c. Construction Joints

Unless otherwise specified herein, all construction joints shall be subject to approval of the Engineer. Concrete shall be placed continuously so that the unit will be monolithic in construction. Fresh concrete may be placed against adjoining units, provided the set concrete is sufficiently hard not to be injured thereby. Joints not indicated shall be made and located in a manner not to impair strength and appearance of the structure. Placement of concrete shall be at such rate that the surface of concrete not carried to joint levels will not have attained initial set before additional concrete is placed thereon. Lifts shall terminate at such levels as are indicated or as to conform to structural requirements as directed. If horizontal construction joints are required, a strip of 25mm square-edged lumber, beveled to facilitate removal shall be tacked to the inside of the forms at the construction joint. Concrete shall be placed to a point 25mm above the underside of the strip. The strip shall be removed one hour after the concrete has been placed. Any irregularities in the joint line shall be leveled off with a wood float, and all laitance removed. Prior to placing additional concrete, horizontal construction joints shall be prepared.

Construction Joint which is not indicated in the Drawings shall be located as to least affect the strength of the structure. Such locations will be pointed out by the Engineer.

PREPARATION FOR PLACING

Hardened concrete, debris and foreign materials shall be removed from the interior of forms and from inner surfaces of mixing and conveying equipment. Reinforcement shall be secured in position, and shall be inspected, and approved before placing concrete. Runways shall be provided for wheeled concrete-handling equipment. Such equipment shall not be wheeled over reinforcement nor shall runways be supported on reinforcement.

Notice of any concreting operations shall be served to the Engineer at least three (3) days ahead of each schedule.

PLACING CONCRETE

1. Handling Concrete

Concrete shall be handled from mixers and transported to place for final deposit in a continuous manner, as rapidly as practicable, and without segregation or loss of ingredients until the approved unit of work is completed. Placing will not be permitted when the sun, heat, wind or limitations of facilities furnished by the Contractor prevent proper finishing and curing of the concrete. Concrete shall be placed in the forms, as close as possible in final position, in uniform approximately horizontal layers not over 40cm deep. Forms splashed with concrete and reinforcement splashed with concrete or form coating shall be cleaned in advance of placing subsequent lifts. Concrete shall not be allowed to drop freely more than 1.5m in unexposed work nor more than 1.0 m in exposed work; where greater drops are required, tremie or other approved means shall be employed.

2. Time Interval between Mixing and Placing

Concrete mixed in stationary mixers and transported by non-agitating equipment shall be placed in the forms within 30 minutes from the time ingredients are charged into the mixing drum. Concrete transported in truck mixers or truck agitators shall be delivered to the site of work, discharged in the forms within 45 minutes from the time ingredients are

discharged into the mixing drum. Concrete shall be placed in the forms within 15 minutes after discharged from the mixer at the jobsite.

3. Hot Weather Requirements

The temperature of concrete during the period of mixing while in transport and/or during placing shall not be permitted to rise above 36 °C. Any batch of concrete which had reached a temperature greater than 36 °C at any time in the aforesaid period shall not be placed but shall be rejected, and shall not thereafter be used in any part of the permanent works.

a. Control Procedures

Provide water cooler facilities and procedures to control or reduce the temperature of cement, aggregates and mixing handling equipment to such temperature that, at all times during mixing, transporting, handling and placing, the temperature of the concrete shall not be greater than 36 °C.

b. Cold Joints and Shrinkage

Where cold joints tend to form or where surfaces set and dry too rapidly or plastic shrinkage cracks tend to appear, concrete shall be kept moist by fog sprays, or other approved means, applied shortly after placement, and before finishing.

c. Supplementary Precautions

When the aforementioned precautions are not sufficient to satisfy the requirements herein above, they shall be supplemented by restricting work during evening or night. Procedure shall conform to American Concrete Institute Standard ACI 305.

4. Conveying Concrete by Chute, Conveyor or Pump

Concrete may be conveyed by chute, conveyor, or pump if approved in writing. In requesting approval, the Contractor shall submit his entire plan of operation from the time of discharge of concrete from the mixer to final placement in the forms, and the steps to be taken to prevent the formation of cold joints in case the transporting of concrete by chute, conveyor or pump is disrupted. Conveyors and pumps shall be capable of expeditiously placing concrete at the rate most advantageous to good workmanship. Approval will not be given for chutes or conveyors requiring changes in the concrete materials or design mix for efficient operation.

a. Chutes and Conveyors

Chutes shall be of steel or steel lined wood, rounded in cross section rigid in construction, and protected from overflow. Conveyors shall be designed and operated and chute sections shall be set, to assure a uniform flow of concrete from mixer to final place of deposit without segregation of ingredients, loss of mortar, or change in slump. The discharged portion of each chute or conveyor shall be provided with a device to prevent segregation. The chute and conveyor shall be thoroughly cleaned before and after each run. Waste material and flushing water shall be discharged outside the forms.

b. Pumps shall be operated and maintained so that a continuous stream of concrete is delivered into the forms without air pockets, segregation or changes in slump.

When pumping is completed, concrete remaining in the pipeline shall be ejected and wasted without contamination of concrete already placed. After each operation, equipment shall be thoroughly cleaned and the flushing water shall be splashed outside the forms.

5. Wall and Abutments

No load shall be placed upon finished walls, foundations or abutments until authorized by the Engineer. Minimum time before loading shall be 7 days.

6. Concrete Placing on Wharf

When placing concrete on wharf decks, the Contractor shall:

Ensure that rate of placing is sufficient to complete proposed placing, finishing and curing operations within the scheduled time; that experienced finishing machine operators and concrete finishers are provided to finish the deck; that curing equipment and finishing tools and equipment are at the site of work and in satisfactory condition for use.
Immediately prior to placing, the Contractor shall place scaffolding and wedges and make necessary adjustments. Care shall be taken to ensure that settlement and deflection due to added weight of concrete will be minimal. The Contractor shall provide suitable means to readily permit measurement of settlement deflection as it occurs.

Should any event occur which, in opinion of the Engineer, would prevent the concrete conforming to specified requirements, the Contractor shall discontinue placing of concrete until corrective measures are provided satisfactory to the Engineer. If satisfactory measures are not provided prior to initial set of concrete in affected areas, the Contractor shall discontinue placing concrete and install a bulkhead at a location determined by the Engineer. Concrete in place beyond bulkheads shall be removed. The Contractor shall limit the size of casting to that which can be finished before beginning of initial set.

COMPACTION

1. Immediately after placing, each layer of concrete shall be completed by internal concrete vibrators supplemented by hand-spading, rodding, and tamping. Tapping or other external vibration of forms will not be permitted unless specifically approved by the Engineer. Vibrators shall not be used to transport concrete inside the forms. Internal vibrators submerged in concrete shall maintain a speed of not less than 7,000 impulses per minute. The vibrating equipment shall at all times be adequate in number of units and power to properly consolidate all concrete.

2. Spare units shall be on hand as necessary to insure such adequacy. The duration of vibrating equipment shall be limited to the time necessary to produce satisfactory consolidation without causing objectionable segregation. The vibrator shall not be inserted into the lower courses that have begun to set. Vibrator shall be applied vertically at uniformly spaced points not further apart than the visible effectiveness of the machine.

EPOXY BONDING COMPOUND

Before depositing new concrete on or against concrete that has set, the surfaces of the set concrete shall be thoroughly cleaned so as to expose the coarse aggregate and be free of laitance,

coatings, foreign matter and loose particles. Forms shall be re-tightened. The cleaned surfaces shall be moistened, but shall be without free water when concrete is placed. ASTM C 881. Provide Type I for bonding hardened concrete to hardened concrete; Type II for bonding freshly mixed concrete to hardened concrete; and Type III as a binder in epoxy mortar or concrete, or for use in bonding skid-resistant materials to hardened concrete. Provide Class B if placement temperature is between 4 to 16 °C; or Class C if placement temperature is above 16°C.

FINISHES OF CONCRETE

Within 12 hours after the forms are removed, surface defects shall be remedied as specified herein. The Temperature of the concrete, ambient air and mortar during remedial work including curing shall be above 10 °C. Fine and loose material shall be removed. Honeycomb, aggregate pockets, voids over 13mm in diameter, and holes left by the rods or bolts shall be cut out to solid concrete, reamed, thoroughly wetted, brush-coated with neat cement grout, and filled with mortar. Mortar shall be a stiff mix of one part Portland cement to not more than 2 parts fine aggregate passing the No. 16 mesh sieve, with a minimum amount of water. The color of the mortar shall match the adjoining concrete color. Mortar shall be thoroughly compacted in place. Holes passing entirely through walls shall be completely filled from the inside face by forcing mortar through the outside face. Holes which do not pass entirely through wall shall be packed full. Patchwork shall be finished flush and in the same plane as adjacent surfaces. Exposed patchwork shall be finished to match adjoining surfaces in texture and color. Patchwork shall be damp-cured for 72 hours. Dusting of finish surfaces with dry material or adding water to concrete surfaces will not be permitted.

CONCRETE FINISHING DETAILS

1. Concrete Paving

   After concrete is placed and consolidated, slabs shall be screeded or struck off. No further finish is required.

2. Smooth Finish

   Required only where specified; screed concrete and float to required level with no coarse aggregate visible. After surface moisture has disappeared and laitance has been removed, the surface shall be finished by float and steel trowel. Smooth finish shall consist of thoroughly wetting and then brush coating the surfaces with cement to not more than 2 parts fine aggregate passing the no. 30 mesh sieve and mixed with water to the consistency of thick paint.

3. Broom Finish

   Required for paving; the concrete shall be screeded and floated to required finish level with no coarse aggregate visible. After the surface moisture has disappeared and laitance has been removed, surface shall be float-finished to an even, smooth finish. The floated surfaces shall be broomed with a fiber bristle brush in a direction transverse to the direction of the main traffic.

# ITEM 06 : PORTLAND CEMENT CONCRETE PAVEMENT

## SCOPE OF WORK

The works include the furnishing of all labor, materials and equipment required for the construction of gravel base course and concrete pavement. The works shall be in accordance with the lines and grades shown on the Drawings and in conformity with the Specifications.

## MATERIAL REQUIREMENTS

Cement

Portland cement shall conform to the requirements of the Section "Reinforced Concrete".

Fine Aggregate

The fine aggregate shall be well-graded from coarse to fine and shall conform to the requirements of the Section "Reinforced Concrete".

Coarse Aggregate

Coarse aggregate shall conform to the requirements of the Section "Reinforced Concrete".

Water

Clean, fresh, potable water shall be used for the mixing of all concrete and mortar and shall be from a source approved by the Engineer. Sea water or brackish water shall not be used.

Admixture

Admixture shall only be used with the written permission of the Engineer. If air-entraining agents, water reducing agents, set retarders or strength accelerators are permitted to be used, they shall not be used in greater dosages than those recommended by the manufacturer, or as permitted by the Engineer. The cost shall be considered as already in the Contractor's unit cost bid for concrete.

TIE BARS AND SLIP BARS

Tie bars shall be deformed bars conforming to the requirements specified in AASHTO M 31 or M 42, except that rail steel shall not be used for tie bars that are to be bent and re-straightened during construction, sizes as indicated on the Drawings. The deformed bars shall be Grade 40 and shall be shipped in standard bundles, tagged and marked in accordance with the Code of Standard practice of the Concrete Reinforcement Steel Institute.

Slip bars shall be smooth round steel bars conforming to the requirements specified in AASHTO M 31 or plain M 42.

Joint Filler

Poured filler for joint shall conform to the requirements of AASHTO M173.

