

PROJECT TITLE

**CONSTRUCTION OF ONE STOREY PUMP HOUSE BUILDING, GENSET SHED AND PERIMETER FENCE**

LOCATION

**PUROK CABUAY, BRGY. SINAWAL, GENERAL SANTOS CITY**

OWNER

**GENERAL SANTOS CITY WATER DISTRICT**

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## **S P E C I F I C A T I O N S**

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### **I. SCOPE OF WORK**

The work consists of furnishing of materials, appurtenances, labor, equipment, tools, power, water and supervision for the completion of the proposed project as shown on plan and technical drawings specified in the scope of work herein.

Steel Pipes, flow meter and valves (check valves, gate valves and Air Release Valve), Y-strainer, and Sleeve Type Coupling, shall be supplied by GSCWD, where in installation shall be done by the contractor.

The contractor shall fabricate and install needed fittings and other appurtenances as shown and specified, and as required for a complete and workable piping system.

### **II. BIDDERS QUALIFICATION**

#### **A. Bidders/Contractors Qualification**

Bidders/Contractors should be fully experienced and reputable in the field of construction.

#### **B. Bidders/Contractors Competence & Experience**

Bidder/Contractors should have at least Two(2) years' experience in civil, piping, structural steel works and had completed at least Two(2)

related construction projects in any Government or Private Institutions from the date of submission and receipt of bids.

### **III. GENERAL CONDITIONS**

#### **A. DEFINITIONS**

1. OWNER

The word "Owner" refers to the General Santos City Water District.

2. ENGINEER

The word "Engineer" refers to the individual or firm authorized by the Owner to oversee the execution of the Contract.

3. CONTRACTOR

The word "Contractor" refers to the party entering into the contract for the performance of the work required.

4. CONTRACT

The word "Contract" refers to the contract documents and shall include the basic contract entered into by the owner and the contractor for the performance of the work.

5. SPECIFICATION

The word "Specification" refers to the General Conditions, Special Provisions and Technical Specifications of the contract together with all addenda and change orders issued with respect thereto.

6. DRAWINGS

The word "Drawing" or "Contract Drawing" refers to those drawings accompanying the Specification and subsequent approved drawings, which show the location, nature, extent and form of the work together with applicable detail.

7. WORK

The word "Work" refers to the labor, material, equipment, transportation and all incidental costs necessary to complete the Contract.

8. SITE

The word "Site" refers to the lands and other places on, under, in or through which the work is to be executed or carried out and any other lands or places provided by the Owner for the purpose of the Contract.

9. **APPROVAL**

The word "Approval" refers to concurrence in writing, including subsequent written confirmation of the previous verbal approval.

10. **WORKING / CALENDAR DAY**

The term "Working Day" refers to working days in the government service.

The term "Calendar Day" refers to the days in a week including Saturdays, Sundays and Holidays.

Whenever the word "Day" is issued, it shall refer to calendar day.

**B. SPECIFICATION, DRAWING AND RELATED AREAS**

**1. SPECIFICATION, DRAWINGS AND DISCREPANCIES**

The intent of the Specifications and Drawings is that the contractor shall furnish all the required plant, labor, materials, equipment and services, unless otherwise specified provided.

The Specifications and Drawings are complementary and what is called for in one shall be as binding as if called for in both.

Any discrepancies, errors or omission found in the Specifications or Drawings shall be reported in writing within three (3) days from the discovery to the Engineer who will issue the correction in writing within the same period. The contractor shall not take advantage of any such discrepancies, errors or omissions but shall comply with the corrective measures regarding the same as prescribed by the Engineer.

In case of conflict between the Specifications and the Drawings, the Specifications shall govern over the Drawings.

**2. SHOP DRAWINGS**

Whenever called for in these Specifications or on the Drawings, or where required by the Engineer, the Contractor shall furnish the Owner for review two (2) prints of each shop drawing.

