



Bureau of Soils and Water Management
PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

SUPPLY AND DELIVERY
OF VARIOUS
TECHNICAL AND
SCIENTIFIC EQUIPMENT
FOR CY 2021

IB No: BSWM-2021-08-031

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PHILIPPINE BIDDING DOCUMENTS

(As Harmonized with Development Partners)

Procurement of GOODS

Government of the Republic of the Philippines

**Sixth Edition
July 2020**

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Goods through Competitive Bidding have been prepared by the Government of the Philippines for use by any branch, constitutional commission or office, agency, department, bureau, office, or instrumentality of the Government of the Philippines, National Government Agencies, including Government-Owned and/or Controlled Corporations, Government Financing Institutions, State Universities and Colleges, and Local Government Unit. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract or Framework Agreement, as the case may be; (ii) the eligibility requirements of Bidders; (iii) the expected contract or Framework Agreement duration, the estimated quantity in the case of procurement of goods, delivery schedule and/or time frame; and (iv) the obligations, duties, and/or functions of the winning bidder.

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

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

- a. All the documents listed in the Table of Contents are normally required for the procurement of Goods. However, they should be adapted as necessary to the circumstances of the particular Procurement Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, Bid Data Sheet, General Conditions of Contract, Special Conditions of Contract, Schedule of Requirements, and Specifications are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.
- d. The cover should be modified as required to identify the Bidding Documents as to the Procurement Project, Project Identification Number, and Procuring Entity, in addition to the date of issue.
- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

BAC – Bids and Awards Committee.

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

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

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

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

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

CDA - Cooperative Development Authority.

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

CIF – Cost Insurance and Freight.

CIP – Carriage and Insurance Paid.

CPI – Consumer Price Index.

DDP – Refers to the quoted price of the Goods, which means “delivered duty paid.”

DTI – Department of Trade and Industry.

EXW – Ex works.

FCA – “Free Carrier” shipping point.

FOB – “Free on Board” shipping point.

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

Framework Agreement – Refers to a written agreement between a procuring entity and a supplier or service provider that identifies the terms and conditions, under which specific purchases, otherwise known as “Call-Offs,” are made for the duration of the agreement. It is in the nature of an option contract between the procuring entity and the bidder(s) granting the procuring entity the option to either place an order for any of the goods or services identified in the Framework Agreement List or not buy at all, within a minimum period of one (1) year to a maximum period of three (3) years. (GPPB Resolution No. 27-2019)

GFI – Government Financial Institution.

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

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

GOP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

INCOTERMS – International Commercial Terms.

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

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PhilGEPS - Philippine Government Electronic Procurement System.

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

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

Supplier – refers to a citizen, or any corporate body or commercial company duly organized and registered under the laws where it is established, habitually established in business and engaged in the manufacture or sale of the merchandise or performance of the general services covered by his bid. (Item 3.8 of GPPB Resolution No. 13-2019, dated 23 May 2019). Supplier as used in these Bidding Documents may likewise refer to a distributor, manufacturer, contractor, or consultant.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

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

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

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

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



Republic of the Philippines
Department of Agriculture
BUREAU OF SOILS AND WATER MANAGEMENT
SRDC Bldg., Elliptical Road corner Visayas Avenue,
Diliman, Quezon City

INVITATION TO BID FOR SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021 IB No. BSWM 2021-08-031

1. The Bureau of Soils and Water Management, through the ***General Appropriations Act for CY 2020 through SARO Number BMB-E-21-0002351*** intends to apply the sum of:

Lot 1- Supply and Delivery of various Sample Preparation Equipment in the amount of Twenty-One Million Five Hundred Thirty Thousand Pesos (Php 21,530,000.00)

Lot 2- Supply and Delivery of various Soil Grinding Equipment in the amount of Thirty-Seven Million Nine Hundred Fifty Thousand Pesos (Php 37,950,000.00)

Lot 3- Supply and Delivery of Compressor for Centralized Gas Piping System in the amount of One Million Six Hundred Thousand Pesos (Php 1,600,000.00)

Lot 4- Supply and Delivery of Water Deionizer (Type I and Type II Water), Large Capacity with Dispenser in the amount of Twelve Million Six Hundred Thousand Pesos (Php 12,600,000.00)

Lot 5- Supply and Delivery of Ultrafiltration System in the amount of Five Hundred Thousand Pesos (Php 500,000.00)

Lot 6- Supply and Delivery of various Soil Drying and Glassware Cleaning Equipment in the amount of Three Million Four Hundred Seventy-Five Thousand Pesos (Php 3,475,000.00)

Lot 7- Supply and Delivery of various Acid Digestion Equipment in the amount of Six Million Three Hundred Thousand Pesos (Php 6,300,000.00)

Lot 8- Supply and Delivery of various Metrology Instruments in the amount of Eleven Million Two Hundred Ninety-Five Thousand Pesos (Php 11,295,000.00)

Lot 9- Supply and Delivery of various Calibration Weighing Instruments in the amount of Four Million Three Hundred Fifty Thousand Pesos (Php 4,350,000.00)

Lot 10- Supply and Delivery of Temperature and Humidity Monitoring System in the amount of Three Million Pesos (Php 3,000,000.00)

Lot 11- Supply and Delivery of various Measuring Instruments in the amount of Four Million Six Hundred Thirty Thousand Pesos (Php 4,630,000.00)

Lot 12- Supply and Delivery of various Soil Microbiology Instruments in the amount of Twelve Million Four Hundred Thirty Thousand Pesos (Php 12,430,000.00)

Lot 13- Supply and Delivery of various Soil Physics Instruments in the amount of Four Million Eight Hundred Seventy Thousand Pesos (Php 4,870,000.00)

Lot 14- Supply and Delivery of MIR/FTIR Spectroscopy in the amount of Three Million Pesos (Php 3,000,000.00)

Lot 15- Supply and Delivery of various UV-VIS Spectrometry Equipment in the amount of Four Million Five Hundred Thousand Pesos (Php 4,500,000.00)

Lot 16- Supply and Delivery of BOD Sensor System in the amount of Five Hundred Thousand Pesos (Php 500,000.00)

Lot 17- Supply and Delivery of various Weighing Instruments in the amount of One Million Six Hundred Fifty Thousand Pesos (Php 1,650,000.00)

Lot 18- Supply and Delivery of Air Conditioning Units and Lab Utility Equipment in the amount of Four Million Seventy Thousand Pesos (Php 4,070,000.00)

Lot 19- Supply and Delivery of Power Supply Equipment (Solar Power System) in the amount of Three Million Five Hundred Thousand Pesos (Php 3,500,000.00)

Total Approved Budget for the Contract (ABC): One Hundred Forty-One Million Seven Hundred Fifty Thousand Pesos (Php 141,750,000.00)

being the ABC to payments under the contract **Supply and Delivery of Various Technical and Scientific Equipment for CY 2021- IB No. BSWM 2021-08-031 for each Lots**. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The Bureau of Soils and Water Management now invites bids for the above Procurement Project. **Delivery of goods is required within sixty (60) calendar days upon receipt of Notice to Proceed (NTP)**. Bidders should have completed, **within five (5) consecutive years** from the date of submission and receipt of bids, **a contract similar to the Project**. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II. Instructions to Bidders.
3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.
4. Prospective Bidders may obtain further information from **BUREAU OF SOILS AND WATER MANAGEMENT – BIDS AND AWARDS COMMITTEE SECRETARIAT’S OFFICE** and inspect the Bidding Documents at the address given below during MONDAY TO FRIDAY, 8:00AM TO 5:00PM **EXCEPT ON DECLARED HOLIDAYS OR WORK SUSPENSION**.
5. A complete set of Bidding Documents may be acquired by interested Bidders on **August 25, 2021 to September 21, 2021 9:00AM** from the address and website below and **upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of:**
- 6.

Lot	Amount of Bid Docs	Lot	Amount of Bid Docs
1	22,000.00	11	4,700.00
2	38,000.00	12	12,500.00
3	1,600.00	13	4,900.00
4	12,600.00	14	3,000.00
5	500.00	15	4,500.00
6	3,500.00	16	500.00
7	6,300.00	17	1,700.00
8	11,300.00	18	4,100.00
9	4,400.00	19	3,500.00
10	3,000.00		

The Procuring Entity shall allow the bidder to present its proof of payment for the fees to BAC Secretariat on or before the deadline of Submission and Opening of Bids.

7. The **BUREAU OF SOILS AND WATER MANAGEMENT** will hold a **Pre-Bid Conference¹ September 2, 2021, 9:30AM at BSWM LECTURE ROOM 2** shall be open to prospective bidders. Pre-Bid Conference **will be available “live”** thru BSWM Procurement Service FB Page (<https://www.facebook.com/bswmpms>). Furthermore, all interested bidders can participate **through videoconferencing**. Please coordinate with BAC Secretariat at least a day before the meeting at bswm.bacsec@gmail.com.
 8. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below on or before **September 21, 2021, 2021, 9:00AM**. Late bids shall not be accepted.
 9. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.
 10. Bid opening shall be on **September 2, 2021, 9:30AM** at **BSWM CONVENTION HALL, 2ND FLOOR, SRDC BLDG., VISAYAS AVE. COR. ELLIPTICAL ROAD, DILIMAN, QUEZON CITY** and through **videoconferencing/webcasting via ZOOM** and streamed live through BSWM Procurement Service Facebook Page. Bids will be opened in the presence of the bidders’ representatives who choose to attend the activity.
- During the opening of bids, Bidder’s representative must present his/her Company Identification Card and Authorization Letter from the Head of the Company.
11. Schedules of the above-mentioned bidding is subject to change due to the Community Quarantine enforced by the government in line with the COVID-19 pandemic. Please refer to the BSWM PhilGEPS posting for updates (<https://www.philgeps.gov.ph/>) and BSWM Procurement Service FB Page (<https://www.facebook.com/bswmpms>) .

¹ May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a Pre-Bid Conference.

12. The **BUREAU OF SOILS AND WATER MANAGEMENT** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

13. For further information, please refer to:

DENISE A. SOLANO
BIDS AND AWARDS COMMITTEE SECRETARIAT'S OFFICE
2ND FLOOR, SRDC BLDG.,
VISAYAS AVE. COR. ELLIPTICAL ROAD,
DILIMAN, QUEZON CITY
TELEFAX NUMBER: +63-2-8352-8012; 0905-4010778
EMAIL ADDRESS: bswm.bacsec@gmail.com
WEBSITE: www.bswm.gov.ph
FB Page: <https://www.facebook.com/bswmpms>

13. You may visit the following websites:

For downloading of Bidding Documents:

PhilGEPS- <https://notices.philgeps.gov.ph/>, **BSWM Website-** www.bswm.gov.ph
or BSWM Procurement Service Facebook Page-
<https://www.facebook.com/bswmpms>

August 18, 2021

DR. GINA P. NILO

Chairperson, Bids and Awards Committee

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

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

1. Scope of Bid

The Procuring Entity, **Bureau of Soils and Water Management** wishes to receive Bids for the **for Supply and Delivery of Various Technical and Scientific Equipment for Cy 2021** under with identification number **IB NO. BSWM 2021-08-031**.

The Procurement Project (referred to herein as “Project”) is composed of **19 LOTS**, the details of which are described in Section VII (Technical Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **CY 2020** in the amount of ***One Hundred Forty-One Million Seven Hundred Fifty Thousand Pesos (Php 141,750,000.00)***.

2.2. The source of funding is: **General Appropriations Act or Special Appropriations**.

3. Bidding Requirements

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

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

The Bidder, by the act of submitting its Bid, shall be deemed to have verified and accepted the general requirements of this Project, including other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex “I” of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. *[Select one, delete other/s]*

- a. Foreign ownership exceeding those allowed under the rules may participate pursuant to:

- i. When a Treaty or International or Executive Agreement as provided in Section 4 of the RA No. 9184 and its 2016 revised IRR allow foreign bidders to participate;
 - ii. Citizens, corporations, or associations of a country, included in the list issued by the GPPB, the laws or regulations of which grant reciprocal rights or privileges to citizens, corporations, or associations of the Philippines;
 - iii. When the Goods sought to be procured are not available from local suppliers; or
 - iv. When there is a need to prevent situations that defeat competition or restrain trade.
 - b. Foreign ownership limited to those allowed under the rules may participate in this Project.
- 5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to:
- a. ~~For the procurement of Non-Expendable Supplies and Services: The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.~~
 - b. ~~For the procurement of Expendable Supplies: The Bidder must have completed a single contract that is similar to this Project, equivalent to at least twenty five percent (25%) of the ABC.~~
 - c. **For procurement where the Procuring Entity has determined, after the conduct of market research, that imposition of either (a) or (b) will likely result to failure of bidding or monopoly that will defeat the purpose of public bidding: The Bidder should comply with the following requirements: [*Select either failure or monopoly of bidding based on market research conducted*]**
 - i. **Completed at least two (2) similar contracts, the aggregate amount of which should be equivalent to at least *fifty percent (50%)* of the ABC for this Project; and**
 - ii. **The largest of these similar contracts must be equivalent to at least half of the percentage of the ABC as required above.**
- 5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of Goods

There is no restriction on the origin of goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN, subject to Domestic Preference requirements under **ITB** Clause 18.

7. Subcontracts

- 7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

a. ~~Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the BDS, which shall not exceed twenty percent (20%) of the contracted Goods.~~

b. **Subcontracting is not allowed.**

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

- 7.3. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

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

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address *{[insert if applicable]}* and/or through videoconferencing/webcasting as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

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

10. Documents comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within *[state relevant period as provided in paragraph 2 of the IB]* prior to the deadline for the submission and receipt of bids.
- 10.3. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be

accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. Similar to the required authentication above, for Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11. Documents comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.
- 11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.4. For Foreign-funded Procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.
- 11.5. *[Include if Framework Agreement will be used:]* Financial proposals for single or multi-year Framework Agreement shall be submitted before the deadline of submission of bids as prescribed in the **IB**. For multi-year Framework Agreement, evaluation of the financial proposal during this stage is for purposes of determining eligibility and whether or not such financial proposal is within the ABC.

12. Bid Prices

- 12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:
 - a. For Goods offered from within the Procuring Entity's country:
 - i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);
 - ii. The cost of all customs duties and sales and other taxes already paid or payable;
 - iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and
 - iv. The price of other (incidental) services, if any, listed in e.
 - b. For Goods offered from abroad:
 - i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.

- ii. The price of other (incidental) services, if any, as listed in **Section VII (Technical Specifications)**.

12.2. *[Include if Framework Agreement will be used:]* For Framework Agreement, the following should also apply in addition to Clause 12.1:

- a. For a single year Framework Agreement, the prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation or escalation on any account. Price schedules required under Clause 12.1 shall be submitted with the bidding documents.
- b. For a multi-year Framework Agreement, the prices quoted by the Bidder during submission of eligibility documents shall be the ceiling and the price quoted during mini-competition must not exceed the initial price offer. The price quoted during call for mini-competition shall be fixed during the Bidder's performance of that Call-off and not subject to variation or escalation on any account. Price schedules required under Clause 12.1 shall be submitted with the bidding documents.

13. Bid and Payment Currencies

13.1. For Goods that the Bidder will supply from outside the Philippines, the bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies, shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

13.2. Payment of the contract price shall be made in:

- a. **Philippine Pesos.**

14. Bid Security

14.1. The Bidder shall submit a Bid Securing Declaration² or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

14.2. The Bid and bid security shall be valid until *[indicate date]*. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

14.3. *[Include if Framework Agreement will be used:]* In the case of Framework Agreement, other than the grounds for forfeiture under the 2016 revised IRR, the bid security may also be forfeited if the successful bidder fails to sign the Framework Agreement, or fails to furnish the performance security or performance securing declaration. Without prejudice on its forfeiture, bid securities shall be returned only after the posting of performance security or performance securing declaration, as the case may be, by the winning Bidder or compliant Bidders and the signing of the Framework Agreement.

15. Sealing and Marking of Bids

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

² In the case of Framework Agreement, the undertaking shall refer to entering into contract with the Procuring Entity and furnishing of the performance security or the performance securing declaration within ten (10) calendar days from receipt of Notice to Execute Framework Agreement.

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

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

16. Deadline for Submission of Bids

16.1. The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

16.2. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, the submission of bids shall be for the initial evaluation of their technical and financial eligibility. Thereafter, those declared eligible during the said initial eligibility evaluation and entered into a Framework Agreement with the Procuring Entity shall submit anew their best financial offer at the address and on or before the date and time indicated in the Call for each mini-competition.

17. Opening and Preliminary Examination of Bids

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

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

17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

18. Domestic Preference

18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.

18.2. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, determination of margin of preference shall be conducted every call for Mini-Competition.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring BAC shall immediately conduct a detailed evaluation of all Bids rated "passed," using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of the 2016 revised IRR of RA No. 9184.

[Include the following options if Framework Agreement will be used:]

- a. In the case of single-year Framework Agreement, the Lowest Calculated Bid shall be determined outright after the detailed evaluation;

- b. For multi-year Framework Agreement, the determination of the eligibility and the compliance of bidders with the technical and financial aspects of the projects shall be initially made by the BAC, in accordance with Item 7.4.2 of the Guidelines on the Use of Framework Agreement.
- 19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 15 shall be submitted for each lot or item separately.
- 19.3. The descriptions of the lots or items shall be indicated in **Section VII (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.
- 19.4. The Project shall be awarded as follows:

[Select one, delete the other/s]

~~Option 1 – One Project having several items that shall be awarded as one contract.~~

Option 2 – One Project having several items grouped into several lots, which shall be awarded as separate contracts per lot.

~~Option 3 – One Project having several items, which shall be awarded as separate contracts per item.~~

[Delete Options 2 and 3 if Framework Agreement will be used.]
- 19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

- 20.1. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, all bidders initially determined to be eligible and financially compliant shall be subject to initial post-qualification. The BAC shall then recommend the execution of a Framework Agreement among all eligible, technically and financially compliant bidders and the Procuring Entity and shall be issued by HoPE a Notice to Execute Framework Agreement. The determination of the Lowest Calculated Bid (LCB) shall not be performed by the BAC until a Mini-Competition is conducted among the bidders who executed a Framework Agreement. When a Call for Mini-Competition is made, the BAC shall allow the bidders to submit their best financial proposals on such pre-scheduled date, time and place to determine the bidder with the LCB.
- 20.2. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, *{[Include if Framework Agreement will be used:]}* or in the case of multi-year Framework

Agreement, that it is one of the eligible bidders who have submitted bids that are found to be technically and financially compliant, }the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**. {[Include if Framework Agreement will be used:]} For every mini-competition in Framework Agreement, the LCB shall likewise submit the required documents for final Post Qualification. }

21. Signing of the Contract

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

[Include the following clauses if Framework Agreement will be used:]

- 21.2. At the same time as the Procuring Entity notifies the successful Bidder that its bid has been accepted, the Procuring Entity shall send the Framework Agreement Form to the Bidder, which contract has been provided in the Bidding Documents, incorporating therein all agreements between the parties.
- 21.3. Within ten (10) calendar days from receipt of the Notice to Execute Framework Agreement with the Procuring Entity, the successful Bidder or its duly authorized representative shall formally enter into a Framework Agreement with the procuring entity for an amount of One Peso to be paid to the procuring entity as a consideration for the option granted by the procuring entity to procure the items in the Framework Agreement List when the need arises.
- 21.4. The Procuring Entity shall enter into a Framework Agreement with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 21.5. The following documents shall form part of the Framework Agreement:
- a. Framework Agreement Form;
 - b. Bidding Documents;
 - c. Call-offs;
 - d. Winning bidder's bid, including the Technical and Financial Proposals, and all other documents/statements 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;
 - e. Performance Security or Performance Securing Declaration, as the case may be;
 - f. Notice to Execute Framework Agreement; and
 - g. Other contract documents that may be required by existing laws and/or specified in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet

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

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

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

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

Bid Data Sheet

ITB Clause																																																															
5.3	For this purpose, contracts similar to the Project shall be: a. Similar contract shall be contract for supply and delivery of various technical and scientific equipment and/or its equivalent. b. Completed within five (5) years prior to the deadline for the submission and receipt of bids. The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.																																																														
7.1	<i>[Specify the portions of Goods to be subcontracted, which shall not be a significant or material component of the Project as determined by the Procuring Entity.]</i>																																																														
12	The price of the Goods shall be quoted DDP <i>[state place of destination]</i> or the applicable International Commercial Terms (INCOTERMS) for this Project.																																																														
14.1	The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts: a. The amount of not less than <i>(2%) of ABC</i> , if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b. The amount of not less than <i>(5%) of ABC</i> if bid security is in Surety Bond.																																																														
19.3	<table><tr><th>DESCRIPTION PER LOT</th><th>NO. OF ITEMS</th><th>TOTAL AMOUNT</th></tr><tr><td>LOT 1 - SAMPLE PREPARATION EQUIPMENT</td><td>20</td><td>21,530,000.00</td></tr><tr><td>LOT 2 - SOIL GRINDING EQUIPMENT</td><td>4</td><td>37,950,000.00</td></tr><tr><td>LOT 3 - COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM</td><td>1</td><td>1,600,000.00</td></tr><tr><td>LOT 4 -WATER DEIONIZER (TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER</td><td>1</td><td>12,600,000.00</td></tr><tr><td>LOT 5 -ULTRAFILTRATION SYSTEM</td><td>1</td><td>500,000.00</td></tr><tr><td>LOT 6 - SOIL DRYING AND GLASSWARE CLEANING EQUIPMENT</td><td>2</td><td>3,475,000.00</td></tr><tr><td>LOT 7 - ACID DIGESTION EQUIPMENT</td><td>2</td><td>6,300,000.00</td></tr><tr><td>LOT 8 - METROLOGY INSTRUMENTS</td><td>21</td><td>11,295,000.00</td></tr><tr><td>LOT 9 - CALIBRATION WEIGHING INSTRUMENTS</td><td>5</td><td>4,350,000.00</td></tr><tr><td>LOT 10 - TEMPERATURE AND HUMIDITY MONITORING SYSTEM</td><td>1</td><td>3,000,000.00</td></tr><tr><td>LOT 11 - MEASURING INSTRUMENTS</td><td>8</td><td>4,630,000.00</td></tr><tr><td>LOT 12 - SOIL MICROBIOLOGY INSTRUMENTS</td><td>10</td><td>12,430,000.00</td></tr><tr><td>LOT 13 - SOIL PHYSICS INSTRUMENTS</td><td>3</td><td>4,870,000.00</td></tr><tr><td>LOT 14 - MIR/FTIR SPECTROSCOPY</td><td>1</td><td>3,000,000.00</td></tr><tr><td>LOT 15 - UV-VIS SPECTROMETRY</td><td>2</td><td>4,500,000.00</td></tr><tr><td>LOT 16 - BOD SENSOR SYSTEM</td><td>1</td><td>500,000.00</td></tr><tr><td>LOT 17 - WEIGHING INSTRUMENTS</td><td>3</td><td>1,650,000.00</td></tr><tr><td>LOT 18 - AIR CONDITIONING UNITS AND LAB UTILITY EQUIPMENT</td><td>2</td><td>4,070,000.00</td></tr><tr><td>LOT 19 - POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)</td><td>1</td><td>3,500,000.00</td></tr></table>	DESCRIPTION PER LOT	NO. OF ITEMS	TOTAL AMOUNT	LOT 1 - SAMPLE PREPARATION EQUIPMENT	20	21,530,000.00	LOT 2 - SOIL GRINDING EQUIPMENT	4	37,950,000.00	LOT 3 - COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM	1	1,600,000.00	LOT 4 -WATER DEIONIZER (TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER	1	12,600,000.00	LOT 5 -ULTRAFILTRATION SYSTEM	1	500,000.00	LOT 6 - SOIL DRYING AND GLASSWARE CLEANING EQUIPMENT	2	3,475,000.00	LOT 7 - ACID DIGESTION EQUIPMENT	2	6,300,000.00	LOT 8 - METROLOGY INSTRUMENTS	21	11,295,000.00	LOT 9 - CALIBRATION WEIGHING INSTRUMENTS	5	4,350,000.00	LOT 10 - TEMPERATURE AND HUMIDITY MONITORING SYSTEM	1	3,000,000.00	LOT 11 - MEASURING INSTRUMENTS	8	4,630,000.00	LOT 12 - SOIL MICROBIOLOGY INSTRUMENTS	10	12,430,000.00	LOT 13 - SOIL PHYSICS INSTRUMENTS	3	4,870,000.00	LOT 14 - MIR/FTIR SPECTROSCOPY	1	3,000,000.00	LOT 15 - UV-VIS SPECTROMETRY	2	4,500,000.00	LOT 16 - BOD SENSOR SYSTEM	1	500,000.00	LOT 17 - WEIGHING INSTRUMENTS	3	1,650,000.00	LOT 18 - AIR CONDITIONING UNITS AND LAB UTILITY EQUIPMENT	2	4,070,000.00	LOT 19 - POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)	1	3,500,000.00		
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	GRAND TOTAL:		<u>141,750,000.00</u>
	One Project having several items grouped into several lots, which shall be awarded as separate contracts per lot.		
20.2	<i>[List here any licenses and permits relevant to the Project and the corresponding law requiring it.]</i>		
21.2	<i>[List here any additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity.]</i>		

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

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

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

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

1. Scope of Contract

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

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

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC)**.

2. Advance Payment and Terms of Payment

- 2.1. Advance payment of the contract amount is provided under Annex “D” of the revised 2016 IRR of RA No. 9184.
- 2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

[Include the following clauses if Framework Agreement will be used:]

- 2.3. For a single-year Framework Agreement, prices charged by the Supplier for Goods delivered and/or services performed under a Call-Off shall not vary from the prices quoted by the Supplier in its bid.
- 2.4. For multi-year Framework Agreement, prices charged by the Supplier for Goods delivered and/or services performed under a Call-Off shall not vary from the prices quoted by the Supplier during conduct of Mini-Competition.