## EXECUTION

### Concrete Class

The concrete for pavement shall satisfy the following requirements:

| | | |
|---|---|---|
| Minimum 28-day comprehensive strength | : | 24 MPa |
| Minimum Flexural Strength | : | 3.8 MPa |
| Maximum Aggregate size | : | 25 mm |
| Maximum water cement ratio | : | 0.52 |

### Proportioning, Consistency and Mixing of Concrete

The proportioning, consistency and mixing of concrete shall conform to the requirements of the Section "Reinforced Concrete".

### Preparation

The base shall be watered and thoroughly moistened prior to placing of the concrete.

### Formwork Construction

Formwork shall comply with the requirements of the Section "Reinforced Concrete". Forms shall be of steel, of an approved section and shall be straight and of a depth equal to thickness of the pavement at the edge. The base of the forms shall be of sufficient width to provide necessary stability in all directions. The flange braces must extend outward on the base not less than 2/3 the height of the form.

All forms shall be rigidly supported on a bed of thoroughly compacted material during the entire operation of placing and finishing the concrete. They shall be set with their faces vertical so as to produce a surface complying with the required tolerance.

Adjacent lanes may be used in lieu of forms for supporting finishing equipment provided that proper protection is afforded to the concrete of the adjacent lanes to prevent damage, and provided further that the surface of the concrete carrying the finishing equipment does not vary by more than 3mm in each meter length. Adjacent lanes in lieu of forms may not be used until the concrete is at least seven (7) days old. Flanged wheels of the finishing equipment shall not be operated on the concrete surface. The inside edge of supporting wheels of the finishing machine shall not operate closer than 100mm from the edge of the concrete lane.

Alternative to placing forms, slip-forming may be used. Slip-form paving equipment shall be equipped with the traveling side forms of sufficient dimensions, shape and strength to support the concrete laterally for a sufficient length of time during placement to produce pavement of the required cross section. No abrupt changes in longitudinal alignment of the pavement will be permitted. The horizontal deviation shall not exceed 20mm from the proper alignment established by the Engineer.

Joints

All joints, longitudinal, transverse, etc., shall be constructed as shown on the Drawings and shall be clean and free of all foreign material after completion of shoulder work prior to acceptance of the work and in accordance with the following provisions:

Longitudinal and Transverse Contact Joints:

Longitudinal contact joints are joints formed between lanes that are poured separately. Transverse contact joints are joints formed between segments of a lane that are poured separately. Transverse contact joints shall be formed perpendicular to pavement centerline at the end of each day of concrete placing, or where concreting has been stopped for 30 minutes or longer but not nearer than 1.5 meters from sawed contraction joints. All contact joints shall have faces perpendicular to the surface of the pavement. Tie bars of the size, length and spacing shown on the Drawings shall be placed across longitudinal and transverse contact joints.

Placing Concrete

The concrete shall be deposited and spread in order that segregation will not occur and place a uniform layer of concrete whose thickness is approximately 20 mm greater than that required for the finished pavement is placed. Rakes shall not be used for handling concrete.

In order to prevent the introduction into the concrete of earth and other foreign materials, the men whose duties require them to work in the concrete, shall in general, confine their movements to the area already covered with fresh concrete. Whenever it becomes necessary for these men to step out of the concrete, their footwear shall be washed or otherwise thoroughly cleaned before returning to the concrete. Repeated carelessness with regard to this detail will be deemed sufficient cause for removing and replacing such worker.

During the operation of striking off the concrete, a uniform ridge of concrete at least 70 mm in height shall be maintained ahead of the strike-off screed for its entire length. Except when making a construction joint, the finishing machine shall at no time be operated beyond that point where this surplus can be maintained in front of the strike-off screed.

After the first operation of the finishing machine, additional concrete shall be added to all low places and honeycombed spots and the concrete rescreeded. In any rescreeding, a uniform head of concrete shall be maintained ahead of the strike-off for its entire length. Honeycombed spots shall not be eliminated by tamping or grouting.

Workers on the job shall have mobile footbridges at their disposal so that they need not walk on the wet concrete.

In conjunction with the placing and spreading, the concrete shall be thoroughly spaded and vibrated along the forms, bulkhead, and joints.

The internal vibrators shall be of pneumatic, gas-driven, or electric type, and shall operate at a frequency of not less than 3,200 pulsations per minute.

Whenever the placing of the concrete is stopped or suspended for any reason, for a period of 30 minutes or longer, a suitable bulkhead shall be placed so as to produce a vertical transverse joint. If an emergency stop occurs within 2.5 meters of the contraction or an expansion joint the concrete shall be removed back to the joint. When the placing of the concrete is resumed, the bulkhead shall be removed and a new concrete placed and

vibrated evenly and solidly against the face of previously deposited concrete. Any concrete in excess of the amount needed to complete a given section or that has been deposited outside the forms shall not be used in the work.

The Contractor shall provide suitable equipment for protecting the fresh concrete in case of rain, such as screens which will cause the rain water to run off beyond the edges of the paving, rain proof tarpaulins or other methods approved by the Engineer. The equipment shall be sufficient to shelter from rain all areas equal to that paved in two hours of work.

Finishing Concrete

The concrete shall be compacted and finished by a mechanical, self-propelled finishing machine of approved type, having two independently operated screeds. If a machine possessing only one screed is approved, the screed will not be less than 450 mm wide and shall be equipped with compensating springs to minimize the effect of the momentum of the screed on the side forms. The number of driving wheels, the weight of the machine and the power of the motor shall be so coordinated as to prevent slippage. The top of the forms and the surface of the finishing machine wheels shall be kept free from concrete or dirt.

The machine shall at all times be in first-class mechanical condition and shall be capable of compacting and finishing the concrete are herein described. Any machine which causes displacement of the side forms from the line or grade to which they have been properly set, or causes undue delay due to mechanical difficulties, shall be removed from the work and replaced by a machine meeting the Specifications.

The finishing machine shall be operated over each section of pavement two or more times and at such intervals as will produce the desired results. Generally, two passes of the finishing machine are considered the maximum desirable.

The concrete shall be vibrated, compacted, and finished by a vibratory finishing machine. The vibratory machine shall meet the requirements for ordinary finishing, and shall be one of the following type:

1. The machine shall have two independently operated screeds; the front screed shall be equipped with vibratory units with a frequency of not less than 3,500 pulsations per minute. There shall be not less than one vibratory unit for each 2.5 meters length or portion thereof, of vibratory screed surface. The front screed shall not be less than 300mm wide and shall be equipped with a "bull nose" front edge built on a radius of not less than 50mm. This type of vibratory finishing machine shall be operated in such manner that each section of pavement will receive at least one vibratory pass, but not more than two passes, unless otherwise directed, or ;

2. The machine shall be equipped with an independently operated vibratory "pan" (or pans) and two (2) independently operated screeds, the "pan" shall be mounted in a manner that will permit it to come in contact with the forms and will permit vibration of the full width of lane simultaneously.

   There shall be not less than one vibratory unit for each 2 m. length or portion thereof, of vibrating pan surface. The vibratory units in any individual pan shall be synchronized and have a frequency of not less than 3,500 pulsations per minute. The front screed shall be capable of operating in a position that will strike off the concrete at a sufficient height above the top of the forms to allow for proper compaction with the vibrating pan. This type of vibratory finishing machine shall be operated in such manner than each section of pavement will receive at least one vibratory pass but not more than two passes, unless otherwise directed.

After the final pass of the finishing machine and when the concrete has started to dry, the surface of the pavement shall be finished with an approved longitudinal float. The float may be operated either manually or by mechanical means. The float may be either of wood or metal shall be straight and smooth and light in weight so as not to displace or sink into the concrete surface.

To be effective, the float shall be at least 300mm wide and 3m long. When manually operated, the float shall be moved from edge to edge with a wiping motion and advance one (1) meter or more.

The succeeding trip shall overlap the previous trip. A light smoothing lute at least 3 meters long may be used provided approved by the Engineer.

The surface of the pavement shall be tested by the Contractor, before the final belting, with an approved standard straightedge 3 meter in length. Irregularities so detected shall be corrected immediately. Special attention shall be given to the concrete adjacent to transverse joints to insure that the edges thereof are not above the grade specified or the adjacent concrete below grade. All depressions or projections shall be corrected before any initial set has developed in the concrete.

After the concrete has been brought to the required grade, contour and smoothness, it shall be finished by passing over the concrete a drag of one or two burlap clothes, which give the surface the required roughness. The vehicles used to carry these cloths may be independent of the concrete-laying machine or may be incorporated with it and may be operated either by hand or mechanically.

Hand finishing will be permitted only on variable width sections of the pavement and other places where the use of the finishing machine would be impractical. Hand finishing shall be accomplished by means of the hand-operated strike-off template of either steel or steel-shod wood construction. The striking template shall be operated forward with a combined longitudinal and transverse motion and shall be so manipulated that neither end will be raised off the side forms. A similar tamper shall be used for tamping the concrete.

As soon as the concrete has attained its initial set, the edges of the pavement, the longitudinal joints, the construction dummy and expansion joints not sawn shall be carefully finished with an edging tool having radius of at least 5mm. The tools, the special accessories for cutting impressed joints and methods of workmanship shall be such as will produce a joint whose edges are of the same quality of concrete as the other portion of the pavement. Methods and workmanship which make use of excess mortar or grout in this area shall be eliminated. Unnecessary tool marks shall be eliminated during work, and the edges left smooth and true to line.

Striking Forms

Forms shall remain in place at least 12 hours after the concrete has been placed. When working conditions are such that the early strength gain of the concrete is delayed, the forms shall remain in place for a longer period, as directed by the Engineer. Bars or heavy load shall not be used against the concrete when still in the forms. Any damage to concrete resulting from form removal shall be repaired promptly by the Contractor as directed by the Engineer without any additional payment to the Contractor.

Curing Concrete

Unless otherwise ordered by the Engineer, curing of concrete shall be done by any method specified in the Section "Reinforced Concrete".

Cleaning and Sealing Joints

After completion of the required curing and before opening of the pavement to traffic, all joints shall be thoroughly cleaned of all concrete aggregate fragments or other materials.

After removal of side forms, the ends at transverse expansion joints at the edges of the pavement shall be carefully cleaned of any concrete within the expansion spaces for the entire depth of slab, care being taken not to injure the ends of the joints. Expansion and contraction joints shall then be poured with a hot joint sealer to the depth as indicated on the Drawings. Joint sealer shall be poured using approved hand pouring pots, with liquid at a temperature not less than that recommended by the approved manufacturer.

Opening to Traffic

The pavement shall be closed to traffic, including the vehicles of the Contractor, for a period of 10 days after the concrete is placed or longer if in the opinion of the Engineer, the weather conditions make it necessary to extend this time. The Contractor shall furnish, place and maintain satisfactory barricades and lights as directed, to exclude all traffic from the pavement.

Any damage to the pavement due to traffic shall be repaired or replaced at the expense of the Contractor. Paving mixers, mechanical concrete spreaders and finishers and other heavy paving equipment shall not be operated on completed concrete lanes in order to construct alternate lanes until after the regular curing period is completed. Even then, planks shall be laid on the finished pavement or other precautions taken to prevent damage to the concrete pavement.

Pavement Smoothness, Thickness and Tolerance

Portland cement concrete pavement shall be constructed to the designed level and transverse slope shown on the Drawing. The allowable tolerance shall be as listed hereunder:

| | | |
|---|---|---|
| 1. | Permitted variation from design thickness of layer | + - 5mm |
| 2. | Permitted variation from design level of surface | + - 5mm |

The thickness of the pavement will be determined by measurement of cores from the completed pavement in accordance with AASHTO T 148.

The completed pavement shall be accepted on a lot basis. A lot shall be considered as 2,500 sq.m of pavement. The last unit in each slab constitutes a lot in itself when its length is at least ½ of the normal lot length. If the length of the last unit is shorter than ½ of the normal lot length, it shall be included in the previous lot.