The term "Shop Drawing" as used herein shall be understood to include detail design calculations, fabrications and installations,

drawings, lists, graphs, operating instructions. Shop drawing shall be submitted to the Engineer for review and approval within fifteen (15) calendar days from receipt of the Notice of Award.

All shop drawings submittal shall be accompanied by transmittal form.

## **C. OWNER – ENGINEER – CONTRACTOR RELATIONS**

### **1. ENGINEER AUTHORITY**

The Engineer, acting as the authorized representative of the Owner, will decide such questions which may arise as to the quality and acceptability of materials and equipment furnished, work performed, rate of progress of work, interpretation of Specifications and Drawings, and those relating to the acceptability in fulfillment of the Contract by the Contractor.

The Engineer will, subject to verification and / or approval by the Owner, certify the estimates of the value of the work completed and the materials utilized.

### **2. CONTRACTOR'S EMPLOYEES**

The employees of the Contractor are not employees of the Owner. Hence, the Owner shall not be liable or responsible for any personal injury or damage including death caused by any of the employees of the contractor during the lawful performances of their duties.

The contractor shall, at all times, stand solely liable and/or responsible for the enforcement of and compliance with all existing laws, rules and regulations applicable, and the contractor hereby agrees and binds itself to save and hold the Owner free and harmless from any or all liabilities in respect thereto and/or arising there from.

The organizational structure chart shall be submitted together with the contractor's bid, subject to checking during post qualification.

### **3. CONTRACTOR'S SUPERINTENDENCE**

A qualified superintendent shall be present in the work and shall provide competent supervision of the work, until its completion. The

superintendent shall have full authority to act in behalf of the contractor, and all directions given by the Owner or authorize representative to the superintendent shall be considered given to the contractor.

#### **4. SUSPENSION OF WORK**

The Engineer, acting on behalf of the Owner may, by written notice to the Contractor, suspend the work in whole or in part for such period or periods as he may deem necessary, owing to such factors as delay in delivery of Owner furnished equipment or materials, or such other conditions as are considered unfavorable for prosecuting the work, or failure on the part of the Contractor to carry out the provisions of the Contract or to provide materials or workmanship meeting the requirements of the Specification.

#### **D. PROJECT MONITORING**

##### **1. MONTHLY PROGRESS REPORT**

The Contractor is required to submit to the Owner two (2) copies of Monthly Progress Report which shall include the following:

- a) Items of work accomplished for the month;
- b) Cumulative summary of work accomplished to date;
- c) Items of work scheduled for the following month.
- d) Project photos for the month.

The first Monthly Progress Report will cover the time from the date when the Notice to Proceed is issued until the end of the following month. Subsequently, monthly reports shall be submitted monthly thereafter until provisional acceptance of the project.

If the Contractor fails to submit Monthly Progress Report, the Owner may withhold approval of progress payment until the reports are received.

##### **2. MONTHLY COORDINATION MEETING**

There will be a regular coordination meeting be conducted twice a month to discuss issues and concerns of the project.

The signatory to the Omnibus Sworn Statement who is the duly authorized representative of the winning bidder shall be required to attend the monthly coordination meeting; otherwise, the

attendee/representative present during the meeting shall be acknowledged only upon presentation of a duly notarized Special Power of Attorney.

### **3. CONTRACT DURATION**

Contract duration is One Hundred Twenty (120) Calendar Days and shall commence Five (5) Days after the receipt of Notice to proceed.

## **E. BONDS, INSURANCE, LEGAL RESPONSIBILITY AND PUBLIC SAFETY**

### **1. INSPECTION OF PROJECT SITE**

The Contractor shall inspect the site of the work in order to satisfy themselves by personal examination and/or by such other means as they may prefer, of the location of the proposed work and the actual visualization of the work to be done. He should be aware of the conditions which might affect the execution of this contract and has made provisions therefore in his bid.

The Contractor must submit Certificate of Site Inspection upon submission of bid proposal.

### **2. PERMIT AND LICENSES**

The procurement and payment of all necessary permits such as Zoning, Building, Electrical, Mechanical, Plumbing, Sanitary, etc., in the project implementation shall be the responsibility of the Owner.

