is absolutely no employer employee relationship between them. All personnel, workmen and laborers hired by the Contractor, all persons contracted by its sub-contractors, if allowed under Art. XVII hereof, for the work shall be deemed employees or agents of the Contractor solely and never that of the AUTHORITY. Hence, personal injury or death, or any other forms of damages, caused by the said employees or agents or sub-contractor.

ARTICLE XIII

SUPPLETORY USE OF CONTRACT DOCUMENTS

The contract documents shall be suppletory to this contract. Any and all deficiencies in the provision of this contract intended to be covered hereby otherwise connected with or related to the project covered hereby, but no expressly covered by the provisions of this contract, shall be supplied by the contract documents.

In case of irreconcilable conflict between the provisions of the contract documents and agreement, the latter shall prevail.

ARTICLE XIV

VALIDITY CLAUSE

If any or any condition of this contract is held invalid or contrary to law, the validity of the other terms and conditions hereof shall not be affected thereby.

ARTICLE XV

CONTRACT TERMINATION AND JURISDICTION

Should the Contractor fail to comply with any of its obligations and responsibilities or violate any of the terms and conditions hereof, the AUTHORITY may terminate this contract without need of judicial action or intervention by serving upon the Contractor a written notice to that effect at least fifteen (15) days prior to the intended date of termination; provided, that such termination shall not relieve the Contractor of its liabilities and responsibilities under this contract nor shall the AUTHORITY, by such termination be deemed to have waived any right that may have accrued in its favor and against the Contractor.

ARTICLE XVI

TAXES, DUTIES AND FEES

The Contractor shall give all necessary notice to and obtain the necessary permits and sanction of the proper government authorities in respect to the project. All taxes, duties and fees of whatever nature arising out of, or connected with this contract, execution of work contemplated herein, or which may be due and payable in all tools, equipment, labor and materials, plants, supplies and other facilities necessary for the performance and accomplishment of the project, including the transport or movement thereof, shall be for the sole account and responsibility of the Contractor. Any fee, imposition, charge, fine, penalty or loss or damage paid or incurred by the AUTHORITY by reason of any breach of this stipulation by the Contractor shall be reimbursed by the Contractor as soon as the demand therefore is made by the AUTHORITY.

The Contractor certifies under oath that is free and clear of all tax liabilities to the government and will pay the taxes in full and on time. Failure to do so will entitle the AUTHORITY to suspend payment for the work accomplished by the Contractor. Moreover, the Contractor is required to regularly present within the duration of the contract, appropriate tax clearance from the Bureau of Internal Revenue as well as a copy of its income and business tax returns duly stamped and received by the Bureau of Internal Revenue and duly validated with the tax payments made thereon.

ARTICLE XVII

ASSIGNMENT AND SUB-CONTRACTING

The Contractor shall not assign its rights or obligations under this contract, nor sub-contract any portion of the work covered by this contract, without the prior written approval of the AUTHORITY. Violation of these conditions shall be sufficient ground for the termination by the AUTHORITY of this contract.

ARTICLE XVIII

NON-WAIVER OF RIGHTS

No document, except the Certificate of Final Acceptance, shall be accepted as evidence of the satisfactory completion of the project. No proof of payment shall be taken or construed as an acceptance of satisfactory performance of the work or the good quality of the materials used, whether in whole or in part as contemplated in this contract.

ARTICLE XIX

VENUE OF ACTION

The venue of any action or suit arising out of or necessarily connected with this contract for whatever cause shall be the proper courts of Quezon City.

ARTICLE XXI

CONTRACT EFFECTIVITY

Notwithstanding, full compliance with all the legal requirements for the effectivity of this contract, no rights or obligations shall be accrues in favor of any against any party hereunder unless and until written certification to the funds cover the cost of the contract are available is issued by the Chief, Accountant of the AUTHORITY, who shall, for this purpose, affix her/his signature hereon as an instrumental witness and certify to the availability of funds pursuant to and in accordance with the existing laws.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be signed in their names through their respective authorized representatives this _____ in Quezon City.

PHILIPPINE FISHERIES
DEVELOPMENT AUTHORITY

BY: BY:

_____ _____
General Manager

SIGNED IN THE PRESENCE OF:

Accounting Division _____

A C K N O W L E D G M E N T

REPUBLIC OF THE PHILIPPINES)

QUEZON CITY) S.S.