Other areas such as intersections, entrances, crossovers, ramp, etc., will be grouped together to form a lot. Small irregular areas may be included with other unit areas to form a lot.

## ITEM 07 : BEACON (SELF-CONTAINED LANTERN)

**Scope of Work**

The work to be done shall consist of furnishing, delivering and installing Self Contained Powered LED Marine Lantern completed in accordance with the details of the electrical works as shown in the drawings including materials, labor, tools and equipment and all incidental works as found necessary.

The location of beacon light tower and appurtenances as shown in the plan are the exact locations will be established by the engineer in the field.

**General Requirements**

a) All works shall be done in accordance with the requirements of the publications and agencies having jurisdiction, as well as the requirements of the approved standards.

1. National Electrical Manufacturer Association - (NEMA)
2. Underwriter Laboratories, Inc. - (UL)
3. Philippine Electrical Code - (PEC)
   Philippine National Standard - (PNS)
4. American National Standard Institute - (ANSI)
5. American Society for Testing and Materials - (ASTM)
6. Illuminating Engineering Society - (IES)
7. Light Emitting Diode - (LED)

b) The electrical power will be renewable solar power supply system.

c) The Contractor shall employ a licensed Registered Electrical Engineer or Master Electrician to perform or supervise the conduct of continuous inspection of all electrical work.

d) The Contractor shall first obtain approval from the Authority before procurement, furnishing and delivering of Self Contained Powered LED Marine Lantern to project site. Submittals of Self Contained Powered LED Marine Lantern shall include the Manufacturer's Name, Trade Name, Place of Manufacture, Catalogue Model or Number, Nameplate Data, Size, Layout Dimensions, Capacity, Project Specification and Paragraph Reference, Technical Society Publication References and other information necessary to establish contract compliance of each item to be furnished.

e) The Self Contained Powered LED Marine Lantern and equipment to be furnished shall be standard products of reputable manufacturer engaged in the reproduction of such materials and equipment.

f) All permits and electrical fees required for this work shall be obtained at the expense of the Contractor. The Contractor shall furnish the Engineer-in-Charge, the final Certificates of Inspections and approval from the proper government authorities after the completion of work. The Contractor shall prepare all as- built plans and all other paper works as required by the enforcing authorities.

**Materials Requirements**

The Self-Contained Powered LED Marine Lantern shall be brand new and shall be of the approved type meeting all the requirements of the Philippine Electrical Code (PEC) and bearing the Philippine Standard Agency (PSA) mark.

**Beacon Tower Specifications or equivalent:**

| | | | |
|---|---|---|---|
| • | Power Consumption (Avg.) | : | 1.6 W @ 30% duty (1- tiers LED array)<br>3.2 W @ 30% duty (2- tiers LED array)<br>4.8 W @ 30% duty (3- tiers LED array) |
| • | Lens Optic | : | Dia. 150mm Acrylic UV-Stabilized |
| • | Led Colours Available | : | Green |
| • | Battery Capacity | ; | 12V/ 14AH (nominal), or up to 100AH |
| • | Solar Modules (Single or double) | : | One(1) 12V 15Wp Monocrystalline (or higher for bigger system) |
| • | Temperature Range | : | -30°C to ,70 °C |
| • | Relative Humidity | : | 100% (condensing) |
| • | Housing Construction | : | Marine Graded Aluminum Alloy With Acrylic Powder-Coating finished |
| • | Ingression Protection | : | IP-68 (IP-56 for system with bigger battery bank) |
| • | Mountings | : | 3 or 4 x 16 mm on dia. 200 PCD |

**SELF CONTAINED POWERED MARINE LANTERN**

The Self-Contained Powered LED Marine Lantern is completely self- contained. It is compact, lightweight and rugged, and requires the least or virtually no maintenance throughout its operation. The design concept of the Marine Lantern is packed with a higher wattage solar module and a bigger capacity of battery.

The optical system utilizes designed UV-stabilized acrylic optic lens of 150mm diameter and with a choice of up 3-tiers of highly efficient high intensity LED array. It has an effective range in excess of 5 nautical miles at 0.74 transmissivity factors (3-tiers@ 6.1NM). The color of LED should be "Green".

The housing is constructed from material of marine graded aluminium alloy with an acrylic powder coating, high performance finish that has an outstanding durability. The unit houses a nominal 14AH (to 100AH, for bigger system) sealed, maintenance- free VRLA, AGM battery. The highly efficient higher wattage, monocrystalline solar module provides optimum charging to the battery bank for an extended service at the installation site,

The Marine Lantern is programmed with up to 256 field selectable flash codes and changing the flash character can be easily done by using an infrared programmer unit.
The Self –Contained Powered LED Marine Lantern has a wide vertical divergence and is primarily designed for the installation on fixed structures, buoyant beacons and navigation buoys in all areas. With an ingress protection of IP-68 (IP-56 for bigger battery bank), the Marine Lantern can survive the harshest marine environments.

Optional features could be incorporated, such as wireless synchronization via GPS, software control via RS232 serial communication and remote monitoring & control.

## CONCRETE FOUNDATION

The contractor shall construct concrete foundation as shown in the approved plan.

## EXECUTION

### Installation

Self – Contained Powered LED Marine Lantern shall be installing at the proposed breakwater and provided with reinforcement pile foundation, as indicated on the approved plan.

Construction of reinforce concrete foundation shall be in accordance with the shape and dimensions as shown on the approved plans.

## WORKMANSHIP

The work throughout shall be executed in the best and most thorough manner under the direction of and at the satisfaction of the *Registered Electrical Engineer or Master Electrician,* who will interpret the intent meaning of the drawings and specification and shall have the power to reject any work and materials which in his judgement, are not in full accordance therewith.

## TESTING OPERATIONS

When the electrical installation is completed, the Contractor shall test the installed Self-Contained Powered LED Marine Lantern and equipment in the presence of *Registered* Electrical Engineer or Master Electrician. The system shall be free from any defects, shorts or grounds. The Contractor at no extra cost shall furnish all necessary instruments and personnel required for the testing to the Authority.

## GUARANTEE

Upon completion and before final acceptance of the work, the Contractor shall furnish the Engineer a written guarantee stating that all works executed are free from defects on materials and workmanship. The guarantee shall be for a period of one year from the date of the final acceptance. Any work that becomes defective during the said period shall be corrected / replaced by the Contractor at his own expense in a manner satisfactory to the Authority.

