DIVISION 1 GENERAL REQUIREMENTS

1.1 INTRODUCTION

The Specifications defines the requirements for the quality of materials and workmanship management for the satisfactory completion of the Works under the Contract.

These Specifications shall be read in conjunction with the other Contract Documents. In case of ambiguities or discrepancies, the Specifications shall have precedence over the Drawings and Bill of Quantities, but be overrided by the Conditions of Contract.

The Contractor shall carefully read and understand the exact meaning of the Specifications and/or Drawings.

In case of ambiguities or discrepancies or omission, in the opinion of the Contractor, he shall inform it to the Engineer for actions to be taken. This information shall be submitted in writing at the time of submission of Detailed Construction Schedule in accordance with appropriate-Clause of Conditions of Contract. The Engineer shall evaluate the related documents and decide the Works to be carried out based on the Contract. If the Contractor find out any discrepancies and carry out the Works without any consultation with the Engineer, all the risks based on these discrepancies shall be borne by the Contractor.

1.1.1 DESCRIPTION OF PROJECT

1. Work under this Contract shall be subject to the terms and conditions stipulated in appropriate Section of the Conditions of Contract.

2. This Section generally defines the Project as a whole and the items of work to be done under this Contract.

1.1.2 BRIEF PROJECT LOCATION

[Indicate Location/boundaries]

1.1.3 ITEMS OF WORK AND QUANTITIES

The Contractor, unless otherwise specified, shall furnish all labor, tools, equipment, materials, supplies, superintendence and other incidentals and shall perform all operations and maintenance work necessary to complete the work under the contract.

Refer to appropriate Section on the Bill of Quantities.

1.2 SITE CONDITIONS

1.2.1 GENERAL

1. Work under this contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

2. This Section sets forth supplementary and additional information on existing physical condition of the project.

1.2.2 INDIVIDUAL PORT CONDITIONS

[Indicate climate, type of tides, mean tidal range, significant wave height, maximum tidal variation, prevailing wind, the annual mean temperature, warmest and coldest month, existing facilities, etc.]

1.3 MATERIALS AND WORKMANSHIP

1.3.1 GENERAL

1. Work under this Contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

2. This Section sets forth supplementary and additional provisions relating to materials, products, equipment and workmanship required under this Contract.

1.3.2 MATERIALS

1. All materials used in the construction of the Permanent Works required under this Contract shall be of first class quality of their respective kinds as specified herein and or described in the Drawings and Bill of Quantities, obtained from approved sources and suppliers of materials conforming to Specifications and shall comply strictly with the **current issue of the appropriate standards** published by the American Society for Testing and Materials (ASTM), the Japanese Industrial Standards (JIS) or other equivalent national or international standards. Reference to Philippine, American Standards in the Specifications or Bill of Quantities does not imply any bias in favor of equipment, fittings, finishing, etc. The Contractor may relate his offer to other National Standards or Codes of Practice but shall explain the system used and provide the Engineer with all the necessary information and comparisons in English showing that his proposed standards are equivalent to the specified standards. Three (3) copies of such alternative standards in English are to be supplied by the Contractor to the Engineer when required. Any material not fully specified herein shall be the best of their kind and be specifically in accordance to the

specified material requirements as indicated in the appropriate Section of the Specifications.

2. Grade of Materials: When reference to a standard is made without indication of a specific grade, the materials shall comply with the suitable grade thereof to be selected in consideration of their purpose and approved by the Engineer.

3. Trade Names of the materials indicated in the Contract Documents are intended only to show the standard of the materials on which the design of the particular work is based and also to avoid ambiguous descriptions of the materials in the Drawings and Specifications.

4. The indication of the trade names, therefore, shall in no way be considered a limit to the acceptability of other products of equal or better functions, performances, reliability and durability.

5. Approval of Manufacturer and/or Materials (including alternative materials, equipment): refer to Section 1.7 "Submittals" for specific requirements.

6. Order of Materials: After obtaining the Engineer's approval of the materials which conform with the requirements specified in the Specifications and as indicated on the Drawings , the Contractor shall place the order for materials in accordance with appropriate Section of Conditions of Contract. The Contractor shall forward copies in duplicate to the Engineer of all orders placed by him for the supply of materials to be used in the Permanent Works.

7. Packaging: All materials shall be delivered to the Site in such packages as are normally used for transporting the same to a tropical country and shall be identifiable in a manner acceptable to the Engineer.

1.3.3 NOTICE OF MANUFACTURES

The Contractor shall give the Engineer a written notice of the articles or materials to be prepared or manufactured off-site, stating the place and time of the preparation or manufacture, in sufficient time for the Engineer to make inspections at all stages of the work and not only when any such article or material is completed.

Any article or material which is prepared or manufactured without giving such prior written notice to the Engineer may be rejected if the Engineer considers that inspection was necessary during the progress of the preparation or manufacture.

1.3.4 WORKMANSHIP

The workmanship employed in all works shall be of first class grade in the light of accepted internationally recognized standards of practice and the whole shall be in accordance with the requirement indicated in the Specifications and the Drawings. During its progress, and upon completion, the Works shall conform to the lines, elevations, and grades as shown on the Drawings. The Contractor shall complete the proposed Works in every detail as specified. However, should there be any detail or details omitted from the Drawings or Specifications which are essential to the intended completeness of any work, then it shall be the responsibility of the Contractor to furnish and install such details, subject to approval by the Engineer. Any work or workmanship not conforming to the best practices shall be subject to rejection. The whole of Permanent Works shall be subjected to the Engineer for its approval as to its compliance with the requirement indicated in the Specifications and Drawings.