3. Performance Security

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than prior to the signing of the Contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR of RA No. 9184.*[Include if Framework Agreement will be used:] In the case of Framework Agreement, the Bidder may opt to furnish the performance security or a Performance Securing Declaration as defined under the Guidelines on the Use of Framework Agreement.]*

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project *{[Include if Framework Agreement will be used:] or Framework Agreement}* specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section IV (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and

where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

- 6.1. In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.
- 6.2. The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

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

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

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

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

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

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

Special Conditions of Contract

GCC Clause	
1	<p><i>[List here any additional requirements for the completion of this Contract. The following requirements and the corresponding provisions may be deleted, amended, or retained depending on its applicability to this Contract:]</i></p> <p>Delivery and Documents –</p> <p>For purposes of the Contract, “EXW,” “FOB,” “FCA,” “CIF,” “CIP,” “DDP” and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of INCOTERMS published by the International Chamber of Commerce, Paris. The Delivery terms of this Contract shall be as follows:</p> <p><i>[For Goods supplied from abroad, state:]</i> “The delivery terms applicable to the Contract are DDP delivered <i>[indicate place of destination]</i>. In accordance with INCOTERMS.”</p> <p><i>[For Goods supplied from within the Philippines, state:]</i> “The delivery terms applicable to this Contract are delivered <i>[indicate place of destination]</i>. Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination.”</p> <p>Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI (Schedule of Requirements).</p> <p>For purposes of this Clause the Procuring Entity’s Representative at the Project Site is <i>End-User Representative, Authorized Property Management Unit Personnel and Inspection Committee Member.</i></p> <p><i>Supplier shall coordinate with the End-user for final schedule of delivery within 7 calendar days from receipt of Notice to Proceed and with the Procurement Management Section prior to initial delivery. Incidental Services –</i></p> <p>Incidental Services –</p> <p>The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements: <i>Select appropriate requirements and delete the rest.</i></p> <ol style="list-style-type: none"> a. performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. furnishing of tools required for assembly and/or maintenance of the supplied Goods; c. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;

	<p>d. performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and</p>
	<p>e. training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.</p> <p>f. <i>[Specify additional incidental service requirements, as needed.]</i></p> <p>The Contract price for the Goods shall include the prices charged by the Supplier for incidental services and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.</p> <p>Spare Parts –</p> <p>The Supplier is required to provide all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:</p> <p><i>Select appropriate requirements and delete the rest.</i></p> <p>a. such spare parts as the Procuring Entity may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under this Contract; and</p> <p>b. in the event of termination of production of the spare parts:</p> <p>i. advance notification to the Procuring Entity of the pending termination, in sufficient time to permit the Procuring Entity to procure needed requirements; and</p> <p>ii. following such termination, furnishing at no cost to the Procuring Entity, the blueprints, drawings, and specifications of the spare parts, if requested.</p> <p>The spare parts and other components required are listed in Section VI (Schedule of Requirements) and the cost thereof are included in the contract price.</p> <p>The Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spare parts or components for the Goods for a period of <i>[indicate here the time period specified. If not used indicate a time period of three times the warranty period]</i>.</p> <p>Spare parts or components shall be supplied as promptly as possible, but in any case, within <i>[insert appropriate time period]</i> months of placing the order.</p>

	<p>Packaging –</p> <p>The Supplier shall provide such packaging of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in this Contract. The packaging shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packaging case size and weights shall take into consideration, where appropriate, the remoteness of the Goods’ final destination and the absence of heavy handling facilities at all points in transit.</p> <p>The packaging, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified below, and in any subsequent instructions ordered by the Procuring Entity.</p> <p>The outer packaging must be clearly marked on at least four (4) sides as follows:</p> <p>Name of the Procuring Entity Name of the Supplier Contract Description Final Destination Gross weight Any special lifting instructions Any special handling instructions Any relevant HAZCHEM classifications</p>
	<p>A packaging list identifying the contents and quantities of the package is to be placed on an accessible point of the outer packaging if practical. If not practical the packaging list is to be placed inside the outer packaging but outside the secondary packaging.</p> <p>Transportation –</p> <p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP, or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.</p> <p>Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the contract price.</p>

	<p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered force majeure.</p> <p>The Procuring Entity accepts no liability for the damage of Goods during transit other than those prescribed by INCOTERMS for DDP deliveries. In the case of Goods supplied from within the Philippines or supplied by domestic Supplier's risk and title will not be deemed to have passed to the Procuring Entity until their receipt and final acceptance at the final destination.</p> <p>Intellectual Property Rights –</p> <p>The Supplier shall indemnify the Procuring Entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.</p>
2.2	<i>[If partial payment is allowed, state]</i> NOT APPLICABLE.
4	The inspections and tests that will be conducted are: <i>Inspection per conformity and compliance to technical specifications.</i>

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Lot	Item Description	Quantity	Delivery days/weeks/months
1	SAMPLE PREPARATION EQUIPMENT	20	<p>Supplier shall coordinate with the End-user for final schedule of delivery within 7 calendar days from receipt of Notice to Proceed and with the Procurement Management Section prior to initial delivery.</p> <p>Within 60 Calendar Days from Receipt of Notice to Proceed</p>
2	SOIL GRINDING EQUIPMENT	4	
3	COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM	1	
4	WATER DEIONIZER (TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER	1	
5	ULTRAFILTRATION SYSTEM	1	
6	SOIL DRYING AND GLASSWARE CLEANING EQUIPMENT	2	
7	ACID DIGESTION EQUIPMENT	2	
8	METROLOGY INSTRUMENTS	21	
9	CALIBRATION WEIGHING INSTRUMENTS	5	
10	TEMPERATURE AND HUMIDITY MONITORING SYSTEM	1	
11	MEASURING INSTRUMENTS	8	
12	SOIL MICROBIOLOGY INSTRUMENTS	10	
13	SOIL PHYSICS INSTRUMENTS	3	
14	MIR/FTIR SPECTROSCOPY	1	
15	UV-VIS SPECTROMETRY	2	
16	BOD SENSOR SYSTEM	1	
17	WEIGHING INSTRUMENTS	3	
18	AIR CONDITIONING UNITS AND LAB UTILITY EQUIPMENT	2	
19	POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)	1	

Section VII. Technical Specifications

Notes for Preparing the Technical Specifications

A set of precise and clear specifications

Specifications are a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

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

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words “*or at least equivalent.*” References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

Technical Specifications

Item	Specification	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]</i></p>

Section VII. Technical Specifications

LOT 1 - SAMPLE PREPARATION EQUIPMENT

Item #	Item Description	Statement of Compliance
1	Acid Cabinet	
	Specifications:	
	Galvanized steel shelves	
	lead-free epoxy/polyester powder-coat finish	
	Three-point stainless steel bullet latching system	
	Adjustable legs and Grounding wires	
	Capacity Gal/Ltr: 90/340	
	Shelves: 2 pcs	
	Shelves capacity: 100 kg	
	Door type: double-door, swing doors, with key lock	
	Dimensions (HxWxD mm): at least 1650x1090x860	
	Inclusions:	
	complete ductworks	
	ISO Calibration	
	Training for end user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (2)	
	-Bulacan (3)	
	-Bukidnon (3)	
2	Air-Type Vacuum Pump	
	Specifications:	
	Oil-free vacuum pump	
	piston-powered, oil-free pump	
	quiet and low vibration	
	compact and light weight	
	clean and maintenance free	
	Thermal protection device	
	Air inlet filter cartridge	
	Max. Vacuum : 105 mbar	
	Max. flow : 37 L/min	
	Motor rotation : 1750 RPM	
	Horse power : 1/6 HP	
	Noise level : 52 dB	
	Training for end user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
3	Autoclave	
	Specifications:	
	Effective capacity: 75 liters (2.6 cu.ft.)	
	Chamber material: SUS304 (Austenitic stainless steel)	
	Maximum pressure: 0.248MPa [34.8psi]	
	Sterilization temperature: 115°C to 135°C	
	Culture medium melting temperature: 60°C to 114°C	
	Keep warm temperature: 45°C to 60°C	
	Sterilization timer: 1 minute to 300 minutes	

	Melting timer: 1 minute to 300 minutes	
	Keep warm timer: 72 hrs. fixed	
	Program timer: 1 week (Designation: Year, month, day, hour and minute)	
	Exhaust tank: 2-liter polyethylene tank	
	Exhaust control: Exhaust valve open temperature setting	
	Safety devices: Pressure safety valve, over-temperature limiter,	
	anti-scorch limiter, door interlock, over-pressure limiter, current fuse	
	Pressure vessel type: Small-scale pressure vessel	
	Power supply: 220V single phase, (50Hz–60Hz) 18.2A or above	
	Power consumption: 4kW	
	External dimensions: at least (W x D x H): 478 x 632 x 965 (mm) / 18.8 x 24.9 x 38.0 (inch)	
	Weight: at least 71kg (157 lbs.)	
	Chamber dimensions (diameter x depth): at least ø370 x 630 (mm) / ø14.6" x 24.8 (inch)	
	Effective chamber height including recess in lid: at least 688mm (27.1inch)	
	Accessories included: Stainless steel baskets – Large: 2, small: 1	
	Drain hose: 1, Exhaust tank: 1, tank mounting bracket: 1 and tip-resistant metals: 2	
	Power Supply: 220V, 60Hz	
	Inclusions: 5 packs Disposable autoclavable bags 5 bottles of autoclave cleaner 25 packs Chemical Integrator Test Strip (Sterility indicator) Compatible AVR Unit and Uninterruptible Power Supply (UPS) Data logger (1) Heat resistant Gloves (2 pairs) Laptop i5 Laptop Processor: Intel core i5 Memory: 8GB DDR4 Hard Drive: 1TB Graphics: HD Graphics 620 Display: 14" FHD Operating System: Win 10 Connectivity: WiFi, USB 3. With Bag 1 unit Antivirus for 1 user One (1) Year Subscription 1 unit Microsoft Office"	
	Training for Three (3) end users at Manufacturer's Training Site, inclusive of all expenses	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
4	Block Micro Digester (40 placer) with scrubber	
	Specifications:	
	Sample positions: 40	
	Temperature range max. (in °C): 430	
	Digestion vessel size (in ml): 100	
	Programs: 10	

	Power consumption (in W): 2200	
	Current consumption (in A): 10	
	Non-corrosive casing	
	Removable viewing door	
	Standard Accessories and Inclusions:	
	Round bottom digestion vessel, 100 ml for micro-Kjeldahl, 120 pcs	
	dispenser for metering sulfuric acid, 2.5-25 ml adjustable without bottle	
	Kjeldahl Neutralizer (extraction system/scrubber)	
	Digital burette, 2 pcs	
	Digital Titrator, 2 pcs	
	Pipettor, 5 pcs, 100-1000 µl	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1) -Bulacan (1) -Bukidnon (1) -Bohol (1)	
5	Centrifuge, 8 placer	
	Specifications:	
	Max. Capacity: 8 x 50ml	
	Max. RPM: 6,000 min-1	
	Max. RCF: 4,226	
	Running Time: 1 sec-99min:59sec, continuous run, short cycle mode (impulse key)	
	Dimension: at least 257x366x430mm	
	Weight: at least 2.3 kg without rotor	
	Standard Accessories and Inclusions:	
	Swing Out Rotor	
	Max. Capacity: 8x50ML	
	Max. RPM: 4,000	
	Max RCF: 2,469	
	Angle: 45 degrees	
	Fixed Angle Rotor	
	Max. Capacity: 8x50ML	
	Max. RPM: 6,000	
	Max RCF: 4,226	
	Angle: 35 degrees	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-RSL IVA (1)	
6	Drying Oven	
	Specifications:	
	Controller Type: Microprocessor control with vacuum fluorescent display	
	Temperature Stability: $\pm 0.4^{\circ}\text{C}$	
	Timer: ON / OFF	
	Temperature: 50°C to 250°C	
	Capacity: 176 L	
	Type: Gravity Convection	
	No. of Shelves: 2 min - 19 max.	
	Electricals: 208/240 V 60 Hz; 3360W; 14A	
	Wattage: 3360 w	

	Dimensions: at least (L x W x H) 29.1 x 25.2 x 36.2 in. (73.8 x 64 x 92 cm)	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	-RSL (4)	
	-Bohol (1)	
7	Drying Oven (Microbiology)	
	Specifications:	
	Convection: Forced-Air	
	Capacity: 210 Litres	
	Temperature range: 40 to 180°C	
	Fluctuation: ± 1°C	
	Chamber Material: Aluminium coated mild steel	
	Exterior Material: Easy clean powder coated body in RAL 7035	
	Int. dimensions (cms): at least 54 high x 93 wide x 42 deep	
	Ext. dimensions (cms): at least 94 high x 106 wide x 57 deep	
	Control panel position: Base mount	
	Control: 3.2 in. colour touch screen temperature controller with independent manual (or automatic) overheat safety control.	
	Indicators: Display shows chamber temperature, desired set point, time and chamber trend history (max 48 hours)	
	Air circulation: Fan assisted, mounted in base	
	Sensor: Pt100 Class B probes offering high accuracies (<0.8°C)	
	Shelving: Supplied with 3 off chrome wire shelves and 4 positions	
	Power supply: 220-240VAC, 50hz	
	Inclusions:	
	Compatible AVR and UPS	
	Data logger thru Controller transferrable via USB or LAN	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
8	Fertilizer Ball Mill	
	Specifications:	
	complies with ASTM C409	
	features a 1/3hp single-phase, geared motor	
	mounted to a rigid, cast-aluminum base with rubber feet for stability	
	grinding mill head construction is made of sturdy, durable cast iron	
	mill head can be easily removed and disassembled for cleaning	
	without the use of any special tools	
	grinding plates are made of a hard iron alloy	
	Plate-to-plate clearance is easily adjusted by hand	

	Output capacity is up to 40lbs (18kg) per hour	
	material hopper provides 50in3(820ml) approximately 2lb (0.9kg)	
	with the dry grinding feeder and disk set	
	Inclusions:	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
9	Fumehood (Perchloric)	
	Specifications:	
	Material: Steel covered with chemically resistant epoxy powder coating	
	Solid ceramics: 38mm thick, with integrated ceramic marine edge.	
	Recommended airflow (m3/h): 650...850	
	Maximum power consumption (kW): 3.5	
	Power supply: 220V 60hz	
	Exit air sub pipe diameter (mm): Ø200	
	Water supply: G 1/2"	
	Sewage connection diameter (mm): Ø50	
	Standard Accessories and Inclusions:	
	Standard airflow sensor, conformity with standards (PN-EN 4 75-2)	
	Standard equipment: 2 electrical socket 230V (IP44), 2 x cold water	
	tap, sink	
	Electrical insulation class: Class	
	Permissible work board load (kPa): 4	
	dismantling of old unit , ducting, installation, commissioning, testing	
	validation certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (1)	
10	Fumehood (Regular)	
	Specifications:	
	Material: Steel covered with chemically resistant epoxy powder coating	
	Solid ceramics: 38mm thick, with integrated ceramic marine edge.	
	Recommended airflow (m3/h): 650...850	
	Maximum power consumption (kW): 3.5	
	Power supply: 220V 60hz	
	Exit air sub pipe diameter (mm): Ø200	
	Water supply: G 1/2"	
	Sewage connection diameter (mm): Ø50	
	Standard Accessories and Inclusions:	
	Standard airflow sensor, conformity with standards (PN-EN 4 75-2)	
	Standard equipment: 2 electrical socket 230V (IP44), 2 x cold water	
	tap, sink	
	Electrical insulation class: Class	
	Permissible work board load (kPa): 4	

	dismantling of old unit , ducting, installation, commissioning, testing	
	validation certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (1)	
11	Horizontal Reciprocating Shaker	
	Specifications:	
	Operating Speed: Variable speed 60 – 260 osc/min with tachometer display	
	Stroke: 1.5" Horizontal	
	Type of mounting: Benchtop, Suction cup feet to prevent creeping	
	Load Capacity: up to 50lbs	
	Power: 230V, 60Hz	
	Size and weight: at least L-24.5", W-13.5", H-10", 76lbs	
	Standard Accessories and Inclusions:	
	Includes: Utility box carrier with anti-slide surface and one (1) rubber coated crossbar is available to hold various combinations of beakers, flasks, etc with Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1) -RSL (6) -Bohol (1)	
12	Incubator	
	Specifications:	
	Air convection: natural	
	Chamber capacity: 112 L	
	Controller: Microprocessor with external LCD graphic display	
	Display: 4.3" full colour touch screen	
	Easy data transfer via LAN, USB ports- multi-segment time and temperature programs	
	Alarm Safety- visual and sound alarm	
	Internal memory for programs and data storage	
	Event registry	
	Quick change of program parameters	
	Alarm Bar	
	Can be operated even with gloves on	
	Temperature range [°C]: +5°C above ambient temperature ... +100°C	
	Temperature resolution [°C]: 0.1	
	Over temperature protection: class 2.0 to DIN 12880	
	Door type: Double door	
	Interior: acid-proof stainless steel to DIN 1.4301	
	Housing: Powder coated sheet	
	Overall dimensions at least [mm]:	
	Width: 650	
	Height: 850	
	Depth: 710	

	Internal:	
	width: 460	
	height: 540	
	depth: 450	
	Shelves: atleast 2	
	Max shelf workload: 25 kg	
	Inclusion:	
	Data logger thru Controller transferrable via USB or LAN	
	External USB drive (16 GB)	
	Compatible AVR and UPS	
	Training with End- Users	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
13	Laboratory Refrigerator	
	Specifications:	
	Features: -Alarm and safety devices -Ridged wire shelves with zinc plated finish -Microprocessor temperature control -Fan-forced air circulation -Cycle Defrost System -Digital Temperature Display -Door Open Alarm -Adjustable high and low temperature alarm (+/- 2 ~ +/- 14°C) -Adjustable door alarm delay time (0 ~ 15 minutes) -Adjustable auto recovery function of alarm buzzer refrigerants and CFC-free insulation.	
	External Dimensions (W x D x H): at least 800 x 465 x 1090 mm Internal Dimensions (W x D x H): at least 720 x 300 x 725 mm Capacity Volume: : 158 litres Temperature Setting Range: +2 to +14 °C Temperature Control Range: +2 to +14 °C Display: LED Noise Level: maximum of 35 dB [A] Controller: Microprocessor Cooling Method: Forced air circulation Defrost Method: Cyclical defrost (plus forced defrost) Exterior Material: Painted steel Interior Material: Stainless steel Outer Doors: 2 sliding doors Interior Light: LED	
	Inclusions:	
	Data Logger	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (5)	
14	Magnetic Stirrer	

	Specifications:	
	Stirring quantity max. per stirring position (H2O): 20 L	
	Motor rating output: 9 W	
	Direction of rotation: right / left	
	Speed display set-value: LCD	
	Speed display actual-value: LCD	
	Speed control: Turning knob	
	Speed range: 50 - 1500 rpm	
	Setting accuracy speed: 10 rpm	
	Stirring bar length: 30 - 80 mm	
	Heat output: 1000 W	
	Temperature display set-value: LCD	
	Temperature display actual-value: LCD	
	Temperature unit: °C	
	Heating temperature range: room temp. - 500	
	Heat control: Turning knob	
	Temperature setting range: 0 - 500 °C	
	Automatic reverse rotation: yes	
	Intermittend mode: yes	
	Viscosity trend measurement: yes	
	Timer: yes	
	Sensor in medium detection (Error 5): yes	
	Temperature measure range PT1000: -10 - 400 °C	
	Speed deviation (no load,nominal voltage, at 1500rpm + 25 °C): 2 ±%	
	Heating rate (1l H2O in H1500): 5 K/min	
	Heat control accuracy of heating plate (at 100°C): 5 ±K	
	Permissible ambient temperature: 5 - 40 °C	
	Permissible relative humidity: 0.8	
	Protection class according to DIN EN 60529: IP 21	
	RS 232 interface: yes	
	USB interface: yes	
	Voltage: 220-230 / 115 / 100 V	
	Frequency: 50/60 Hz	
	Power input: 1020 W	
	Power input standby: 2 W	
	Accessories:	
	with extension, head clamp, holding rod	
	with temperature sensor	
	with magnetic stirring bar	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
15	Plant Tissue Grinder	
	Specifications:	
	Application: Tissue homogenization, grinding, cell breakage, homogenizing, material dispersion, preparation, sample mixing, oscillation	
	LCD: Micro computer controlled, 7 inch screen, working status	
	Speed: 10-70 HZ/M	

	Adapter Material: PTFE or alloy steel	
	Grinding method: Dry,wet,cryogenic grinding	
	Final size: ~5um	
	Power: 220V/50HZ 2 phases	
	Grinding Ball Material: Alloy steel,Chromium,Zirconium oxide,tungsten carbide,silica	
	Dimension: at least 280*400*530mm	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bulacan (1)	
	-Bukidnon (1)	
16	Refrigerated Centrifuge	
	Specifications:	
	Rotor Capacity: 4 x 180 ml	
	Max. Speed: 5,500 rpm	
	Max. RCF: 5,580 x g	
	Control system: Microprocessor	
	Display: Digital	
	Centrifugation Chamber: Corrosion-resistant, high thermal conductivity, 304 grade Stainless Steel	
	Memory: 6 programs, direct access	
	Maximum Timer Range: 9 hr, 59 min, plus continuous	
	Electrical: 230V, 50/60 Hz	
	Dimensions: at least 24.5 x 23.8 x 14.2 in WDH	
	Temperature Range: -10 to +40°C	
	Sound Level (dBA): <61	
	Drive System: Direct, brushless induction low profile motor	
	Rotor Locking System : Push-button Auto Lock III	
	Standard Accessories and Inclusions:	
	1 pc - Swinging Bucket Rotor	
	1 set - Round Buckets (set of 4)	
	1 set - Biocontainment Lids (set of 4)	
	1 set - Adapter for 15 ml conical tubes (set of 4)	
	1 set - Adapter for 50 ml conical/skirted tubes (set of 4)	
	1 set - Microliter 30 x 2 ml Aluminum Fixed Angle Rotor	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	-Bohol (1)	
17	Reciprocating Shaker	
	Specifications:	
	Shaking Method: Reciprocal	
	Shaking Speed: 20 - 200rpm	
	Amplitude: 10 - 40mm (variable sequentially)	
	Platform size: at least 400 x 300mm	
	Loading Limit: Approx. 8kg (include shaking rack and holder)	
	Shaking speed display: Digital	

	Integrating indicator of shaking time: 0.1 - 999.9h (with auto-reset function)	
	Safety device / function: Motor protection circuit for overload	
	Dimensions: at least 450 x 405 x 160Hmm	
	Weight: at least 17kg	
	Power Supply: AC100V 0.5A	
	Standard Accessories and Inclusions:	
	necessary tubes and rotors, and other accessories	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-RSL IVA (1)	
18	Sonicator	
	Specifications:	
	Frequency : 53KHz	
	Timer : 1~99 min	
	Tank capacity : 6L	
	Housing : SS304 stainless steel	
	Stainless steel cover : Yes	
	Ultrasonic power : at least 180W	
	Degas power : at least 180W	
	Net weight : at least 5.0 kg	
	Gross weight : at least 6.0 kg	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
19	Test Tube Mixer	
	Specifications:	
	Construction material: zinc alloy and technopolymer	
	Support system: 4 anti-sliding feet	
	Orbital diameter: 4.5 mm	
	Speed setting: analog	
	Speed control: electronic	
	Speed: up to 3000 rpm	
	Operating modes: touch, continuous	
	Electronic protection degree CEI EN 60529: IP 42	
	Power: 15 W	
	Weight: at least 2.7 Kg (5.9 lb)	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (5)	
20	Water Distilling Unit	
	Specifications:	
	Output: 12 L / hr.	
	Storage Tank: 24 L	
	Water consumption: at least 198L / hr.	
	Dimensions (W x D x H): at least 780 x 410 x 670mm	
	Power: 9000 W	
	Voltage: 400V* 50/60 Hz, 3-phase current	
	heating element made of stainless steel	
	Standard Accessories and Inclusions:	

	3-stage pretreatment filters, good for 1 year	
	3 storage containers	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (1)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Section VII. Technical Specifications

LOT 2 - SOIL GRINDING EQUIPMENT

Item #	Item Description	Statement of Compliance
1	Cross Beater Mill	
	Specifications:	
	Working principle: impact	
	Grinding tools: cross beater	
	Materials of the grinding tools: hardened steel	
	Max. feed size (depending on the material): 25 mm	
	Min. sample quantity: 40 - 50 ml	
	Max. throughput: at least 80 l/h	
	Final fineness (sieve inserts): 0.12 - 10 mm	
	Feeding: batchwise/continuous	
	Rotor speed: 2,000 - 4,000 rpm	
	Electrical Details: 200-240 V/1~, 50/60 Hz, 1500 Watt	
	Standard Accessories and Inclusions:	
	Bottom sieves made of stainless steel 316L:	
	3 sets - 0.5 mm trapezoidal perforation	
	5 sets - 2 mm trapezoidal perforation	
	1 set - universal support stand	
	5 units - pipettor, 100-1000 µl	
	1 set - Small volume cyclone separator made of plastic, incl. sample glass 500 ml	
	1 set - cyclone system adaptor	
	1 unit - vacuum instrument	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1) -RSLs (14) -Bulacan (1) -Bohol (1)	
2	Jaw Crusher	
	Specifications:	
	Working principle: pressure	
	Grinding tools: fixed and movable crushing jaws	
	Materials of the grinding tools: zirconium oxide	
	Max. feed size (depending on material): 95 mm	
	Min. sample quantity: 20 ml	
	Max. continuous throughput (depends on material and gap width): 250 kg/h	
	Final fineness: 0.3 - 15 mm	
	Feeding: batchwise/continuous	
	Eccentric oscillations: up to 308 movements/min	
	Voltage: 200 V/3~, 50/60 Hz, 3490 W	
	Standard Accessories and Inclusions:	
	1 set - fixed crushing jaw, zirconium oxide	
	1 set - movable crushing jaw, zirconium oxide	
	1 set - pair made of zirconium oxide	
	1 set - silent type vacuum cleaner with complete tubings for easy clean up of the unit	