### **3. CONTRACTOR'S RESPONSIBILITY**

The Contractor shall comply with safe work practices and all health and safety regulations of the state and the locality. Furnish protective and lifesaving equipment for persons working at the site and provide a Contractor's All Risk Insurance for all his workers.

The Contractor shall provide and maintain such sanitary accommodation for the use of its employees as may be necessary to comply with all applicable national and local laws and ordinances, regulations, customs and practices.

Coordination with the local police department and agencies concerned with traffic problems shall be the responsibility of the contractor. Whenever the Contractor's operation create a condition hazardous to traffic or to the public, it shall furnish at its own expense

such as flagmen and guards necessary to give adequate warning of any dangerous condition that may be encountered by the public. It shall furnish, erect and maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury to the public.

The Contractor shall be liable to all claims and/or liabilities arising during the public implementation.

Should the Contractor fail to faithfully observe the Safety Provisions herein specified, the Owner may exercise remedial rights as stipulated under this Contract.

#### **4. LAWS AND REGULATIONS**

The Contractor shall observe and comply National, Provincial and Local laws, ordinances, and regulations, which on the manner affect those engaged or employed on the work, the material used in the work, or in the conduct of the work.

The Contractor shall indemnify and save harmless the Owner against all claims or liabilities arising from violation of any such laws, ordinance, order, or regulation, whether by itself or by its employees.

#### **5. PUBLIC SAFETY AND HEALTH REGULATIONS**

The Contractor shall comply with safe working practices and all health and safety regulations of the state and local health regulations of the state and local health regulatory agency. Furnish protective and lifesaving equipment for persons working at the site and provide a **Contractor's All Risk Insurance** for all his workers.

The Contractor shall provide and maintain such sanitary accommodation for the use of its employees as may be necessary to comply with all application national and local laws and ordinances, regulations, customs and practices.

Should the Contractor fail to faithfully observe the Safety Provisions herein specified, the Owner might exercise remedial rights as stipulated under this Contract.

#### **6. THIRD PARTY LIABILITY**

The Owner shall in no case be held civilly or criminally liable due to the act or omission of the Contractor during the contract period or during the implementation of the required work thereof. Any liability that may arise to the third party shall be the sole responsibility of the contractor.

## GENERAL TECHNICAL SPECIFICATIONS

### 1. SITE PREPARATION

The location of the building where is to be erected shall be staked out and grade established as shown on drawings and in accordance with the Local Building Code. Contractor shall provide instrument for purposes of establishing, checking, and monitoring of the elevation and plumbness.

### 2. EARTH WORKS

Excavation shall include the removal of materials of whatever nature encountered that would interfere with the proper execution and completion of the work. All excavations shall be carried to the grade of the bottom of the footing or slab or as indicated on technical drawings. After the required excavation has been completed, the exposed surface shall be scarified to a depth of 150mm (6in) brought to optimum moisture content and rolled with heavy compaction equipment to ninety five percent (95%) of maximum density. Test for compliance may be made at the expense of the contractor, using the test procedure specified in Methods of Test for moisture-Density Relation in soils using a 10-lb. hammer and 18-in. drop. (ASTM) modified to use three (3) layers. All field density test shall be perform in accordance with the test procedure specified in "Methods of test for density of soil in Place by the Sand Cone Method" (ASTM D1556). The materials excavated shall be place as backfill on the footing, etc. and above shall be compacted as described. Others excess will be hauled to a place designated by the Owner.

### 3. CONCRETE WORKS

Cement shall conform to the "Standard specifications for Portland Cement" (ASTM C-150-Latest Revision) and shall be type I. The cement shall be in accordance with DPWH standards e.g. "Holcim or Hex cement" and shall not be more than three (3) months from date of manufacture.