# ITEM 08 : PROJECT BILLBOARD

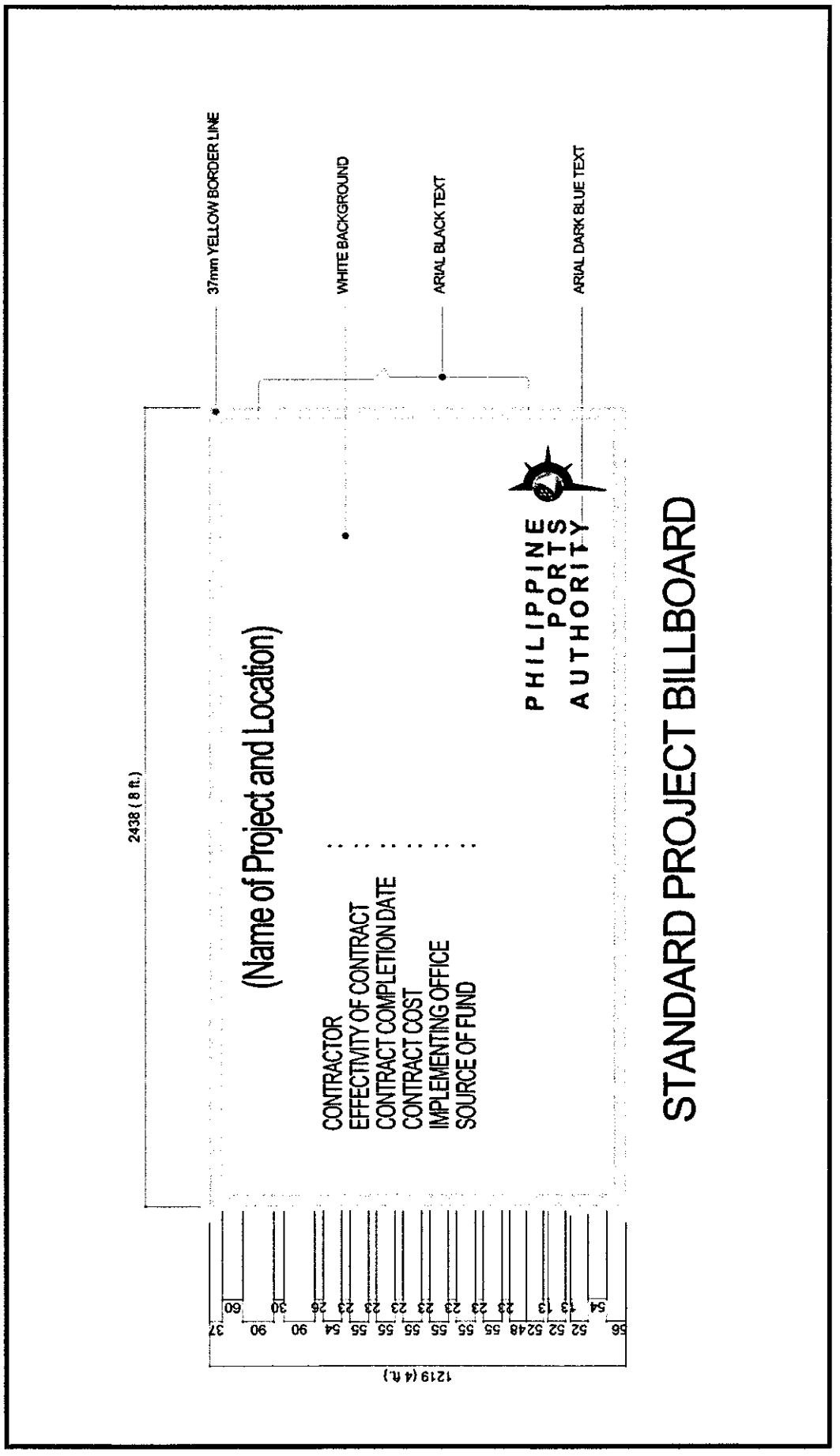
## SPECIFICATION

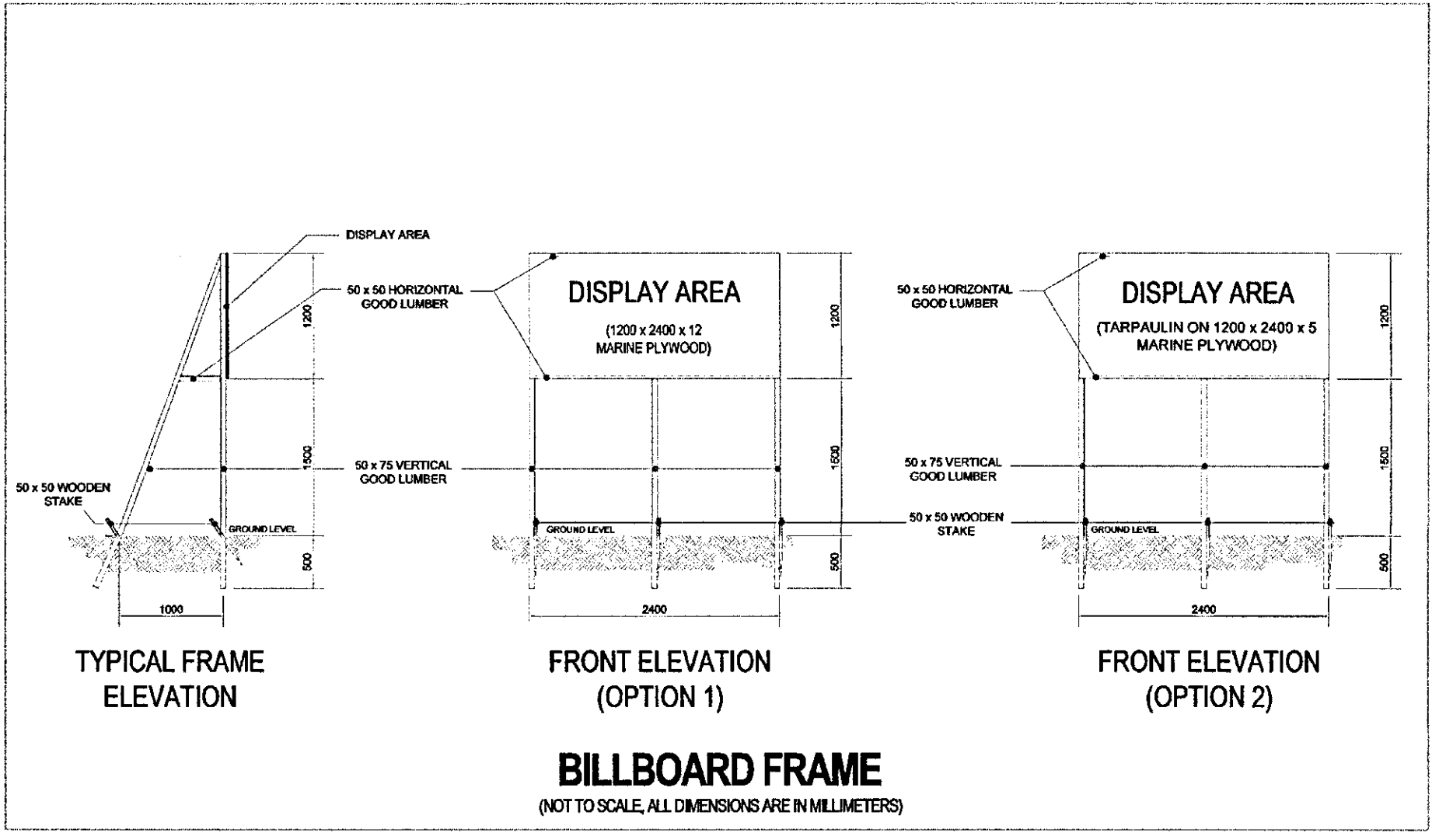
The Project Billboard shall be installed at location(s) designated by the Engineer.

The size and specifications of materials for the standard billboard shall be 4ft. x 8ft. (1,200mm x 2,400mm) using ½ inch (12mm) marine plywood or tarpaulin poster on 3/16 inch (5mm) marine plywood.

Project billboards shall not contain Name(s) and/or picture(s) of any personages.

See attached drawings for further details of the standard billboard.


STANDARD PROJECT BILLBOARD
PHILIPPINE PORTS AUTHORITY
(Name of Project and Location)
CONTRACTOR
EFFECTIVITY OF CONTRACT
CONTRACT COMPLETION DATE
CONTRACT COST
IMPLEMENTING OFFICE
SOURCE OF FUND
37mm YELLOW BORDER LINE
WHITE BACKGROUND
ARIAL BLACK TEXT
ARIAL DARK BLUE TEXT
2438 ( 8 ft.)
1219 (4 ft.)




TYPICAL FRAME ELEVATION

FRONT ELEVATION (OPTION 1)

FRONT ELEVATION (OPTION 2)

# BILLBOARD FRAME

(NOT TO SCALE, ALL DIMENSIONS ARE IN MILLIMETERS)

## ITEM 09 : SAFETY SIGNAGES AND BARRICADES

### DESCRIPTION

This work includes the furnishing and installing of safety signages and barricades in accordance with the specifications and to the details shown below in the drawings, or as directed by the Engineer.

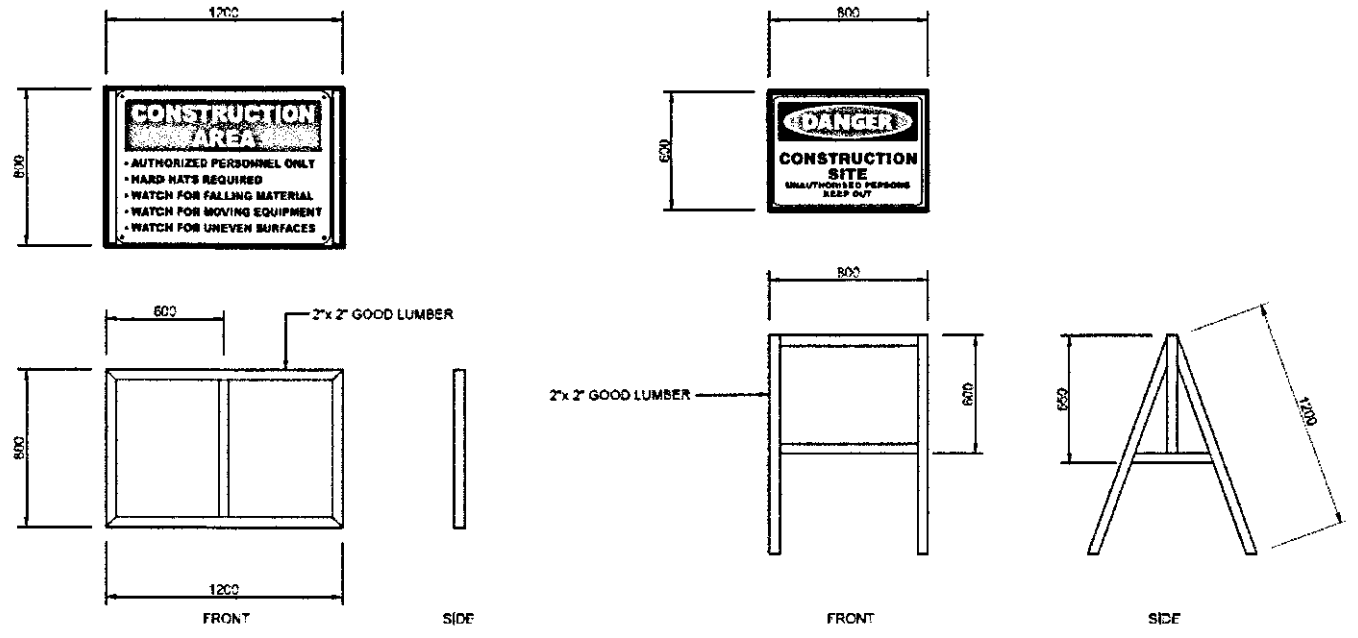
### SPECIFICATION

The Signage's and Barricades shall be installed at location(s) designated by the Engineer.

The sizes of the standard signages shall be 2-2/3ft x 4ft (800mm X 1,200mm) for fixed type and 2ft x 2–2/3ft (600mm x 800mm) for mobile type. For barricade standard 2ft x 2–2/3ft (600mm x 800mm) shall be provided.

The materials to be used for signages and barricades are ½ inch (12mm) marine plywood or tarpaulin poster on 2" x 2" (50mm x 50mm) good lumber frame (see drawing below).

The printing or painting shall be the discretion of the Engineer.




STANDARD PLAN FOR SIGNAGES AND BARRICADES

# *SECTION VII*

# *DRAWINGS*
# *(APPROVED PLANS)*

# DRAWINGS AND APPROVED PLANS
## (SEE ISSUED APPROVED PLANS)

**LIST OF DRAWINGS**:

| | | |
|---|---|---|
| 01 OF 07 | - | DEVELOPMENT PLAN, VICINITY MAP, GENERAL NOTES, LIST OF DRAWINGS |
| 02 OF 07 | - | GENERAL PLANS |
| 03 OF 07 | - | PILING PLAN |
| 04 OF 07 | - | TYPICAL SECTIONS, DETAIL OF COPING WALL, DETAIL OF ANCHOR BEAM, DETAIL OF PCCP |
| 05 OF 07 | - | DETAIL OF RC CORNER SHEET PILE |
| 06 OF 07 | - | DETAIL OF PRE-STRESSED CONCRETE SHEET PILE |
| 07 OF 07 | - | DETAIL OF LIGHT BEACON |

# *SECTION VIII*

# *BILL OF QUANTITIES and ATTACHMENTS*

# BID SUMMARY

## EXTENSION OF BREAKWATER PIER

**Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan**

| NO. | DESCRIPTION OF WORK | AMOUNT (Pesos) |
|---|---|---|
| BILL NO. | 1 GENERAL EXPENSES | |
| BILL NO. | 2 BREAKWATER PIER EXTENSION - I | |
| BILL NO. | 3 BREAKWATER PIER EXTENSION - II | |
| | **BID PRICE** | |

**Name of Firm**

**Name of Bidder/Authorized Representative**
(Signatory's Legal Capacity)

**Date**

# BILL OF QUANTITIES
## EXTENSION OF BREAKWATER PIER
**Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan**

| NO. (1) | DESCRIPTION OF WORK (2) | UNIT (3) | QTY. (4) | UNIT PRICE (Pesos) (5) | AMOUNT (Pesos) (4) x (5) |
|---|---|---|---|---|---|
| **BILL NO.** | **1 GENERAL EXPENSES** | | | | |
| 1.01 | Mobilization, demobilization and cleaning | lot | 1 | | |
| 1.02 | Rental of temporary site office and residence for the Engineer and staff | mo. | 19 | | |
| 1.03 | Maintain temporary site office and residence for the Engineer and staff | mo. | 19 | | |
| 1.04 | Provide Construction Safety and Health Program in the execution of the project | mo. | 19 | | |
| | **TOTAL FOR BILL NO. 1** | | | | |

Name of Bidder/ Authorized Representative
(Signatory's Legal capacity)

# BILL OF QUANTITIES
## EXTENSION OF BREAKWATER PIER
**Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan**

| NO. (1) | DESCRIPTION OF WORK (2) | UNIT (3) | QTY. (4) | UNIT PRICE (Pesos) (5) | AMOUNT (Pesos) (4) x (5) |
|---|---|---|---|---|---|
| **BILL NO.** | **2 BREAKWATER PIER EXTENSION - I** | | | | |
| 2.01 | Excavation of existing seabed prior to installation of rocks | cu.m. | 279 | | |
| 2.02 | Supply and deliver to site 0.35m x 0.60m PSC sheet piles | l.m. | 5,626 | | |
| 2.03 | Supply and deliver to site R.C. Corner piles | | | | |
| | a) R.C. Corner pile No. 1 | l.m. | 29 | | |
| | b) R.C. Corner pile No. 2 | l.m. | 29 | | |
| | c) R.C. Corner pile No. 3 | l.m. | 29 | | |
| | d) R.C. Corner pile No. 4 | l.m. | 29 | | |
| | e) R.C. Corner pile No. 5 | l.m. | 29 | | |
| 2.04 | Handle, pitch and drive PSC sheet piles and RC corner piles | l.m. | 5,771 | | |
| 2.05 | Chipping of newly driven PSC sheet piles and RC corner piles including disposal | no. | 199 | | |
| 2.06 | Supply and place sacked concrete | cu.m. | 4 | | |
| 2.07 | Supply and install steel reinforcement for coping wall, anchor beam, rc curb and light beacon foundation | kg. | 14,007 | | |
| 2.08 | Supply and place 3,500 psi concrete for coping wall, anchor beam, and rc curb and light beacon foundation | cu.m. | 227 | | |
| 2.09 | Supply and place 20-30kg. rocks | cu.m. | 3,186 | | |
| 2.10 | Construct portland cement concrete pavement (300mm thk) including dowel bars and construction joint | sq.m. | 263 | | |