1.3.5 MEASUREMENT AND PAYMENT

The requirements under materials and workmanship are incidental to other items of work and will not be measured for payment unless otherwise specified in the Bill of Quantities.

1.4 TEMPORARY WORKS

1.4.1 GENERAL

Work under this Contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

1.4.2 SCOPE OF WORK

This Section sets forth supplementary and additional provisions relating to preparatory works, facilities including Contractor's temporary facilities, and safeguards required for execution of works under this Contract.

1.4.3 GENERAL PROVISIONS

1. Temporary works, facilities and safeguards specified or required, including coordination with changes of services and similar activities shall be provided, for proper performance of the work, as necessary, to comply with all statutory regulations, and as necessary to expedite and properly execute the project.

2. Temporary Construction shall be adequate for intended uses and for all loads imposed without excessive settlement, deflection or deformation. All parts and members shall be properly supported, wedged, braced and secured to prevent displacement or failure.

3. Temporary and permanent utilities used for construction shall be adequate for the intended uses and not to be overloaded or otherwise used or arranged in any manner endangering persons, premises or works. Connections shall be properly made, lines and wiring securely anchored in place and protected against accidents.

4. Before or upon completion of work, unless otherwise required or directed, preparatory structures, installations and utility services shall be disconnected and removed from the site.

1.4.4 TEMPORARY UTILITIES AND SERVICES

1. Water: The Contractor shall provide the necessary pumps, valves, motors, storage tanks or reservoirs and distribution lines to adequately supply water for the Project including :

   a. Drinking Water: Providing and maintaining electric water dispensers (with hot and cold water) or connected drinking fountains of sufficient number to reasonable serve the Project.

   b. Construction Water: Providing and maintaining temporary water service and distribution of adequate capacity for construction/installation/testing purposes. Include portable unit, line extensions, hoses, valves, etc.

2. Electricity: The Contractor shall provide and maintain generators including a stand-by generator of adequate capacity to reasonably serve the Project. The Contractor shall also provide and maintain:

   a. Temporary electric service and distribution of adequate capacity for power, lighting and other construction needs including wiring, transformers, safety devices, connections, etc., as necessary.

   b. Temporary lighting as necessary to properly and safely perform work at enclosed spaces or under hazardous conditions. Likewise, provide lights for night protection as necessary.

   c. Temporary electrical systems shall comply with the local codes and regulations.

The Engineer will assist the Contractor to secure the necessary power source and permit prior to the temporary location of electric services to Site. However, the cost of installation, permits and other related works for this purpose shall be borne by the Contractor.

3. Waste and Rubbish

    a. The Contractor shall provide regular daily clean-up and removal of trash, waste, construction debris, etc. from site and temporary work yard.

    b. Disposal of waste and rubbish to disposal areas shall be arranged by the Contractor.

4. Submittal

    Prior to the provisions of the above facilities, the Contractor shall within ten (10) days after receipt of Notice of Proceed/ Notice to Commence, submit installation plan of the above facilities to the Engineer for approval.

1.4.5 FIRST AID AND FIRE PROTECTION

1. Emergency Calls: Determine locations of nearest available police, hospital or medical service and maintain their lists at the Contractor's Site Office.

2. Fire Protection

    a. Establish appropriate emergency routes and procedures and submit plan to the Engineer.

    b. Maintain fire extinguishers, connected hoses and other facilities necessary for reasonable fire fighting action at the site and temporary work yard.

3. Minor Injuries: Provide and maintain at the Contractor's Site Office medical and first aid equipment i.e. bandages, medicines and sterilized materials for first-aid treatment of minor injuries and shall also provide one (1) registered Nurse on a full time basis.

1.4.6 CONSTRUCTION SAFEGUARD

1. Trenches intersecting thoroughfares shall be provided with bridges or other crossings suitable carrying in the type of traffic involved with railings as necessary.

2. Open shafts, openings in floors, ramps, platforms and other such conditions shall be protected by sturdy barricades or railing.

3. Scaffolds, ladders, ramps, hoist, and other facilities shall be provided, maintained and operated as necessary.

4. Storage and shop areas shall be provided, arranged and maintained at approved locations as necessary to properly store, handle and fabricate the various materials and equipment required.

5. The Contractor shall hire one (1) Safety Engineer on a full time basis and shall also provide all construction workers/ staff with safety gears (i.e. helmets, shoes, belts, gloves, etc.) at Site.

1.4.7 ACCESS

The Contractor shall provide and maintain adequate access to the Project Site and all areas related to the works at no expense to the government. If existing roads are to be used for access to the Site, the Contractor shall maintain such roads for the duration of their use.

1.4.8 NAVIGATION MARKERS, ETC.

The Contractor shall provide all temporary and navigational aids, markers, lights and notices required for the works or required by law, regulations, and all authorities having jurisdiction over the area covered by the work on land or at sea. The Contractor shall replace at his own expense/cost any navigational or other facilities damaged by Contractor or his Sub-contractors.

1.4.9 PROTECTION OF THE PUBLIC

The Contractor shall provide safety devices (i.e. barricades, warning signs and other appropriate tools) as necessary for public protection.

1.4.10 ENVIRONMENTAL PROTECTION

1. Fires

   Fires and burning of rubbish on the site are not permitted except when authorized by the Port Fire Marshall and the Engineer.

   Where fires or burning is permitted, the Contractor shall prevent the structures, materials or vegetation which is to be preserved from staining and/or smoke damage. When so happen, the Contractor shall restore, clean and return stained or damaged work to fresh conditions.

2. Disposal of Waste

   The Contractor shall not bury rubbish and solid waste materials on the Site unless approved by the Engineer.