Aggregates shall be well-graded, clean, hard particles of gravel or crushed rock. The maximum size shall not be larger than one-fifth (1/5) of the narrowest dimension between forms and not larger than three-



fourths (3/4) of the minimum clear spacing between individual reinforcing bars and in no case larger than 38 mm. (1-1/2 in.) in diameter except that the larger diameter may be allowed in massive concreting with the written permission from the Owner.

All reinforcing steel bars used shall be of deformed type, new, free from rust, oil, defects, greases or kinks. They shall conform to the latest edition of National Structural Code for Buildings with a minimum grade equal to **275 Mpa** (Grade 40) unless otherwise shown on the plans. Test of this materials, to determine its suitability shall be in accordance with the standards of the American Society for Testing and Materials (ASTM).

An admixture may be added to the concrete to control the set, effect water reduction, and increase workability. The quantity of admixture used and the method of mixing shall be in accordance with the manufacturer's instructions.

The Contractor shall submit design mixes and test results of samples made in accordance with "Standard Method of Making and Curing Concrete Compression and flexure test Specimen in the Laboratory" ( ASTM C-192-Latest Revision )

Concrete strength shall be **3,000 psi** (20.68Mpa) at 28 days to be use for concrete floor, zocalo, columns, beams and foundations. No hand mixing shall be allowed during concreting operations.

Reinforcement shall be accurately placed and adequately secured by using annealed iron wire ties at intersection and shall be supported by concrete or metal supports, spacers or metal hangers. In slabs, beams and girders, splices or reinforcement at point of maximum stress shall be generally avoided. Splices in adjacent bars shall be generally staggered. Lapping of reinforcement bars shall be 40 bar dia. or a max. of 60 bar dia. Hooks and bends shall conform to the Standard Engineering practice.

Concrete forms should be water tight, strong enough and rigid to sustain the weight of concrete. Forms should be oiled to make the wood water proof. Oiling of forms should not be done after the steel bars reinforcements have been set to its position.

Pipes, conduits, dowels, and other items required to be imbedded in the concrete construction shall be so positioned and supported prior to placement of concrete. As concrete is placed, it shall be thoroughly settled and compacted through-out the entire depth of the layer. The Concrete shall be carefully worked by tamping, rodding and vibrating

to make sure that all air and rock pockets have been eliminated. All concrete shall be cured for not less than fourteen (14) days after placing in accordance with standards.

The Owner may require a reasonable number of tests on the concrete to be made during the progress of the work. Four cylindrical specimens shall be made for each test of which at least two shall be reserved for 28-day test. Strength test shall be made in accordance with the "Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens (ASTM C-39-latest revision).

#### 4. TEST OF CONCRETE

- a. The Owner will require **Six (6) samples** per pouring in preparation for testing on concrete to be made during the progress of the work. Two (2) cylindrical specimens shall be made for each tests on the 7th, 14th, 28th days respectively. Noting the samples must be cured at the jobsite and the contractor shall provide the necessary pond or drum for the said samples. Samples shall be secured and molded in accordance with the "Standard Method of Sampling Fresh Concrete" (ASTM C-172-Latest Revision) and "Standard Method of Making and Curing Test Specimen in the field" (ASTM C-31-Latest Revision). Strength test shall be made in accordance with the "Standard Method of Test For Compressive strength of Cylindrical Concrete Specimens" (ASTM C-39-Latest Revision).

Testing expense and transportation to the laboratory shall be borne by the contractor.

- b. Should the test fail to give the required strength, the Owner shall have the right to order a change in the proportions or in the procedures of curing of the concrete for the rest of structure.
- c. Conduct hammer test for verification if test results for Compressive strength of Cylindrical Concrete specimens is failed.

#### 5. MASONRY WORKS

The work includes, furnishing labor, equipment and materials performing all operations required to complete the masonry work as shown and specified.

The 4" and 6" Concrete Hollow Blocks shall be machine made and shall conform to ASTM standards and shall have standard dimensions. Mortar shall be workable cement-sand mixture and attaining a 28 days compressive strength of 10 mPa (1500 psi).