Name of Bidder/ Authorized Representative
(Signatory's Legal capacity)

# BILL OF QUANTITIES
## EXTENSION OF BREAKWATER PIER
### Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan

| NO. (1) | DESCRIPTION OF WORK (2) | UNIT (3) | QTY. (4) | UNIT PRICE (Pesos) (5) | AMOUNT (Pesos) (4) x (5) |
|---|---|---|---|---|---|
| 2.11 | Supply and installation of solar powered light beacon | set | 1 | | |
| | **TOTAL FOR BILL NO. 2** | | | | |

Name of Bidder/ Authorized Representative
(Signatory's Legal capacity)

# BILL OF QUANTITIES
## EXTENSION OF BREAKWATER PIER
**Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan**

| NO. (1) | DESCRIPTION OF WORK (2) | UNIT (3) | QTY. (4) | UNIT PRICE (Pesos) (5) | AMOUNT (Pesos) (4) x (5) |
|---|---|---|---|---|---|
| **BILL NO.** | **3 BREAKWATER PIER EXTENSION - II** | | | | |
| 3.01 | Excavation of existing seabed prior to installation of rocks | cu.m. | 3,618 | | |
| 3.02 | Supply and deliver to site 0.35m x 0.60m PSC sheet piles | l.m. | 16,408 | | |
| 3.03 | Supply and deliver to site R.C. Corner piles | | | | |
| | a) R.C. Corner pile No. 1 | l.m. | 28 | | |
| | b) R.C. Corner pile No. 2 | l.m. | 28 | | |
| | c) R.C. Corner pile No. 6 | l.m. | 28 | | |
| | d) R.C. Corner pile No. 7 | l.m. | 28 | | |
| 3.04 | Handle, pitch and drive PSC sheet piles and RC corner piles | l.m. | 16,520 | | |
| 3.05 | Chipping of newly driven PSC sheet piles and RC corner piles including disposal | no. | 590 | | |
| 3.06 | Supply and place sacked concrete | cu.m. | 2 | | |
| 3.07 | Supply and install steel reinforcement for coping wall, anchor beam, and rc curb | kg. | 40,606 | | |
| 3.08 | Supply and place 3,500 psi concrete for coping wall, anchor beam, and rc curb | cu.m. | 658 | | |
| 3.09 | Supply and place 20-30kg. rocks | cu.m. | 9,925 | | |
| 3.10 | Construct portland cement concrete pavement (300mm thk) including dowel bars and construction joint | sq.m. | 812 | | |
| | **TOTAL FOR BILL NO. 3** | | | | |

Name of Bidder/ Authorized Representative
(Signatory's Legal capacity)

## BASIS OF PAYMENT FOR WORK ITEMS INCLUDED IN THE PROPOSAL

The work items included in the proposal and the basis of payments are as follows:

### BILL NO. 1
### GENERAL EXPENSES

**Item 1.01 Mobilization, demobilization, and cleaning**

The quantity to be paid for shall be the minimum equipment requirement enumerated in the bid documents mobilized, demobilized and cleaning of the site and accepted by the Engineer. The contract lump sum price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to mobilize and demobilize all the minimum equipment requirement enumerated in the bid documents including cleaning of the site. Fifty percent (50%) of the total amount shall be payable after the mobilization activity while the remaining (50%) payable after demobilization and cleaning.

**Item 1.02 Rental of temporary site office and residence for the Engineer and staff**

The quantity to be paid for shall be the actual rental of site office and residence for the engineer and staff and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary for the provision of temporary site office and residence for the engineer and staff.

**Item 1.03 Maintain temporary site office and residence for the Engineer and staff**

The quantity to be paid for shall be the actual services rendered in maintaining the site office and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the maintenance of the temporary site office and residence as well as other expenses such as provision for electric power, telephone bill, potable water supply, janitorial and security services.

**Item 1.04 Provide construction safety and Health Program in the execution of the project**

The quantity to be paid for shall be the actual implementation of construction safety and health program and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the implementation of the Construction Safety and Health Program, as required and approved by the Department of Labor and Employment (DOLE).

## BILL NO. 2
## BREAKWATER PIER EXTENSION-I

**Item 2.01 Excavation of existing seabed prior to installation of rocks**

The quantity to be paid for shall be the actual volume in cubic meters of existing seabed to be excavated prior to installation of rocks in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.02 Supply and deliver to site 0.35m x 0.60m PSC sheet piles**

The quantity to be paid for shall be the actual length in linear meter of 0.35m x 0.60m PSC sheet piles to be supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.03 Supply and deliver to site R.C Corner Piles**
**a.) R.C. Corner pile No.1**
**b.) R.C Corner pile No. 2**
**c.) R.C Corner pile No. 3**
**d.) R.C Corner pile No. 4**
**e.) R.C Corner pile No. 5**

The quantity to be paid for shall be the actual length in linear meter of R.C Corner Piles (R.C Corner Pile 1 , R.C Corner Pile 2, R.C Corner Pile 3, R.C Corner Pile 4, and R.C Corner Pile 5) to be supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.04 Handle, pitch and drive PSC sheet piles and RC corner piles**

The quantity to be paid for shall be the actual length in linear meter of PSC sheet piles and RC corner piles to be handled, pitched, and driven in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.05 Chipping of newly driven PSC sheet piles and RC corner piles including disposal**

The quantity to be paid for shall be the actual number of newly driven PSC sheet piles and RC corner piles to be chipped, including disposal of debris in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.06 Supply and place sacked concrete**

The quantity to be paid for shall be the actual volume in cubic meter of sacked concrete to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.07 Supply and install steel reinforcement for coping wall, anchor beam, RC curb and light beacon foundation**

The quantity to be paid for shall be the actual weight in kilogram of steel reinforcement for coping wall, anchor beam, RC curb and light beacon foundation to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.08 Supply and place 3,500 psi concrete for coping wall, anchor beam, RC curb and light beacon foundation**

The quantity to be paid for shall be the actual volume in cubic meter of 3,500 psi concrete for coping wall, anchor beam, RC curb and light beacon foundation to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.09 Supply and place 20-30kg rocks**

The quantity to be paid for shall be the actual volume in cubic meter of 20-30kg. rocks to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. Hydrographic/Topographic Surveys before and after placing of rocks shall be made to determine the actual elevations along the cross sections and the actual quantities for payment. Volume due to settlement as established using settlement plates shall also be considered for payment. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.10 Construct Portland cement concrete pavement (300mm thk) including dowel bars and construction joint**

The quantity to be paid for shall be the actual area in square meter of Portland cement concrete pavement (300mm thk) including dowel bars and construction joint to be constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 2.11 Supply and installation of solar powered light beacon**

The quantity to be paid for shall be the actual set of solar powered light beacon to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

## BILL NO. 3
## BREAKWATER PIER EXTENSION-II

**Item 3.01 Excavation of existing seabed prior to installation of rocks**

The quantity to be paid for shall be the actual volume in cubic meters of existing seabed to be excavated prior to installation of rocks in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.02 Supply and deliver to site 0.35m x 0.60m PSC sheet piles**

The quantity to be paid for shall be the actual length in linear meter of 0.35m x 0.60m PSC sheet piles to be supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.03 Supply and deliver to site R.C Corner Piles**
**a.) R.C. Corner pile No.1**
**b.) R.C Corner pile No. 2**
**c.) R.C Corner pile No. 6**
**d.) R.C Corner pile No. 7**

The quantity to be paid for shall be the actual length in linear meter of R.C Corner Piles (R.C Corner Pile 1 , R.C Corner Pile 2, R.C Corner Pile 6, and R.C Corner Pile 7) to be supplied and delivered to site in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.04 Handle, pitch and drive PSC sheet piles and RC corner piles**

The quantity to be paid for shall be the actual length in linear meter of PSC sheet piles and RC corner piles to be handled, pitched, and driven in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.05 Chipping of newly driven PSC sheet piles and RC corner piles including disposal**

The quantity to be paid for shall be the actual number of newly driven PSC sheet piles and RC corner piles to be chipped, including disposal of debris in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.06 Supply and place sacked concrete**

The quantity to be paid for shall be the actual volume in cubic meter of sacked concrete to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.07 Supply and install steel reinforcement for coping wall, anchor beam, and RC curb**

The quantity to be paid for shall be the actual weight in kilogram of steel reinforcement for coping wall, anchor beam, and RC curb to be supplied and installed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.08 Supply and place 3,500 psi concrete for coping wall, anchor beam, and RC curb**

The quantity to be paid for shall be the actual volume in cubic meter of 3,500 psi concrete for coping wall, anchor beam, and RC curb to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.09 Supply and place 20-30kg rocks**

The quantity to be paid for shall be the actual volume in cubic meter of 20-30kg. rocks to be supplied and placed in accordance with the plans and specifications and accepted by the Engineer. Hydrographic/Topographic Surveys before and after placing of core rocks shall be made to determine the actual elevations along the cross sections and the actual quantities for payment. Volume due to settlement as established using settlement plates shall also be considered for payment. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

**Item 3.10 Construct Portland cement concrete pavement (300mm thk) including dowel bars and construction joint**

The quantity to be paid for shall be the actual area in square meter of Portland cement concrete pavement (300mm thk) including dowel bars and construction joint to be constructed in accordance with the plans and specifications and accepted by the Engineer. The contract unit price shall be full compensation for furnishing all materials, labor, equipment, tools, and incidentals necessary to complete the work.

## FACILITIES TO BE PROVIDED FOR THE ENGINEER & HIS STAFF

## RENTAL OF SITE OFFICE AND RESIDENCE FOR THE ENGINEER & STAFF

The Contractor shall provide a temporary site office and residence (rental) with an area of at least 48 square meters for use of the Engineer and his staff for the whole duration of the project.

# MINIMUM MAJOR EQUIPMENT REQUIREMENTS

| | | |
|---|---|---|
| 1 | unit/s | Clamshell, owned |
| 1 | unit/s | Concrete cutter, owned |
| 1 | unit/s | Concrete Mixer (1 bagger, minimum), owned |
| 1 | unit/s | Concrete bucket, owned |
| 1 | unit/s | Concrete Screeder, owned |
| 2 | unit/s | Concrete Vibrator (3.5 hp, minimum), owned |
| 2 | unit/s | Crane Barge (319 GW, minimum) with 60T crane, 1-owned, 1-leased |
| 2 | unit/s | Crawler Crane (30T, minimum), owned |
| 1 | unit/s | Deck Barge (1000T DWT), leased |
| 2 | unit/s | Pile Hammer (Diesel, 13,500 kg.-m.to 16,000 kg.-m. or Hydraulic equivalent), 1-owned, 1-leased |
| 2 | unit/s | Drop Hammer (2T, minimum), owned |
| 1 | unit/s | Dump Truck (10 Tons net capacity, minimum), owned |
| 2 | unit/s | Bar Bender (electric, 25mm dia min.), owned |
| 2 | unit/s | Bar Cutter (electric, 25mm dia min.), owned |
| 1 | unit/s | Oxy/Acetylene cutting outfit, owned |
| 1 | unit/s | Payloader (80 hp, minimum), owned/leased |
| 2 | unit/s | Transit Mixer (6 cu.m. cap., minimum), owned/leased |
| 2 | unit/s | Tugboat (500hp, minimum), owned/leased |
| 1 | unit/s | Water Truck with pump (1,000 gal., minimum), owned |
| 1 | unit/s | Cargo Truck (2T, minimum) , owned |
| 1 | unit/s | Deck Barge (650T DWT), owned |

# CONSTRUCTION SAFETY AND HEALTH REQUIREMENT

The Contractor shall implement the construction safety and health program in accordance with the applicable provisions of the Occupational Safety and Health Standards (OSHS) of the Department of Labor and Employment (DOLE).