   The Contractor shall not dispose of dredging spoils, waste or volatile materials, such as mineral spirits, oil or paint thinner into the sea, waterways, storm water drainage or sanitary sewers.

3. Drainage

   The Contractor shall provide temporary drainage and pumping facilities as necessary to keep the Site free from water.

   The Contractor shall pay attention not to cut waterway or drainage from existing reclaimed areas. The Contractor shall provide when required temporary storm water drainage to prevent existing port area from being flooded.

4. River Diversion

   The Contractor shall provide and maintain along temporary river diversion whenever a present river is closed or affected by his works. Such diversion works shall be well protected and enough size to prevent the upstream area from being flooded.

5. Pollution Control

   The Contractor shall cover or wet down dry materials and rubbish to prevent blowing dust and debris, and provide dust control for temporary roads and yards.

6. Shore Protection

   The Contractor shall construct riprap and embankments along the periphery/shoreline of the port site to serve as a buffer zone, and to prevent erosion/siltation.

7. Protection of Corals, Mangroves, Estuaries and Forest

   The Contractor shall conserve and protect from injuries the corals, mangroves, estuaries and forest found within the vicinity throughout project implementation.

8. The Contractor shall allocate an Environmental Monitoring Fund (EMF) during the construction period in coordination with PENRO.

9. The Contractor shall comply with all the conditions stipulated in the Environmental Compliance Certificate (ECC).

1.4.11 DEMOLITION OF EXISTING STRUCTURES

1. Temporary Works shall include demolition or removal of existing structures to ground level, legal disposal of debris and materials, including the following requirements:

   a. During the time of work, the Contractor shall not interfere with shipping and navigation or other traffic activities.

   b. Keeping all pavements and areas leading to and from the site, clean and free of mud, dirt, and debris at all times and sufficiently passable to vehicles and pedestrians.

2. Temporary Works, however, do not include removal of shanties or relocation of squatter's dwellings as this matter is under the responsibility of the Government.

3. Refer to Section 2.2, "Demolition Works" for the detailed provision on demolition of existing major structures as indicated on the Drawings.

1.4.12 MEASUREMENT AND PAYMENT

1.4.12.1 TEMPORARY WORKS

The requirements under Temporary Works as indicated under Section 1.4 are incidental to other items of work and will not be measured for payment unless otherwise specified in the Bill of Quantities.

1.5 CONTRACTOR-FURNISHED FACILITIES/UTILITIES AND TRANSPORT FOR THE ENGINEER'S STAFF (IF ANY)

1.5.1 GENERAL

1. Work under this Contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

2. This Section sets forth requirements of the quarter, office, equipment, utilities and transportation that the Contractor shall provide for the Engineer Staff during the entire duration of the Project.

3. This Section also sets forth the maintenance and operation of the site office and quarters for the Engineer staff and the furnishing/renting of laboratory and additional equipment necessary for the efficient monitoring and operation supervision while the construction is in progress.

1.5.2 CONTRACTOR-SUPPLIED QUARTER/OFFICE

1. Combined Quarters/Office Building

   a. For New Combined Quarters/Office Building *(Option 1)*

   Within the first month after the date of commencement of the over-all work, the Contractor shall construct a combined quarter/office building with a 60m^2 floor area within the compound designated by the Engineer. Refer to the attached drawing for the details. It shall be provided with electricity, potable water supply and drainage/sewerage system.

   The field office shall be constructed of G.I. roofing (Ga. 26), plywood ceiling, concrete hollow block wall with plastered finish, plain concrete flooring, glass jalousie windows with iron grills, flush type doors, a kitchen sink with glazed tiles, tiled bathroom/toilet complete with fixtures and water supply and movable partitions for at least two (2) rooms. It shall be painted with at least two (2) coatings.

   The field office shall be located within the area to be determined by the Engineer in coordination with PDO/PMO concerned. The Contractor shall submit for approval the working drawings of the field office prior to its construction. Upon instruction of the Engineer, the field office maybe demolished by the Contractor after the completion of the Project.

   or:

   b. For Refurbishment of Combined Quarters/Office Building *(Option 2)*

   The Contractor shall repair and refurbish the existing Engineer Staff House in _____ which will be utilized as quarter/office for the Engineer staff. The Contractor shall make the necessary improvements but not limited with the following: minor structural repair, vitrified ceramic tiles, painting, perimeter fence, and as directed by the Engineer.

   c. *(Option 3)* The Contractor may also provide ready-made pre-fabricated quarter/office buildings. He also may rent existing building suitable for the installation of main quarter/office (this could be a temporary solution) if the quarter/office specified in 1.5.2a are not ready on time). Any alternative solution must provide for an equivalent area and number of rooms as specified above and will be subject to the approval of the Engineer.

1.5.3 OFFICE EQUIPMENT FOR USE OF PPA ENGINEER AND STAFF

The Contractor shall provide brand new furniture of excellent quality within thirty (30) days after the date of commencement of work for the site quarter/office for the use of the Engineer and his staff. The Contractor shall make available for use of the Engineer other equipment as may be necessary for the proper functioning of the office. The equipment shall be the property of PPA. Operation and maintenance shall be borne by PPA.