BEFORE ME, a Notary Public for and in Quezon City, personally appeared on this _____ day of _____,___ the following persons with their valid identification cards as follows:

Name	Type of I.D. & No.
_____	_____
_____	_____
_____	_____

ALL known to me and to me known as the same persons who executed the foregoing Contract consisting of _____ (__) pages including this page and they acknowledge to me that the same is their true and voluntary act and deed.

WITNESS, MY HAND AND SEAL, in the date and place, first above written.

_____
Notary Public

Doc. No. _____ Page No. _____

Book No. _____

Series of _____

PERFORMANCE SECURING DECLARATION

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

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

PERFORMANCE SECURING DECLARATION

Invitation to Bid: [Insert Reference Number indicated in the Bidding Documents]

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacturer/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.

2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years **for the second offense**, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;

3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:

    a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
        i. Procuring Entity has no claims filed against the contract awardee;
        ii. It has no claims for labor and materials filed against the contractor; and
        iii. Other terms of the contract; or

    b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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

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

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

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

NAME OF NOTARY PUBLIC
Serial No. of Commission _____
Notary Public for _____ until _____
Roll of Attorneys No. _____
PTR No. _____ *[date issued], [place issued]*
IBP No. _____ *[date issued], [place issued]*

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

FOR DESIGN AND CONSTRUCTION: TECHNICAL ASPECTS

(To be included as Supporting Documents in the First Envelope)

TPF 1. DESIGNER'S REFERENCES

Relevant Services Carried Out That Best Illustrate Qualifications

Using the format below, provide information on each project for which your firm/entity, either individually, as a corporate entity, or as one of the major companies within an association, was legally contracted.

<table>
<tr><td colspan="2">Project Name:</td><td>Country:</td></tr>
<tr><td colspan="2">Location within Country:</td><td>Professional Staff Provided by Your Firm/Entity(profiles):</td></tr>
<tr><td colspan="2">Name of Client:</td><td>No. of Staff:</td></tr>
<tr><td colspan="2">Address:</td><td>No. of Staff-Months; Duration of Project:</td></tr>
<tr><td>Start Date (Month/Year):</td><td>Completion D (Month/Year):</td><td>Approx. Value of Services (in Current US$):</td></tr>
<tr><td colspan="2">Name of Associated Consultants, if any:</td><td>No. of Months of Professional Staff Provided by Associated Consultants:</td></tr>
<tr><td colspan="3">Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions Perform</td></tr>
<tr><td colspan="3">Narrative Description of Project:</td></tr>
<tr><td colspan="3">Description of Actual Services Provided by Your Staff:</td></tr>
</table>

Consultant's Name: _____

TPF 2. COMMENTS AND SUGGESTIONS OF DESIGNER ON THE TERMS OF REFERENCE, MINIMUM PERFORMANCE STANDARDS AND SPECIFICATIONS (MPSS), AND DATA PROVIDED BY THE PROCURING ENTITY

Terms of Reference

1.

2.

3.

Minimum Performance Specifications and Parameters:

1.

2.

3.

Data Provided by the Procuring Entity:

1.

2.

3.

TPF 3a. DESCRIPTION OF METHODOLOGY AND WORK PLAN FOR PERFORMING THE PROJECT (Design)

The Bidder shall submit a design methodology which addresses the key items identified in the Employer's Requirements, which include, inter alia, the following:

(a) Organizational arrangements for the design, including: team structure, roles and responsibilities, design works plan, interface arrangements, design review and approval procedures, and quality assurance arrangements;

(b) Proposed design deliverables (Per TOR requirements);

(c) Design statement to describe the approach and methodology that demonstrate the capability in the design of the Project, as described in the Employer's Requirements, which the design statement shall cover the following aspects:

i. Topographic and Hydrographic Survey
ii. Geotechnical Investigation
iii. Hydrologic and Hydraulic Study
iv. Design of the construction of Causeway
v. Design of Market Hall with Administration Office and Public Comfort Room
vi. Design for the construction of Ice Plant and Ice Storage
vii. Design of Guard House
viii. Design of Elevated Water Tank

(d) Any added value the Bidder will bring or examples of innovative aspects of the design;

(e) Details of the approach to managing risks, stakeholder engagement, consultation, and environmental permits/consents; and

(f) Value Engineering

TPF 3b. CONSTRUCTION MANAGEMENT STRATEGY AND METHOD STATEMENT FOR CONSTRUCTION INCLUDING PERT-CPM

The Bidder shall submit a construction management strategy as per Employer's Requirements, which address, inter alia, the following:

(a) Organizational arrangements for construction management, including team structure, roles and responsibilities, interface arrangements, and quality assurance arrangements;

(b) Subcontractor selection and management;

(c) Support from the Employer in obtaining and managing consents, permits, and approvals from third parties;

(d) Site setup proposals, including access, accommodation, welfare facilities and arrangement for plant and material storage;

(e) Construction phasing proposals, including sequence of work methodology and management of conflicting activities which shall cover the following aspects:

i. Construction of Causeway
ii. Construction of Market Hall with Administration Office and Public Comfort Room
iii. Construction of Ice Plant and Ice Storage
iv. Construction of Guard House
v. Construction of Elevated Water Tank

(f) Risk management approach for geotechnical and subsurface aspects of the Works;

(g) Quality management system, including a draft of the Quality Management Plan;

(h) Preparation, approval, and implementation for the Contractor's Environmental and Social Management Plan;

(i) Preparation, approval, and implementation for the Contractor's Health and Safety Management Plan;

(j) Reporting arrangements;

(k) Arrangements for site handover, including completion of As-Built Drawings, preparation of operating and maintenance manuals, and any other relevant aspects, and;

(l) Appreciation of any key construction constraints or difficulties of the Project and the technical solutions.

TPF 4. TEAM COMPOSITION AND TASKS

Design

1. Technical/Managerial Staff		
Name	Position	Task

2. Support Staff		
Name	Position	Task

Construction

1. Technical/Managerial Staff		
Name	Position	Task

2. Support Staff		
Name	Position	Task

TPF 5. FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

Proposed Position: _____

Name of Firm: _____

Name of Staff: _____

Profession: _____

Date of Birth: _____

Years with Firm/Entity: _____ Nationality: _____

Membership in Professional Societies: _____

_____

Detailed Tasks Assigned: _____

_____

Key Qualifications:

[*Give an outline of staff member's experience and training most pertinent to tasks on project. Describe degree of responsibility held by staff member on relevant previous projects and give dates and locations. Use about half a page.*] **Training should be supported with Certificate of Training or equivalent document.**

_____

Education:

[*Summarize college/university and other specialized education of staff members, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page.*] **To be supported with Diploma or equivalent document.**

_____

Employment Record:

[*Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of projects. For experience in last ten years, also give types of activities performed and client references, where appropriate. Use about two pages.*]

_____

Languages:

[*For each language, indicate proficiency: excellent, good, fair, or poor in speaking, reading, and writing.*]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

_____Date: _____
[Signature of staff member and authorized representative of the firm] Day/Month/Year

Full name of staff member: _____
Full name of authorized representative: _____

Commitment:

I, the undersigned, hereby confirm that I am exclusively committed with ***[Name of Consultant]***. I firmly commit to assume the post of {Propose Position] for the ***[Name of Project]***, and that I will fully be available to undertake the complete assignment in the Technical Proposal.

_____
Signature over Printed Name

SUBSCRIBED AND SWORN to before me this *[Date]* at *[Place]* affiant having exhibited to me his Community Tax No. _____ issued on *[Date]* at *[Place]*.

Doc. No_____;
Page No _____;
Book No _____;
Series_____

TPF 6. TIME SCHEDULE FOR PROFESSIONAL PERSONNEL

			Months (in the Form of a Bar Chart)												
Name	Position	Reports Due/Activities	1	2	3	4	5	6	7	8	9	10	11	12	Number of Months
Design															Subtotal (1)
Construction															Subtotal (2)
															Subtotal (3)
															Subtotal (4)

Full-time: _____ Part-time: _____
Reports Due: _____
Activities Duration: _____
Location _____ Signature:_
(Authorized representative)

Full Name:_____
Title:_____
Address**:**_____

TPF 7a. ACTIVITY (WORK) SCHEDULE (Design)

A. Field Investigation and Study Items

	[1st, 2nd, etc. are months from the start of project.]												
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	
Activity (Work)													
_____													
_____													
_____													
_____													

B. Completion and Submission of Reports

Reports	Date
1. Inception Report	
2. Interim Progress Report (a) First Status Report (b) Second Status Report	
3. Draft Report	
4. Final Report	

TPF 7b. ACTIVITY (WORK) SCHEDULE (Construction)

Bar Chart/PERT-CPM

FOR DESIGN SERVICES: FINANCIAL ASPECTS

(TO BE INCLUDED AS SUPPORTING DOCUMENTS IN THE SECOND ENVELOPE)