The Contractor, subject to the approval of the Engineer shall provide and maintain throughout the duration of the contract a medical room with at least 15 square meters together with all necessary supplies to be sited in the Contractor's main area.

The Contractor shall provide the following minimum requirements:

**L A B O R**

| | | |
|---|---|---|
| 1 | no. | Safety Engineer / Officer |
| 1 | no. | Nurse / Health Officer |

**EQUIPMENT / MATERIALS**

Personnel Protective Equipment

| | | |
|---|---|---|
| 45 | pc. | Hard Hats |
| 45 | pc. | Gloves (rubberized) |
| 45 | pc. | Safety Glasses/Goggles (clear) |
| 90 | pc. | Long sleeve T-shirt |
| 2 | pc. | Aprons |
| 2 | pc. | Safety Belts |
| 45 | pairs | Safety Shoes |
| 2 | pc. | Life lines |

Safety Devices

| | | |
|---|---|---|
| 1 | lot | Barricades |
| 1 | lot | Warning signs |
| 2 | unit/s | Fire extinguisher (10kg) |

Medical and First Aid System - Nineteen (19) mos.

NOTE:

The Contractor shall provide the above-cited minimum construction safety and health requirements or as required by the Engineer.

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Series of 2016
Attachment



## REVISED SCHEDULE OF MINIMUM TEST REQUIREMENTS OF CONSTRUCTION MATERIALS FOR PPA INFRASTRUCTURE PROJECTS

| *Materials/Items of Work* | *Required Tests* | *Minimum Incremental Frequency of Tests* |
|---|---|---|
| **I. Construction of Pier/Wharf, Platform and Ramp** | | |
| Structural Concrete (SC) | | |
| A Portland Cement | Quality Test | For every 2,000 bags (40kg) or fraction thereof |
| B Fine Aggregate | Quality Test for Grading, Elutnation (wash), Bulk Specific Gravity, Absorption, Mortar Strength, Soundness, Organic Impunties, Unit Weight, % Clay Lumps and Shale | For every 1,500 cubic meter or fraction thereof |
| C Coarse Aggregate | Quality Test for Grading, Bulk Specific Gravity, Absorption and Abrasion | For every 1,500 cubic meter or fraction thereof |
| D Water | Certificate from the Engineer or Quality Test for Density and Chloride Content | One per source |
| E Steel Bars | Mill Certificate and Quality Test for Chemical Composition and Mechanical Properties | For every 10,000 kg or fraction thereof |
| F Concrete | Compressive Strength on 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 of concrete or fraction thereof |
| | Slump Test | For every mix |
| G Admixture and Concrete Curing Materials | Quality Test | One per shipment |
| Piling (P) | | |
| A Concrete Piles | Fabrication Report | One per fabrication |
| 1 Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| 2 Steel Bars | Same test as for SC (E) | Same frequency as SC (E) |
| 3 High Tension Strand | Test for Chemical Composition and Mechanical Properties | For every 20000kg or fraction thereof |

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*Page 2 of 10*

| Materials/Items of Work | Required Tests | Minimum Incremental Frequency of Tests |
|---|---|---|
| 4 Coarse Aggregates | Same Test as for SC (C) | Same frequency as SC (C) |
| 5 Fine Aggregates | Same Test as for SC (B) | Same frequency as SC (B) |
| B Steel Pipe Piles | Fabrication Report, Mill Certificate and Quality Test for Chemical and Mechanical properties | One per fabrication |
| 1 Steel | Chemical Composition (refer below) | |
| | - Under 14" (355 60mm) Outside Diameter | 2 from 200 pipe of fraction thereof |
| | - 14" to 36" (355 6 to 914mm) Outside Dia | 2 from 100 pipe or fraction thereof |
| | - Over 36" (914mm) Outside Diameter | 2 from 3000ft (914m) or fraction thereof |
| | Mechanical/Tensile | One (1) tension test shall be made on one length or fraction thereof of each size, or one piece of skelp representing each lot of 200 lengths or fraction thereof of each size |
| 2 Polyurethane Coating | Mill Certificate and Quality Test | One per fabrication |
| 3 Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| 4 Fine Aggregate | Same test as for SC (B) | Same frequency as SC (B) |
| 5 Coarse Aggregate | Same test as for SC (C) | Same frequency as SC (C) |
| 6 Steel Bars | Same Test as SC (E) | Same frequency as SC (E) |
| 7 Water | Same Test as SC (D) | Same frequency as SC (D) |
| Rubber Dock Fenders (RDF) | Physical Test | All units |
| | Performance Test for Energy Absorption and Reaction Force | All units |
| Accessories | | |
| Washer and Fixing Bolt, Anchor Bolt | Physical Test | All units |
| | Quality Test for Chemical Composition and Mechanical Properties | One per fabrication |

| ***Materials/Items of Work*** | ***Required Tests*** | ***Minimum Incremental Frequency of Tests*** |
|---|---|---|
| Moonng Bollard (MB) and Accessories (Hexagon Nuts, Plain Washer, Anchor Ring and Anchor Bolt) | Physical Test<br><br>Quality Test for Chemical Composition and Mechanical Properties | All Units<br><br>One per fabrication |
| **II. Construction of Back-Up Area, Causeway and Pavement**<br><br>Sheet Piling (SP)<br><br>A Concrete Sheet Piles | | |
| 1 Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| 2 Steel Bars | Same test as for SC (E) | Same frequency as SC (E) |
| 3 High Tension Strands | Same test as for P (A 3) | Same frequency as P (A 3) |
| 4 Fine Aggregates | Same test as for SC (B) | Same frequency as SC (B) |
| 5 Coase Aggregates | Same Test as for SC (C) | Same frequency as SC (C) |
| B Steel Pipe Piles | | |
| 1 Steel | Same test as for P (B1) | Same frequency as P (B1) |
| 2 Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| 3 Fine Aggregate | Same test as for SC (B) | Same frequency as SC (B) |
| 4 Steel Bars | Same test as for SC (E) | Same frequency as SC (E) |

| ***Materials/Items of Work*** | ***Required Tests*** | ***Minimum Incremental Frequency of Tests*** |
|---|---|---|
| Rocks | Test for Apparent Specific Gravity and Abrasion | For every 1,500 cubic meter or fraction thereof |
| Geotextile Filter | Physical and Mechanical Test | One per batch |
| | Mill Certificate | One per batch |
| Sand and Gravel Fill | Quality Test for Organic Impurities and Grading | For every 1,500 cubic meter or fraction thereof |
| Selected Fill | Quality Test for Grading, Plasticity and Laboratory Compaction Test | For every 1,500 cubic meter or fraction thereof |
| | Laboratory California Bearing Ratio (CBR) | For every 2,500 cubic meter or fraction thereof |
| | Field Density Test | For every layer of 150mm of compacted depth at least one group of three In-situ density test for every 500 sq m or fraction thereof |
| Aggregate Base Course | Quality Test for Grading and Plasticity | For every 300 cubic meter or fraction thereof |
| | Quality Test for Grading, Plasticity, Abrasion and Laboratory Compaction Test | For every 1,500 cubic meter or fraction thereof |
| | Laboratory California Bearing Ratio (CBR) | Same frequency as Selected Fill |
| | Field Density Test | Same frequency as Selected Fill |
| Portland Cement Concrete Pavement (PCCP) | | |
| A Portland Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregate | Same test as for SC (B) | Same frequency as SC (B) |
| C Coarse Aggregate | Same test as for SC (C) | Same frequency as SC (C) |
| D Water | Same test as for SC (D) | Same frequency as SC (D) |
| E Steel Bars (Dowels) | Same test as for SC (E) | Same frequency as SC (E) |
| F Joint Filler | Quality Test | One (1) per shipment |

| ***Materials/Items of Work*** | ***Required Tests*** | ***Minimum Incremental Frequency of Tests*** |
|---|---|---|
| G Admixture and Concrete Curing Material | Same test as for SC (G) | Same frequency as SC (G) |
| H Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| | Flexural Test | 3 beam samples for every 330 sq m or fraction thereof |
| I Completed Pavement | Core Test | 1 set (3 specimen) for every 2,500 sq m and fraction thereof |
| Interlocking Concrete Blocks | | |
| A Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregate | Same test as for SC (B) | Same frequency as SC (B) |
| C Coarse Aggregate | Same test as for SC (C) | Same frequency as SC (C) |
| D Water | Same test as for SC (D) | Same frequency as SC (D) |
| E Admixture & Concrete Curing Materials | Same test as for SC (G) | Same frequency as SC (G) |
| F Completed Blocks | Physical Test and Compressive Strength | 6 blocks per day of fabrication |
| Cement Treated Base Course (CTB) | | |
| A Portland Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine & Coarse Aggregates | Quality Test for Grading, Abrasion and Soundness | For every 1,500 cubic meter or fraction thereof |
| C Water | Same test as for SC (D) | Same frequency as SC (D) |
| D Completed CTB | Field Density Test | For every layer of 150mm of compacted depth at least one group of three In-situ density test every 500 sq m or fraction thereof |
| Retaining Wall/Coping Wall/RC Curb/RC Ditch/Shear Key/Concrete Blocks\Lean Concrete | | |
| A Portland Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregate | Same test as for SC (B) | Same frequency as SC (B) |

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| *Materials/Items of Work* | *Required Tests* | *Minimum Incremental Frequency of Tests* |
|---|---|---|
| C Coarse Aggregates | Same test as for SC (C) | Same frequency as SC (C) |
| D Water | Same test as for SC (D) | Same frequency as SC (D) |
| E Steel Bars | Same test as for SC (E) | Same frequency as SC (E) |
| F Admixture and Concrete Curing | Same test as for SC (G) | Same frequency as SC (G) |
| G Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| Tie Rod<br>A Steel | Same test as for SC (E) | One per batch |
| B Assembly | Performance Test (Tension) | One per batch |
| Tie Bars and Dowels | Same test as for SC (E) | For every 10,000 kg or fraction thereof per Tie bars and Dowels |
| Pipe Culverts and Storm Drains | | |
| A Pipes | Test for Strength, Absorption and Physical | For every 50 pieces |
| B Mortar or Joint | Same Test as for SC (A,B and D)<br>Alternative Test Same test as for SC (F) and Inspection Report | For every 25 pieces |
| Concrete Hollow Blocks | | |
| A Portland Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregates | Same test as for SC (B) | Same frequency as SC (B) |
| C Water | Same test as for SC (D) | Same frequency as SC (C) |
| D Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| E Completed CHB | Quality Test | One for every 500 pieces or fraction thereof |
| Construction Joints (CJ) | | |
| A Angle Bars | Test for Physical and Mechanical Properties | One per batch |
| B Steel Bars | Same test as for SC (E) | One per batch |
| C Zinc (Hot Dip Galvanizing) Coatings | Physical Test for Appearance, Stripping, Weighing, Adherence and Adhesion | All units |
| | Coating Thickness<br>Magnetic Thickness Measurement | 1 set (3 specimen) for every 100,000 sq mm or fraction thereof |