QUANTITY	DESCRIPTION
3	Jr. Executive Tables 1.5 x 0.70m, with chair
1	Wooden Conference Table with chairs (6-seaters)
4	Single bed with 4” mattress and beddings
1	Hot & Cold water dispenser (5gallons capacity potable water)
3	Waste paper basket with cover
3	Calculators with Scientific Functions (12 digit capacity)
1	Communication System for sole use of the Engineer and staff
1	Gas Stove (2 burners with tank)
1	Electric air-pot (2.5 liters capacity)
1	Desk Fan 16” φ
1	Filing cabinet, four (4) drawers with lock
2	Air-conditioning Units (window type, 1.5 hp)
1	Refrigerator (6 cuft)
1	Stapler, staple remover and puncher (each), heavy duty
1	White Board with eraser & marker 3” x 4’

1.5.4 COMMUNICATION SYSTEM

The Contractor shall purchase two (2) brand new Computer units, complete with Printer, UPS and accessories and one (1) set of computer table and chair for the use of the PPA Engineer and Staff at the start of the Project. The unit shall e the property of PPA. Operation and maintenance shall be borne by PPA.

Description/Specifications:

BRAND/ MODEL	IBM, ACER, HP PAVILLION or branded equivalent
PROCESSOR	Intel Core 2 Duo Processor
CHIPSET	Intel 975
SYSTEM MEMORY	DDR2 SDRAM PC – 667, 4GB
GRAPHICS	Nvidia Geforce FX 5500/128MB
DRIVES	1.44MB 3.5" FDD
HDD	250 GB Seagate HDD or equivalent
DVD-ROM	52x DVD/CDWR –ROM Drive
I/O INTERFACE	4-USB, 1-Parallel, 2-Serial, 2-Mic-in jacks, 2-PS/2, 1-RJ-45 1-Line in 1 Jack, 1-Line-out Jack, 1-Headphone Jack, 1-MIDI
I/O EXPANSION AUDIO	1-AGP, 3-PCI Embedded AC'97 3D PCI Audio with 16 bit Sound Blaster Compatibility
SPEAKERS	External Speaker
KEYBOARD	USB Keyboard with internet and email address keys, Audio/Video controls, Volume dial & mute, Suspend/resume button
MOUSE	USB Scroll Mouse with Pad/Optical Mouse
DISPLAY	19" LCD Color Monitor
OS BUNDLED (Certification/License)	Windows XP Professional OEM Should include driver and Recovery CD
OFFICE SOFTWARE	Ms Office 2003/2007 on XP Edition
ANTI-VIRUS SOFTWARE	Symantec or Norton
POWER MANAGEMENT	ACPI compliant
SYSTEM COMPLIANCE	PC 2001, NSTL Y2K, Energy Star, ISO 9001, ISO 14001, BVQi
EMI CERTIFICATION	FCC, CE,C-tick, BSMI
SAFETY CERTIFICATION	CB, UL, CUL/CSA, CCEE, CCIB Nemko, B-Mark, TUV/GS
PRINTER	HP Officejet K7100 or equivalent
UPS	AI PLUS 1000 Input: 230V,50/60 Hz Watts/VA: 600W/1000VA

1.5.5 DIGITAL CAMERA

The Contractor shall purchase one (1) brand new digital camera for use of the PPA Engineer and staff of the project. The unit shall be the property of PPA. Operation and maintenance shall be borne by PPA.

The camera shall be a 8.2 Megapixel resolution Digital Camera with upgraded lens, 5x optical zoom, five area autofocus, 2.5 LCD screen and PictBridge-enable. Internal memory should be 32MB internal memory and with additional of 512MB or higher.

The make shall be Sony Cyber-shot T Series-DSC-T100/R Digital Camera or equivalent.

1.5.6 UTILITIES

The site offices shall be provided with connections to the electrical system and to the potable water supply. Otherwise, the Contractor shall provide portable electric powers for the use of the site office and the Engineer 's quarter.

1.5.7 TRANSPORTATION

Contractor-supplied transportation: Within fifteen (15) calendar days after the date of Commencement of Work, the Contractor shall provide the Engineer staff with the following vehicles:

The vehicle shall be a mini van type with automatic transmission, diesel or gasoline engine with a displacement of 2.0 G Gas A/T or 2.5 G Diesel series, fully loaded with accessories. (Power steering/Windows/Slide Mirror/Antenna/Wood trim panel/Alloy mags wheels/Built-in Fog lamp/rear wiper., tri-air condition (tropical heater), Audio System: Single In-dash DVD/MP3/Tuner with remote with 6 speakers (including 2 wheelers) Video system: dual 6.5" Headrest Mounted LCD monitors with Infra-red Headphone System. The make shall be 2008 Toyota Innova A/T or equivalent.

Temporary service vehicles shall be provided by the Contractor for the Engineer's staff until the arrival of the above-mentioned vehicles at no cost to the Engineer.

Unless otherwise specified, all furnished vehicles shall be turned over to PPA on a first class condition upon the issuance of the Final Taking-over Certificates.

The Contractor shall submit to the Engineer catalogues or brochures of the vehicles for his approval and satisfaction prior to purchase within ten (10) days after the receipt of the Notice to Proceed/Notice to Commence.

The vehicle shall be *[brand new/in good running condition (if to be rented only)]* and shall carry or be fitted with the accessories as may be prescribed by laws and shall comply in all respects with all relevant Philippine national or local laws, statutes and regulations.

1.5.8 SURVEY BOAT AND SURVEY INSTRUMENTS

A boat (4 persons capacity, min.) shall be made available at the Engineer's request each time it is considered necessary by the Engineer representative for bathymetric surveys and for the proper supervision of the works.

The Contractor shall also make his own survey instruments available to the Engineer when required for the purpose of checking the staking of the structures or for any other survey works.

1.5.9 OPERATION AND MAINTENANCE

1. The Contractor shall be responsible for the operation and maintenance of all facilities and equipment required. The Contractor shall also undertake the repair, renewal and/or replacement of damaged parts or portions of these facilities when required. All necessary materials, supplies and other articles to include the supply of water and electricity normally needed for the efficient operation of the site office and quarter of the Engineer shall be provided by the Contractor.