FPF 1. SUMMARY OF COSTS

Detailed Engineering Design	Quantity	Unit	Amount
Total Detailed Engineering Design Cost	1.00	l.s.	_____

SCOPE OF WORK SUMMARY COST

SCOPE OF WORK SUMMARY COST
(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Embankment and Slope Protection

Quantity Unit: 12,012.00 Cubic Meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(SITE DEVELOPMENT WORKS**)**

Part: B

Scope of Work: Piling Works

Quantity Unit: 2,992.00 linear meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST (SITE DEVELOPMENT WORKS)					
Part: B					
Scope of Work: Stair Landing					
Quantity Unit: 28.00 linear meter					
Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Concrete Pavement

Quantity Unit: 2,145.00 square meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Mooring System

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Causeway

Quantity Unit: 709 square meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Storm Drain and Sewerage System

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Outside Water Distribution System

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(SITE DEVELOPMENT WORKS)

Part: B

Scope of Work: Outside Lighting and Power Distribution System

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(SITE DEVELOPMENT WORKS)

Part: B					
Scope of Work: Miscellaneous Work Items					
Quantity Unit: Lump Sum					
Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(BUILDING FACILITIES)

Part: C

Scope of Work: Market Hall

Quantity Unit: 125 square meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(BUILDING FACILITIES)

Part: C

Scope of Work: Administration Office with Public Toilet

Quantity Unit: 50 square meter

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST (BUILDING FACILITIES)					
Part: C					
Scope of Work: Ice Plant and Ice Storage					
Quantity Unit: 195 square meter					
Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(BUILDING FACILITIES)

Part: C

Scope of Work: Guard House and Elevated Water Tank

Quantity Unit: 4 square meter each

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(ELECTRO-MECHANICAL AND OTHER RELATED WORKS)

Part: D

Scope of Work: Ice Making Equipment

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(ELECTRO-MECHANICAL AND OTHER RELATED WORKS)

Part: D

Scope of Work: Ice Storage Room

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(ELECTRO-MECHANICAL AND OTHER RELATED WORKS**)**

Part: D

Scope of Work: Generator Set

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST

(ELECTRO-MECHANICAL AND OTHER RELATED WORKS)

Part: D

Scope of Work: Supply of tools, spare parts and consumables

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST (ELECTRO-MECHANICAL AND OTHER RELATED WORKS)					
Part: D					
Scope of Work: Motor Control Center (including concrete pedestal)					
Quantity Unit: Lump Sum					
Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST **(**ELECTRO-MECHANICAL AND OTHER RELATED WORKS**)**					
Part: D					
Scope of Work: Reliability trial testing of whole facility (2-weeks)					
Quantity Unit: Lump Sum					
Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

SCOPE OF WORK SUMMARY COST
(ELECTRO-MECHANICAL AND OTHER RELATED WORKS)

Part: D

Scope of Work: Air Conditioning Unit

Quantity Unit: Lump Sum

Item Spec No.	Description	Unit	Qty.	Unit Cost	Total Cost (Peso)
	Total Cost				
	Unit Cost				

DETAILED COST ESTIMATES (DERIVATION OF UNIT COST AND LUMP SUM ITEMS)

Construction of El Nido Municipal Fish Port

UNIT PRICE ANALYSIS

Pay Item No. : **Unit Price :** **P / UNIT**
Description : **Quantity :** **UNIT**

REF. NO.	DESCRIPTION	QTY.	UNIT	NO. OF HOURS	UNIT COST	TOTAL AMOUNT
A.	EQUIPMENT					
	TOTAL (A)					
B.	LABOR					
	TOTAL (B)					
	OUTPUT	.....	UNIT / hr			
	TOTAL (A + B)					
	UNIT COST (EQUIP. + LABOR)		P / UNIT			
C.	MATERIAL/BASIC ITEM					
	TOTAL (C)					
	UNIT COST (MATERIAL)		P / UNIT			
D.	ESTIMATED DIRECT COST (EDC)					
E.	DIRECT UNIT COST (EDC/QUANTITY)					
F.	OVERHEAD, CONTINGENCIES & MISCELLANEOUS			..... %		
G.	PROFIT			..... %		
H.	VALUE ADDED TAX			5 %		
I	TOTAL COST (D + F + G + H)					
	TOTAL UNIT PRICE (I / QTY.)		P / UNIT			