	1 set - Exhaust system, dust category "M" according to DIN EN 60335-2-69 for 230 V/1~, 50/60 Hz, 1000 Watt	
	10 pcs - fleece filter bag for exhaust system (pack = 5 pieces)	
	5 pcs - plastic bag for exhaust system (pack = 5 pieces)	
	1 set - Compatible AVR and UPS	
	Training for two (2) end-users at manufacturer's site, inclusive of all expenses	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	-Bulacan (1)	
3	Rotary Cone Sample Divider	
	Specifications:	
	Division ratio: 1:8, 1:10, 1:30	
	Number of possible sub-samples: 8, 10 or 3	
	Division: wet/dry	
	Materials: POM Plastic, aluminium or PTFE-coated aluminium	
	Capacity of sample bottles: 30, 250, 500 ml	
	Max. feed particle size: 10 mm, 2.5 mm	
	Max. sample quantity: 4,000, 2,500, 300 ml	
	Maintenance-free drive motor with slipping clutch: rotational speed 100 rpm	
	Electrical details: 230 V/1~, 50-60 Hz, 90 Watt	
	Standard Accessories and Inclusions:	
	Division ratio 1:8 1 set - POM plastic, incl. 8 sample bottles 500 ml with screw lid and funnel 10 mm dia.	
	Division ratio 1:10 1 set - POM plastic, incl. 10 sample bottles 250 ml with screw lid and funnel 10 mm dia.	
	Division ratio 1:30 1 set - POM plastic, incl. 30 sample bottles 15 ml with screw lid and funnel 10 mm dia. as well as 1 funnel each of 5 mm dia. for dry- resp. wet division	
	32 pcs - sample bottle 250 ml (division ratio 1:8 and 1:10)	
	1 each - funnel (5 mm, 10 mm, 22 mm) dia	
	1 set - protective device, polyacryl	
	accessories for automatic feeding instrument incl. V-shaped channel, funnel and control unit for 200-240 V/1~, 50-60 Hz, 25 Watt	
	1 pc - stand for feeder	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
4	Sieve Shaker	
	Specifications:	
	Method of analysis: sieving	
	Sieving action: two-dimensional	
	Dry sieving	
	Measuring range: 20 µm - 63 mm	

	Max. sample quantity approx.: for sieves < 63 mm: up to 2 kg	
	Sieving time approx.: 3 - 20 min	
	Wet sieving	
	Measuring range: 20 µm - 10 mm	
	Max. sample quantity approx.: 20 - 100 g	
	Sieving time approx.: 30 - 60 min	
	Micro precision sieving	
	Measuring range: 5 µm - 100 µm	
	Max. sample quantity at least: 0.05 - 0.5 g	
	Sieving time approx. at least.: 30 - 60 min	
	Further details	
	Sieve diameters: 100 mm, 200 mm or 8"	
	Max. number of sieves per sieve stack: 10 (50 mm height), 16 (25 mm height)	
	Max. weight of sieve stack: at least 3 kg	
	Max. height of sieve stack: at least 550 mm	
	Amplitude: 0.1 - 3 mm	
	Amplitude control: automatic	
	Interface: yes	
	Intermittent mode: yes	
	Memory for 10 parameter combinations: yes	
	Electrical details: 100-240 V/1~ 50-60 Hz, 50-60 Hz, 50 Watt	
	Standard Accessories and Inclusions:	
	1 set - clamping lid plexiglas for test sieves 200 mm/8" dia.	
	1 set - sieve pan made of stainless steel at least 200 mm dia., 50 mm height	
	1 unit - riffle splitter per delivery site, 2 L capacity - Bulacan, Bukidnon 16 L capacity - BSWM	
	Frame and mesh wire made of stainless steel with compliance certificate (at least): 1 pc 100 mm/200 mm/8" dia. 1 pc 200 mm dia., 50 mm height ISO 3310-1 - mesh width mm/µm: 3 pcs 10 = 2 mm 3 pcs 35 = 500 µm	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1) -Bulacan (1) -Bukidnon (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 3 - COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM

Item #	Item Description	Statement of Compliance
1	COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM	
	Specifications:	
	10HP Industrial Scroll Air Compressor (2 Units)	
	10HP, 8BAR	
	Air-discharge Capacity(m ³ /min) : 1.1	
	Air-discharge Pressure(Mpa) : 0.8	
	Air-supply Temp. (Deg. C) : environmental temperature +50	
	Noise dB(A) : (57~62)positive/negative 3	
	Oil content in Air(ppm) : maximum 3, slight oil	
	rotate Speed (r/min) : 3000	
	Power(KW/HP) :7.5/10	
	Start Mode : Direct Connection, Direct Startup	
	Voltage/Hz : 220V/60Hz	
	Vertical Air Receiver Tank (1 unit)	
	Capacity - 0.5 m ³	
	Size - at least 600mm x 2066mm shell length	
	Material - at least 5mm High Tensile Steel ASTM standard	
	Max. Allowable Working Pressure - 10 bar	
	Hydrotest Pressure - 13 bar	
	Provisions: - Pressure Vessel Test Certificate - Identification Plate - H.D. - B.I. Steel couplings for instrumentation and drain, Flange for inlet and outlet - Accessories include pressure gauge, safety valve, and manual drain valve	
	Surface preparation / painting: - Multi layer spray coated with high quality paint after thorough cleaning, grinding, chemical dip process surface preparation & rust removal (both internal & external)	
	Hyperfilter (2 Units)	
	1 micron, 1.8 m ³ /min volume flow.	
	Refrigerated Air Dryer 220v/1pH/60hZ	
	Air Flow : 1.5 m ³ /min	
	Refrigerant : R134a	
	Material : 316L Stainless steel heat exchanger	
	Air Connection : Rc 1/2"	
	Electrical Supply : 220V/1Ph/60Hz	
	Electrical Control Panel (1 unit)	

	complete wiring works, supplies, and materials	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Free PMS on warranty period	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 4 -WATER DEIONIZER (INTEGRATED TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER

Item #	Item Description	Statement of Compliance
1	WATER DEIONIZER (INTEGRATED TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER	
	Water Deionizer (Type I and Type II water), large capacity with dispenser	
	Specifications:	
	Resistivity: Type 1: 18.2MΩ·cm at 25°C Type 2: 10 to 1MΩ·cm at 25°C	
	Conductivity: Type 1: 0.055μS/cm Type 2: 0.1 to 1.0μS/cm	
	Feedwater Source: Softened or hardness stabilized	
	Flow Rate: 1.5L/min	
	Total Organic Carbon: 1 to 5ppb	
	Bacterial Content: <0.1 CFU/mL	
	Particles >0.2μM/mL: <1	
	Feed Water Monitoring: Yes	
	Feedwater Connector: 3/4 in. NPT	
	Feedwater Pressure: 1-6 Bar	
	Size: at least 1500mm x 450mm x 580mm	
	Operating Pressure: 2 to 6 bar	
	Permeate performance: 30L/hr. at 15°C	
	Power Consumption: 0.25kW	
	Electrical Requirements: 90 to 240V 50/60Hz	
	Standard Accessories:	
	1 set - Mix Multi Mini Water Softener Includes Softener Salt 25kg, Hardness detection kit, 5 micron filter with carbon cartridge and 10" 1 um prefilter	
	1 unit - Hand Dispenser	
	1 pc - Sterile Overflow for reservoir	
	1 pc - Co2 Adsorber+sterile filter,0.2um	
	1 pc - Softener salt 25 kg	
	12 pcs - 5 Micron Filter	
	6 pcs - 10 " 1 um Prefilter	
	2 pcs - carbon cartridge	
	1 pc - Cleaning solution	
	1 pc - Hardness Detection Kit	
	Inclusions:	
	Installation materials include: stainless steel tube pipings , fittings, valves, Electrical wirings, etc. System to cover 2 rooms in one floor.	
	Trainings on the operation of unit to be done by service engineer.	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	

	-BSWM (1) -RSL (11) -Bukidnon (1) -Bulacan (1) -Bohol (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 5 -ULTRAFILTRATION SYSTEM

Item #	Item Description	Statement of Compliance
1	ULTRAFILTRATION SYSTEM	
	Specifications:	
	Orientation: Horizontal	
	Maximum Operating Pressure: 100 psig (690 kPa)	
	Maximum Operating Temperature: 104°F (40°C)	
	Nominal Pore Size: .015 microns	
	pH Range: 6.5 to 8.5	
	Max Flow Rate: 15 gallons (57 liters) per minute	
	(1) carbon cartridge and (1) template-assisted crystallization (TAC) cartridge	
	.015 micron ultra filtration	
	Lime scale reduction	
	Self-cleaning particle reduction	
	104°F maximum operating temperature	
	Separate mechanical filtration for taste and odor reduction	
	Stainless steel ultrafilter housing	
	3/4" FNPT (drain) and 3/4" MNPT plumbing connection (inlet/outlet)	
	Size: at least 50" W x 9" D x 39" H	
	Weight: at least 38 kg	
	100-240v/50/60/1-ph	
	Amperage: .08 amps	
	Wattage: 10 watts	
	NSF for 13 gpm/ 49.2 lpm	
	Inclusions:	
	Cord	
	Plug adapter	
	consumables good for 2 years	
	Training for end user	
	includes installation, service with 1-year warranty on parts	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 6 - SOIL DRYING AND GLASSWARE CLEANING EQUIPMENT

Item #	Item Description	Statement of Compliance
1	Soil Drying Cabinet	
	Specifications:	
	fabricated	
	marine plywood 3/4 inch with hardiflex 1/4 inch substrate body	
	stainless steel type 304 tubular 12mm shelves	
	coil type heater 3000 watts	
	blade type fan blower	
	thermostat controller (30A)	
	Dimensions:	
	(main unit): approx 660 cm x 60 cm x 193 cm	
	(split unit): 279 cm x 60 cm x 193 cm	
	with Calibration Certificate	
	with (3) Thermohygrometer with probe	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	-Bulacan (1)	
	-Bukidnon (1)	
2	Ultrasonic Washer	
	Specifications:	
	Equipped with PLC Control system (Process parameters settings only could be changed by qualified persons).	
	Dual frequency of 28 and 40 kHz for different cleaning items.	
	Adjustable temperature from 30° to 110°C.	
	Adjustable power from 0 to 100%.	
	Built-in generator for saving space and looking better.	
	Tank is designed with basket holder and overflow protection.	
	Fabricated from heavy gauge stainless steel, acid,alkali and corrosion resistant.	
	Digital display showing real time data is intuitive and controllable.	
	Adopting water level pipe and auto heating control system for prolong service life and ensure safety.	
	Caster with brake, safer and more convenient.	
	Capacity: at least 288 L	
	Ultrasonic Frequency (kHz): 28 and 40	
	Ultrasonic Power (W): 0 to 3000	
	Heating Power (W): up to 7000	
	Temp. (°C): 30-110°C	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	

	Delivery Sites:	
	-BSWM (4)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 7 - ACID DIGESTION EQUIPMENT

Item #	Item Description	Statement of Compliance
	2021-07-1308: LOT 7 - ACID DIGESTION EQUIPMENT	
1	Fume Hood (Regular), with monitoring system	
	Specifications:	
	Type: Acid digestion	
	By-pass airflow design	
	Built-in belt-driven, corrosion-resistant exhaust blower with adjustable sheave, molded thermoplastic housing and non-sparking, coated aluminium impeller	
	aerodynamic airflow openings	
	powder-coated steel exterior	
	One-piece molded fiberglass liner and pre-set baffle	
	Tempered safety glass vertical-rising sash with powder-coated aluminium sash handle	
	high sightline from the work surface and header panel	
	Removable front and side panels, and front service access panels for access to plumbing and electrical wiring	
	Molded fiberglass exhaust connections	
	Conforms with the following standards and regulations: <ul style="list-style-type: none"> • CFR 29, Part 1910 • SEFA 1-2010 • NFPA 45-2011 • ASTM E84-09C • ASHRAE 110-1995 • ANSI Z9.5-2011 • UL 61010-1 • CAN/CSA C22.2 No. 61010.1 • UL 1805 • CE Conformity Marking (230 volt models) • SEFA 8-2010 , Cabinet Surface Finish Tests 	
	Pre-wired fluorescent lighting with vapor-proof design, and ADA-compliant light and blower switches	
	Two pre-plumbed service fixtures with forged brass valves	
	Includes:	
	Spill Stopper Work Surface	
	Gooseneck Water Fixture Kit	
	P-Trap	
	Cupsink	
	Electrical Receptacle	
	2 x Acid Storage Cabinet	
	2 x Vent Kit	
	Digital Airflow Monitor	
	Ducting materials and ductworks	
	dismantling of old unit, mobilization, installation and restoration works	
	free PMS within warranty period (2 years)	
	with Validation Report	

	Training for end user	
	Delivery Sites:	
	-BSWM (1)	
2	Perchloric Fume hood, with monitoring system	
	Specifications:	
	Type: perchloric	
	by-pass airflow design and by-pass block	
	powder-coated steel exterior	
	aerodynamic airflow opening	
	Heat-welded Type 1 unplasticized PVC liner with integral work surface, drainage trough and pre-set baffle	
	Powder-coated aluminum sash handle	
	Removable front and side panels, and front access panels for access to plumbing and electrical wiring	
	vapor-proof design and ADA-compliant light and blower switches	
	Built-in washdown system with internal piping and spray nozzles	
	enamel-coated hardboard supporting surface	
	PVC exhaust connections	
	Conformance with the following standards and regulations: <ul style="list-style-type: none"> • CFR 29, Part 1910 • SEFA 1 • NFPA 45 • ASTM E84-09C • ASHRAE 110 • ANSI Z9.5 • UL 61010-1 • CAN/CSA C22.2 No. 61010.1 • UL 1805 • CE Conformity Marking • SEFA 8 	
	thick tempered safety glass vertical-rising sash with cable and pulley	
	pre-wired GFCI electrical duplex receptacle	
	pre-plumbed service fixtures with forged brass valves	
	Includes:	
	PVC Blower	
	2 x Acid Base Cabinet	
	ducting works and materials (thermoplastic duct, duct coupling, Elbows, thermoplastic duct reducer, zero pressure weathercap, etc)	
	digital airflow monitor	
	dismantling of old unit, mobilization, installation and restoration works	
	free PMS within warranty period (2 years)	
	with Validation Report	
	Also includes:	
	2 units - Ductless filtering chemical storage cabinet	
	Specifications:	
	Storage capacity: 100 - 120 bottles of 1L	
	Air Flow: 70 m3/h	

	Safety Standards: Filtration performances tested according to the AFNOR NF X 15-211:2009 standard : France EN 1822 : 1998 (HEPA H14 & ULPA U17 Filters) - CE Marking	
	Power consumption: 45W	
	Voltage/Frequency: 80 - 220 V / 50-60 Hz	
	Structure: Corrosion resistant electro-galvanized steel coated with anti-acid polymere	
	Doors: Clear, chemical resistant acrylic for easy viewing	
	Filtration Module: Polypropylene	
	Configurable storage options: 2 storage compartments : spill-proof shelves, large volume drawers pull-out vertical shelves	
	Smart Technology: Simple communication by LED pulsation system: fan settings, usage timer, fan failure, face velocity, automatic filter saturation detection	
	Flex Technology: 1 column that can be configured for liquids, powders, or both storages	
	Carbon filtration for gases and vapors: AS : For organic vapors - BE+ : For organic and acid vapors F : For formaldehyde vapors - K : For ammonia vapors	
	Particulate filtration for powders: HEPA H14 : 99,995 % filtration efficiency according MPPS method, EN1822 standard ULPA U17 : 99,999995 % filtration efficiency according MPPS method, EN1822 standard	
	Connectivity: RJ45 cable connection	
	Sensors: Detection sensors for solvents or acids or formaldehyde	
	Doors sensors: Alarm if doors are left open	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 8 - METROLOGY INSTRUMENTS

Item #	Item Description	Statement of Compliance
	2021-07-1309: LOT 8 - METROLOGY INSTRUMENTS	
1	6-in-1 Metrology Well with fixed-point cell and accessories	
	1 unit - 6-in-1 Metrology Well (+45°C to +250°C)	
	Specifications:	
	6 Calibration Functions in 1	
	Accuracy: $\pm 0.15^{\circ}\text{C}$ (display to block)	
	Liquid bath, infrared, dry block, & ITS-90 fixed points all in one	
	35mm calibration volume	
	Fast heating and cooling times	
	Temp Range: +45°C to +250°C	
	Stability	
	Dry Block Bath: $\pm 0.03^{\circ}\text{C}$	
	Stirred Liquid Bath: $\pm 0.025^{\circ}\text{C}$	
	Ice/Water Bath: $\pm 0.001^{\circ}\text{C}$	
	Blackbody Source: $\pm 0.3^{\circ}\text{C}$	
	Surface Sensor Calibrator: $\pm 0.5^{\circ}\text{C}$	
	ITS-90 Fixed Point Apparatus: $\pm 0.0005^{\circ}\text{C}$	
	Standard Metal Insert: 1/8"; 3/16"; 1/4"; 3/8"; and 1/2" diameter holes, all 6.8" deep	
	Computer Interface: Included with Windows Software	
	with complete standard accessories, with ISO Calibration	
	1 unit - 6-in-1 Metrology Well (-45°C to +140°C)	
	Specifications:	
	6 Calibration Functions in 1	
	Accuracy: $\pm 0.15^{\circ}\text{C}$ (display to block)	
	Liquid bath, infrared, dry block, & ITS-90 fixed points all in one	
	35mm calibration volume	
	Fast heating and cooling times	
	Temp Range: -45°C to +140°C	
	Stability	
	Dry Block Bath: $\pm 0.03^{\circ}\text{C}$	
	Stirred Liquid Bath: $\pm 0.025^{\circ}\text{C}$	
	Ice/Water Bath: $\pm 0.001^{\circ}\text{C}$	
	Blackbody Source: $\pm 0.3^{\circ}\text{C}$	
	Surface Sensor Calibrator: $\pm 0.5^{\circ}\text{C}$	
	ITS-90 Fixed Point Apparatus: $\pm 0.0005^{\circ}\text{C}$	
	Standard Metal Insert: 1/8"; 3/16"; 1/4"; 3/8"; and 1/2" diameter holes, all 6.8" deep	
	Computer Interface: Included with Windows Software	
	with complete standard accessories, with ISO Calibration	
	1 unit - Water Triple Point Cell, Container and 3 Caps	
	Uncertainty: 0.000070°C	
	Reproducibility: $\pm 0.00002^{\circ}\text{C}$	

	Stability: $\pm 0.00001^{\circ}\text{C}$	
	with complete standard accessories, with ISO Calibration	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
2	Air Quality Meter (1 lot)	
	Specifications:	
	a.) Video Particle Counter with built-in Camera (2 pcs)	
	Particle Size Channels: 0.3, 0.5, 1.0, 2.5, 5.0, $10\mu\text{m}$	
	Flow Rate: 0.1ft^3 (2.83L/min) controlled by internal pump	
	Count Modes: Cumulative, Differential, Concentration	
	Counting Efficiency: 50% @ $0.3\mu\text{m}$; 100% for particles >0.45	
	Coincidence Loss: 5% @ 2,000,000 particles per ft^3	
	Air Temperature: -14 to 140°F (-25 to 60°C); Accuracy: $\pm 2^{\circ}\text{F}/1^{\circ}\text{C}$	
	Relative Humidity: 0 to 100%RH; Accuracy: $\pm 3\%$ RH (40% to 60%RH)	
	Dew Point/ Wet Bulb: 32 to 122°F (0 to 50°C)	
	b.) CO/CO ₂ Meter (2 pcs)	
	Range:	
	Carbon Monoxide (CO): 0 to 1,000ppm	
	Carbon Dioxide (CO ₂): 0 to 9,999ppm	
	Resolution: 1 ppm, 0.1°	
	Temperature: -5 to 140°F (-20 to 60°C)	
	Humidity: 0.1 to 99.9%RH	
	Wet Bulb: 23 to 140°F (-5 to 59.9°C)	
	Dew Point: -4 to 140°F (-20 to 59.9°C)	
	c.) VOC/Formaldehyde Meter (2 pcs)	
	Range:	
	TVOC: 0.00 to 9.99ppm (mg/m^3)	
	Formaldehyde: (CH ₂ O or HCHO): 0.00 to 5.00ppm (mg/m^3)	
	Resolution: 0.01ppm (mg/m^3)	
	Response Time: $<2\text{s}$	
	Power Supply: Rechargeable battery and AC adaptor	
	Charge Time: approx. 3 hours	
	2 units - Laptop capable of Remote Data Management	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
3	Anemometer, with probe	
	Specifications:	
	Real time data logger, save the data into the SD memory card and can be downloaded to the Excel	
	Air velocity : 0.2 to 25.0 m/s, high precision for low air velocity measurement.	
	Air flow : CMM, CFM.	
	m/s, ft/min, km/h, knots, mile/h, oC/oF.	
	Humidity : 5 to 95 %RH.	

	Dew point, Wet bulb.	
	Type K Thermometer : -100 to 1300 oC, oC/oF.	
	Type J Thermometer : -100 to 1200 oC, oC/oF.	
	Data hold, Record (Max., Min.).	
	Complete set with two probes : Hot wire anemometer probe and Humidity/Temp. probe.	
	RS232/USB computer interface.	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
4	Benchtop EC Meter, Calibration Lab Grade	
	Specifications:	
	Measuring range	
	Conductivity: 0.001 μ S/cm - 1000 mS/cm	
	Temperature: -30.0 - 130.0 °C	
	Resolution	
	Conductivity: 0.001 - 1	
	Temperature: 0.1 °C	
	Accuracy	
	Conductivity: \pm 0.5%	
	Temperature: \pm 0.1 °C	
	Calibration: 13 pre-defined or 1 user-defined standard	
	Cell constant: Determined via calibration or entered manually	
	Temperature: Linear, non-linear, off, pure- water – compensation: reference temperature 20 °C or 25 °C	
	System: Date / time, PIN-protection, 10 languages	
	Data storage: 1000 measurements	
	Data export: USB-stick, LabX direct PC software	
	Measurement limits: User-definable with warning message	
	ID entry: User ID, Sample ID, Sensor ID, Sensor Serial Number	
	with NIST Traceable EC buffers	
	with ISO Calibration	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
5	Benchtop pH Meter, Calibration Lab Grade	
	Specifications:	
	Measuring range:	
	pH: -2.000-20.000	
	mV* -2000.0-2000.0	
	Ion concentration** 1.00E-9-9.99E+9	
	Temperature***: -30.0-130.0 °C	
	Resolution	
	pH: 0.001 / 0.01 / 0.1	
	mV: 0.1 / 1	
	Ion concentration: \pm last significant digit	
	Temperature: 0.1 °C	
	Accuracy	
	pH: \pm 0.002	
	mV: \pm 0.2	

	Ion concentration: $\pm 0.5\%$	
	Temperature: $\pm 0.1\text{ }^{\circ}\text{C}$	
	Calibration: Max. 5 points, 8 pre-defined and 1 user-defined buffer group	
	System: Date / time, PIN-protection, 10 languages	
	Data storage: 1000 measurements	
	Data export: USB stick, PC software	
	with NIST Traceable pH buffers	
	with ISO Calibration	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
6	Contact and Non-contact Tachometer	
	Specifications:	
	Laser Photo & contact tachometer in one meter	
	Fast sampling time for low contact RPM measurement, automatic reverse display.	
	Photo Tach. : 10 to 99,999 RPM	
	Contact Tach. : 0.5 to 19,999 RPM.	
	Surface speed : m/min, ft/min.	
	with complete standard accessories	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
7	Distance Meter	
	Specifications:	
	Measurement Range: 2" to 330ft (0.05 to 100m)	
	Accuracy: $\pm 0.08"$ ($\pm 2\text{mm}$)	
	Resolution: 0.0", 0.00ft, 0.000m	
	Area calculation: 99,999ft ² , 99,999m ²	
	Volume calculation: 99,999 ft ³ , 99,999 m ³	
	with calibration certificate	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
8	Documenting Process Calibrator	
	Specifications:	
	Full-featured documenting process calibrator with HART communication for calibrating and troubleshooting HART instrumentation.	
	Measures: Voltage, current, resistance, frequency, temperature, pressure	
	Sources/simulates volts, mA, thermocouples, RTDs, frequency, ohms, and pressure to calibrate transmitters	
	Reading Rate: 1, 2, 5, 10, 20, 30, or 60 readings/minute	
	Operating Temperature: -10°C to +50°C	
	Storage Temperature: -20°C to +60°C	
	Batteries: Internal Battery Pack Li-ion: 7.2V, 4400mAh, 30 Wh	
	Battery Life: >8 hours typical	
	Dust/Water Resistance: Meets IP52, IEC 529	
	Port Connections: Pressure module connector, USB Connector to interface to your PC, HART	
	Includes:	

	battery charger	
	Li-on battery pack	
	Software	
	Instruction manual	
	NIST-traceable calibration report and data	
	Three sets of TP220 test probes with three sets of "extended tooth" alligator clips	
	Two sets hook clips	
	Soft Field Case	
	USB communication cable, HART communications cable	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
9	Instruments for Dimensional Metrology	
	1 unit - Digimatic Micrometer	
	Specifications:	
	Range: 0-1in 0-25.4mm	
	Accuracy: ± 0.0001 in $2\mu\text{m}$	
	Resolution: 0.001mm or .00005"/0.001mm	
	Flatness: $0.3\mu\text{m}$ / .000012"	
	Parallelism: $2\mu\text{m}$ / .00008"	
	Measuring faces: Carbide tipped	
	Display: LCD	
	Battery: SR44 (1 pc.)	
	with ISO Calibration Certificate	
	1 unit - Coolant Proof Caliper	
	Specifications:	
	Range: 0-6in 0-150mm	
	LCD Res: .0005in 0.01mm	
	Accuracy: ± 0.001 in	
	Resolution: 0.01mm or .0005"/0.01mm	
	Repeatability: 0.01mm / .0005"	
	Display: LCD	
	Length standard: ABSOLUTE electromagnetic induction	
	linear encoder	
	Max. response speed: Unlimited	
	Battery: SR44 (1 pc./2 pcs*)	
	with ISO Calibration Certificate	
	1 unit - Vernier Caliper	
	Specifications:	
	Measures OD (outside diameter), ID (inside diameter), depth, and steps.	
	Dual reading scales on vernier. (metric/inch	
	Lock screw for holding the sliding jaw position.	
	Supplied with vinyl holster in fitted carton	
	Graduation: 0.05mm, 0.05mm (1/128") or .001" (1/128")	
	High accuracy type: 0.02mm or 0.02mm (.001")	
	with ISO Calibration Certificate	
	1 unit - Metric Rectangular Gage Block Set	
	Specifications:	
	Block Set	
	Number of blocks: 47	