2. The Contractor shall furnish a combination cook-steward or one cook and one steward per respective quarter.

3. The Contractor shall provide security personnel in the Engineer quarters at all times.

4. The Contractor shall also provide drivers, operating supplies and maintenance for the vehicles specified under Sec. 1.5.4 above:

   - Mini van type with automatic transmission, diesel or gasoline engine with a displacement of 2.0 G Gas A/T or 2.5 G Diesel series with a minimum of 10 liters of fuel per day each.

   All vehicles shall be covered by comprehensive insurance during the entire duration of the project.

   Should the Contractor fail to maintain, repair or replace any work when the same is required or fail to supply any material, article or supplies necessary within the time specified by the Engineer, the Engineer may execute or cause to be executed by others such maintenance, repair or replacement works and procurement; and the Contractor shall pay thereof, as certified by the Engineer or the Engineer's shall have the right to deduct the sum from any collection which is due or which will become due to the Contractor.

1.5.10 MEASUREMENT AND PAYMENT

Facilities to be provided by the Contractor to the Engineer Staff:

1.5.10.1 NEWLY CONSTRUCTED QUARTER/OFFICE BUILDING FOR THE ENGINEER STAFF (OPTION 1)

1. Lump sum item shall be provided for the provision of the newly constructed main quarter/office building and as given in the Bill of Quantities including the acquisition of the furniture and equipment as listed under sub-section 1.5.2.

2. Lump sum items shall be provided for the maintenance and running costs of the main quarter/office as shown in the Bill of Quantities which shall be paid on a monthly basis during the time the Engineer staff occupies the building prior to becoming the property of the Engineer. It shall include the maintenance of furnishing and equipment, office supplies, utilities, monthly salaries of cook-steward and security personnel as indicated under sub-section 1.5.6.

   or:

1.5.10.2 RENTED QUARTER/OFFICE BUILDING FOR THE ENGINEER STAFF (OPTION 2)

1. Lump sum items shall be provided for the rental of Site Quarter/Office Building which shall be paid on a monthly basis during the time the Engineer Staff occupies the buildings and shall also include the maintenance and running cost for the monthly maintenance of furnishing and equipment, office supplies, utilities, monthly salaries of cook-steward and security personnel as indicated under sub-section 1.5.6.

2. Lump sum items shall be provided for the repair and refurbishment of existing Engineer's staff house which shall be paid on a monthly basis during the time the Engineer's staff occupies the building and shall also include the maintenance and running cost for the monthly maintenance of furnishing and equipment, office supplies, utilities, monthly salaries of cook-steward and security personnel as indicated under sub-section 1.5.6.

3. Lump sum prices shall be paid for the acquisition of furniture and equipment listed under sub-sections 1.5.3, 1.5.4 and 1.5.5.

1.5.10.3 VEHICLES

1. The quantities to be paid for the provision of vehicles for Engineer's Staff shall be the number and type of vehicles supplied as specified and listed in sub-section 1.5.7.

2. Operation and maintenance of vehicles will be paid for on a monthly rate which prices and payment shall include full compensation for providing repairs, fuel, lubricants, equipment tools, drivers and incidental necessary to complete the item.

3. Payment will continue so long as such facilities mentioned above are needed or until such time as Engineer's shall signify that the facilities are no longer needed.

1.6 TESTS AND INSPECTIONS

1.6.1 GENERAL

1. Work under this Contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

2. This Section set forth general provisions regarding tests and inspections required under this Contract.

1.6.2 TEST

1. The Contractor shall carry out all tests required under the various sections of the Specifications in the presence and under the supervision of the Engineer.

2. All materials delivered to the site shall be subject to examinations and tests, should such test be desired by the Engineer, the Contractor will be given sufficient time to test said materials.

   All tests required shall be performed at any accredited regional Laboratory of the Bureau of Research and Standard (BRS) of the DPWH or Department of Science and Technology (DOST). PPA must accept results of materials test(s) coming only from DOST/BRS Accredited Laboratories.

   The service(s) of accredited private testing laboratories shall be engage only upon a certification from BRS or the concerned DPWH Regional or District Testing Laboratory stating that it does not have the capability to undertake the desired tests. All testing shall be witnessed both by the authorized representatives of the Contractor and the Engineer.

3. The provisions of testing shall be closely-knit with the Construction Schedule so that all specified/required tests can be completed within the normal working hours on a one-shift basis, except for those that would require longer time to be carried out.

4. All tests shall generally be carried out in accordance with the requirements and procedures of accepted/established standards or as instructed by the Engineer.

   As for the testing methods, other accepted/approved equivalent standards may be applied; in such case the Contractor shall submit the copies of such standards for the Engineer approval beforehand.

5. Unless otherwise expressly stated, all tests and the works in connection therewith shall be considered as incidental to the Permanent Works which require such tests and all costs thereof shall be deemed to be included in and covered by the Scheduled Rates of the "Pay Items".

6. The Engineer shall have the right to reject all materials which do not comply with the requirements of the Contract notwithstanding any previous approval thereof.

7. On account of the rejection of materials due to their non-compliance with the requirements of the Contract or due to the waiting time reasonably required for carrying out the examinations and tests, the Contractor shall not be entitled to any extra payment or extension of time for completion of the Works.

8. The Contractor shall furnish test samples as requested and shall provide reasonable assistance and cooperation as deemed necessary to permit the tests to be performed on materials or work in place including reasonable stoppage of work during testing.