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| ***Materials/Items of Work*** | ***Required Tests*** | ***Minimum Incremental Frequency of Tests*** |
|---|---|---|
| Sacked Concrete | | |
| A Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregates | Same test as for SC (B) | Same frequency as SC (B) |
| C Coarse Aggregates | Same test as for SC (C) | Same frequency as SC (C) |
| D Water | Same test as for SC (D) | Same frequency as SC (D) |
| E Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| F Sack (jute) | Physical Test | One for every 50 pieces |
| Rubble Concrete | | |
| A Cement | Same test as for SC (A) | Same frequency as SC (A) |
| B Fine Aggregates | Same test as for SC (B) | Same frequency as SC (B) |
| C Coarse Aggregates | Same test as for SC (C) | Same frequency as SC (C) |
| D Water | Same test as for SC (D) | Same frequency as SC (D) |
| E Concrete | Same test as for SC (F) | Same frequency as SC (F) |
| F Rocks | Same test as for ROCKS | Same frequency as ROCKS |
| Earthworks | | |
| A Sub-grade preparation | Grading Test<br>Plasticity Test (LL,PL,PI)<br>Laboratory Compaction Test | For every 1,500 cubic meter or fraction thereof |
| | Density Test | For every layer of 150mm of compacted depth at least one group of three In-situ density test every 500 sq m or fraction thereof |
| B Structure Excavation | If excavated materials shall be used as Backfill<br>Grading Test<br>Plasticity Test (LL,PL,PI)<br>Laboratory Compaction Test | For every 1,500 cubic meter or fraction thereof |
| | Density Test | For every layer of 150mm of compacted depth at least one group of three In-situ density test every 500 sq m or fraction thereof |

| ***Materials/Items of Work*** | ***Required Tests*** | ***Minimum Incremental Frequency of Tests*** |
|---|---|---|
| **III Port Operations Building/Passenger Terminal Building/Transit Shed/Warehouse** | | |
| *STRUCTURAL WORKS* | Refer to Structural Concrete (SC) and Piling Works (P) | |
| *ARCHITECTURAL WORKS* | | |
| Ceramic – Filled Liquid Membrane / Water Proofing, Hydrophobic Poreblocking Ingredients with Superplasticizer | Physical Property, Mechanical and Chemical Property, Leak Test / Flood Test | One per shipment |
| Paint | Quality Test | One 4-L can for every 100 cans or fraction thereof |
| Ceramic Tile | Inspection and Evaluation Report from the Engineer | One per shipment |
| Stainless Steel | Inspection and Evaluation Report from the Engineer | One per shipment |
| Roofing Materials | Inspection and Evaluation Report from the Engineer | One per shipment |
| Ceiling Materials | Inspection and Evaluation Report from the Engineer | One per shipment |
| *ELECTRICAL AND MECHANICAL WORKS* | | |
| Wires / Cables | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per shipment |
| Electrical Devices | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per shipment |
| Fire Alarm System | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| Wiring Devices | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per shipment |

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| Materials/Items of Work | Required Tests | Minimum Incremental Frequency of Tests |
|---|---|---|
| Protective Devices | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per shipment |
| Telephone System | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| CCTV System | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| CATV System | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| Background Music and Paging System | Inspection and Evaluation Report from the Engineer, Testing and Commissioning | One per item |
| Air Conditioning Units & Ventilation | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| Conduit Pipes | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| Lighting Fixtures | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |
| ***PLUMBING WORKS*** | | |
| Pipes | Inspection and Evaluation Report from the Engineer<br>Testing and Commissioning | One per item |

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| Materials/Items of Work | Required Tests | Minimum Incremental Frequency of Tests |
|---|---|---|
| Fixtures | Inspection and Evaluation Report from the Engineer<br><br>Testing and Commissioning | One per item |
| Pipe Culverts | Compression Strength<br><br>Inspection and Evaluation Report from the Engineer | For every size not more than 25 pipes cast in the field |
| **IV Miscellaneous Materials**<br>Fencing<br>A Barbed Wire, Cyclone Wire Mesh, Chain Link<br><br>B Concrete Post | Physical Test (Dimensions and Coatings)<br><br>Refer to Superstructure (SC) | One per Batch<br><br>Refer to Superstructure (SC) |
| Lamp Post<br>A Structural Steel<br><br>B Zinc (Hot Dip Galvanizing) Coatings | Physical Test (Dimensions)<br>Same test as for SC (E)<br><br>Same test as for CJ (C) | All units<br><br>One per batch |
| Drainage Steel Grating | Same test as for SC (E)<br><br>Inspection Report | One (1) batch |
| Metal Pipe (Cast Iron Galvanized, etc ) | Physical Test (Dimensions and Coatings) | 1 per delivery |
| Welding Works | Destructive and Non Destructive Test | One (1) per lot |

**NOTES**
1. **Testing of RDF shall be performed only by an independent Testing Laboratory duly accredited by BRS, DOST and PPA**
2. **Testing of other materials shall be performed only by an independent Testing Laboratory duly accredited by BRS and PPA.**
3. **All other issuances which are otherwise inconsistent herewith are hereby revoked or otherwise amended.**

Approved

**RAUL T. SANTOS**
Officer-In-Charge,
Office of the General Manager

# *SECTION IX*

# *CHECKLIST OF TECHNICAL AND FINANCIAL DOCUMENTS*

# Checklist of Technical and Financial Documents

## I. TECHNICAL COMPONENT ENVELOPE

*Class "A" Documents*

*Legal Documents*

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages)

*Technical Documents*

☐ (b) 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**

☐ (c) 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**

☐ (d) Special PCAB License in case of Joint Ventures;
**and** registration for the type and cost of the contract to be bid; **and**

☐ (e) 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**

(f) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ 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**

☐ (g) 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.

*Financial Documents*

☐ (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

***Class "B" Documents***

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

## II. FINANCIAL COMPONENT ENVELOPE

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

*Other documentary requirements under RA No. 9184*

☐ (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (l) 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**

☐ (m) Cash Flow by Quarter.

# *SECTION X*

# *BIDDING FORM*

# Bid Form for the Procurement of Infrastructure Projects

***[shall be submitted with the Bid]***

## BID FORM

Date : _____
Project Identification No. : _____

To: **Philippine Ports Authority**
PPA Building, Bonifacio Drive,
South Harbor, Port Area, Manila

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin 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: **Extension of Breakwater Pier, Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan**;

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: _____;

d. The discounts offered and the methodology for their application are: _____;

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 period stat ed 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 _____ 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[1] 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

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

in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

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

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 **Extension of Breakwater Pier, Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan** of the **Philippine Ports Authority**.

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: _____

## STATEMENT OF THE BIDDER'S ALL ONGOING GOVERNMENT AND PRIVATE CONTRACTS, INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED

I hereby declare that all ongoing contracts, including awarded contracts yet to be started coinciding with the contract to be bid are listed below:

| Name of outstanding Contracts 1] | Owner's Name and Address | Scope of Work 2] | Contractor's Role and Percentage of Participation 3] | Total Contract Amount or Value 4] | Date of Contract and NOA 5] | Value of Outstanding Works 6] | Accomplishment (in percentage, %) 7] | | Contract Duration 8] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Planned | Actual | Start of Project | Estimated Completion Date |
| A) Government Contracts<br>i. On-going<br>ii. Awarded but not yet started<br>B) Private Contracts<br>i. On-going<br>ii. Awarded but not yet started | | | | | | | | | | |

**NOTE:**

1] As appearing in the contract executed by the parties.
2] With special reference to the Scope of Works of the Project as described/enumerated in the Contract.
3] Indicate the percentage of participation and whether as Sole Contractor, Sub-Contractor or Member in a Joint Venture / Consortium.
4] Indicate the FOREX used if Contract Value is expressed in a currency other than the Philippine Peso.
5] As appearing in the Contract and Notice of Award (NOA).
6] Amount or value of all outstanding or uncompleted portions of the projects under ongoing contracts, including awarded contracts yet to be started coinciding with the contract to be bid.
7] Percentage of Accomplishment as of the preceding month which should not be earlier than two (2) months from the date of bid submission.
8] As appearing in the Notice to Proceed and Contract.

This Statement shall be supported by:

a) Notice of Award
b) Notice to Proceed and Contract

| Name of Firm<br>(Signatory's Legal Capacity) | Name of Bidder/Authorized Representative | Date |
|---|---|---|

Revised: September 2021

## STATEMENT OF THE BIDDER'S SINGLE LARGEST COMPLETED CONTRACT (SLCC) SIMILAR TO THE CONTRACT TO BE BID

| Name of the completed Contract<br>1] | Owner's Name and Address | Scope of Work<br>2] | Contractor's Role and Percentage of Participation<br>3] | Total Contract Value At 4] | | | Date of Award<br>5] | Contract Duration 6] | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Award | Completion | Escalated Value to Present Prices | | Start | Completed |
| | | | | | | | | | |

**NOTE :**

1] As appearing in the contract executed by the parties.
2] With special reference to the Scope of Works of the Project as described/enumerated in the Contract.
3] Indicate the percentage of participation and whether as Sole Contractor, Sub-Contractor or Member in a Joint Venture / Consortium.
4] Indicate the FOREX used if Contract Value is expressed in a currency other than the Philippine Peso. Attached the computation for the escalated contract value.
5] As appearing in the Notice of Award.
6] As appearing in the Notice to proceed and Certificate of Completion.

A. The bidder must have an experience of having completed a SLCC that is similar to the contract to be bid equivalent to at least fifty percent (50%) of the ABC, adjusted if necessary, by the Bidder to current prices using the PSA consumer price indices. A contract is considered to be "similar" to the contract to be bid if it has the same Major Categories of Work as stated in the Bid Data Sheet (BDS).
B. This Statement shall be supported by:
   a. Notice of Award, Notice to Proceed and Contract.
   b. Project Owner's Certificate of Final Acceptance issued by the owner and/ or Constructors Performance Evaluation System (CPES) Final Rating, which must be at least Satisfactory. The said Certificate of Acceptance shall contain the following: 1) Name of project owner that issued the certificate, 2) Name of Contractor/ Constructor, 3) Name of Contract, and 4) Contract Duration.
   c. Recapitulation or Final Bill of Quantities.

| Name of Firm | Name of Bidder/Authorized Representative<br>(Signatory's Legal Capacity) | Date |
|---|---|---|

Revised: September 2021

## STATEMENT OF THE BIDDER'S EXPERIENCE ON MAJOR CATEGORIES OF WORK OF THE SLCC INCLUDING OTHER COMPLETED CONTRACTS SIMILAR TO THE CONTRACT TO BE BID

| Major Categories of Work 1] | Unit of Measure 1] | Quantity 1] | SLCC similar to the contract to be bid 2] | Other completed contracts similar to the contract to be bid 2] | | | Unit of Measure 2] | Quantity 2] |
|---|---|---|---|---|---|---|---|---|
| | | | Name of the contract | Name of the contract | Name of the contract | Name of the contract | | |
| 1. Pile Driving works (Off-shore) | l.m. | 11,146 | | | | | | |
| 2. Reinforced Concrete works | cu.m. | 443 | | | | | | |
| 3. Rockworks (20-30 kg/pc.) | cu.m. | 6,556 | | | | | | |
| 4. Construction of Portland Cement Concrete pavement | sq.m | 538 | | | | | | |

**NOTE:**
1] As stated in the Bid Data Sheet.
2] As appearing in the Recapitulation and/ or Final Bill of Quantities.
This statement shall be supported by:

a. Notice of Award, Notice to Proceed and Contract.
b. Project Owner's Certificate of Final Acceptance issued by the owner and/ or Constructors Performance Evaluation System (CPES) Final Rating, of at least satisfactory. The said Certificate of Acceptance shall contain the following: 1) Name of project owner that issued the certificate, 2) Name of Contractor/Constructor, 3) Name of Contract, and 4) Contract Duration.
c. Recapitulation and/ or Final Bill of Quantities.

| Name of Firm | Name of Bidder/Authorized Representative<br>Signatory's Legal Capacity | Date |
|---|---|---|

Revised: September 2021

# FINANCIAL DATA

A. The prospective bidder's audited Financial Statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "RECEIVED" by the Bureau of Internal Revenue (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.

| | Year |
|---|---|
| 1. Total Assets | |
| 2. Current Assets | |
| 3. Total Liabilities | |
| 4. Current Liabilities | |
| 5. Net worth (1-3) | |
| 6. Net Working Capital (2-4) | |

B. The computation of the bidders Net Financial Contracting Capacity (NFCC) must be at least equal to the ABC to be bid, as follows:

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

NFCC = _____

Attached herewith are certified true copies of the audited financial statements stamped received by the BIR or BIR authorized collecting agent for the latest/immediately preceding calendar year.