	1 Block =1.005 9 Blocks =1.01-1.09 Step=0.01	
	9 Blocks =1.1-1.9 Step=0.1	
	24 Blocks =1-24 Step=1	
	4 Blocks =25-100 Step=25	
	Grade: AS-2	
	Material: Steel	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
10	IR and Contact Thermometer	
	Specifications:	
	Dual laser targeting + type K thermometer	
	1,000 °C infrared Temp. measurement.	
	1400 °C type K thermometer.	
	Dual laser for better targeting.	
	Large LCD display with back light.	
	D/S ratio value : 50/1.	
	Min., Max., Differential, Average, Lock mode.	
	Last measurement memory.	
	Hi/Lo Temperature Audio Alarm.	
	Adjustable emissivity value from 0.1 to 1.00.	
	Power supply : DC 1.5V battery (UM 4/AAA) x 2 PCs .	
	with complete standard accessories	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
11	Multi-Channel Digital Thermometer	
	Specifications:	
	3 units - Multi-Channel Digital Thermometer	
	Channels no. : 12 channels (CH1 to CH12) temperature measurement	
	Sensor type : Type J/K/T/E/R/S thermocouple.	
	Auto recorder or manual recorder.	
	Recorder sampling time range : 1 to 3600 seconds.	
	Type K thermometer : -100 to 1300 C	
	Show CH1 to CH8 or CH9 to CH12 in the same LCD.	
	Display resolution : 1 degree/0.1 degree.	
	Time information : Year, Month, Date, Hour, Minute and Second.	
	Memory card size : 1 GB to 16 GB.	
	Supper large LCD with backlight, easy reading.	
	Data hold, Record (Max., Min.).	
	RS232/USB computer interface.	
	Optional type K temperature probe : TP-01,TP-02A,TP-03,TP-04.	
	DC 1.5V (UM-3, AA) x 8 PCs or DC 9V adapter in.	
	with 12 temperature probes each unit	
	with ISO calibration certificate	
	Training for Three (3) End users on the following:	
	Module 1: dimensional and industrial calibration	
	Module 2: Electrical calibration	
	Module 3: uncertainty of measurements	
	at least 1 yr warranty on parts and service	

	Delivery Sites:	
	-BSWM (1)	
12	Multi-Tool Set	
	Specifications:	
	7 Drawer Tool Cabinet	
	Storage Type: Trolley	
	240 piece tool kit fitted in EVA modules for excellent protection and tool storage organisation	
	made from premium quality steel and features a scratch proof electrostatic powder coated finish	
	Each Drawer can accommodate up to 3 EVA Tool Modules and can be fully extended to offer greater access	
	Each drawers feature the Smart-Lock system	
	heavy-duty wheels are made from oil resistant rubber, with two fixed and two swivel	
	Recessed worktop with a high-quality mat to ensure a convenient working area	
	Holders for spray cans and paper rolls	
	Low friction telescopic ball bearing slides ensuring smooth operation	
	Fitted with an emergency brake	
	Contents:	
	2pc Pliers Set (in EVA)	
	15pc T-Handle & Ballpoint L Hex Key Set	
	10pc Precision Plier and Screwdriver Set	
	16 Piece Combination Wrench Set	
	12pc Ratcheting Combination Wrench Set	
	4pc Circlip Pliers Set	
	3pc VDE Insulated Pliers Set	
	52pc 1/4" Drive Socket and Hex Key Set	
	7pc Insulated Slotted/PH Screwdriver Set	
	6pc Measuring and Cutting Tool Set	
	39pc Slotted/PZ Screwdriver and Bit Set	
	23pc 1/2" Drive Socket Set with Ratchet	
	11pc Standard and Needle File Set	
	29pc 1/2" TORX/Hex/XZN Socket Bits Set	
	5 Division EVA Module	
	2pc Crimper and Stripper Set	
	5 Piece Hand Riverter Set	
	3pc Softgrip Pliers Set	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
13	OIML Class E1 Test Weights 1 mg to 200 g (set)	
	Specifications:	
	Weight Set Range: 200 g-1 mg	
	Set Contents: 200 g, 100 g, 50 g, (2) 20 g, 10 g, 5 g, (2) 2 g, 1 g,	
	500 mg, (2) 200 mg, 100 mg, 50 mg, (2) 20 mg, 10 mg, 5 mg,	
	(2) 2 mg, 1 mg	
	Number of Pieces: 22	
	Case: Provided with a high quality polycarbonate case with a	
	compartment for each weight as well as compartments for	

	a brush, forceps and USB flash drive.	
	with Calibration Certificate from ISO 17025 Accredited Calibration Laboratory	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
14	OIML Class E2 Test Weights 1mg to 1kg (set)	
	Specifications:	
	Weight Set Range: 1 kg-1 mg	
	Set Contents: 1 kg, 500 g, (2) 200 g, 100 g, 50 g, (2) 20 g, 10 g,	
	5 g, (2) 2 g, 1 g, 500 mg, (2) 200 mg, 100 mg, 50 mg, (2) 20 mg,	
	10 mg, 5 mg, (2) 2 mg, 1 mg	
	Number of Pieces: 25	
	Case: Provided with heavy-duty, lightweight and shatter resistant resin case. Polycarbonate case for weights 500 g and below.	
	Provided with forceps.	
	with Calibration Certificate from ISO 17025 Accredited Calibration Laboratory	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
15	Precision Thermohygrometer (Reference Standard)	
	Specifications:	
	Operating Range: 32 to 122°F (0 to 50°C); 0% to 100% RH	
	Temperature Accuracy: $\pm 0.125^{\circ}\text{C}$ from 16 to 24°C	
	RH Accuracy: $\pm 1.5\%$ RH from 20 to 70% RH	
	Resolution: User selectable up to 0.01% on front-panel display (0.1% recorded)	
	with ISO calibration	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
16	Precision Thermometer, benchtop and handheld	
	1 unit - Precision Thermometer, benchtop	
	Specifications:	
	Accuracy: $\pm 0.001^{\circ}\text{C}$ (1mK)	
	Inputs: 2 channel Pt100 (BS EN 60751 / IEC 751) or 25.5/ 100 Ω SPRT to ITS-90	
	Measuring Current: 0.41mA	
	Self Heating Test Current: 0.29mA (0.41mA / $\sqrt{2}$)	
	Measuring Time: 1.44 seconds for both channels	
	Measuring Range: -250 to 960°C (0 to 440 Ohm)	
	Temperature Resolution: 0.0001°C, 0.1mK	
	Resistance Resolution: 0.00004 Ω , 40 $\mu\Omega$	
	Temperature Uncertainty: 0.001°C, 1mK 100 Ohm PRT	
	Resistance Uncertainty: 0.4m Ω @ 20°C	
	Interface: Rs232, Ethernet, built-in web server provides simple temperature display	
	with ISO Calibration Certificate	
	1 unit - Precision Thermometer, handheld	

	Specifications:	
	Temperature Range: -200°C to 962°C	
	Accuracy $\pm 0.02^{\circ}\text{C}$	
	Resolution 0.001°C	
	Stability $<0.005^{\circ}\text{C}$	
	Probe Types Pt100 and Pt25 resistance thermometers plus NTC thermistors.	
	Thermometer Input Connections: (2) 5 pin industrial DIN socket with screw lock to connecting plug, accepting both normal and SMART probes	
	Data Storage Capability 16,000 reading (combined total for both inputs)	
	Data Entry Format: ITS90, CVD and EN60751	
	Display Units: $^{\circ}\text{C}$, $^{\circ}\text{F}$, K or Ω	
	Statistical Functions: Average, Min/Max, and Standard Deviation	
	Power: Ni-MH rechargeable battery	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
17	Pressure Calibrator, bench type and handheld	
	1 unit - Pressure Calibrator, bench type	
	Specifications:	
	Media: Air.	
	Generated Pressure Range: 95% vacuum to 2,000 psi (140 bar) positive pressure	
	Material: Ram/adapters:SS	
	Body: SS/aluminum	
	Seals: Buna-N	
	Connection: Hand-tight connectors for both test gauge and reference gauge.	
	Test Gauge Connection: 1/4NPT female, 1/2NPT female, 1/4BSP female, or M20X1.5 female	
	Reference Gauge Connection: 1/4NPT female, 1/2NPT female, 1/4BSP female, or M20X1.5 female	
	with ISO Calibration Certificate	
	1 unit - Pressure Calibrator, handheld	
	consists of digital pressure gauge and hand pump	
	Gauge or absolute ranges available	
	0.1% FS accuracy (0.05% FS optional)	
	Integrated data logger for up to 50 values per second	
	Adjustable over-pressure protection	
	Fine-adjustment valve	
	Ergonomic handling	
	temperature-compensated in the range of 14 to 122°F (-10 to 50°C)	
	with calibration software	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
18	Standard Platinum Resistance Thermometer/SPRT (Reference Standard)	
	Specifications:	

	Ro: $100\Omega \pm 0.05 \Omega$	
	Range: -200°C to 450°C	
	Alpha: 0.003850 ± 0.000005	
	Standard: IEC 60751	
	Stability: less than $0.010 \Omega/\text{year}$	
	Recommended Current: 1 mA	
	Self Heating at 1mA: 0.004°C	
	Calibration: ISO-17025 Accredited Calibration	
	Connection: Four Wire	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
19	Temperature and Humidity Chamber	
	Specifications:	
	Adaptive multifunctional digital PID-microprocessor controller with 2 high-definition TFT-colour displays	
	2 Pt100 sensors Class A in 4-wire-circuit, mutually monitoring and taking over the performance at the same temperature value	
	Humidity supply with distilled water from external tank by self-priming pump	
	Active humidifying and de-humidifying adjustable from 10 - 90 % rh with digital display of relative humidity - resolution of display 0.1 %, setting accuracy 0.5 %	
	Digital backwards counter with target time setting, adjustable from 1 minute to 99 days	
	Fully insulated stainless steel door with 2-point locking (compression door lock)	
	Inner glass door	
	Rear zinc-plated steel housing	
	Temperature range: 0°C to $+70^\circ\text{C}$ without light; $+15^\circ\text{C}$ to $+40^\circ\text{C}$ with light	
	German/English/Spanish/French language settings	
	Three freely selectable temperature values, 2-point calibration for humidity: 20 and 90 % rh	
	Alarm in case of over- or undertemperature, heating function is switched off in case of overtemperature, cooling function in case of undertemperature	
	Integral fault diagnostics for temperature and humidity control	
	with ISO Calibration Certificate	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
20	Thermohygrometer (with barometer)	
	Specifications:	
	Measures ambient temperature, relative humidity and atmospheric or barometric pressure	
	Displays measurement values in real time on the large LCD screen	
	Saves recorded data to the included SD card as an Excel-compatible .XLS file	

	Offers selection of pressure units: hPa, mmHg or inHg	
	Features a low battery indicator	
	Allows measurement quota to be freely adjusted	
	Easy to use with large keys and a user-friendly interface	
	Comes with a solid, protective carrying case	
	Manufacturer calibrated	
	with ISO calibration certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (3)	
21	Water Quality Tester	
	Specifications:	
	measures combinations of DO, conductivity, specific conductance, salinity, resistivity, TDS, pH, ORP, ammonium, nitrate, chloride and temperature	
	Auto Stable: User-defined auto-stable function holds stable readings on display when criteria is met	
	Barometer: Built-in barometer	
	Buffer Recognition: Auto buffer recognition for US and NIST buffers	
	Certifications: RoHS, CE, WEEE, C-Tick, VCCI, FCC, IP-67, 1-meter drop test, Assembled in USA	
	Connectivity: USB 2.0; ProComm II communications saddle and USB cable included; user-upgradeable software via USB and website	
	Connector: MS (military spec) waterproof with bayonet lock	
	Data Management: Data Manager desktop software included; 100 user-defined folders and site names	
	Data Memory: 5,000 data sets (data, date, time, user-defined info); 100 GLP files	
	Dimensions: at least 8.3cm width x 21.6cm length x 5.6cm depth (3.25" x 8.5" x 2.21")	
	Display: Graphic display with detailed Help; backlit display AND keypad	
	DO Membrane Response Times (T95; 100%-0) and Flow Dependence: 1.25 mil PE = 8 seconds in 6 in/sec flow; 2.0 mil PE = 17 seconds in 3 in/sec flow; 1 mil Teflon = 18 seconds in 12 in/sec flow	
	DO Sensors: Polarographic or galvanic field sensors; self-stirring polarographic BOD sensor for the lab	
	Field Cables: Standard lengths of 1, 4, 10, 20, or 30 meters - up to 100 meters on DO only cables; all 4-meter and longer cables include a cable management kit	
	Flow Cell: Single, dual and multiparameter Quatro cable all flow cell compatible	
	GLP Compliance: Yes; detailed GLP information is stored and is available to view, download or print	
	Lab Cables: BOD sensor includes 2-meter cable; 1 or 4 meters on lab pH, ORP and pH/ORP cables	
	Languages: English, Spanish, German, French, Italian, Norwegian, Portuguese, Japanese, Chinese (Simplified & Traditional)	
	Logging Modes: Single or Continuous	
	Operating Temperature: -10 to 60 C	

	Power: 2 alkaline C-cells provide 80 continuous hours at ambient temperature without backlight; ProComm II saddle provides USB power or optional wall power, cigarette lighter, and universal cell phone charger options	
	Storage Temperature: -20 to 70 C	
	with ISO Calibration	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 9 - CALIBRATION WEIGHING INSTRUMENTS

Item #	Item Description	Statement of Compliance
1	Analytical Balance with Density Determination Kit, data logger set and accessories	
	Specifications:	
	Capacity: 220 g	
	Readability: 0.1 mg	
	Repeatability: 0.1mg	
	Minimum unit mass: 0.1mg	
	Linearity: ± 0.2 mg	
	Standard Accessories:	
	Anti vibration Table	
	Weighing data logger set	
	Density determination kit	
	1 unit - Tablet for Remote Data Management	
	Tweezers for Calibration Weights	
	with ISO Calibration Certificate	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
2	Micro-Analytical Balance, readability 1 μg with data logger set and accessories (1 lot)	
	Specifications:	
	Capacity: 5.1 g / 22 g	
	Readability: 0.001 mg / 0.01 mg	
	Repeatability: 0.004 mg (for 1 g) / 0.01 mg	
	Minimum weight: 5.0 mg	
	Linearity: ± 0.010 mg / ± 0.02 mg	
	Standard Accessories:	
	Anti vibration Table	
	Weighing data logger set	
	Table-top breeze break	
	Static eliminator	
	Remote controller	
	Special pans ($\varnothing 50$ mm and $\varnothing 95$ mm) for weighing PM filters	
	Three sizes of aluminum analytical pans, microtube holder	
	Tweezers for calibration weight	
	3 dust cover for storage	
	1 unit - Laptop for Remote Data Management	
	with ISO Calibration Certificate	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
3	Pipette Accuracy Tester with data logger set and accessories	

	Specifications:	
	Pipette Accuracy Tester Capacity: 110g / 31g / 5.1g	
	Minimum weighing value: 0.1mg / 0.01mg / 0.001mg	
	Pipette Accuracy Tester Capacity: 320 g	
	Minimum weighing value: 1mg	
	Standard Accessories:	
	Balance including the weighing pan unit, breeze break	
	Calibration weight with a pair of tweezers	
	Evaporation trap	
	Sample cup with a holder (30 mL x 2 / 5 mL x 2	
	Liquid thermometer	
	USB communications kit (USB converter, RS-232C cable	
	Software (CD-ROM)	
	Carrying case with a shoulder belt and a key	
	Leak Tester	
	Anti vibration Table	
	Weighing Environmental Logger set	
	Weighing environmental analyzer	
	Weighing data logger	
	Pipette accuracy testing kit	
	1 unit - Laptop for Remote Data Management	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
4	Top Loading Balance with data logger set and accessories	
	Specifications:	
	Capacity: 1100 g	
	Readability: 0.001g	
	Repeatability: 0.001g	
	Minimum weight: 0.001g	
	Linearity: $\pm 0.003g$	
	Standard Accessories:	
	Anti vibration Table	
	Weighing data logger set	
	Density determination kit	
	Tweezers for Calibration Weight	
	Weighing Environmental Logger	
	Glass breeze break	
	1 unit - Tablet for Remote Data Management	
	with ISO Calibration Certificate	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
5	Class F1 Test Weights	
	Specifications:	
	Material: 304 Stainless Steel	
	Level: Class F1	
	Product Weight: 6.6 lbs / 3 Kg	
	Weight range: 1mg-1kg	
	Package Contents:	

	25pcs Weights	
	1x 1000g	
	1x 500g	
	2x 200g	
	1x 100g	
	1x 50g	
	2x 20g	
	1x 10g	
	1x 5g	
	2x 2g	
	1x 1g	
	1x 500mg	
	2x 200mg	
	1x 100mg	
	1x 50mg	
	2x 20mg	
	1x 10mg	
	1x 5mg	
	2x 2mg	
	1x 1mg	
	1x Plastic Tweezer	
	1x Aluminium Alloy Case	
	1x Cleaning Cloth	
	with ISO Calibration Certificate	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1) -RSLs (14) -Bulacan (1) -Bukidnon (1) -Bohol (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 10- TEMPERATURE AND HUMIDITY MONITORING SYSTEM

Item #	Item Description	Statement of Compliance
1	TEMPERATURE AND HUMIDITY MONITORING SYSTEM	
	Specifications:	
	> Base Station	
	Collects and stores the data of all connected data loggers	
	Stores up to 576 measurements per logger	
	Direct connection of any number of interfaces to a PC or the network	
	>Evaluation Software for Server	
	Web based client/server solution: the measurement data can be evaluated on all PCs and smartphones via the internet or connected to the local network	
	> Wireless data logger with PTFE filter and wall mount (32 units)	
	Measurement range: temperature: -30 °C ... +60 °C	
	Measurement range: humidity: 0% rH ... 100% rH	
	Accuracy: temperature: ± 0.5 °C (-20 °C ... +40 °C) ± 0.8 °C for the remaining measurement range	
	Accuracy: humidity: ± 3 %	
	Resolution: temperature: 0.1 °C	
	Resolution: humidity: 0.1% rH	
	Memory capacity: 576 measurements (288 measurements per channel)	
	Sensor : NTC	
	Protection class : IP 20	
	General technical data	
	Measurement interval 1 min. to 24 hours, adjustable	
	Radio frequency 868 MHz	
	Battery 3.6 V lithium (user replaceable) Battery lifetime Up to 2 years, depending on transmission rate	
	Storage temperature -40 °C ... +70 °C	
	Inclusions:	
	1 unit - Analytical Balance, 220 g capacity	
	1 unit - Analytical Balance, 120 g capacity	
	1 unit - Top Loading Balance, 620 g capacity	
	1 unit - Top Loading Balance, 1200 g capacity	
	1 unit - Moisture Analyzer	
	1 unit - Complete PC System for the Temp and Humidity Monitoring System	
	1 unit - Laptop for data management system	
	1 unit - Ipad Pro for remote data management system	
	1 unit - Cellphone for online monitoring	
	ISO Calibration - Temperature for all sensors	
	ISO Calibration - Humidity for all sensors	
	1 unit - Router	

	includes delivery, installation and commissioning onsite by Service Engineer and onsite Comprehensive Training	
	Includes annual preventive maintenance and calibration for the first two(2) years.	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 11- MEASURING INSTRUMENTS

Item #	Item Description	Statement of Compliance
1	Bottletop Dispenser	
	Specifications:	
	Digital (7 pcs)	
	Capacity: 5-50 mL	
	Subdivision: 0.2 mL	
	Accuracy: $\leq \pm 0.5\%$	
	Precision: $\leq 0.1\%$	
	with recirculation and discharge valve	
	with container bottle and adapters	
	with ISO Calibration Certificate	
	Analog (4 pcs)	
	Capacity: 10-100 mL	
	Subdivision: 1.0 mL	
	Accuracy: $\leq \pm 0.5\%$	
	Precision: $\leq 0.1\%$	
	with container bottle and adapters	
	with recirculation and discharge valve	
	with ISO Calibration Certificate	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (11)	
2	Digital Burette	
	Specifications:	
	Nominal Volume: 50 mL	
	Accuracy in % (\pm): 0.06%	
	Accuracy in μL (\pm): 30 μL	
	Coefficient of variation (%): 0.02 %	
	Coefficient of variation in μL : 10 μL	
	PC interface: RS232	
	Accessories:	
	telescoping filling tube	
	recirculation tube	
	batteries	
	3 PP bottle adapters (GL 45/32, GL 45/S 40, GL 32/NS 29/32)	
	2 amber colored light shield inspection windows	
	RS232 connector, CD software	
	Operation Manual, performance certificate	
	with ISO Calibration Certificate	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (4)	
	-RSL (2)	
	-Bohol (2)	
3	Automatic Digital Burette	
	Specifications:	
	Cumulative Volume: up to 99.99mL in 0.01mL increments	
	Reproducibility: $\pm 0.01\%$ of volume	
	Fitting: fits 30-mm bottle; also fits 33-38 and 45 mm bottle necks using adapters	

	Wetted materials: PTFE and borosilicate glass	
	Power: lifetime lithium battery with auto-shut off	
	Accuracy: +/-0.02%	
	Capacity: 50 mL	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-RSL IVA (1)	
4	EC Meter	
	Specifications:	
	Conductivity	
	Range: 0.050 μ S to 500.0 mS	
	Resolution: 0.01 / 0.1 μ S ; 0.001 / 0.01 / 0.1 mS	
	Accuracy: \pm 1 % full scale	
	Cal. Points: Up to 5	
	Cell Constant: 0.010 to 10.000	
	Temperature	
	Range (Meter): 0.0 to 100.0 $^{\circ}$ C / 32.0 to 212.0 $^{\circ}$ F	
	Resolution: 0.1 $^{\circ}$ C / 0.1 $^{\circ}$ F	
	Accuracy: \pm 0.3 $^{\circ}$ C / \pm 0.5 $^{\circ}$ F	
	Coefficient (Per $^{\circ}$ C): Linear & pure ; 0.000 to 10.000 %	
	Normalization: 15.0 to 30.0 $^{\circ}$ C / 59.0 to 86.0 $^{\circ}$ F	
	Compensation: ATC / MTC	
	Power Requirements: 9 V DC adapter, 1.3 A (100/240 VAC, SMPS)	
	Conductivity Buffers	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (2)	
5	Nitrogen Distillation Unit	
	Specifications:	
	Measuring range: 0.1-200mg nitrogen	
	Recovery is greater than 99.5% at N levels between 1 and 200mg	
	Distillation time: at least 3.5 min at 30mg N (6.5 min at 200mg N)	
	Distillation capacity: at least 40mL/min	
	Self-adjusting cooling water control	
	Automatic dilution, alkali addition, distillation and tube emptying	
	Alkali resistant plastic splash head and tube emptying vessel	
	Burette volume: at least 35mL	
	Burette resolution: 2.4 μ l/step	
	Burette speed: >0.5ml/second	
	With 1 set of tanks with level sensors for waste, alkali and water	
	With receiver flask and 20 pcs 250mL distillation tube	
	With handling device for digestion tube	
	Inclusive of reagent bottle and digital bottle-top burette	
	reagent bottle at least 2.5L;	
	burette with continuous titration,	
	with large, easy-grip hand wheels for titration rate control,	

	adjustment/calibration using keypad,	
	easily readable, large numbers,	
	microbatteries (with spare),	
	angled display shows 4-position titration volume,	
	freely rotatable 360° around the bottle,	
	adjustable for various bottle sizes using the corresponding adapter	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-Bohol (1)	
6	pH Meter	
	Specifications:	
	pH	
	Range: -2.00 to 16.00 pH	
	Resolution: 0.01 pH	
	Accuracy: ± 0.01 pH	
	Cal. Points: Up to 5	
	Buffer Sets: NIST (1.68, 4.01, 6.86, 9.18, 12.45)	
	ORP	
	Range: ± 2000 mV	
	Rel. mV Range: ± 2000 mV	
	Resolution: 0.1 mV (± 199.9 mV) / 1 mV (beyond)	
	Accuracy: ± 0.2 mV (± 199.9 mV) / ± 2 mV (beyond)	
	Temperature	
	Range (Meter): 0.0 to 100.0 °C / 32.0 to 212.0 °F	
	Resolution: 0.1 °C / 0.1 °F	
	Accuracy: ± 0.3 °C / ± 0.5 °F (0 to 70 °C)	
	Compensation: ATC / MTC (0 to 100 °C) (pH only)	
	Calibration: Offset in 0.1 ° increments; offset range: ± 5.0 °C / ± 9.0 °F	
	Power Requirements: 9 V DC adapter, 1.3 A (100/240 VAC, SMPS)	
	with pH buffers	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-RSL (3)	
	-Bohol (2)	
	-BSWM (3)	
7	pH/ISE Meter	
	Specifications:	
	pH	
	Range: -2.00 to 16.00 pH	
	Resolution: 0.01 pH	
	Accuracy: ± 0.01 pH	
	Cal. Points: Up to 5	
	Buffer Sets: NIST (1.68, 4.01, 6.86, 9.18, 12.45)	
	Ion	
	Concentration: 0.01 to 2000 ppm (± 2000 mV)	
	Resolution (ppm): 0.01 / 0.1 / 1 ppm	
	Accuracy: ± 0.5 % full scale (monovalent), ± 1 % full scale (divalent)	
	Cal. Points: 2 to 5	
	Accessories:	