1.6.3 CONTRACTOR'S LABORATORY EQUIPMENT, APPARATUS AND APPLIANCES

Quantity	Description
	TESTING OF SOILS
	Gradation
1	3" x 8" dia. Brass Sieve
1	2" x 8" dia. Brass Sieve
1	1-1/2" x 8" dia. Brass Sieve
1	1" x 8" dia. Brass Sieve
1	3/4" x 8" dia. Brass Sieve

1	1/2" x 8" dia. Brass Sieve
1	3/8"x 8" dia. Brass Sieve
1	#4 x 8" dia. Brass Sieve
1	#10 x 8" dia. Brass Sieve
1	#20 x 8" dia. Brass Sieve
2	#40 x 8" dia. Brass Sieve
1	#100 x 8" dia. Brass Sieve
1	#200 x 8" dia. Brass Sieve
1	#200 x 8" dia. Brass Sieve 4" deep for washing
1	Brass Pan, 8" dia. x 2" deep
1	Brass Cover with ring
2	Galvanized Steel Pan, 24" x 24" x 3"
2	Volumetric Flask, 500 ml with top
1	Hand Operated Sieve Shaker (for 8" dia. sieve)
1	Wire Basket (2.36 mm mesh)
1	Triple Beam Balance, 2610 grams
1	Heavy Duty Solution Balance 0.1 gram sensitivity

ATTERBERG LIMITS

1	Liquid Limit Set
1	Plastic Limit Set
1	Wash Bottle, 25 ml
1	Cent-0-Gram Balance, 310 grams

MOISTURE-DENSITY RELATIONS (AASHTO T-99 and T-180)

1	Compaction Mold, 4" dia.
1	Compaction Rammer, 5.5 lbs.
1	Compaction Mold, 6" dia.
1	Compaction Rammer, 10 lbs.
1	Steel Straightedge, 12"
1	Mixing Trowel, 2.5" x 4.5" Blade
1	Spatula, 4 inches
1	Trimming Knife
1	Heavy Duty Solution Balance
1	20 kgs cap., 1 gram sensitivity
1	Mixing Pan. 24" x 24" x 3"
24	Moisture Can, 3 ounces

FIELD DENSITY

2	Sand Cone and Jug (Plastic)
2	Replacement Jug (Plastic)
2	Density Plate
500	Plastic Bags, 8" x 14" Size 0.0035 substance

2	Sampling Spoon
2	One-gallon Field Cans
3	One-inch Steel Chisel
2	Sand Scoop
2	Ball Hammer
1	Field Scale, 15 kg, 4.5 gram sensitivity
	CONCRETE TESTING EQUIPMENT
1	Concrete compressive/flexural strength testing
1	machine
1	#8 x 8" dia. Brass Seive
1	#16 x 8" dia. Brass Sieve
1	#30 x 8" dia. Brass Sieve
1	#50 x 8" dia. Brass Sieve
1	#100 x 8" dia. Brass Sieve
1	Sampler Splitter, 2-1/2" Chutes
12	Slump Cone and Base with Graduated Tamping Rod
1	Cylinder Mold, 6" dia. x 12"
1	Precision Air Meter, 1/4 cu.ft.
1	Mixing Pan, 24" x 24" x3"
1	Cement Trowel
1	Thermometer, 0-250 degrees C, 8" long, Armoured
2	Yield Bucket, 1/10 cu.ft.
	Yield Bucket, 1/2 cu.ft.
1	Sand Absorption Cone and Tamper (AASHTO T-84)
1	Pycnometer Top and Jar (AASHTO T-84)
1	Density Basket (AASHTO T-85)
	MISCELLANEOUS EQUIPMENT
1	Laboratory Oven, Double Wall
	Gravity Connection, 220/60 Hz A.C. cap. 1. cu.m.
1	Hot Plate, 12" x 12", 220 volts
1	Speedy Moisture Tester
1	Organic Impurities Test Set
1	Sand Equivalent Test Set
1	Gas Range, 2 Burners
	OTHERS
2 bottles	Sodium Hydroxide Solution
1 carton	Capping Compound
4 bottles	Sodium Sulfate
1 carton	Calcium Carbide Reagent
3 bottles	Sand Equivalent Stock Solution
1	Color Standard Chart
5 gallons	Distilled Water

1.6.4 MEASUREMENT AND PAYMENT

Unless otherwise expressly stated, all tests and the works in connection therewith shall be considered as incidentals to the Permanent Works which require such tests and all costs thereof shall be deemed to be included in and covered by the scheduled rates of the Pay Items.

1.7 SUBMITTALS

1.7.1 GENERAL

1. Work under this Contract shall be subject to the terms and conditions stipulated in the Conditions of Contract.

2. This Section sets forth general provisions regarding submittals required of the Contractor.

3. Related submittals other than sureties and insurances:

    a. Contractor-furnished drawings, data and samples
    b. Temporary access and haul roads
    c. Monthly Progress Report with Photographs
    d. Construction schedule
    e. Tests and Inspection - Section 1.6
    f. As-built drawings
    g. Final construction report

4. Until submittal is reviewed by the Engineer and approved and released for distribution, work involving the relevant product data shall not proceed.

5. The Engineer's review will be signified by comments as required, identifying items for resubmission and by the Engineer's stamp when work is released for distribution.

1.7.2 CONTRACTOR-SUPPLIED DOCUMENTS

1. The Contractor shall supply the following documents as required by the Specifications or as requested by the Engineer.

    a. Surveying and sounding drawings, and reports on sub-soil investigations when required.

    b. Structural calculations for temporary construction and erection stages of the permanent structures, inclusive of the determination of the strength and stability of the already completed structural

members, as well as the stability of excavations, embankments, retaining walls and dikes, insofar as concerns additional loads that occur in the course of the execution of the construction work.

c. Drawing and calculations in connection with any alternative proposal for design and execution of the special construction method or sequence for construction or erection of the permanent structures or parts thereof.

d. Reports and records of all tests on materials carried out by the Contractor or by his Suppliers.

e. Construction Schedules, monthly progress reports, final construction reports, shop drawings, as-built drawings, product data, samples and construction photographs.