The minimum size of reinforcement shall be 10 mm in diameter. Vertical reinforcement and horizontal reinforcement shall be as indicated in the plans. Vertical and horizontal reinforcement bars shall be continuous, lapped or spliced. All horizontal and vertical bars as the case maybe, shall be anchored 20 bars diameters into the concrete footings, columns and beams. All horizontal reinforcement shall be tied to the vertical reinforcement at every intersection with No. 16 GI Wire.

#### **5. STEEL WORKS**

The Contractor shall furnish, fabricate and install metal works as specified herein and as shown in the plans. Miscellaneous metal works is defined as all items required to be fabricated from structural steel shapes, plates, bars and their products. The Contractor shall accomplish the work in a complete and finished manner and insure the highest quality of workmanship in accordance with the plan and specification.

Structural steel shall conform to the "Standard Specifications for Structural Steel" (ASTM Designation A 36). All materials to be provided and used by the contractor shall be new, previously unused, and in first class condition.

#### **6. ROOFING WORKS**

Roofing shall be 0.400 mm thick (base metal) rib-type, pre-painted, long span galvanized iron (G.I.) sheet with a feed width of not more than 0.915m (3 feet).

Laying of roofing sheets should start from the end opposite the direction of the prevailing wind, overlap the next sheet to the first sheet and fix according to fastening procedures.

Where roofing is to rest on steel purlins, use tekscrew at every rib. In between washer and roof sheet, provide neoprene washer as water seal.

#### **7. CARPENTRY AND LUMBER WORKS**

All lumber shall be in good quality of respectable kind for the various part of the construction, well-seasoned, thoroughly dry and free from large, loose or unsound knots saps shakes or other imperfection impairing the strength and durability or appearance. It shall be free from warp that cannot be corrected in the progress of bridging or nailing.

Materials when delivered on site shall be piled properly to insure adequate ventilation and protection from weather.

Finished woodwork and paneling shall be free from tool marks, abrasions, and other defects exposed to view. Woodwork shall be properly framed, closely fitted and accurately set to the required lines and levels and shall be rigidly secured in place.

Lumber shall be treated with preservative of highest quality against rots and termites. All joints shall be done on in mortise and tendon and in approved manner if possible.

All other specifications shall be referred to the approved plan.

## **8. HARDWARE**

Rough and finishing hardware shall be provided for the completion of the works. All hardware which are necessary to leave the work complete shall be provided, though same is not herein specifically mentioned.

Locksets shall be of good quality e.g. kwikset to all doors or as specified by the owner. Provide barrel bolts to every door.

All other specifications shall be referred to the approved plan.

## **9. ELECTRICAL WORKS**

All electrical installations shall be in accordance with the latest edition of the Philippine Electrical Code and shall comply with all laws and regulations applicable to the authorities. All wires shall be concealed and all electrical devices shall be of good kind and quality.

Electrical switches, outlets, convenient outlets shall be placed as indicated on the plans and necessary. Electrical fixtures are of highest standard quality.

Supply and installation of air conditioning units (split type) and its accessories shall be supplied by the winning bidder.

Installation of Electro-mechanical equipment such as Motor Controller and Panel boards, Auto Transfer Switch (ATS) 300Amps, Main Circuit Breaker (MCB), 10 KVA Dry-Type transformer, Submersible pump and motor, Chlorine Booster Pump, Chlorine Gas injector and Regulator are

not included in the contract however, provisions for rough-ins will be placed as part of the contract.

All other specifications shall be referred to the approved plan.

## **10. PAINTING**

The metal surfaces shall be clean, dry, and free from mill scale, rust, grease, oil, or any other substance that could affect the quality of the painting. It shall be well puttied and sand papered.

All surfaces to be painted and, before beginning any work, shall ensure that work of other trade has been left or installed in workmanlike condition to receive paint.

Each coat of paint shall be applied at proper consistency and brushed/rolled evenly, free of brush marks, sags, runs, and with no evidence of poor workmanship. No painting shall be done under conditions of weather, moisture, or temperature unsuited to good work, nor until previous coat is hard and dry.