	Integral Electrode Holder & 100/240 VAC Adapter	
	Combination Ion-Selective Electrodes: Flouride, Nitrate, Ammonium, Chloride, Ammonia, Sodium, Calcium, Sulphate, Phosphate, Anions	
	with pH buffers	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
8	Variable Volume Pipettor, high-end	
	Volume Range:	
	10 units: 1000-10,000 µl	
	10 units: 1000-5000 µl	
	20 units: 100-1000 µl	
	6 units: 20-200 µl	
	6 units: 10-100 µl	
	6 units: 2-20 µl	
	6 units: 0.5-10 µl	
	6 units: 0.1-2 µl	
	Specifications:	
	High-end	
	Chemical resistant	
	Streamlined handle	
	Adjustable, interchangeable, easy-grip ejector	
	Volume can be adjusted from the thumbwheel or the plunger button	
	Fully Autoclavable	
	Made from stainless steel, interior	
	with carousel, 1000 pipette tips per unit	
	with ISO calibration	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 12- SOIL MICROBIOLOGY INSTRUMENTS

Item #	Item Description	Statement of Compliance
1	Autoclavable Pipette	
	Specifications:	
	1 unit: 0.2-2 µL	
	1 unit: 0.5-10 µL	
	1 unit: 2-20 µL	
	1 unit: 5-50 µL	
	1 unit: 10-100 µL	
	1 unit: 20-200 µL:	
	1 unit: 100-1000 µL	
	1 unit: 1-5 mL	
	1 unit: 1-10 mL	
	• Made up of steel alloy body	
	• Fully-autoclavable body	
	• Metal tip cones with double "O" rings	
	for optimal sealing and precision	
	• Compatible with all major pipette tip brands	
	• Finger hook	
	• Volume Lock	
	• Tip ejector	
	• Manifold 360 enabling pipetting in any direction and angle	
	• Exchangeable volume control knob- choose between variable or fixed for left and right-handed persons	
	• Volume controllers	
	• Printed serial number on each	
	pipette	
	• Secure volume lock	
	Inclusions:	
	• ISO Calibration certificate	
	• 1 pack each of compatible pipette tips and pipette rack for each Pipettors. A total of 30 packs.	
	• 6 Carousel Stands	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
2	Automated reductive inoculation	
	Specifications:	
	Reproducibility: > 99%	
	Time for a full cycle: 30 s	
	Spreading modes stored: 25 spread modes (37 counting those for 150mm Petri plates)	
	Petri plate diameters: at least 90 and 150 mm	
	Minimum step volume: < 10 nl	
	Maximum pipeted volume: 100 l	
	Control Display: 7 inches Touch screen	
	Motion control: 3 Microcontroller-regulated stepper motors	
	Compatible AVR and UPS	
	Training for End user	
	at least 1 yr warranty on parts and service	

	Delivery Sites:	
	-BSWM (1)	
3	Dissecting Microscope	
	Specifications:	
	Microscope body with atleast 0.67-4.5X zoom optics, and 45 degrees inclination trinocular tube (C-mount)	
	Transmitted and reflected light LED illuminator stand	
	Eyepiece 10X with ESD capability, F.N 22	
	Zoom Ratio: atleast 6.7:1	
	Working Distance: at least 110 mm	
	Interpupillary Distance: Adjustment range: 52 to 76 mm	
	Zoom Adjustment knob: Left/right single-shaft horizontal knob	
	Interpupillary distance high/low magnification stopper incorporated.	
	Mounting Diameter: Mounting diameter: at least 76 mm	
	Focusing stroke: at least 120 mm	
	LED life span: at least 6,000 hours	
	Input rating: 100-120 V/200-240 V	
	g0.15/0.1 A, 50/60 Hz	
	5 MP Scientific Camera	
	Camera Specs:	
	Sensor size (mm): 1/1.8"(6.22x4.67)	
	Pixel (um): 2.4x2.4	
	G Sensitivity: 425 mv with 1/30s	
	Dark Signal 0.15 mv with 1/30s	
	FPS/Resolution: 30@1920x1080 (HDMI)	
	25@1920x1080 (WIFI)	
	Binning: 1x1	
	Exposure: 0.03ms~918m	
	Interface & Button Functions:	
	USB: USB Camera/USB WIFI Adapter	
	HDMI: HDMI Output	
	DC12V: 12V Power in	
	SD: SD Card Slot	
	On/Off: Power On/Off Switch	
	LED: Power On Indicator	
	Standard Accessories and Inclusions:	
	1 unit - Laptop, with genuine OS and Office	
	Eyepiece Micrometer	
	Training for End-Users	
	Warranty: Three (3) years on parts and one (1) year on service	
	One (1) year on Camera	
	Data logger	
	Compatible AVR and Uninterruptible Power Supply (UPS)	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (4)	
4	Digital Pipette	
	Specifications:	
	Volume Range :	
	1 unit: 1-channel 100-1000 uL	

	1 unit: 8-channel 2-20 uL 1 unit: 8-channel 10-200 uL	
	Highest ergonomics	
	User-independent results	
	Multiple pipetting modes	
	Speed adjustment	
	Programmable protocols	
	Standard Accessories and Inclusions:	
	High-Capacity Lithium Battery	
	Standard AC-DC Adaptor and Charger	
	Stand for 3 Units	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (4)	
5	FlexiPump Media	
	Specifications:	
	•Stainless steel	
	•low pulsation double pump head with 6 rollers	
	•Dose volume: 50 µL to 99 L	
	•Dispensing modes: Continuous -Dose –Multi-dose	
	•Dispensing control with the handy gun	
	•Multi-dose pause: Adjustable from 0.1 to 99.9 s	
	•Typical precision with inner Ø 3.2 mmtubing: 9mL: 0.9% -18 mL: 0.5% -225 mL: 0.4%	
	•Tubing inner diameter: 1.6 mm, 3.2 mm, 4.8 mm, 6.4 mm, 8 mm	
	•Tubing wall thickness: 1.6 mm only	
	•Flow rate: 3 mL/mn to 2.5 L/mn	
	•Pump headrotating speed: 10 to 550 rpm	
	•Traceability: USB, RS 232	
	•Connections: USB, RS 232, Jack 3.5 mm	
	•Data export: Excel, Office, LIMS	
	•In compliance with ISO 7218 and FDA BAM (Bacteriological Analytical Manual)	
	Standard Accessories and Inclusions:	
	2 peristaltic pump heads	
	1 set of 3.2 mm dispensing assembly (nozzle + GL 45 bottle connector + filter + tubing + tube weight)	
	1 set of 6.4mm dispensing assembly (nozzle + GL 45 bottle connector + filter + tubing + tube weight)	
	1 power cord	
	1 user's manual	
	1 USBcable	
	1 free pack of blender bags	
	Handy gun:Dispensing control with handy gun including electronic start button	
	Adjustable dispensing arm:For use with other containers	
	Independent stand for broth bags:Independent stand for 2 broth bags	
	1 set - Desktop PC, with genuine OS & Office, printer	
	1 unit - laptop	
	Compatible AVR and Uninterruptible Power Supply (UPS)	
	Training for End user	
	at least 1 yr warranty on parts and service	

	Delivery Sites:	
	-BSWM (1)	
6	Microbial Colony Counter Automated	
	Specifications:	
	Cell Counting Time: Less than 10 s (manual focusing) Less than 15 s (auto focusing)	
	Cell Concentration Range: 5×10^4 - 1×10^7 cells/mL	
	Cell Diameter Range: 3 - 60 μm (optimal: 8 - 30 μm)	
	Output information:	
	Total / Live / Dead cell concentration	
	Total / Live / Dead cell number	
	Viability:	
	Average cell size	
	Image Resolution: 5 Megapixels , Color	
	Focusing mode: Automatic / Manual focusing with liquid lens	
	Adjustable parameters: Size, Roundness, Dilution factor, Noise reduction, Declustering	
	Image Type: TIFF, annotated TIFF	
	Report Format: PDF	
	Count Data storage: 1,000 counts	
	Protocol storage: 300 protocols	
	Display LCD touchscreen: at least 800 x 480 , 7inch	
	USB port 3 ports	
	with Thermal printer Built-in	
	Dimensions: at least (W x D x H) 195 mm x 237 mm x 272 mm	
	Weight: at least 2.1 kg (without the external power adaptor)	
	Input Power: AC 100-240V 50/60Hz 1.2A	
	Software Designed for Accurate Cell Counting Innovative Autofocusing	
	Accurate Counting Even with Clustered Cells	
	Individual Protocol Setting	
	Automatic Dilution Calculator	
	The Cell Counter automatically stores up to 1,000 counts, and data	
	can be exported as a CSV file.	
	Inclusions:	
	Built-in Thermal Printer	
	5 boxes of polystyrene counting slides (50 slides per box)	
	Exclusive Software Designed for Accurate Cell Counting	
	16 GB external USB	
	1 set - complete Desktop PC, with genuine OS/Office, printer, UPS	
	1 set - Remote Data Management System (laptop and tablet)	
	Compatible AVR and UPS	
	Training for three (3) end users at Manufacturer's Training Site, inclusive of all expenses	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
7	Soil Microbial Respiration Meter/Reader	
	Specifications:	

	capable of 24-hr CO ₂ -Burst or observe basal respiration over several days	
	wide-range of CO ₂ linearity suitable to the highly variable soil & compost environment	
	Equipped with on board software IRT [®] can be operated as a standalone assay unit collecting respiration data for any determined time cycle or attached to a PC for screen-based monitoring	
	software enables re-displaying previous runs and printing standard reports, or downloading to a spreadsheet for further analysis.	
	testing of soils, composts and organic debris in any range from 10 to 300 g and is capable of reporting CO ₂ - concentration up to 200,000 ppm or quantitative C-loss rates of up to 2500 ug/g soil without the need for re-calibration or sacrificing soil quantity	
	Tracks and records temperature during the test period and applies NTP for Ideal Gas Law for conversion of results.	
	Weight: at least 5.4 lbs	
	Dimensions: at least 17 × 5.5 × 12.5 in	
	Standard Accessories and Inclusions:	
	Detector	
	475 mL jar	
	1265 mL jar (for larger scale biology studies)	
	2 O-Rings	
	USB cable	
	Software Solvita Reader	
	Instruction Manual	
	Data logger	
	Compatible AVR and Uninterruptible Power Supply (UPS)	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
8	RT-PCR	
	Specifications:	
	Sample capacity: 96 wells (dual 48/48 reaction module)	
	Sample size: 15-50µL	
	Parallel running mode: dual reaction blocks/running 2 tests independently	
	Temperature range: 4-99 °C	
	Max ramp rate: 4.0 °C/sec	
	Temperature accuracy: ±0.1 °C	
	Temperature uniformity: ±0.1 °C	
	Thermal cycling system: Peltier-based system	
	Temperature control mode: tube control/block control	
	Light source: LED (maintenance free)	
	Detector: high sensitivity photoelectric sensor	
	Sensitivity: 1 copy	
	Reproducibility: CV <1.0%	
	Correlation coefficient: -0.999~ -1.000	
	Resolution: can discriminate between 1000 copies and 2000 copies	

	Excitation: CH1 470nm CH2 530nm CH3 580nm CH4 665nm CH5/CH6 custom made	
	Emission: CH1 510nm CH2 565nm CH3 620nm CH4 665nm CH5/CH6 custom made	
	Power supply: 230VAC, 50Hz	
	Power consumption: 850VA	
	Communication: RS232, USB	
	Standard Accessories and Inclusions:	
	Consumable: 0.2mL PCR tubes, 8-tube strips, 48- well plates	
	Kits and Reagents	
	Other necessary consumables and parts	
	Application Software	
	1 set - complete Desktop PC, with genuine OS/Office, printer, UPS	
	1 set - Remote Data Management System (laptop and tablet)	
	Compatible AVR and UPS	
	Training for three (3) end users at Manufacturer's Training Site, inclusive of all expenses	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
9	Portable EC Meter	
	Specifications:	
	Range: 0.050 μ S to 500.0 mS	
	Resolution: 0.01 / 0.1 μ S ; 0.001 / 0.01 / 0.1 mS	
	Accuracy: ± 1 % full scale	
	Cal. Points: Up to 5	
	Cell Constant: 0.010 to 10.000	
	Temperature	
	Range (Meter): 0.0 to 100.0 $^{\circ}$ C / 32.0 to 212.0 $^{\circ}$ F	
	Resolution: 0.1 $^{\circ}$ C / 0.1 $^{\circ}$ F	
	Accuracy: ± 0.3 $^{\circ}$ C / ± 0.5 $^{\circ}$ F	
	Coefficient (Per $^{\circ}$ C): Linear & pure ; 0.000 to 10.000 %	
	Normalization: 15.0 to 30.0 $^{\circ}$ C / 59.0 to 86.0 $^{\circ}$ F	
	Compensation: ATC / MTC	
	Standard Accessories and Inclusions:	
	1 set - Conductivity Buffers	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
10	Solvita (Soil respiration quick test kit)	
	Specifications:	
	Field Digital Color Reader (Green DCR)	
	25 Soil CO2 Probes (introductory package)	
	Miniature Digital Scale for range of 0 -1000g soil	
	Soil Knife (Stainless Steel) and Soil Thermometer	
	Standard Coarse Soil Sieve (1/4 inch)	
	Soil Wire Brush for cleaning sieve without water	
	3 Incubation Jars (polystyrene 475 ml with lids affixed with gas-tight gaskets)	
	USB Cable and Jump Drive with Solvita Reader Software and drivers	
	Instruction Manual with interpretation guide	

	Inclusions:	
	Soil Roller	
	CO2 proof gaskets	
	Field CO2 Test Refill	
	Data logger thru Controller transferrable via USB or LAN	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 13 - SOIL PHYSICS INSTRUMENTS

Item #	Item Description	
1	Automated Laboratory Saturated Hydraulic Conductivity System (Five (5) Station Kit)	
	Specifications:	
	Applicable Methods: Constant and Falling Head	
	Minimum Head-height: 1 cm	
	System Resolution: 1 mm of change in water height (2.01 ml of water consumption)	
	Standard Reservoir Inside Diameter: at least 5.13 cm (2.02 in)	
	Standard Reservoir Height: at least 48.26 cm (19.00 in)	
	Standard Reservoir Cross-Sectional Area: at least 20.67 cm ² (3.20 in ²)	
	Standard Reservoir Volume: at least 1 L (0.26 gallon)	
	Soil Core Inside Diameter: at least 5.38 cm (2.12 in)	
	Soil Core Height: at least 6.0 cm (2.36 in)	
	Soil Core Cross-Sectional Area: at least 22.73 cm ² (3.52 in ²)	
	Soil Core Volume: at least 136.40 cm ³ (21.14 in ³)	
	Pressure Transducer: Monitor Precision Transducer (-15 to +15 psi)	
	Tempe Cell: Standard (at least 5.7 cm diameter, 6cm height)	
	System options: Single unit or five independent units	
	Software: Can control up to 20 independent units simultaneously	
	External PC connectivity: Required	
	Saturated hydraulic conductivity (Ksat) Measurement range: 10 ⁻⁴ to 10 ⁻⁸ meter per second	
	Sensor Range: -1,000 to +1,000 cm H ₂ O	
	System weight: at least 18.14 kg (40 lbs)	
	Dimensions (LxWxH): at least 33 x 18 x 18 in	
	Inclusions:	
	2 pcs Soil Core Sampler for Bulk Density Analysis	
	20 pcs Brass Cylinder for Core Sampler	
	40 pcs Soil Core Cylinder Cap	
	1 unit Laptop Computer	
	1 unit Tablet	
	1x Sieve no. 60	

	1x Sieve no. 140	
	1x Brass Cover	
	1x Brass pan	
	1x Desiccator Cabinet	
	3x Mini-dehumidifier	
	1x Indicating desiccant	
	1x Data Acquisition Software	
	Training for three (3) end-users at manufacturer's training site, inclusive of air fare, transportation cost, and accomodation	
	at least 1 yr warranty on parts and service	
	bidders are required to submit a Manufacturer's Certification that they are an Exclusive Distributor.	
	Delivery Sites:	
	-BSWM (1)	
2	Motorized ASTM Liquid Limit Machine	
	Specifications:	
	uniform testing with greater degree of accuracy	
	with geared motor to give proper operating speed and automatic counter	
	attached to metal plate with rubber feet	
	Includes H-4229 ASTM grooving tool and gauge block	
	Complies with ASTM D4318; AASHTO	
	Included Accessories:	
	Liquid Limit ASTM Plastic Grooving Tools (10 pk)	
	Liquid Limit Metal Grooving Tool, AASHTO	
	Porcelain Evaporating Dish	
	Spatulas, Straight Edge	
	Glass Graduated Cylinder	
	Liquid Limit Resiliency Tester	
	Durometers	
	Hydrometer (2 pcs)	
	with Validation Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
3	Core Sampler Set, with extension rod and stainless sampling tube	
	Specifications:	
	1 set Soil Sampler	
	Soil Sample Shoe diam. at least 55 x 140mm	
	Handle with beating head, at least 10cm	
	Hammer with nylon heads: at least 2kg	
	Brush and knife set	
	Case	
	1 set Extension rod, at least 100cm	
	17 set Stainless Sampling Tube: at least 100ml	
	6pcs with 12 lids and cloth case/set	

	Soil Core Diameter: at least 5.0 cm, Height: 5.1 cm	
	Soil Core Diameter: at least 5.0 cm, Height: 5.1 cm	
	1 pc Convection Oven	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 14- MIR/FTIR SPECTROSCOPY

Item #	Item Description	Statement of Compliance
1	MIR/FTIR SPECTROSCOPY	
	Specifications:	
	Interferometer: 25 mm, permanently aligned, Michelson	
	45°, mechanical flexure	
	Enclosure: Sealed and desiccated	
	Spectrometer interface: USB-2	
	Size: at least 16 x 31 x 13 cm (6 x 12 x 5 inches) (W x D x H)	
	Sample interface: DialPath (30 to 250 µm), Tumbler	
	Diamond ATR, Diffuse Reflectance, Transmission	
	Germanium ATR, 5 Bounce ZnSe ATR, 10 Degree SRA, 45 Degree SRA	
	Software: PC software, Automated IQ/OQ,	
	21 CFR Part 11 compliant	
	advanced data analysis	
	Power: 110 – 240 V AC, 60/50 Hz	
	Spectral range: KBr 7000–350 cm ⁻¹ ; ZnSe 5100–600 cm ⁻¹	
	Spectral resolution: <2 cm ⁻¹	
	Wavenumber accuracy: 0.05 cm ⁻¹ Measured with a NIST 1921	
	traceable standard	
	Wavenumber reproducibility: 0.005 cm ⁻¹	
	Measured with a NIST 1921 traceable standard	
	Standard Accessories and Inclusions:	
	1 pc - ZnSe Windows and Internal Optics	
	1 pc - Diffuse Reflectance Sample Accessory	
	1 pc - Diamond ATR Accessory	
	1 pc - Dial path Accessory	
	1 pc - Transmission Sample Interface	
	2 pcs - Diffuse Samples Slide, Spare	
	1 pc - Polystyrene Film for ATR/Transmission	
	PC Software	
	1 unit - Desktop Computer, 64-bit	
	1 unit - Laptop	
	1 pc - Microsoft Windows 10 Pro + Microsoft Office 2016	
	1 unit - Inkjet Printer	
	1 unit - AVR 2KVA	
	Two (2) years warranty	
	Free Preventive Maintenance Service within Warranty Period	

	Training for three (3) end-users at Manufacturer's Training Site inclusive of transportation cost and accomodations	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

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Section VII. Technical Specifications

LOT 15 - UV-VIS SPECTROMETRY

Item #	Item Description	Statement of Compliance
1	UV-Vis with fiberoptics	
	Specifications:	
	Source: Unique full spectrum Xenon Flash Lamp (80Hz) with typical lifetime of 10 years (guaranteed 3 years)	
	Monochromator: Czenry-Turner	
	Fiber optic probe	
	Grating: Holographic, 27.5x35mm, 1200 lines/mm, blaze angle 8.6o at 240nm	
	Beam splitting system: Beam Splitter	
	Detectors: 2 Silicon diode detectors for simultaneous sample beam and reference beam measurements.	
	Optical Design: Double beam Czenry-Turner monochromator	
	UV-VIS Limiting Resolution: $\leq 1.5\text{nm}$	
	Toluene/hexane limiting resolution: (EP/BP and TGA test): ≥ 1.92	
	Stray light:	
	At 198 nm (12 g/L KCl, TGA & BP/EP method) $\leq 0.187\%$ T	
	At 220 nm (10 g/L NaI ASTM method) $\leq 0.018\%$ T	
	At 370 nm (50 mg/L NaNO ₂) $\leq 0.008\%$ T	
	Wavelength Range: 190 – 1100nm	
	Wavelength Accuracy: ± 0.06 at 541.94nm	
	Wavelength Reproducibility: $\pm 0.01\text{nm}$	
	Photometric Accuracy: Using NIST 960E filters at 1 Abs = $\pm 0.0007\text{Abs}$	
	Photometric Range: ± 4.0 Abs	
	Photometric Display: $\pm 9.9999\text{Abs}$, $\pm 200.00\%$ T	
	Photometric Reproducibility (Abs): Using NIST 930E fi lters, at 465 nm, 2 s SAT	
	Maximum deviation at 1 Abs: < 0.004 Abs	
	Standard deviation for 10 measurements: < 0.00050 Abs	
	Using NIST 930E fi lters, at 546.1 nm, 2 s SAT	
	Maximum deviation at 0.5 Abs: < 0.003 Abs	
	Standard deviation for 10 measurements: < 0.0030 Abs	
	Standard Accessories:	
	3.5mL, 10mm Pathlength Quartz Cuvette (Pair)	
	Desktop Computer, 64-bit with Windows 10 OS and Office	
	Inkjet Printer	
	AVR 2KVA	

	18-Cell Holder, Thermostatted with 8 pairs cuvette	
	Dip Probe Coupler with doors	
	Quartz fixed (10 mm) pathlength probe	
	Inclusions:	
	Capable of Remote Data Management System	
	Three (3) years warranty Xenon lamp	
	2 Free Preventive Maintenance within Warranty Period	
	Delivery Sites:	
	-BSWM (1)	
2	UV-Vis Spectrometer	
	Specifications:	
	Photometric System – Double beam with rear beam access Monochromator – Double out-of-plane Littrow monochromator Source – 250 Hz Wavelength Range – 190-1100 nm	
	Detectors – Silicon photodiode detectors for simultaneous measurement of all channels Beam dimensions at sample interface - <1.5mm Limiting Resolution – 0.1nm	
	Stray Light (%T) (12 g/L KCl, BP/EP method) < 1.0 % At 220 nm (10 g/L NaI, ASTM method) < 0.003 At 300 nm (Acetone) < 0.005 At 370 nm (50 mg/L NaNO ₂) < 0.003	
	Wavelength accuracy (nm) ± 0.2 Wavelength reproducibility (nm) < 0.025	
	Photometric accuracy (Abs) NIST 930E filter at 1 Abs - ± 0.005 Photometric range (Abs) 4.0 Photometric reproducibility (Abs) 0.005 Photometric stability (Abs/hour) 0.0003	
	Photometric noise (Abs/RMS) At 500 nm, 0 < 0.0001 Abs AbsAt 500 nm, 0 < 0.0001 Abs Abs(using ultra-micro cuvette: 50 μ L, 2 x 2.5 mm, 10 mm pathlength) At 500 nm, 1Abs < 0.0002 Abs	
	z-height 15 mm Spectral bandwidth 0.1 to 5 nm at 0.01 nm Maximum scan rate 150,000 nm/min Data collection rate 250 data points per second Data interval 0.01 to 10 nm	
	with UV workstation software	
	with sipper	
	with PC, printer and complete genuine office and OS	
	with 2KVA AVR	
	Three (3) years warranty Xenon lamp	

	2 Free Preventive Maintenance within Warranty Period	
	Delivery Sites:	
	-RSL (2) -Bohol (1)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Section VII. Technical Specifications

LOT 16- BOD SENSOR SYSTEM

Item #	Item Description	Statement of Compliance
1	BOD SENSOR SYSTEM	
	Specifications:	
	Construction material: technopolymer	
	Power: 2 W	
	Power supply: 115 V or 230 V / 50-60 Hz	
	Dimensions (WxHxD): at least 270x300x185 mm (10.6x11.8x7.3 in)	
	Weight: at least 2.3 Kg (5.1 lb)	
	Reading value mg/l (ppm) directly on PC (or on the display)	
	Measurement by electronic pressure probe	
	Bottle total capacity: at least 500 ml	
	Data storage for BOD5: every 30 min / 1 / 2 / 4 / 6 / 8 / 12 / 24 hours	
	Data storage for longer test: every 2 / 4 / 6 / 8 / 12 / 24 hours	
	BOD values: automatic data calculation and management from last determination	
	Scales: 90, 250, 600, 999 ppm. Higher values after dilution	
	Display: digits 3 LED	
	Safety class: 3 IEC 1010	
	Electronic protection degree CEI EN 60529: IP 54	
	Accessories:	
	BOD EVO Sensor (with KOH traps)	
	Stirring station, 6 positions 230V/50Hz (with bottles & stirring bars)	
	Control Test tablets	
	Sensor check	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Section VII. Technical Specifications

LOT 17 - WEIGHING INSTRUMENTS

Item #	Item Description	Statement of Compliance
1	Analytical Balance	
	Specifications:	
	Capacity: 220 g	
	Minimum Display: 0.1 mg	
	Repeatability (Standard Deviation): ≤0.1 mg	
	Linearity: ±0.2 mg	
	Response Time: Approx. 3.0 seconds	
	Operating Ambient Temperature: 5-40°C 20-85%	
	Temperature Coefficient Sensitivity (ppm/C): ±2ppm/°C(no condensation)	
	Pan Size (mm) at least.: Φ91	
	Main Body Dimensions (mm) at least.: 213(W) x 356(D) x 338(H)	
	Power requirement: 12V, 1A	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (1)	
	-Bohol (2)	
2	Top Loading Balance	
	Specifications:	
	Capacity: 620g	
	Readability: 0.01g	
	Repeatability: 0.01g	
	Linearity: 0.02g	
	Operating Ambient Temperature: 10 - 30	
	Temperature Coefficient Sensitivity (ppm/C): ±5	
	Pan Size (mm) at least.: ø110	
	Power requirement: AC adaptor (DC12V, 1A)	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-RSL (3)	
	-Bohol (2)	
	-BSWM (5)	
3	Weighing Scale, Big Capacity	
	Specifications:	
	Measuring Range: max 150 kg	
	Resolution: 10 g (below 60 kg), 20 g (above 60 kg up to 150 kg)	
	Accuracy: ± 3 d (3 x the resolution)	
	Tare function: multiple tare function of full weighing range	
	Interface: RS-232 bi-directional /D-SUB 9 female	
	Display: LCD	
	Units of measurement: kg / lb	

	Power supply: 6 V / 4.5 Ah rechargeable battery or 9 V / 1.2 A, mains adaptor included	
	with ISO Calibration Certificate	
	Training for End user	
	at least 1 yr warranty on parts and service	
	Delivery Sites:	
	-BSWM (2)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Section VII. Technical Specifications

LOT 18- AIR CONDITIONING UNITS AND LAB UTILITY EQUIPMENT

Item #	Item Description	Statement of Compliance
1	Air Conditioning Units for LSD, 1 lot	
	Specifications:	
	Installation of twenty eight (28) air-conditioning units (230V/1Phase/60 Hz):	
	3 units -Staff Room 1-3, 1HP	
	1 unit -Instrument Room, 6HP	
	1 unit -Soil Sampling Room, 6HP	
	1 unit -Staff Room 4, 2.5HP	
	2 unit -NDR Room, 3HP	
	2 units -Chemical Stock Room, 4HP	
	1 unit -Clinic Room, 2.5HP	
	2 units -Soil Microbiology Lab 1 Room, 4HP	
	1 unit -Soil Microbiology Lab 2 Room, 5HP	
	2 units -Soil Physics Room, 6HP	
	1 unit -Soil Microbiology Lab 2 Room, 2HP	
	1 unit -Microscope Room, 1.5HP	
	1 unit -Plant Tissue Drying Room, 2HP	
	1 unit -Soil Receiving Room, 2HP	
	1 unit -Soil Preparation Room, 1HP	
	1 unit -Soil Sample Drying Room, 1HP	
	1 unit -Isolation Room, 1.5HP	
	1 unit -Sterilization Room, 1.5HP	
	1 unit -Soil Microbiology Staff Room, 5HP	
	1 unit -RST Room, 5HP	
	1 unit -Pantry Room, 5HP	
	1 unit -Weighing Room, 2HP	
	28 units - condensate drain pump	
	Scope of work and inclusions:	
	Mobilization & Demobilization.	
	Installation of twenty eight (28) air-conditioning units.	
	Supply and installation of copper tube soft drawn, complete with rubber insulations, aerotapes and white tapes.	
	Supply and installation of PVC pipes with rubber insulation and to be tap on the nearest stab out.	
	Supply and installation of communication wires and flexible conduit from fcu to accu.	
	Supply and installation of condenser base and refrigerant pipe hanger supports.	
	Supply and installation of condensate water pump.	
	Supply and installation of feeder line to main circuit breaker.	
	Supply and installation of circuit breaker, nema 3r ecb and panel board.	
	Supply and installation of emt pipes complete with accessories and brackets.	
	Leak testing with nitrogen gas.	