1.7.3 CONSTRUCTION SCHEDULES, SURVEY DATA AND SHOP DRAWINGS

1. Construction schedules, survey data, field drawings and shop drawings shall be originally prepared by Contractor, Sub-Contractor, Supplier or Distributor to illustrate the appropriate portion of work. The work item shall be described in relation to responsibility, fabrication, layout, setting or erection details as specified in appropriate Sections.

2. Submittal drawings to be reproducible transparency with one opaque print.

3. Maximum sheet size is 610 mm x 810 mm (24" x 32").

1.7.4 PRODUCT DATA

1. Certain sections of the Specifications state that manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.

2. From the above and when necessary:

   a. Delete information which is not applicable to the project;
   b. Supplement standard information to provide additional information applicable to the project;
   c. Show dimensions and clearances required;
   d. Show performance characteristics and capacities; and
   e. Show wiring diagrams and controls.

1.7.5 SAMPLES

1. Submit samples in sizes and quantities specified.
2. Where color is a criterion, submit full range of colors.
3. Construct field samples and mock-ups at locations acceptable to the Engineer.
4. Construct each sample or mock-up complete, including work of all trades required to finish work.
5. Reviewed and approved samples or mock-ups will become standards of workmanship and material against which, installed work will be checked on the project.

1.7.6 CONTRACTOR'S RESPONSIBILITIES

1. Review shop drawings, product data and samples prior to submission.

2. Verify:

   Field measurements

   Field construction criteria

   Catalogue numbers and similar data

3. Coordinate each submittal with the Project requirements and Contract Documents.

4. Contractor's responsibility for errors and omissions on submittals is not relieved by the Engineer 's review and approval of submittals.

5. Contractor's responsibility for deviations on submittals from requirements of Contract Documents is not relieved by the Engineer's review of submittals, unless the Engineer give written acceptance of specified deviations.

6. Notify the Engineer, in writing at time of submission, of deviation on submittals from requirements of Contract Documents.

   After the Engineer 's review, distribute copies.

1.7.7 SUBMISSION REQUIREMENTS

1. Schedule submissions at least five (5) working days before dates reviewed submittals will be needed.

2. Submit one reproducible transparency and one opaque print of schedules, survey data and shop drawings, and the number of copies of product data which Contractor requires for distribution plus three (3) copies which will be retained by the Engineer.

3. Accompany submittals with transmittal letters, in duplicate copies, containing:
   a. Date
   b. Project title and number
   c. Contractor's name and address
   d. Number of each shop drawing, product data and sample submitted
   e. Other pertinent data

4. Submittals shall include:
   a. Date and revision dates
   b. Project title and number
   c. Name of - Contractor
      - Sub-Contractor
      - Supplier
      - Manufacturer
      - Separate retailer when pertinent
   d. Identification of product or material
   e. Relation to adjacent structure or materials
   f. Field dimensions, clearly identified as such
   g. Specifications Section Number
   h. Applicable standards, such as ASTM numbers
   i. Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

5. Test reports shall be submitted in seven (7) copies at Contractor's expense within five (5) working days of the completion of respective tests or within such times as may be specifically directed by the Engineer.

6. Additional copies of any information if and when found to be necessary shall be furnished by Contractor at his own expense upon request by the Engineer.

1.7.8 DISTRIBUTION OF SUBMITTALS AFTER REVIEW

1. Distribute copies of shop drawings and product data which carry the Engineer 's stamp, to:

   a. Job-site file
   b. Record documents file
   c. Sub-contractors
   d. Suppliers
   e. Fabricators

   As appropriate in each case.

1.7.9 CONSTRUCTION PHOTOGRAPHS

1. Provide record progress photographs taken at a fixed point and angle as, when and where directed by the Engineer at intervals of not more than ten (10) days. The photographs shall be sufficient in number and location to record the exact progress of works. Provide one (1) proof print of each photograph taken and the negative and five (5) colored copies, 254 mm x 203 mm of any of the photographs selected by the Engineer. Two (2) copies are to be signed by the Contractor and the Engineer's Representatives. Albums to accommodate the selected photographs shall be supplied by Contractor.

1.7.10 MONTHLY PROGRESS REPORT

1. The Contractor shall maintain a daily log describing the important events pertaining to the Works, the working hours, the number of laborers employed, effective operation time of equipment, overtime hours, delays due to meteorological and maritime conditions, lack of labor, materials or equipment, progress made including those for dredging and reclamation works, and instructions, notifications and recommendations made by the Engineer.

2. The Contractor shall furnish the Engineer with eight (8) copies of the monthly progress reports within seven (7) days after the end of every month, indicating progress made, construction activities, inventories of material used and stored on job site, number of laborers, equipment available and hours utilized, number of working days, the summary of the daily log of the month and all important events in relation to the Works.

1.7.11 AS-BUILT DRAWINGS AND FINAL CONSTRUCTION REPORT

Within thirty (30) calendar days after the issuance of the Taking Over Certificate, the Contractor shall prepare and submit two (2) sets of as-built drawings and a final construction report as draft. And within thirty (30) calendar days after the issuance of the Taking Over Certificate, the Contractor shall submit five (5) sets of the Final Construction Report and ten (10) Final As-Built drawings. As-built drawings of the works consists of one (1) set of original size reproducible (mylar), two (2) sets of copies of original size (white print), one (1) set of reproducible (acetate) reduced to A3 size (420 mm x 297 mm) and six (6) sets of bound copies reduced to A3 size.