_____
Name of Firm/Applicant

_____
Authorized Signing Official

Date:_____

*NOTES:*

If Partnership or Joint Venture, each Partner or Member Firm of Joint venture shall submit separate financial statements.

## STATEMENT OF THE BIDDER'S KEY PERSONNEL PLEDGED FOR THE CONTRACT TO BE BID

I hereby declare that the following key personnel are qualified and available for the duration of the contract to be bid:

| Position of Key Personnel 1] | Name | No. of Key Personnel | Similar Experience in the Position (Years) 2] | Total Experience in the Position (Years) | Attachment(s) | Annex(es) |
|---|---|---|---|---|---|---|
| Project Manager | | | | | PRC License (CE Preferred)<br>Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |
| Project Engineer | | | | | PRC License (CE Preferred)<br>Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |
| Materials Engineer II | | | | | PRC License (CE Preferred)<br>Submit Valid and Renewed DPWH Certificate of Accreditation<br>Submit Accreditation Identification Card as Materials Engineer<br>Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |
| Construction Safety and Health Officer | | | | | Certificate of Safety and Health Construction Related Course issued by DOLE Accredited Trainings<br>Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |
| Foreman | | | | | Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |
| Other Position(s) | | | | | Complete Qualification and Experience Data<br>Certificate of Commitment | Annex "_" |

**NOTE:** 1] As stated in the Bid Data Sheet
2] The number of years of experience of the key personnel shall be as indicated in the qualification and experience data or curriculum vitae.

Minimum qualification requirements: The key personnel must have a work experience that is similar in nature and complexity to the contract to be bid.

Project Manager - Five (5) years
Project Engineer - Three (3) years
Foreman - Five (5) years
Construction Safety and Health Officer – One (1) year
Materials Engineer – One (1) year
Materials Engineer II – for projects costing more than 100M

| Name of Firm | Name of Bidder/Authorized Representative (Signatory's Legal Capacity) | Date |
|---|---|---|

Revised: September 2021

# STATEMENT OF THE BIDDER'S EQUIPMENT PLEDGED FOR THE CONTRACT TO BE BID

I hereby declare that the following equipment are in good operating condition and available for the duration of the contract to be bid:

| DESCRIPTION (Type, Model, Make) | No. of Unit(s) | Capacity/ Output 1] | Owned, Leased, and/or under purchased agreement 2] | Proof of Ownership/ Leased/ Under Purchase Agreement (Mark as Annex "A.....Z") 3] | OTHER INFORMATION (As Applicable) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Manufacturer | Engine Serial No. | Chassis No./ Name of Vessel | Location | Status |
| | | | | | | | | | |
| | | | | | | | | | |

**NOTE:**

1] The unit of capacity of the pledged equipment shall be as indicated in the Proof of Ownership, i.e. GW (for crane barge), DWT (for deck barge and hopper barge), Ton (for crane, road roller and drop hammer), kg.-m/blow (for diesel hammer), Ton. (for dump truck), hp (for tugboat, road grader, bulldozer and concrete vibrator), cfm (for compressor), gal (for water truck with pump), amp (for welding machine), bagger (for concrete mixer). If the capacity of the pledged equipment is not indicated in the Proof of Ownership/Lease Contract/Purchased Agreement, submit other proof of capacity such as specifications, brochures or other verifiable printouts indicating the model name, model number and other details of the equipment.

2] Indicate if the pledged equipment are owned, leased or under purchase agreement.

3] If the pledged equipment is owned, it should be in the name of the bidder. Submit proof of ownership, i.e. deed of sale, sales invoice, official receipt; For owned Water Truck, Dump Truck, Cargo Truck and Transit Mixer submit LTO Certificate of Registration and valid Official Receipt; For owned barge/tugboat, submit Marina Certificate of Ownership and valid Cargo Ship Safety Certificate.

If the pledged equipment is leased/under purchase agreement, submit the following:

For equipment under lease agreement:

a. certification of availability of equipment from the equipment lessor for the duration of the project
b. duly Notarized copy of lease contract
c. For Water Truck, Dump Truck, Cargo Truck and Transit Mixer submit LTO Certificate of Registration and valid Official Receipt

For equipment under purchase agreement:

a. certification of availability of equipment from the equipment vendor
b. duly Notarized copy of purchase agreement
c. For Water Truck, Dump Truck and Transit Mixer submit LTO Certificate of Registration and valid Official Receipt or copy of conduction sticker, whichever is applicable.

If the pledged barge/tugboat is leased/under purchase agreement, submit certification of availability of barge/tugboat from the equipment lessor/vendor for the duration of the project, and duly Notarized copy of lease contract/purchased agreement together with a copy of the Marina Certificate of Ownership and valid Cargo Ship Safety Certificate.

The Minimum Major Equipment Requirements are listed in Section 8, Annex 3.

| Name of Firm | Name of Bidder/Authorized Representative (Signatory's Legal Capacity) | Date |
|---|---|---|

Revised: April 2025

# Omnibus Sworn Statement for Sole Proprietorship

***[shall be submitted with the Bid]***

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

## AFFIDAVIT

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

1. I am the sole proprietor or authorized representative of _____ with office address at _____;

2. As the owner and sole proprietor, or authorized representative of _____, 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 **Extension of Breakwater Pier, Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan** as shown in the attached duly notarized Special Power of Attorney;

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

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

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

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

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

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

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

_____
Name of Bidder/ Authorized Representative
(Signatory's Legal Capacity)
AFFIANT

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

# Omnibus Sworn Statement for Partnership or Cooperative

***[shall be submitted with the Bid]***

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

## AFFIDAVIT

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

*1.* I am the duly authorized and designated representative of _____ with office address at _____;

*2.* 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 **Extension of Breakwater Pier, Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan** of the **Philippine Ports Authority**, 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.* None of the officers and members of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

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

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

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

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

_____
Name of Bidder/ Authorized Representative
(Signatory's Legal Capacity)
AFFIANT

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

# Omnibus Sworn Statement for Corporation or Joint Venture

***[shall be submitted with the Bid]***

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

## AFFIDAVIT

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

*1.* I am the duly authorized and designated representative of _____ with office address at _____;

*2.* 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 **Extension of Breakwater Pier, Port of Capinpin, Brgy. Puting Buhangin, Orion, Bataan** 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.* None of the officers, directors, and controlling stockholders of *[Name of Bidder]* is related to the Head of the Procuring Entity, Procurement Agent if engaged, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

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

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

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

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

_____
Name of Bidder/ Authorized Representative
(Signatory's Legal Capacity)
AFFIANT

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

# 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.: _____**

To: **Philippine Ports Authority**
PPA Building, Bonifacio Drive,
South Harbor, Port Area, Manila

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]*.

_____
Name of Bidder/ Authorized Representative
(Signatory's Legal Capacity)
AFFIANT

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

# CONSTRUCTION METHODOLOGY

Name of Project : _____

Project Description : _____

Location : _____

## MINIMUM SCOPE OF CONSTRUCTION METHODOLOGY

### A. BREAKWATER PIER EXTENSION - I

1. Excavation of seabed (279 cu.m.)
2. Supply and delivery of PSC Sheet Piles and Corner Piles (5,771 l.m.)
3. Handling, pitching and driving PSC Sheet Piles and Corner Piles (5,771 l.m.)
4. Chipping/cutting and disposal of newly driven PSC Sheet Piles (199 no.)
5. Supply and placing of sacked concrete (4 cu.m.)
6. Supply and installation of steel reinforcement for the superstructure (14,007 kg.)
7. Supply and placing of concrete for the superstructure (227 cu.m.)
8. Supply and placing of rock boulders (3,186 cu.m.)
9. Construction of concrete pavement (263 sq.m.)
10. Supply and installation of solar powered light beacon (1 set)

### B. BREAKWATER PIER EXTENSION - II

1. Excavation of seabed (3,618 cu.m.)
2. Supply and delivery of PSC Sheet Piles and Corner Piles (16,520 l.m.)
3. Handling, pitching and driving PSC Sheet Piles and Corner Piles (16,520 l.m.)
4. Chipping/cutting and disposal of newly driven PSC Sheet Piles (590 no.)
5. Supply and placing of sacked concrete (2 cu.m.)
6. Supply and installation of steel reinforcement for the superstructure (40,606 kg.)
7. Supply and placing of concrete for the superstructure (658 cu.m.)
8. Supply and placing of rock boulders (9,925 cu.m.)
9. Construction of concrete pavement (812 sq.m.)

**NOTES:**

The narrative construction method will guide and familiarize the contractor and the PPA on how the project shall be carried out in accordance with the highest standard of workmanship.

The construction method shall be consistent with the Bar Chart / S-Curve Schedule, Equipment Schedule and Manpower Schedule.

_____
Name of Bidder/Authorized Representatives
(Signatory's Legal Capacity)

Revised: September 2021

# MANPOWER SCHEDULE

Name of Project : _____

Project Description : _____

Location : _____

| MANPOWER (Minimum) | CONTRACT DURATION (_____ Calendar Days) | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MONTHLY | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Project Manager | | | | | | | | | | | | | | | | | | | |
| Project Engineer | | | | | | | | | | | | | | | | | | | |
| Materials Engineer II | | | | | | | | | | | | | | | | | | | |
| Construction Safety and Health Officer | | | | | | | | | | | | | | | | | | | |
| Foreman | | | | | | | | | | | | | | | | | | | |
| - Carpenter | | | | | | | | | | | | | | | | | | | |
| - Steelman | | | | | | | | | | | | | | | | | | | |
| - Mason | | | | | | | | | | | | | | | | | | | |
| - Electrician | | | | | | | | | | | | | | | | | | | |
| - Rigger | | | | | | | | | | | | | | | | | | | |
| - Others | | | | | | | | | | | | | | | | | | | |

_____

Name of Bidder/Authorized Representative
(Signatory's Legal Capacity)

Revised: September 2021

# EQUIPMENT UTILIZATION SCHEDULE

Name of Project : _____

Project Description : _____

Location : _____

| EQUIPMENT (Minimum) | No. of Units | CONTRACT DURATION (_____ Calendar Days) | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | M O N T H L Y | | | | | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
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_____
Name of Bidder/Authorized Representative
(Signatory's Legal Capacity)

Revised: September 2021

# CASHFLOW BY QUARTER AND PAYMENT SCHEDULE

Name of Project: : _____

Project Description : _____

Location : _____

| Project Duration (days or months) | Payment Schedule (Monthly, in Pesos) | Cash flow (Quarterly, in Pesos) |
|---|---|---|
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| | | |
| **TOTAL** | | |

***NOTES***

- The cash flow by quarter and payment schedule should be consistent with the Bar Chart and S-curve.
- Payment schedule shall not be more than once a month.

_____
Name of Bidder/Authorized Representative
(Signatory's Legal Capacity)

Revised: September 2021

# Contract Agreement Form for the

***[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 _____ day of _____, _____ between **Philippine Ports Authority** with principal office at PPA Building, Bonifacio Drive, South Harbor, Port Area, Manila (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 **Philippine Ports Authority** 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.

| | |
|---|---|
| **JAY DANIEL R. SANTIAGO**<br>General Manager | **Name of Bidder/ Authorized Representative**<br>(Signatory's Legal Capacity) |
| for: | for: |
| **Philippine Ports Authority** | **Contractor** |

**Acknowledgment**

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