	System vacuuming and charging of refrigerant.	
	Testing & Power Up.	
	One (1) year warranty on workmanship from the date of completion.	
	One (1) year warranty on parts, Five (5) years on compressor.	
	Delivery Sites:	
	-BSWM (1)	
2	Washing Machine	
	Specifications:	
	10.5 kg. Front Load Washing Machine	
	Turbo Washer	
	Tempered Glass Door	
	Full Stainless Lifter	
	Inverter Direct Drive Motor	
	14 Washing Programs	
	Rated Input: 230v-60Hz	
	Washing Wattage: 2100 W	
	Inclusions:	
	1 Year Warranty on Parts & Service	
	10 Years Warranty on Compressor	
	Delivery Sites:	
	-BSWM (1)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Section VII. Technical Specifications

LOT 19- POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)

Item #	Item Description	Statement of Compliance
1	POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)	
	Specifications:	
	1 unit - Solar Panel (PV panel)	
	SPECIFICATION :	
	Electrical data	
	Peak Powe (r Pmax) : 450.00 W	
	Maximum Power Voltage (Vmp) : 41.40 V	
	Maximum Power Curren (t Imp) : 10.87 A	
	Open Circuit Voltage (Voc) : 50.22 V	
	Short Circuit Curren (t Isc) : 11.48 A	
	Cells Efficiency (%) : 22.8%	
	Module Efficiency (%) : 20.26%	
	Temperature and Maximum rating	
	Maximum System Voltage (V) : 1500	
	Maximum Series Fuse Rating (A) : 20	
	Power Tolerance : 0~+3 %	
	Pmax Temperature Coefficient (s W/°C)	
	Voc Temperature Coefficient (s V/°C) : -0.286%	
	Isc Temperature Coefficient (s A/°C) : 0.057%	
	NOCT Nominal Operating Cell Remperature (°C) : 45±2	
	Operating and Storage Temperature (°C) : -40~+85	
	Mechanical characteristic	
	Cell Type : 166x83 Mono	
	No. of Cells : 144 (12x12)	
	Dimensions : 2115x1050x40mm	
	Weight : 23.50kg	
	Front Glass : 3.2mm high transmission, low iron, tempered glass	
	Frame : Anodized Aluminium Alloy	
	Junction box : IP68 3 diodes	
	Output cables : 4mm ² cable 90cm+mc4	
	MaxWind Load/Snow Load : 2400Pa/5400Pa	
	Inclusions:	
	1 unit - HYBRID INVERTER	

	SPECIFICATION :	
	AC and backup output conduit size : 25.4mm	
	PV input conduit size ; 25.4mm	
	Battery input conduit size : 34.5mm	
	Operation Temperature range : -25 - +60°C	
	environment humidity : 0-95%	
	Altitude : 0-4000M r Derating when over 2000m)	
	IP Grade : IP65	
	Weight : 30kg	
	Dimension (W x H x D) : 530x 660 x 200mm	
	Cooling : Natural cooling	
	Noise emission(dB) : <25dB, <29dB	
	Display : LCD	
	Communication : Modbus. RS485. WIFI,4G	
	Self-consumption at night : < 2.5 W (with battery enabling < 5 \\\)	
	No transformer : YES	
	Safety : UL1 741SA all options. UL1699B, CSA 22.2	
	EMC : FCC Part 15 ClassB	
	1 unit - Battery cabinet	
	SPECIFICATION :	
	Voltage Range (V) : 208 ~288 V	
	LifeP04 Single Cell : 3.2 V206Ah,Prismatic, Aluminum shell	
	Series and Parallels : 1P - 80s	
	Rated Voltage : 256	
	Rated capacity(Ah) : 206	
	Rated Energy (KWh): 52.74	
	Maximum output power (kW) : 60	
	Maximum Discharge Current (A): 250	
	Maximum Charge Current (A): 100	
	Discharge cut-off voltage (V) : 200V	
	Maximum charge Voltage (V): 288V	
	Recommended Charge type : 280V, CC-CV until current < 4A	
	Cycle life (@25°C,0.2C/0.7C,100%DOD): > 2000	
	Dimension (W*D*H) : 600*800*1800mm	
	Total weight (Kg) : Approx 520	
	Battery Rack Thermal Management : Natural Air cooling	
	Operating temperature : -5~55°C	
	Operating humidity : 5% ~95% R.H.	
	Communication : CAN RS485	
	Dry contact : Optional	

	Maximum system parallels : 15	
	LCD Screen Monitor : Integrated with the CBMS Panel Touchscreen , check battery data and set up parameters	
	Delivery Sites:	
	-Tanay (1)	
	Compliance to Section VI. Schedule of Requirements	

Name and Signature of Authorized Representative

Company Name

Date Signed

Distribution Lists for Technical and Scientific Equipment Lot 1-19																					
		BSWM	RSL CAR	RSL I	RSL II	RSL II Satellite	RSL III	Bulacan	RSL IV-A	TANAY	RSL V	RSL VI	RSL VII	Bohol	RSL VIII	RSL IX	RSL X	Bukidnon	RSL XI	RSL XII	RSL XIII
Lot 1	Acid Cabinet							3						2				3			
	Air Type Vacuum Pump	2																			
	Autoclave	1																			
	Block Micro Digester (40 placer) with Scrubber	1						1						1				1			
	Centrifuge, 8 placer								1												
	Drying Oven	1											1	1	1	1					1
	Drying Oven (Microbiology)	2																			
	Fertilizer Ball Mill	1																			
	Fumehood (Perchloric)														1						
	Fumehood (Regular)														1						
	Horizontal Reciprocating Shaker	1		1		1							1	1	1	1					1
	Incubator	2																			
	Laboratory Refrigerator	5																			
Magnetic Stirrer	2																				
Plant Tissue Grinder								1										1			
Refrigerated Centrifuge	1													1							
Reciprocating Shaker									1												
Sonicator	2																				
Test Tube Mixer	5																				
Water Distilling Unit														1							
Lot 2	Cross Beater Mill	1	1	1	1		1	1	1		1	1	1		1	1	1	1	1	1	1
	Jaw Crusher, premium soil grinder	1						1													
	Rotary Cone Sample Divider	1																			
	Sieve Shaker	1						1										1			
	Compressor for Centralized Gas Piping System	1																			
Lot 3	Water Deionizer	1	1	1			1	1	1		1	1	1	1		1	1	1	1	1	1
Lot 4	Ultrafiltration System	1																			
Lot 6	Soil Drying Cabinet	1						1										1			
	Ultrasonic Washer	4																			

		BSWM	RSL CAR	RSL I	RSL II	RSL II Satellite	RSL III	Bulacan	RSL IV-A	TANAY	RSL V	RSL VI	RSL VII	Bohol	RSL VIII	RSL IX	RSL X	Bukidnon	RSL XI	RSL XII	RSL XIII
Lot 7	Fume Hood (Regular), with monitoring system	2																			
	Perchloric Fume hood, with monitoring system	1																			
	6-in-1 Metrology Well with fixed-point cell and accessories	1																			
	Air Quality Meter	1																			
	Anemometer, with probe	2																			
	Benchtop EC Meter (Calibration Lab Grade)	1																			
	Benchtop pH Meter (Calibration Lab Grade)	1																			
	Contact and Non-contact Tachometer	2																			
	Distance Meter	1																			
	Documenting Process Calibrator	2																			
	Instruments for Dimensional Metrology	1																			
Lot 8	IR and Contact Thermometer	2																			
	Multi-Channel Digital Thermometer	1																			
	Multi-tools Set	1																			
	OIML Class E1 Test Weights 1mg to 200g (set)	1																			
	OIML Class E2 Test Weights 1mg to 1kg (set)	1																			
	Precision Thermohygrometer (Reference Standard)	2																			
	Precision Thermometer, benchtop and handheld (1 lot)	1																			
	Pressure Calibrator, benchtop and handheld (1 lot)	1																			

		BSWM	RSL CAR	RSL I	RSL II	RSL II Satellite	RSL III	Bulacan	RSL IV-A	TAMAY	RSL V	RSL VI	RSL VII	Bohol	RSL VIII	RSL IX	RSL X	Bukidnon	RSL XI	RSL XII	RSL XIII
	Standard Platinum Resistance Thermometer/SPT (Reference Standard)	1																			
	Temperature and Humidity Chamber	1																			
	Thermohygrometer with barometer	3																			
	Water Quality Tester, various parameters	1																			
	Analytical Balance with Density Determination Kit, data logger set and accessories	1																			
Lot 9	Micro-Analytical Balance, with data logger set and accessories	1																			
	Pipette Accuracy Tester with data logger set and accessories	1																			
	Top Loading Balance with data logger set and accessories	1																			
	Class F1 Test Weights	18																			
Lot 10	Temperature and humidity monitoring system	1																			
	Bottletop Dispenser	11																			
	Digital burette	4				2								2							
	Automatic Digital Burette								1												
Lot 11	EC Meter													2							
	Nitrogen Distillation Unit													1							
	pH Meter	3		1	1	1								2							
	pH/ISE Meter	2																			
	Variable Volume Pipettor, high-end, 1 lot	1																			

		BSWM	RSL CAR	RSL I	RSL II	RSL II Satellite	RSL III	Bulacan	RSL IV-A	TANAY	RSL V	RSL VI	RSL VII	Bohol	RSL VIII	RSL IX	RSL X	Bukidnon	RSL XI	RSL XII	RSL XIII
	Autoclavable Pipette	1																			
	Automated reductive inoculation	1																			
	Dissecting Microscope	4																			
	Digital Pipette	4																			
Lot 12	FlexiPump Media	1																			
	Microbial Colony Counter Automated	1																			
	Soil Microbial Respiration Meter/Reader	2																			
	RT-PCR	1																			
	Portable EC Meter	2																			
	Solviita (Soil respiration quick test kit)	1																			
Lot 13	Permeameter Five (5) Station Kit	1																			
	Motorized ASTM Liquid Limit Machine (Casa Grande)	1																			
Lot 14	Core Sampler Set, with extension rod and stainless sampling tube	1																			
	MIR/FTIR	1																			
Lot 15	UV-Vis with fiberoptics	1																			
	UV-VIS Spectrophotometer											1									
Lot 16	BOD Sensor System	1																			
	Analytical Balance	1												2							
Lot 17	Top Loading Balance	5		1		1								2	1						
	Weighing Scale Big capacity	2																			
Lot 18	Air Conditioning Units	1																			
	Washing Machine	1																			
Lot 19	Solar Power System									1											

Section VIII. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

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

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

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

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class “A” Documents

Legal Documents

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

Technical Documents

- ☐ (f) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- ☐ (g) Statement of the bidder’s Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided for in Sections 23.4.1.3 and 23.4.2.4 of the 2016 revised IRR of RA No. 9184, within the relevant period as provided in the Bidding Documents; **and**
- ☐ (h) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission;
or
Original copy of Notarized Bid Securing Declaration; **and**
- ☐ (i) Conformity with the Technical Specifications, which may include production/delivery schedule, manpower requirements, and/or after-sales/parts, if applicable; **and**
- ☐ (j) Original duly signed Omnibus Sworn Statement (OSS);
and if applicable, Original Notarized Secretary’s Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- ☐ (k) The Supplier’s audited financial statements, showing, among others, the Supplier’s total and current assets and liabilities, stamped “received” by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission; **and**
- ☐ (l) The prospective bidder’s computation of Net Financial Contracting Capacity (NFCC);

or

A committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.

Class “B” Documents

- ☐ (m) If applicable, a duly signed joint venture agreement (JVA) 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.

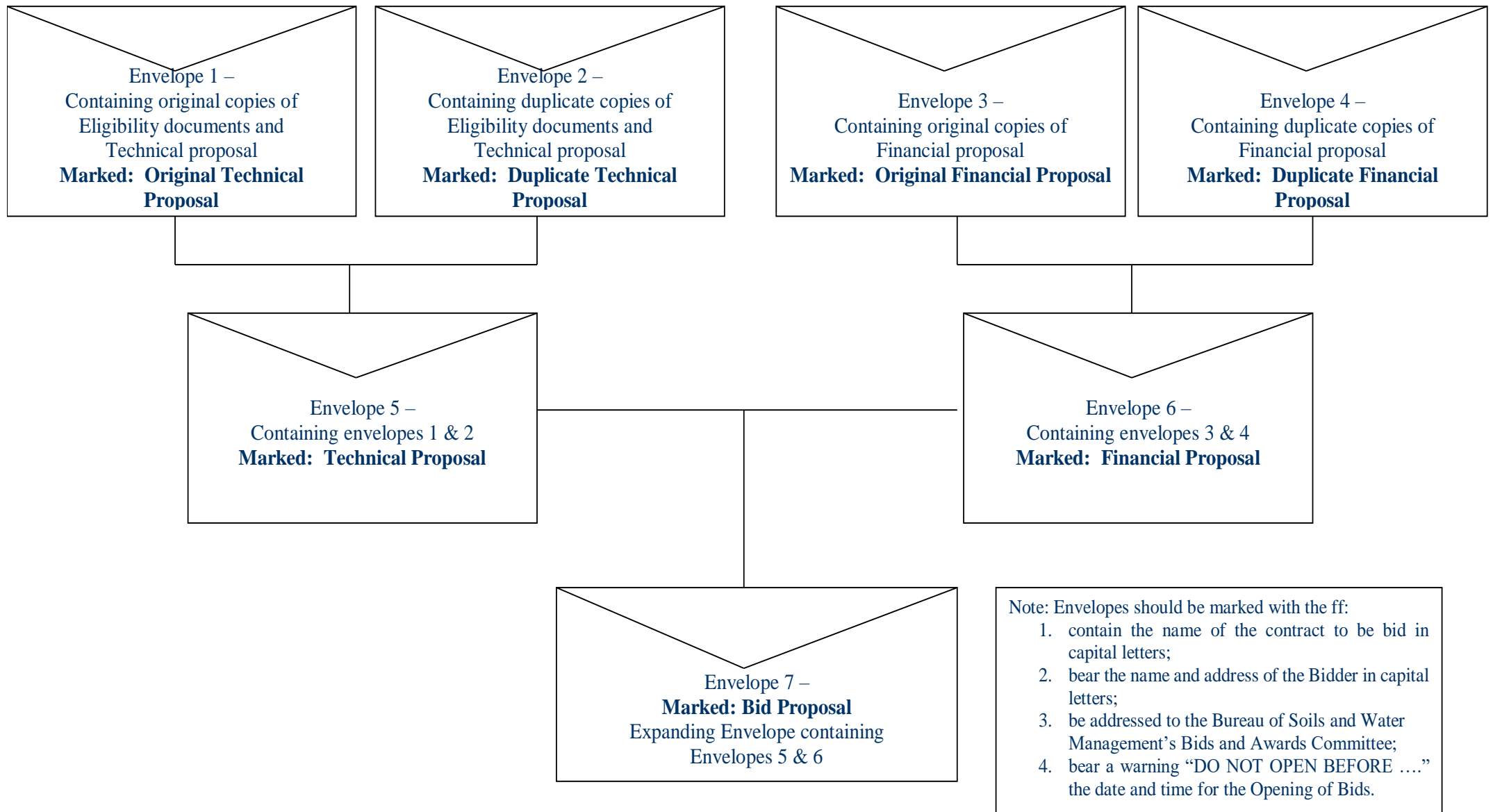
Other documentary requirements under RA No. 9184 (as applicable)

- ☐ (n) *[For foreign bidders claiming by reason of their country's extension of reciprocal rights to Filipinos]* Certification from the relevant government office of their country stating that Filipinos are allowed to participate in government procurement activities for the same item or product.
- ☐ (o) Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.

25 FINANCIAL COMPONENT ENVELOPE

- ☐ (a) Original of duly signed and accomplished Financial Bid Form; **and**
- ☐ (b) Original of duly signed and accomplished Price Schedule(s).

SEALING OF BIDS





Download from: <https://www.gppb.gov.ph/downloadables.php>

APPENDIX "1"

Bid Form for the Procurement of Goods

[shall be submitted with the Bid]

BID FORM

Date : _____

Project Identification No. : _____

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

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to *[supply/deliver/perform]* *[description of the Goods]* in conformity with the said PBDs for the sum of *[total Bid amount in words and figures]* or the total calculated bid price, as evaluated and corrected for computational errors, and other bid modifications in accordance with the Price Schedules attached herewith and made part of this Bid. 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 or in the Price Schedules,

If our Bid is accepted, we undertake:

- a. to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements of the Philippine Bidding Documents (PBDs);
- b. to provide a performance security in the form, amounts, and within the times prescribed in the PBDs;
- c. to abide by the Bid Validity Period specified in the PBDs and it shall remain binding upon us at any time before the expiration of that period.

[Insert this paragraph if Foreign-Assisted Project with the Development Partner:

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Purpose of Commission or gratuity
---------------------------	--

_____	_____
_____	_____

(if none, state "None")]

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

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

We certify/confirm that we comply with the eligibility requirements pursuant to the PBDs.

The undersigned is authorized to submit the bid on behalf of *[name of the bidder]* as evidenced by the attached *[state the written authority]*.

We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, 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: _____

Price Schedule for Goods Offered from Abroad

[shall be submitted with the Bid if bidder is offering goods from Abroad]

For Goods Offered from Abroad

Name of Bidder _____ Project ID No. _____ Page ____ of ____

1	2	3	4	5	6	7	8	9
Item	Description	Country of origin	Quantity	Unit price CIF port of entry (specify port) or CIP named place (specify border point or place of destination)	Total CIF or CIP price per item (col. 4 x 5)	Unit Price Delivered Duty Unpaid (DDU)	Unit price Delivered Duty Paid (DDP)	Total Price delivered DDP (col 4 x 8)

Name: _____

Legal Capacity: _____

Signature: _____

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

Bid Securing Declaration Form

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

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

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

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

I/We, the undersigned, declare that:

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

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

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

Contract Agreement Form for the Procurement of Goods (Revised)

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

CONTRACT AGREEMENT

THIS AGREEMENT made the _____ day of _____ 20____ between [name of PROCURING ENTITY] of the Philippines (hereinafter called "the Entity") of the one part and [name of Supplier] of [city and country of Supplier] (hereinafter called "the Supplier") of the other part;

WHEREAS, the Entity invited Bids for certain goods and ancillary services, particularly [brief description of goods and services] and has accepted a Bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures in specified currency]* (hereinafter called "the Contract Price").

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 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 integral part of this Agreement, viz.:
 - i. Philippine Bidding Documents (PBDs);
 - i. Schedule of Requirements;
 - ii. Technical Specifications;
 - iii. General and Special Conditions of Contract; and
 - iv. Supplemental or Bid Bulletins, if any
 - ii. 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;
 - iii. Performance Security;
 - iv. Notice of Award of Contract; and the Bidder's conforme thereto; and
 - v. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.
3. In consideration for the sum of *[total contract price in words and figures]* or such other sums as may be ascertained, *[Named of the bidder]* agrees to *[state the object of the contract]* in accordance with his/her/its Bid.

4. The *[Name of the procuring entity]* agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written.

[Insert Name and Signature]

[Insert Name and Signature]

[Insert Signatory's Legal Capacity]

[Insert Signatory's Legal Capacity]

for:

for:

[Insert Procuring Entity]

[Insert Name of Supplier]

Acknowledgment

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

Omnibus Sworn Statement (Revised)

[shall be submitted with the Bid]

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

AFFIDAVIT

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

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

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

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

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

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

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

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

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

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

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

[If a sole proprietorship:] The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical

Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

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

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

7. *[Name of Bidder]* complies with existing labor laws and standards; and
8. *[Name of Bidder]* is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
 - a. Carefully examining all of the Bidding Documents;
 - b. Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
 - c. Making an estimate of the facilities available and needed for the contract to be bid, if any; and
 - d. Inquiring or securing Supplemental/Bid Bulletin(s) issued for the *[Name of the Project]*.
9. *[Name of Bidder]* did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. 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.

[Insert NAME OF BIDDER OR ITS AUTHORIZED REPRESENTATIVE]

[Insert signatory's legal capacity]
Affiant

[Jurat]

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

Performance Securing Declaration (Revised)

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

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

PERFORMANCE SECURING DECLARATION

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

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

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, to guarantee the faithful performance by the supplier/distributor/manufacture/contractor/consultant of its obligations under the Contract, I/we shall submit a Performance Securing Declaration within a maximum period of ten (10) calendar days from the receipt of the Notice of Award prior to the signing of the Contract.
2. I/We accept that: I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of one (1) year for the first offense, or two (2) years for the second offense, upon receipt of your Blacklisting Order if I/We have violated my/our obligations under the Contract;
3. I/We understand that this Performance Securing Declaration shall cease to be valid upon:
 - a. issuance by the Procuring Entity of the Certificate of Final Acceptance, subject to the following conditions:
 - i. Procuring Entity has no claims filed against the contract awardee;
 - ii. It has no claims for labor and materials filed against the contractor; and
 - iii. Other terms of the contract; or
 - b. replacement by the winning bidder of the submitted PSD with a performance security in any of the prescribed forms under Section 39.2 of the 2016 revised IRR of RA No. 9184 as required by the end-user.