## **11. ARCHITECTURAL AND PENESTRATION**

All architectural and fenestration works and specification shall be referred to the Owner.

## **SPECIAL CONDITIONS**

### **1. VARIATION IN QUANTITIES**

Bidders are reminded that the quantities are estimated and are for the purpose of comparing bids. The successful bidder shall complete all work items at the unit prices quoted in his bid, regardless of the variation between bid quantities and actual quantities required for completion of the work. Payment will be based on actual quantities furnished, installed or constructed.

### **2. PROJECT TURNOVER**

During project's turn-over, Contractor is required to submit as-built plan. The contractor's deliverables are 100 percent accomplished either on each part and the site restored as is prior to construction.

### 3. LOGBOOK

A logbook shall be maintained by the Contractor and Engineer at all times in the project site reflecting the daily work activity, visitors, time extension, work suspension, change/extra work orders and circumstances affecting the program of work to be signed by both the Engineer and Contractor.

### 4. PROJECT SIGNS / COA SIGNBOARD

The Contractor shall furnish, erect and maintain one (1) project sign and one (1) COA signboard in accordance with the Standard Drawings.

The location for the erection of these signs by the Contractor shall be as directed by the Engineer.

### 5. RESIDENT ENGINEER'S OFFICE

The Contractor shall provide space as temporary office (Bamboo House or "Payag") in the field for use by the Resident Engineer.

### 6. EQUIPMENT

Contractor shall provide the following minimum equipment for the project's completion:

Quantity	Description
1	Engine Driven Welding Machine or Transformer Type
1	Bar Cutter
1	One (1) Bagger Mixer
1	Concrete Vibrator
1	Tamping Rammer or Plate Compactor
1	Oxy-Acetylene cutting outfit
1	Power Brush/Grinder
6	Concrete Sample Cylinder

The Contractor shall be required to include the list of their equipment in the technical documents and specify whether the same is leased or owned. If leased, the Contractor shall provide a Memorandum of Agreement.

During post-qualification, GSCWD shall conduct inspection to verify the availability of the listed equipment. Absence of any one of the required equipment is ground for disqualification.

## 7. LIST OF MANPOWER REQUIREMENTS

Quantity	Description
1	Project Engineer
1	Safety Officer
1	Foreman
2	Welder
4	Skilled Worker
6	Laborer/Helper

## 8. ON-SITE INSPECTION AND TESTING

All materials furnished and all work performed under the contract shall be subject to inspection by the Owner. The contractor shall be held strictly to the true intent of the Specifications and Drawing in regard to quality of materials, workmanship and diligent execution of the Contract.

Work done in the absence of prescribed inspection may be required to be removed and replaced under the proper inspection; and the entire cost of removal and replacement, including the cost of all materials which may be used in the work shall be borne by the Contractor.

The cost of carrying out the normal inspection and test of material should be at the Contractor's Expense.

## SPECIAL PROVISION

### LIQUIDATED DAMAGES

The Contractor shall pay liquidated damages to the Owner if he fails to complete the work within the time agreed upon. It is understood that said payment is not a penalty but a fixed sum representing the liquidated damages for each calendar day of delay.

Computation of the said liquidated damages shall conform to the provision of RA 9184.

### PLANS AND SPECIFICATIONS

All works, that may be called for in the specifications and not shown in the plans or vice versa, shall be executed and finished as if described in both.

Should any work required which is not denoted on either plans and specifications either directly or indirectly, it is understood that same shall be implied and required and shall be performed and furnished such materials and layout as fully as if it has been so described.

The plans and specifications shall be considered complementary and any details mentioned in one but not in the other, or vice versa, shall be interpreted to be applicable in both.

If no numerical label of the dimension(s) of any part of details appeared on the plan, the drawings shall be carefully followed in accordance to the scale thus indicated, otherwise all numerical data of dimensions of details when so provided must be followed and not the scale of the drawing.

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Conformed by:

**GENERAL SANTOS CITY WATER DISTRICT**



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