1.7.12 MEASUREMENT AND PAYMENT

Items of this section are incidental to the Works and will not be measured for payment.

1.8 STANDARDS AND ABBREVIATIONS

1.8.1 GENERAL

1. Work under this Contract shall be subject to the terms and conditions stipulated in the Condition of Contract.

2. This Section sets forth standards and abbreviations referred to in the various Sections of the Technical Specifications.

1.8.2 STANDARDS

1. In the Specifications, reference are made to the standards issued by the following organizations and referred to by the abbreviations shown:

	Organization	**Abbreviation**
a.	Philippine National Standard (Product Standard Agency)	PNS
b.	Japanese Industrial Standards	JIS
c.	Standard Specifications, by DPWH (1995 edition Volume I & III) (2004 edition Volume II)	SS (DPWH)
d.	Design Guidelines Criteria and Standards, Volume II (DPWH)	DGC

e.	Technical Standards for Ports and Harbor Facilities (DPWH)	TS
f.	Design Manual for Port and Harbor Facilities in Japan, the Ministry of Transport, Japan 1989	DN
g.	Technical Standards and Commentaries for Port and Harbour Facilities in Japan (2002)	TSCPHFJ
h.	Philippine Institute of Civil Engineers	PICE
i.	Association of Structural Engineers of the Philippines	ASEP
j.	American Association of State Highway and Transportation Officials	AASHTO
k.	American Concrete Institute	ACI
l.	American Institute of Steel Construction	AISC
m.	American National Standards Institute	ANSI
n.	American Petroleum Institute	API
o.	American Society for Testing and Materials	ASTM
p.	American Welding Society	AWS
q.	American Water Works Association	AWWA
r.	Steel Structures Painting Council	SSPC

2. standards listed above, may be considered to be equally applicable/acceptable, provided that performance and functions of materials or workmanship or methods of tests, etc. are equal to or better than those specified in the above-listed standards and provided that the quantity of the Works will not be increased/adjusted just to comply with the proposed standard.

3. The Contractor shall submit proof that, when a standard other than that specified is proposed, it is in fact equal to or better than the specified standard. Such reference shall in every case be considered to be made in accordance with the latest edition of the said reference.

4. The edition or the revised version of such codes and standards current at the date twenty eight (28) days prior to date of bid submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Owner.

1.8.3 ABBREVIATIONS

In the Technical Specifications, the following abbreviations are used:

	Items	Abbreviations
1.	Millimeter (s)	mm (s)
2.	centimeter (s)	cm (s)
3.	meter (s)	m (s)
4.	kilogram (s)	kg (s)
5.	metric tonne (s)	t (s)
6.	maximum	max.
7.	minimum	min.
8.	typical	Typ.
9.	Drawing (s)	Dwgs.
10.	Elevation	Elev.
11.	diameter	dia.
12.	Division	Div.
13.	Approximately	approx.
14.	Kilometer (s)	km (s)
15.	Quantity	Q'ty
16.	Linear meter (s)	l.m.
17.	Length	L
18.	Pascal	Pa
19.	Megapascal	MPa
20.	Kilopascal	Kpa
21.	Newton	N
22.	Liter	L
23.	Knot	Kn

1.9 MOBILIZATION/DEMOBILIZATION AND CLEANING

1.9.1 GENERAL

Work under this Contract shall be in accordance with the terms and conditions stipulated in the Conditions of Contract and Section 1 "General Requirements" of these Specifications and shall apply to this Section whether herein referred to or not.

1.9.2 SCOPE OF WORK

This Section includes mobilization, demobilization, assembly and disassembly of equipment/plants including incidentals necessary to complete the work.

1.9.3 MOBILIZATION

1. The Contractor shall mobilize and put into operation all equipment and plants required to undertake the Contract.

2. Mobilization shall include the transferring to the job-sites of all equipment, plants, supplies and materials, personnel, and all items necessary for the execution and completion of the work, and shall also include the setting up of all equipment, instruments and all other plants until rendered operable, subject to the confirmation of the Engineer.

3. Sufficient supply of spares for the equipment and plants shall be carried on-board the towing/carrying vessels. Equipment/plants encountering breakdowns must be repaired on site by the most expeditious method possible at no cost to PPA. In the event that the equipment/plants call for major repair works that cannot be undertaken at the site, the Contractor shall replace such equipment/plants with equal or better performance capacity at no additional mobilization costs to PPA and the Contractor shall not be entitled to any time extension.

1.9.4 DEMOBILIZATION

Demobilization upon request of the Contractor and approved by the Engineer, shall include the following:

1. The dismantling, preparation and loading for removal and shipment of all Contractor's plant, equipment and personnel at each site after completion of the works.

2. Transportation of all the above plant, equipment and materials from each site to the Contractor's home station or somewhere else outside the sites.

3. Removal of all supplementary markers furnished and installed by the Contractor, provided that the Engineer has not taken the option to retain the markers.

4. The clean up of the Site and the removal of materials, debris, waste, etc., and making good damages or temporary alterations.

1.9.5 MEASUREMENT AND PAYMENT

Payment for this item includes the expenses incurred by the Contractor for moving-in of minimum major equipment and/or plant required for the project and moving out of the same after final acceptance of the work including cleaning-up. Fifty percent (50%) of the total amount shall be payable after mobilization activity while the remaining fifty percent (50%) payable after acceptance of the completed project. A list of equipment showing the detailed cost for its mobilization and demobilization works shall be included in the bid amount for this item.