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

*[Insert NAME OF BIDDER OR ITS
AUTHORIZED REPRESENTATIVE]*

[Insert signatory's legal capacity]

Affiant

[Jurat]

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

Statement of Completed Similar Contracts

Business Name:

Business Address:

Name of Contract/ Project Cost	a. Owner's Name b. Address c. Telephone Nos.	Nature of Work	Bidders Role		a. Date Awarded b. Date Started c. Date of Completion	Value of Works
			Description	%		
Total						

Note: The following documents shall be presented for verification of the above statement during Post-Qualification:

- 1 Notice of Award OR Notice to Proceed issued by the End user OR its equivalent;
- 2 Copy of actual contract OR its equivalent; and
- 3 Certificate of Completion OR End-user's Acceptance OR Proof of payment

Submitted by: _____
(Printed Name and Signature)

Designation: _____

Date: _____

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1304: LOT 3 - COMPRESSOR FOR CENTRALIZED GAS PIPING SYSTEM	1	LOT	1,600,000.00	1,600,000.00
	Specifications:				
	10HP Industrial Scroll Air Compressor (2 Units)				
	10HP, 8BAR				
	Air-discharge Capacity(m3/min) : 1.1				
	Air-discharge Pressure(Mpa) : 0.8				
	Air-supply Temp. (Deg. C) : environmental				
	Noise dB(A) : (57~62)positive/negative 3				
	Oil content in Air(ppm) : maximum 3, slight oil				
	rotate Speed (r/min) : 3000				
	Power(KW/HP) :7.5/10				
	Start Mode : Direct Connection,				
	Voltage/Hz : 220V/60Hz				
	Vertical Air Receiver Tank (1 unit)				
	Capacity - 0.5 m3				
	Size - at least 600mm x 2066mm shell length				
	Material - at least 5mm High Tensile Steel				
	Max. Allowable Working Pressure - 10 bar				
	Hydrotest Pressure - 13 bar				
	Provisions:				
	Surface preparation / painting:				
	Hyperfilter (2 Units)				
	1 micron, 1.8 m3/min volume flow.				
	Refrigerated Air Dryer 220v/1pH/60hZ				
	Air Flow : 1.5 m3/min				
	Refrigerant : R134a				
	Material : 316L Stainless steel heat exchanger				
	Air Connection : Rc 1/2"				
	Electrical Supply : 220V/1Ph/60Hz				
	Electrical Control Panel (1 unit)				
	complete wiring works, supplies, and materials				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Free PMS on warranty period				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				1,600,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1305: LOT 4 -WATER DEIONIZER (INTEGRATED TYPE I AND TYPE II WATER), LARGE CAPACITY WITH DISPENSER	15	LOT	840,000.00	12,600,000.00
	Water Deionizer (Type I and Type II water), large				
	Specifications:				
	Resistivity:				
	Conductivity:				
	Feedwater Source: Softened or hardness				
	Flow Rate: 1.5L/min				
	Total Organic Carbon: 1 to 5ppb				
	Bacterial Content: <0.1 CFU/mL				
	Particles >0.2µM/mL: <1				
	Feed Water Monitoring: Yes				
	Feedwater Connector: 3/4 in. NPT				
	Feedwater Pressure: 1-6 Bar				
	Size: at least 1500mm x 450mm x 580mm				
	Operating Pressure: 2 to 6 bar				
	Permeate performance: 30L/hr. at 15°C				
	Power Consumption: 0.25kW				
	Electrical Requirements: 90 to 240V 50/60Hz				
	Standard Accessories:				
	1 set - Mix Multi Mini Water Softener				
	1 unit - Hand Dispenser				
	1 pc - Sterile Overflow for reservoir				
	1 pc - Co2 Adsorber+sterile filter,0.2um				
	1 pc - Softener salt 25 kg				
	12 pcs - 5 Micron Filter				
	6 pcs - 10 " 1 um Prefilter				
	2 pcs - carbon cartridge				
	1 pc - Cleaning solution				
	1 pc - Hardness Detection Kit				
	Inclusions:				
	Installation materials include: stainless steel tube				
	Trainings on the operation of unit to be done by				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>12,600,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1306: LOT 5 -ULTRAFILTRATION SYSTEM	1	LOT	500,000.00	500,000.00
	Specifications:				
	Orientation: Horizontal				
	Maximum Operating Pressure: 100 psig (690 kPa)				
	Maximum Operating Temperature: 104°F (40°C)				
	Nominal Pore Size: .015 microns				
	pH Range: 6.5 to 8.5				
	Max Flow Rate: 15 gallons (57 liters) per minute				
	(1) carbon cartridge and (1) template-assisted				
	.015 micron ultra filtration				
	Lime scale reduction				
	Self-cleaning particle reduction				
	104°F maximum operating temperature				
	Separate mechanical filtration for taste and odor				
	Stainless steel ultrafilter housing				
	3/4" FNPT (drain) and 3/4" MNPT plumbing				
	Size: at least 50" W x 9" D x 39" H				
	Weight: at least 38 kg				
	100-240v/50/60/1-ph				
	Amperage: .08 amps				
	Wattage: 10 watts				
	NSF for 13 gpm/ 49.2 lpm				
	Inclusions:				
	Cord				
	Plug adapter				
	consumables good for 2 years				
	Training for end user				
	includes installation, service with 1-year				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				500,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1307: LOT 6 - SOIL DRYING AND GLASSWARE CLEANING EQUIPMENT				
1	Soil Drying Cabinet	3	LOT	625,000.00	1,875,000.00
	Specifications:				-
	fabricated				-
	marine plywood 3/4 inch with hardiflex 1/4 inch				-
	stainless steel type 304 tubular 12mm shelves				-
	coil type heater 3000 watts				-
	blade type fan blower				-
	thermostat controller (30A)				-
	Dimensions:				-
	with Calibration Certificate				-
	with (3) Thermohygrometer with probe				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
2	Ultrasonic Washer	4	UNIT	400,000.00	1,600,000.00
	Specifications:				-
	Equipped with PLC Control system (Process				-
	Dual frequency of 28 and 40 kHz for different				-
	Adjustable temperature from 30° to 110°C.				-
	Adjustable power from 0 to 100%.				-
	Built-in generator for saving space and looking				-
	Tank is designed with basket holder and overflow				-
	Fabricated from heavy gauge stainless steel,				-
	Digital display showing real time data is intuitive				-
	Adopting water level pipe and auto heating				-
	Caster with brake, safer and more convenient.				-
	Capacity: at least 288 L				-
	Ultrasonic Frequency (kHz): 28 and 40				-
	Ultrasonic Power (W): 0 to 3000				-
	Heating Power (W): up to 7000				-
	Temp. (°C): 30-110°C				-
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (4)				-
	TOTAL:				3,475,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1308: LOT 7 - ACID DIGESTION EQUIPMENT				
1	Fume Hood (Regular), with monitoring system	2	UNIT	1,800,000.00	3,600,000.00
	Specifications:				
	Type: Acid digestion				
	By-pass airflow design				
	Built-in belt-driven, corrosion-resistant exhaust aerodynamic airflow openings				
	powder-coated steel exterior				
	One-piece molded fiberglass liner and pre-set				
	Tempered safety glass vertical-rising sash with high sightline from the work surface and header				
	Removable front and side panels, and front				
	Molded fiberglass exhaust connections				
	Conforms with the following standards and				
	Pre-wired fluorescent lighting with vapor-proof				
	Two pre-plumbed service fixtures with forged				
	Includes:				
	Spill Stopper Work Surface				
	Gooseneck Water Fixture Kit				
	P-Trap				
	Cupsink				
	Electrical Receptacle				
	2 x Acid Storage Cabinet				
	2 x Vent Kit				
	Digital Airflow Monitor				
	Ducting materials and ductworks				
	dismantling of old unit, mobilization, installation				
	free PMS within warranty period (2 years)				
	with Validation Report				
	Training for end user				
	Delivery Sites:				
	-BSWM (1)				
2	Perchloric Fume hood, with monitoring system	1	UNIT	2,700,000.00	2,700,000.00
	Specifications:				
	Type: perchloric				
	by-pass airflow design and by-pass block				
	powder-coated steel exterior				
	aerodynamic airflow opening				
	Heat-welded Type 1 unplasticized PVC liner with				
	Powder-coated aluminum sash handle				
	Removable front and side panels, and front access				
	vapor-proof design and				
	Built-in washdown system with internal piping and				
	enamel-coated hardboard supporting surface				
	PVC exhaust connections				
	Conformance with the following standards and				
	thick tempered safety glass vertical-rising sash with				
	pre-wired GFCI electrical duplex receptacle				
	pre-plumbed service fixtures with forged brass valves				
	Includes:				
	PVC Blower				
	2 x Acid Base Cabinet				
	ducting works and materials (thermoplastic duct, duct				
	digital airflow monitor				
	dismantling of old unit, mobilization, installation and				

	free PMS within warranty period (2 years)				
	with Validation Report				
	Also includes:				
	2 units - Ductless filtering chemical storage cabinet				
	Specifications:				
	Storage capacity: 100 - 120 bottles of 1L				
	Air Flow: 70 m3/h				
	Safety Standards: Filtration performances tested				
	Power consumption: 45W				
	Voltage/Frequency: 80 - 220 V / 50-60 Hz				
	Structure: Corrosion resistant electro-galvanized steel				
	Doors: Clear, chemical resistant acrylic for easy viewing				
	Filtration Module: Polypropylene				
	Configurable storage options: 2 storage compartments :				
	Smart Technology: Simple communication by LED				
	Flex Technology: 1 column that can be configured for				
	Carbon filtration for gases and vapors:				
	Particulate filtration for powders:				
	Connectivity: RJ45 cable connection				
	Sensors: Detection sensors for solvents or acids or				
	Doors sensors: Alarm if doors are left open				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>6,300,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1309: LOT 8 - METROLOGY INSTRUMENTS				
1	6-in-1 Metrology Well with fixed-point cell and	1	Lot	1,800,000.00	1,800,000.00
	1 unit - 6-in-1 Metrology Well (+45°C to +250°C)				
	Specifications:				
	6 Calibration Functions in 1				
	Accuracy: ±0.15°C (display to block)				
	Liquid bath, infrared, dry block, & ITS-90 fixed				
	35mm calibration volume				
	Fast heating and cooling times				
	Temp Range: +45°C to +250°C				
	Stability				
	Dry Block Bath: ±0.03°C				
	Stirred Liquid Bath: ±0.025°C				
	Ice/Water Bath: ±0.001°C				
	Blackbody Source: ±0.3°C				
	Surface Sensor Calibrator: ±0.5°C				
	ITS-90 Fixed Point Apparatus: ±0.0005°C				
	Standard Metal Insert: 1/8"; 3/16"; 1/4"; 3/8";				
	Computer Interface: Included with Windows				
	with complete standard accessories, with ISO				
	1 unit - 6-in-1 Metrology Well (-45°C to +140°C)				
	Specifications:				
	6 Calibration Functions in 1				
	Accuracy: ±0.15°C (display to block)				
	Liquid bath, infrared, dry block, & ITS-90 fixed				
	35mm calibration volume				
	Fast heating and cooling times				
	Temp Range: -45°C to +140°C				
	Stability				
	Dry Block Bath: ±0.03°C				
	Stirred Liquid Bath: ±0.025°C				
	Ice/Water Bath: ±0.001°C				
	Blackbody Source: ±0.3°C				
	Surface Sensor Calibrator: ±0.5°C				
	ITS-90 Fixed Point Apparatus: ±0.0005°C				
	Standard Metal Insert: 1/8"; 3/16"; 1/4"; 3/8"; and				
	Computer Interface: Included with Windows Software				
	with complete standard accessories, with ISO				
	1 unit - Water Triple Point Cell, Container and 3 Caps				
	Uncertainty: 0.000070°C				
	Reproducibility: ±0.00002°C				
	Stability: ±0.00001°C				
	with complete standard accessories, with ISO				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
2	Air Quality Meter (1 lot)	1	set	700,000.00	700,000.00
	Specifications:				
	a.) Video Particle Counter with built-in Camera (2 pcs)				
	Particle Size Channels: 0.3, 0.5, 1.0, 2.5, 5.0, 10µm				
	Flow Rate: 0.1ft3 (2.83L/min) controlled by internal				
	Count Modes: Cumulative, Differential, Concentration				
	Counting Efficiency: 50% @ 0.3µm; 100% for				

	Coincidence Loss: 5% @ 2,000,000 particles per ft3				
	Air Temperature: -14 to 140°F (-25 to 60°C);				
	Relative Humidity: 0 to 100%RH; Accuracy:±3%RH				
	Dew Point/ Wet Bulb: 32 to 122°F (0 to 50°C)				
	b.) CO/CO ₂ Meter (2 pcs)				
	Range:				
	Carbon Monoxide (CO): 0 to 1,000ppm				
	Carbon Dioxide (CO ₂): 0 to 9,999ppm				
	Resolution: 1 ppm, 0.1°				
	Temperature: -5 to 140°F (-20 to 60°C)				
	Humidity: 0.1 to 99.9%RH				
	Wet Bulb: 23 to 140°F (-5 to 59.9°C)				
	Dew Point: -4 to 140°F (-20 to 59.9°C)				
	c.) VOC/Formaldehyde Meter (2 pcs)				
	Range:				
	TVOC: 0.00 to 9.99ppm (mg/m ³)				
	Formaldehyde: (CH ₂ O or HCHO): 0.00 to 5.00ppm				
	Resolution: 0.01ppm (mg/m ³)				
	Response Time: <2s				
	Power Supply: Rechargeable battery and AC adaptor				
	Charge Time: approx. 3 hours				
	2 units - Laptop capable of Remote Data				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
3	Anemometer, with probe	2	Unit	90,000.00	180,000.00
	Specifications:				
	Real time data logger, save the data into the SD memory card and can be downloaded to the Excel				
	Air velocity : 0.2 to 25.0 m/s, high precision for low air				
	Air flow : CMM, CFM.				
	m/s, ft/min, km/h, knots, mile/h, oC/oF.				
	Humidity : 5 to 95 %RH.				
	Dew point, Wet bulb.				
	Type K Thermometer : -100 to 1300 oC, oC/oF.				
	Type J Thermometer : -100 to 1200 oC, oC/oF.				
	Data hold, Record (Max., Min.).				
	Complete set with two probes : Hot wire anemometer				
	RS232/USB computer interface.				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
4	Benchtop EC Meter, Calibration Lab Grade	1	Unit	200,000.00	200,000.00
	Specifications:				
	Measuring range				
	Conductivity: 0.001 µS/cm - 1000 mS/cm				
	Temperature: -30.0 - 130.0 °C				
	Resolution				
	Conductivity: 0.001 - 1				
	Temperature: 0.1 °C				
	Accuracy				
	Conductivity: ± 0.5%				
	Temperature: ± 0.1 °C				
	Calibration: 13 pre-defined or 1 user-defined standard				
	Cell constant: Determined via calibration or entered				
	Temperature: Linear, non-linear, off, pure- water –				
	compensation: reference temperature 20 °C or 25 °C				
	System: Date / time, PIN-protection, 10 languages				
	Data storage: 1000 measurements				
	Data export: USB-stick, LabX direct PC software				
	Measurement limits: User-definable with warning				

	ID entry: User ID, Sample ID, Sensor ID, Sensor Serial				
	with NIST Traceable EC buffers				
	with ISO Calibration				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
5	Benchtop pH Meter, Calibration Lab Grade	1	Unit	150,000.00	150,000.00
	Specifications:				
	Measuring range:				
	pH: -2.000-20.000				
	mV* -2000.0-2000.0				
	Ion concentration** 1.00E-9-9.99E+9				
	Temperature***: -30.0-130.0 °C				
	Resolution				
	pH: 0.001 / 0.01 / 0.1				
	mV: 0.1 / 1				
	Ion concentration: ± last significant digit				
	Temperature: 0.1 °C				
	Accuracy				
	pH: ± 0.002				
	mV: ± 0.2				
	Ion concentration: ± 0.5%				
	Temperature: ± 0.1 °C				
	Calibration: Max. 5 points, 8 pre-defined and 1 user-				
	System: Date / time, PIN-protection, 10 languages				
	Data storage: 1000 measurements				
	Data export: USB stick, PC software				
	with NIST Traceable pH buffers				
	with ISO Calibration				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
6	Contact and Non-contact Tachometer	2	Unit	60,000.00	120,000.00
	Specifications:				
	Laser Photo & contact tachometer in one meter				
	Fast sampling time for low contact RPM measurement,				
	Photo Tach. : 10 to 99,999 RPM				
	Contact Tach. : 0.5 to 19,999 RPM.				
	Surface speed : m/min, ft/min.				
	with complete standard accessories				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
7	Distance Meter	1	Unit	35,000.00	35,000.00
	Specifications:				
	Measurement Range: 2" to 330ft (0.05 to 100m)				
	Accuracy: ±0.08" (±2mm)				
	Resolution: 0.0", 0.00ft, 0.000m				
	Area calculation: 99,999ft ² , 99,999m ²				
	Volume calculation: 99,999 ft ³ , 99,999 m ³				
	with calibration certificate				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
8	Documenting Process Calibrator	2	Unit	800,000.00	1,600,000.00
	Specifications:				
	Full-featured documenting process calibrator with				
	Measures: Voltage, current, resistance, frequency,				
	Sources/simulates volts, mA, thermocouples, RTDs,				
	Reading Rate: 1, 2, 5, 10, 20, 30, or 60 readings/minute				
	Operating Temperature: -10°C to +50°C				
	Storage Temperature: -20°C to +60°C				

	Batteries: Internal Battery Pack Li-ion: 7.2V,4400mAh,				
	Battery Life: >8 hours typical				
	Dust/Water Resistance: Meets IP52, IEC 529				
	Port Connections: Pressure module connector, USB				
	Includes:				
	battery charger				
	Li-on battery pack				
	Software				
	Instruction manual				
	NIST-traceable calibration report and data				
	Three sets of TP220 test probes with three sets of				
	Two sets hook clips				
	Soft Field Case				
	USB communication cable, HART communications				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
9	Instruments for Dimensional Metrology	1	Lot	250,000.00	250,000.00
	1 unit - Digimatic Micrometer				
	Specifications:				
	Range: 0-1in 0-25.4mm				
	Accuracy: ± 0.0001 in $2\mu\text{m}$				
	Resolution: 0.001mm or .00005"/0.001mm				
	Flatness: $0.3\mu\text{m}$ / .000012"				
	Parallelism: $2\mu\text{m}$ / .00008"				
	Measuring faces: Carbide tipped				
	Display: LCD				
	Battery: SR44 (1 pc.)				
	with ISO Calibration Certificate				
	1 unit - Coolant Proof Caliper				
	Specifications:				
	Range: 0-6in 0-150mm				
	LCD Res: .0005in 0.01mm				
	Accuracy: ± 0.001 in				
	Resolution: 0.01mm or .0005"/0.01mm				
	Repeatability: 0.01mm / .0005"				
	Display: LCD				
	Length standard: ABSOLUTE electromagnetic induction				
	linear encoder				
	Max. response speed: Unlimited				
	Battery: SR44 (1 pc./2 pcs*)				
	with ISO Calibration Certificate				
	1 unit - Vernier Caliper				
	Specifications:				
	Measures OD (outside diameter), ID (inside diameter),				
	Dual reading scales on vernier. (metric/inch				
	Lock screw for holding thesliding jaw position.				
	Supplied with vinyl holster in fitted carton				
	Graduation: 0.05mm, 0.05mm (1/128") or .001"				
	High accuracy type: 0.02mm or 0.02mm (.001")				
	with ISO Calibration Certificate				
	1 unit - Metric Rectangular Gage Block Set				
	Specifications:				
	Block Set				
	Number of blocks: 47				
	1 Block =1.005 9 Blocks =1.01-1.09 Step=0.01				
	9 Blocks =1.1-1.9 Step=0.1				
	24 Blocks =1-24 Step=1				
	4 Blocks =25-100 Step=25				
	Grade: AS-2				
	Material: Steel				
	with ISO Calibration Certificate				

	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
10	IR and Contact Thermometer	2	Unit	80,000.00	160,000.00
	Specifications:				
	Dual laser targeting + type K thermometer				
	1,000 °C infrared Temp. measurement.				
	1400 °C type K thermometer.				
	Dual laser for better targeting.				
	Large LCD display with back light.				
	D/S ratio value : 50/1.				
	Min., Max., Differential, Average, Lock mode.				
	Last measurement memory.				
	Hi/Lo Temperature Audio Alarm.				
	Adjustable emissivity value from 0.1 to 1.00.				
	Power supply : DC 1.5V battery (UM 4/AAA) x 2 PCs .				
	with complete standard accessories				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
11	Multi-Channel Digital Thermometer	1	lot	350,000.00	350,000.00
	Specifications:				
	3 units - Multi-Channel Digital Thermometer				
	Channels no. : 12 channels (CH1 to CH12) temperature				
	Sensor type : Type J/K/T/E/R/S thermocouple.				
	Auto recorder or manual recorder.				
	Recorder sampling time range : 1 to 3600 seconds.				
	Type K thermometer : -100 to 1300 C				
	Show CH1 to CH8 or CH9 to CH12 in the same LCD.				
	Display resolution : 1 degree/0.1 degree.				
	Time information : Year, Month, Date, Hour, Minute and				
	Memory card size : 1 GB to 16 GB.				
	Supper large LCD with backlight, easy reading.				
	Data hold, Record (Max., Min.).				
	RS232/USB computer interface.				
	Optional type K temperature probe : TP-01,TP-02A,TP-				
	DC 1.5V (UM-3, AA) x 8 PCs or DC 9V adapter in.				
	with 12 temperature probes each unit				
	with ISO calibration certificate				
	Training for Three (3) End users on the following:				
	Module 1: dimensional and industrial calibration				
	Module 2: Electrical calibration				
	Module 3: uncertainty of measurements				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
12	Multi-Tool Set	1	Unit	100,000.00	100,000.00
	Specifications:				
	7 Drawer Tool Cabinet				
	Storage Type: Trolley				
	240 piece tool kit fitted in EVA modules for excellent				
	made from premium quality steel and features a				
	Each Drawer can accommodate up to 3 EVA Tool				
	Each drawers feature the Smart-Lock system				
	heavy-duty wheels are made from oil resistant				
	Recessed worktop with a high-quality mat to ensure a				
	Holders for spray cans and paper rolls				
	Low friction telescopic ball bearing slides ensuring				
	Fitted with an emergency brake				
	Contents:				
	2pc Pliers Set (in EVA)				

	15pc T-Handle & Ballpoint L Hex Key Set				
	10pc Precision Plier and Screwdriver Set				
	16 Piece Combination Wrench Set				
	12pc Ratcheting Combination Wrench Set				
	4pc Circlip Pliers Set				
	3pc VDE Insulated Pliers Set				
	52pc 1/4" Drive Socket and Hex Key Set				
	7pc Insulated Slotted/PH Screwdriver Set				
	6pc Measuring and Cutting Tool Set				
	39pc Slotted/PZ Screwdriver and Bit Set				
	23pc 1/2" Drive Socket Set with Ratchet				
	11pc Standard and Needle File Set				
	29pc 1/2" TORX/Hex/XZN Socket Bits Set				
	5 Division EVA Module				
	2pc Crimper and Stripper Set				
	5 Piece Hand Riverter Set				
	3pc Softgrip Pliers Set				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
13	OIML Class E1 Test Weights 1 mg to 200 g (set)	1	set	400,000.00	400,000.00
	Specifications:				
	Weight Set Range: 200 g-1 mg				
	Set Contents: 200 g, 100 g, 50 g, (2) 20 g, 10 g, 5 g, (2) 2				
	500 mg, (2) 200 mg, 100 mg, 50 mg, (2) 20 mg, 10 mg,				
	(2) 2 mg, 1 mg				
	Number of Pieces: 22				
	Case: Provided with a high quality polycarbonate case				
	compartment for each weight as well as compartments				
	a brush, forceps and USB flash drive.				
	with Calibration Certificate from ISO 17025 Accredited				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
14	OIML Class E2 Test Weights 1mg to 1kg (set)	1	set	300,000.00	300,000.00
	Specifications:				
	Weight Set Range: 1 kg-1 mg				
	Set Contents: 1 kg, 500 g, (2) 200 g, 100 g, 50 g, (2) 20				
	5 g, (2) 2 g, 1 g, 500 mg, (2) 200 mg, 100 mg, 50 mg, (2)				
	10 mg, 5 mg, (2) 2 mg, 1 mg				
	Number of Pieces: 25				
	Case: Provided with heavy-duty, lightweight and shatter				
	Provided with forceps.				
	with Calibration Certificate from ISO 17025 Accredited				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
15	Precision Thermohygrometer (Reference	2	set	170,000.00	340,000.00
	Specifications:				
	Operating Range: 32 to 122°F (0 to 50°C); 0% to 100%				
	Temperature Accuracy: ±0.125°C from 16 to 24°C				
	RH Accuracy: ±1.5% RH from 20 to 70% RH				
	Resolution: User selectable up to 0.01% on front-panel				
	with ISO calibration				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
16	Precision Thermometer, benchtop and handheld	1	lot	1,000,000.00	1,000,000.00
	1 unit - Precision Thermometer, benchtop				
	Specifications:				
	Accuracy: ±0.001°C (1mK)				
	Inputs: 2 channel Pt100 (BS EN 60751 / IEC 751) or				
	Measuring Current: 041mA				

	Self Heating Test Current: 0.29mA (0.41mA / $\sqrt{2}$)				
	Measuring Time: 1.44 seconds for both channels				
	Measuring Range: -250 to 960°C (0 to 440 Ohm)				
	Temperature Resolution: 0.0001°C, 0.1mK				
	Resistance Resolution: 0.00004Ω, 40 μΩ				
	Temperature Uncertainty: 0.001°C, 1mK 100 Ohm PRT				
	Resistance Uncertainty: 0.4mΩ @ 20°C				
	Interface: Rs232, Ethernet, built-in web server provides				
	with ISO Calibration Certificate				
	1 unit - Precision Thermometer, handheld				
	Specifications:				
	Temperature Range: -200°C to 962°C				
	Accuracy ±0.02°C				
	Resolution 0.001°C				
	Stability <0.005°C				
	Probe Types Pt100 and Pt25 resistance thermometers				
	Thermometer Input Connections: (2) 5 pin industrial				
	Data Storage Capability 16,000 reading (combined total)				
	Data Entry Format: ITS90, CVD and EN60751				
	Display Units: °C, °F, K or Ω				
	Statistical Functions: Average, Min/Max, and Standard				
	Power: Ni-MH rechargeable battery				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
17	Pressure Calibrator, bench type and handheld	1	Lot	2,000,000.00	2,000,000.00
	1 unit - Pressure Calibrator, bench type				
	Specifications:				
	Media: Air.				
	Generated Pressure Range: 95% vacuum to 2,000 psi				
	Material: Ram/adapters:SS				
	Body: SS/aluminum				
	Seals: Buna-N				
	Connection: Hand-tight connectors for both test gauge				
	Test Gauge Connection: 1/4NPT female, 1/2NPT				
	Reference Gauge Connection: 1/4NPT female, 1/2NPT				
	with ISO Calibration Certificate				
	1 unit - Pressure Calibrator, handheld				
	consists of digital pressure gauge and hand pump				
	Gauge or absolute ranges available				
	0.1% FS accuracy (0.05% FS optional)				
	Integrated data logger for up to 50 values per second				
	Adjustable over-pressure protection				
	Fine-adjustment valve				
	Ergonomic handling				
	temperature-compensated in the range of 14 to 122°F (-				
	with calibration software				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
18	Standard Platinum Resistance Thermometer/SPRT	1	Unit	160,000.00	160,000.00
	Specifications:				
	Ro: 100Ω ± 0.05 Ω				
	Range: -200°C to 450°C				
	Alpha: 0.003850 ± 0.000005				
	Standard: IEC 60751				
	Stability: less than 0.010 Ω/year				
	Recommended Current: 1 mA				
	Self Heating at 1mA: 0.004°C				
	Calibration: ISO-17025 Accredited Calibration				

	Connection: Four Wire				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
19	Temperature and Humidity Chamber	1	set	800,000.00	800,000.00
	Specifications:				
	Adaptive multifunctional digital PID-microprocessor controller with 2 high-definition TFT-colour displays				
	2 Pt100 sensors Class A in 4-wire-circuit, mutually				
	Humidity supply with distilled water from external				
	Active humidifying and de-humidifying adjustable from				
	Digital backwards counter with target time setting,				
	Fully insulated stainless steel door with 2-point locking				
	Inner glass door				
	Rear zinc-plated steel housing				
	Temperature range: 0°C to +70°C without light; +15°C				
	German/English/Spanish/French language settings				
	Three freely selectable temperature values, 2-point				
	Alarm in case of over- or undertemperature, heating				
	Integral fault diagnostics for temperature and humidity				
	with ISO Calibration Certificate				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
20	Thermohygrometer (with barometer)	3	Unit	50,000.00	150,000.00
	Specifications:				
	Measures ambient temperature, relative humidity and				
	Displays measurement values in real time on the large				
	Saves recorded data to the included SD card as an Excel-				
	Offers selection of pressure units: hPa, mmHg or inHg				
	Features a low battery indicator				
	Allows measurement quota to be freely adjusted				
	Easy to use with large keys and a user-friendly				
	Comes with a solid, protective carrying case				
	Manufacturer calibrated				
	with ISO calibration certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (3)				
21	Water Quality Tester	1	Unit	500,000.00	500,000.00
	Specifications:				
	measures combinations of DO, conductivity, specific				
	Auto Stable: User-defined auto-stable function holds				
	Barometer: Built-in barometer				
	Buffer Recognition: Auto buffer recognition for US and				
	Certifications: RoHS, CE, WEEE, C-Tick, VCCI, FCC, IP-				
	Connectivity: USB 2.0; ProComm II communications				
	Connector: MS (military spec) waterproof with bayonet				
	Data Management: Data Manager desktop software				
	Data Memory: 5,000 data sets (data, date, time, user-				
	Dimensions: at least 8.3cm width x 21.6cm length x				
	Display: Graphic display with detailed Help; backlit				
	DO Membrane Response Times (T95; 100%-0) and				
	DO Sensors: Polarographic or galvanic field sensors;				
	Field Cables: Standard lengths of 1, 4, 10, 20, or 30				
	Flow Cell: Single, dual and multiparameter Quatro				
	GLP Compliance: Yes; detailed GLP information is				
	Lab Cables: BOD sensor includes 2-meter cable; 1 or 4				
	Languages: English, Spanish, German, French, Italian,				

	Logging Modes: Single or Continuous				
	Operating Temperature: -10 to 60 C				
	Power: 2 alkaline C-cells provide 80 continuous hours				
	Storage Temperature: -20 to 70 C				
	with ISO Calibration				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>11,295,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1310: LOT 9 - CALIBRATION WEIGHING INSTRUMENTS				
1	Analytical Balance with Density Determination	1	set	450,000.00	450,000.00
	Specifications:				
	Capacity: 220 g				
	Readability: 0.1 mg				
	Repeatability: 0.1mg				
	Minimum unit mass: 0.1mg				
	Linearity: ±0.2mg				
	Standard Accessories:				
	Anti vibration Table				
	Weighing data logger set				
	Density determination kit				
	1 unit - Tablet for Remote Data Management				
	Tweezers for Calibration Weights				
	with ISO Calibration Certificate				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
2	Micro-Analytical Balance, readability 1 µg with	1	set	1,200,000.00	1,200,000.00
	Specifications:				
	Capacity: 5.1 g / 22 g				
	Readability: 0.001 mg / 0.01 mg				
	Repeatability: 0.004 mg (for 1 g)/ 0.01 mg				
	Minimum weight: 5.0 mg				
	Linearity: ±0.010 mg / ±0.02 mg				
	Standard Accessories:				
	Anti vibration Table				
	Weighing data logger set				
	Table-top breeze break				
	Static eliminator				
	Remote controller				
	Special pans (Ø50 mm and Ø95 mm) for weighing PM filters				
	Three sizes of aluminum analytical pans, microtube				
	Tweezers for calibration weight				
	3 dust cover for storage				
	1 unit - Laptop for Remote Data Management				
	with ISO Calibration Certificate				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
3	Pipette Accuracy Tester with data logger set and	1	set	1,400,000.00	1,400,000.00
	Specifications:				
	Pipette Accuracy Tester Capacity: 110g / 31g / 5.1g				
	Minimum weighing value: 0.1mg / 0.01mg / 0.001mg				
	Pipette Accuracy Tester Capacity: 320 g				
	Minimum weighing value: 1mg				
	Standard Accessories:				
	Balance including the weighing pan unit, breeze break				
	Calibration weight with a pair of tweezers				
	Evaporation trap				
	Sample cup with a holder (30 mL x 2 / 5 mL x 2				

	Liquid thermometer				
	USB communications kit (USB converter, RS-232C cable				
	Software (CD-ROM)				
	Carrying case with a shoulder belt and a key				
	Leak Tester				
	Anti vibration Table				
	Weighing Environmental Logger set				
	Weighing environmental analyzer				
	Weighing data logger				
	Pipette accuracy testing kit				
	1 unit - Laptop for Remote Data Management				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
4	Top Loading Balance with data logger set and	1	set	400,000.00	400,000.00
	Specifications:				
	Capacity: 1100 g				
	Readability: 0.001g				
	Repeatability: 0.001g				
	Minimum weight: 0.001g				
	Linearity: $\pm 0.003g$				
	Standard Accessories:				
	Anti vibration Table				
	Weighing data logger set				
	Density determination kit				
	Tweezers for Calibration Weight				
	Weighing Environmental Logger				
	Glass breeze break				
	1 unit - Tablet for Remote Data Management				
	with ISO Calibration Certificate				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
5	Class F1 Test Weights	18	Unit	50,000.00	900,000.00
	Specifications:				
	Material: 304 Stainless Steel				
	Level: Class F1				
	Product Weight: 6.6 lbs / 3 Kg				
	Weight range: 1mg-1kg				
	Package Contents:				
	25pcs Weights				
	1x 1000g				
	1x 500g				
	2x 200g				
	1x 100g				
	1x 50g				
	2x 20g				
	1x 10g				
	1x 5g				
	2x 2g				
	1x 1g				
	1x 500mg				
	2x 200mg				
	1x 100mg				
	1x 50mg				
	2x 20mg				
	1x 10mg				
	1x 5mg				
	2x 2mg				
	1x 1mg				

	1x Plastic Tweezer				
	1x Aluminium Alloy Case				
	1x Cleaning Cloth				
	with ISO Calibration Certificate				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>4,350,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1311: LOT 10- TEMPERATURE AND HUMIDITY MONITORING SYSTEM	1	lot	3,000,000.00	3,000,000.00
	Specifications:				
	> Base Station				
	Collects and stores the data of all connected data				
	Stores up to 576 measurements per logger				
	Direct connection of any number of interfaces to a				
	>Evaluation Software for Server				
	Web based client/server solution: the				
	> Wireless data logger with PTFE filter and wall				
	Measurement range: temperature: -30 °C ...				
	Measurement range: humidity: 0% rH ... 100% rH				
	Accuracy: temperature: ±0.5 °C (-20 °C ... +40 °C)				
	Accuracy: humidity: ±3 %				
	Resolution: temperature: 0.1 °C				
	Resolution: humidity: 0.1% rH				
	Memory capacity: 576 measurements (288				
	Sensor : NTC				
	Protection class : IP 20				
	General technical data				
	Measurement interval 1 min. to 24 hours,				
	Radio frequency 868 MHz				
	Battery 3.6 V lithium (user replaceable) Battery				
	Storage temperature -40 °C ... +70 °C				
	Inclusions:				
	1 unit - Analytical Balance, 220 g capacity				
	1 unit - Analytical Balance, 120 g capacity				
	1 unit - Top Loading Balance, 620 g capacity				
	1 unit - Top Loading Balance, 1200 g capacity				
	1 unit - Moisture Analyzer				
	1 unit - Complete PC System for the Temp and				
	1 unit - Laptop for data management system				
	1 unit - Ipad Pro for remote data management				
	1 unit - Cellphone for online monitoring				
	ISO Calibration - Temperature for all sensors				
	ISO Calibration - Humidity for all sensors				
	1 unit - Router				
	includes delivery, installation and commissioning onsite by Service Engineer and onsite Comprehensive Training				
	Includes annual preventive maintenance and				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				3,000,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1312: LOT 11- MEASURING INSTRUMENTS				
1	Bottletop Dispenser	11	Unit	70,000.00	770,000.00
	Specifications:				
	Digital (7 pcs)				
	Capacity: 5-50 mL				
	Subdivision: 0.2 mL				
	Accuracy: $\leq \pm 0.5\%$				
	Precision: $\leq 0.1\%$				
	with recirculation and discharge valve				
	with container bottle and adapters				
	with ISO Calibration Certificate				
	Analog (4 pcs)				
	Capacity: 10-100 mL				
	Subdivision: 1.0 mL				
	Accuracy: $\leq \pm 0.5\%$				
	Precision: $\leq 0.1\%$				
	with container bottle and adapters				
	with recirculation and discharge valve				
	with ISO Calibration Certificate				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (11)				
2	Digital Burette	8	Unit	75,000.00	600,000.00
	Specifications:				
	Nominal Volume: 50 mL				
	Accuracy in % (\pm): 0.06%				
	Accuracy in μ L (\pm): 30 μ L				
	Coefficient of variation (%): 0.02 %				
	Coefficient of variation in μ L: 10 μ L				
	PC interface: RS232				
	Accessories:				
	telescoping filling tube				
	recirculation tube				
	batteries				
	3 PP bottle adapters (GL 45/32, GL 45/S 40, GL 32/NS)				
	2 amber colored light shield inspection windows				
	RS232 connector, CD software				
	Operation Manual, performance certificate				
	with ISO Calibration Certificate				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (4)				
3	Automatic Digital Burette	1	Unit	60,000.00	60,000.00
	Specifications:				
	Cumulative Volume: up to 99.99mL in 0.01mL				
	Reproducibility: $\pm 0.01\%$ of volume				
	Fitting: fits 30-mm bottle; also fits 33-38 and 45 mm				
	Wetted materials: PTFE and borosilicate glass				
	Power: lifetime lithium battery with auto-shut off				
	Accuracy: $\pm 0.02\%$				
	Capacity: 50 mL				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-RSL IVA (1)				
4	EC Meter	2	Unit	100,000.00	200,000.00

	Specifications:				
	Conductivity				
	Range: 0.050 μ S to 500.0 mS				
	Resolution: 0.01 / 0.1 μ S ; 0.001 / 0.01 / 0.1 mS				
	Accuracy: ± 1 % full scale				
	Cal. Points: Up to 5				
	Cell Constant: 0.010 to 10.000				
	Temperature				
	Range (Meter): 0.0 to 100.0 $^{\circ}$ C / 32.0 to 212.0 $^{\circ}$ F				
	Resolution: 0.1 $^{\circ}$ C / 0.1 $^{\circ}$ F				
	Accuracy: ± 0.3 $^{\circ}$ C / ± 0.5 $^{\circ}$ F				
	Coefficient (Per $^{\circ}$ C): Linear & pure ; 0.000 to 10.000 %				
	Normalization: 15.0 to 30.0 $^{\circ}$ C / 59.0 to 86.0 $^{\circ}$ F				
	Compensation: ATC / MTC				
	Power Requirements: 9 V DC adapter, 1.3 A (100/240				
	Conductivity Buffers				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-Bohol (2)				
5	Nitrogen Distillation Unit	1	Unit	600,000.00	600,000.00
	Specifications:				
	Measuring range: 0.1-200mg nitrogen				
	Recovery is greater than 99.5% at N levels between 1				
	Distillation time: at least 3.5 min at 30mg N (6.5 min				
	Distillation capacity: at least 40mL/min				
	Self-adjusting cooling water control				
	Automatic dilution, alkali addition, distillation and tube				
	Alkali resistant plastic splash head and tube emptying				
	Burette volume: at least 35mL				
	Burette resolution: 2.4 μ L/step				
	Burette speed: >0.5ml/second				
	With 1 set of tanks with level sensors for waste, alkali				
	With receiver flask and 20 pcs 250mL distillation tube				
	With handling device for digestion tube				
	Inclusive of reagent bottle and digital bottle-top				
	reagent bottle at least 2.5L;				
	burette with continuous titration,				
	with large, easy-grip hand wheels for titration rate				
	adjustment/calibration using keypad,				
	easily readable, large numbers,				
	microbatteries (with spare),				
	angled display shows 4-position titration volume,				
	freely rotatable 3600 around the bottle,				
	adjustable for various bottle sizes using the				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-Bohol (1)				
6	pH Meter	8	Unit	100,000.00	800,000.00
	Specifications:				
	pH				
	Range: -2.00 to 16.00 pH				
	Resolution: 0.01 pH				
	Accuracy: ± 0.01 pH				
	Cal. Points: Up to 5				
	Buffer Sets: NIST (1.68, 4.01, 6.86, 9.18, 12.45)				
	ORP				
	Range: ± 2000 mV				
	Rel. mV Range: ± 2000 mV				
	Resolution: 0.1 mV (± 199.9 mV) / 1 mV (beyond)				
	Accuracy: ± 0.2 mV (± 199.9 mV) / ± 2 mV (beyond)				

	Temperature				
	Range (Meter): 0.0 to 100.0 °C / 32.0 to 212.0 °F				
	Resolution: 0.1 °C / 0.1 °F				
	Accuracy: ±0.3 °C / ±0.5 °F (0 to 70 °C)				
	Compensation: ATC / MTC (0 to 100 °C) (pH only)				
	Calibration: Offset in 0.1 °increments; offset range: ±5.0				
	Power Requirements: 9 V DC adapter, 1.3 A (100/240				
	with pH buffers				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-RSL (3)				
7	pH/ISE Meter	2	Unit	200,000.00	400,000.00
	Specifications:				
	pH				
	Range: -2.00 to 16.00 pH				
	Resolution: 0.01 pH				
	Accuracy: ±0.01 pH				
	Cal. Points: Up to 5				
	Buffer Sets: NIST (1.68, 4.01, 6.86, 9.18, 12.45)				
	Ion				
	Concentration: 0.01 to 2000 ppm (±2000 mV)				
	Resolution (ppm): 0.01 / 0.1 / 1 ppm				
	Accuracy: ±0.5 % full scale (monovalent), ±1 % full				
	Cal. Points: 2 to 5				
	Accessories:				
	Integral Electrode Holder & 100/240 VAC Adapter				
	Combination Ion-Selective Electrodes:				
	with pH buffers				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
8	Variable Volume Pipettor, high-end	1	Lot	1,200,000.00	1,200,000.00
	Volume Range:				
	10 units: 1000-10,000 µl				
	10 units: 1000-5000 µl				
	20 units: 100-1000 µl				
	6 units: 20-200 µl				
	6 units: 10-100 µl				
	6 units: 2-20 µl				
	6 units: 0.5-10 µl				
	6 units: 0.1-2 µl				
	Specifications:				
	High-end				
	Chemical resistant				
	Streamlined handle				
	Adjustable, interchangeable, easy-grip ejector				
	Volume can be adjusted from the thumbwheel or the				
	Fully Autoclavable				
	Made from stainless steel, interior				
	with carousel, 1000 pipette tips per unit				
	with ISO calibration				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				4,630,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1314: LOT 12 - SOIL MICROBIOLOGY INSTRUMENTS				
1	Autoclavable Pipette	1	lot	100,000.00	100,000.00
	Specifications:				
	1 unit: 0.2-2 µL				
	• Made up of steel alloy body				
	• Fully-autoclavable body				
	• Metal tip cones with double "O" rings for optimal sealing and precision				
	• Compatible with all major pipette tip brands				
	• Finger hook				
	• Volume Lock				
	• Tip ejector				
	• Manifold 360 enabling pipetting in any direction				
	• Exchangeable volume control knob- choose				
	• Volume controllers				
	• Printed serial number on each pipette				
	• Secure volume lock				
	Inclusions:				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
2	Automated reductive inoculation	1	Unit	2,000,000.00	2,000,000.00
	Specifications:				
	Reproducibility: > 99%				
	Time for a full cycle: 30 s				
	Spreading modes stored: 25 spread modes (37				
	Petri plate diameters: at least 90 and 150 mm				
	Minimum step volume: < 10 nl				
	Maximum pipeted volume: 100 l				
	Control Display: 7 inches Touch screen				
	Motion control: 3 Microcontroller-regulated stepper motors				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
3	Dissecting Microscope	4	Unit	400,000.00	1,600,000.00
	Specifications:				
	Microscope body with atleast 0.67-4.5X zoom optics,				
	and 45 degrees inclination trinocular tube (C-mount)				
	Transmitted and reflected light LED illuminator stand				
	Eyeiece 10X with ESD capability, F.N 22				
	Zoom Ratio: atleast 6.7:1				
	Working Distance: at least 110 mm				
	Interpupillary Distance: Adjustment range: 52 to 76				
	Zoom Adjustment knob: Left/right single-shaft				
	Interpupillary distance high/low magnification stopper				
	Mounting Diameter: Mounting diameter: at least 76				
	Focusing stroke: at least 120 mm				
	LED life span: at least 6,000 hours				
	Input rating: 100-120 V/200-240 V				
	g0.15/0.1 A, 50/60 Hz				
	5 MP Scientific Camera				

	Camera Specs:				
	Sensor size (mm): 1/1.8"(6.22x4.67)				
	Pixel (um): 2.4x2.4				
	G Sensitivity: 425 mv with 1/30s				
	Dark Signal 0.15 mv with 1/30s				
	FPS/Resolution: 30@1920x1080 (HDMI)				
	25@1920x1080 (WIFI)				
	Binning: 1x1				
	Exposure: 0.03ms~918m				
	Interface & Button Functions:				
	USB: USB Camera/USB WIFI Adapter				
	HDMI: HDMI Output				
	DC12V: 12V Power in				
	SD: SD Card Slot				
	On/Off: Power On/Off Switch				
	LED: Power On Indicator				
	Standard Accessories and Inclusions:				
	1 unit - Laptop, with genuine OS and Office				
	Eyepiece Micrometer				
	Warranty: Three (3) years on parts and one (1) year on				
	One (1) year on Camera				
	Data logger				
	Compatible AVR and Uninterruptible Power Supply				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (4)				
4	Digital Pipette	4	Lot	120,000.00	480,000.00
	Specifications:				
	Volume Range :				
	Highest ergonomics				
	User-independent results				
	Multiple pipetting modes				
	Speed adjustment				
	Programmable protocols				
	Standard Accessories and Inclusions:				
	High-Capacity Lithium Battery				
	Standard AC-DC Adaptor and Charger				
	Stand for 3 Units				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (4)				
5	FlexiPump Media	1	Unit	850,000.00	850,000.00
	Specifications:				
	•Stainless steel				
	•low pulsation double pump head with 6 rollers				
	•Dose volume: 50 µL to 99 L				
	•Dispensing modes: Continuous -Dose -Multi-dose				
	•Dispensing control with the handy gun				
	•Multi-dose pause: Adjustable from 0.1 to 99.9 s				
	•Typical precision with inner Ø 3.2 mmtubing: 9mL: 0.9% -18 mL: 0.5% -225 mL: 0.4%				
	•Tubing inner diameter: 1.6 mm, 3.2 mm, 4.8 mm, 6.4				
	•Tubing wall thickness: 1.6 mm only				
	•Flow rate: 3 mL/mn to 2.5 L/mn				
	•Pump headrotating speed: 10 to 550 rpm				
	•Traceability: USB, RS 232				
	•Connections: USB, RS 232, Jack 3.5 mm				
	•Data export: Excel, Office, LIMS				
	•In compliance with ISO 7218 and FDA BAM				
	Standard Accessories and Inclusions:				
	2 peristaltic pump heads				
	1 set of 3.2 mm dispensing assembly (nozzle + GL 45				

	1 set of 6.4mm dispensing assembly (nozzle + GL 45				
	1 power cord				
	1 user's manual				
	1 USB cable				
	1 free pack of blender bags				
	Handy gun:Dispensing control with handy gun				
	Adjustable dispensing arm:For use with other				
	Independent stand for broth bags:Independent stand				
	1 set - Desktop PC, with genuine OS & Office, printer				
	1 unit - laptop				
	Compatible AVR and Uninterruptible Power Supply				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
6	Microbial Colony Counter Automated	1	Unit	2,500,000.00	2,500,000.00
	Specifications:				
	Cell Counting Time: Less than 10 s (manual focusing)				
	Cell Concentration Range: 5 x 10 ⁴ - 1 x 10 ⁷ cells/mL				
	Cell Diameter Range: 3 - 60 µm (optimal: 8 - 30 µm)				
	Output information:				
	Total / Live / Dead cell concentration				
	Total / Live / Dead cell number				
	Viability:				
	Average cell size				
	Image Resolution: 5 Megapixels , Color				
	Focusing mode: Automatic / Manual focusing with				
	Adjustable parameters: Size, Roundness, Dilution				
	Image Type: TIFF, annotated TIFF				
	Report Format: PDF				
	Count Data storage: 1,000 counts				
	Protocol storage: 300 protocols				
	Display LCD touchscreen: at least 800 x 480 , 7inch				
	USB port 3 ports				
	with Thermal printer Built-in				
	Dimensions: at least (W x D x H) 195 mm x 237 mm				
	Weight: at least 2.1 kg (without the external power				
	Input Power: AC 100-240V 50/60Hz 1.2A				
	Software Designed for Accurate Cell Counting				
	Accurate Counting Even with Clustered Cells				
	Individual Protocol Setting				
	Automatic Dilution Calculator				
	The Cell Counter automatically stores up to 1,000				
	can be exported as a CSV file.				
	Inclusions:				
	Built-in Thermal Printer				
	5 boxes of polystyrene counting slides (50 slides per				
	Exclusive Software Designed for Accurate Cell Counting				
	16 GB external USB				
	1 set - complete Desktop PC, with genuine				
	1 set - Remote Data Management System (laptop				
	Compatible AVR and UPS				
	Training for three (3) end users at Manufacturer's				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
7	Soil Microbial Respiration Meter/Reader	2	Unit	400,000.00	800,000.00
	Specifications:				
	capable of 24-hr CO ₂ -Burst or observe basal				
	wide-range of CO ₂ linearity suitable to the highly				
	Equipped with on board software IRT [®] H can be				
	software enables re-displaying previous runs and				
	testing of soils, composts and organic debris in any				
	Tracks and records temperature during the test period				

	Weight: at least 5.4 lbs				
	Dimensions: at least 17 × 5.5 × 12.5 in				
	Standard Accessories and Inclusions:				
	Detector				
	475 mL jar				
	1265 mL jar (for larger scale biology studies)				
	2 O-Rings				
	USB cable				
	Software Solvita Reader				
	Instruction Manual				
	Data logger				
	Compatible AVR and Uninterruptible Power Supply				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
8	RT-PCR	1	Unit	3,500,000.00	3,500,000.00
	Specifications:				
	Sample capacity: 96 wells (dual 48/48 reaction				
	Sample size: 15-50µL				
	Parallel running mode: dual reaction blocks/running 2				
	Temperature range: 4-99 °C				
	Max ramp rate: 4.0 °C/sec				
	Temperature accuracy: ±0.1 °C				
	Temperature uniformity: ±0.1 °C				
	Thermal cycling system: Peltier-based system				
	Temperature control mode: tube control/block control				
	Light source: LED (maintenance free)				
	Detector: high sensitivity photoelectric sensor				
	Sensitivity: 1 copy				
	Reproducibility: CV <1.0%				
	Correlation coefficient: -0.999~ -1.000				
	Resolution: can discriminate between 1000 copies				
	Excitation: CH1 470nm CH2 530nm CH3 580nm				
	Emission: CH1 510nm CH2 565nm CH3 620nm				
	Power supply: 230VAC, 50Hz				
	Power consumption: 850VA				
	Communication: RS232, USB				
	Standard Accessories and Inclusions:				
	Consumable: 0.2mL PCR tubes, 8-tube strips, 48-				
	Kits and Reagents				
	Other necessary consumables and parts				
	Application Software				
	1 set - complete Desktop PC, with genuine				
	1 set - Remote Data Management System (laptop				
	Compatible AVR and UPS				
	Training for three (3) end users at Manufacturer's				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
9	Portable EC Meter	2	Unit	50,000.00	100,000.00
	Specifications:				
	Range: 0.050 µS to 500.0 mS				
	Resolution: 0.01 / 0.1 µS ; 0.001 / 0.01 / 0.1 mS				
	Accuracy: ±1 % full scale				
	Cal. Points: Up to 5				
	Cell Constant: 0.010 to 10.000				
	Temperature				
	Range (Meter): 0.0 to 100.0 °C / 32.0 to 212.0 °F				
	Resolution: 0.1 °C / 0.1 °F				
	Accuracy: ±0.3 °C / ±0.5 °F				
	Coefficient (Per °C): Linear & pure ; 0.000 to 10.000 %				
	Normalization: 15.0 to 30.0 °C / 59.0 to 86.0 °F				
	Compensation: ATC / MTC				

	Standard Accessories and Inclusions:				
	1 set - Conductivity Buffers				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
10	Solvita (Soil respiration quick test kit)	1	Unit	500,000.00	500,000.00
	Specifications:				
	Field Digital Color Reader (Green DCR)				
	25 Soil CO2 Probes (introductory package)				
	Miniature Digital Scale for range of 0 -1000g soil				
	Soil Knife (Stainless Steel) and Soil Thermometer				
	Standard Coarse Soil Sieve (1/4 inch)				
	Soil Wire Brush for cleaning sieve without water				
	3 Incubation Jars (polystyrene 475 ml with lids affixed				
	USB Cable and Jump Drive with Solvita Reader				
	Instruction Manual with interpretation guide				
	Inclusions:				
	Soil Roller				
	CO2 proof gaskets				
	Field CO2 Test Refill				
	Data logger thru Controller transferrable via USB or				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>12,430,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1315: LOT 13 - SOIL PHYSICS INSTRUMENTS				
1	Automated Laboratory Saturated Hydraulic	1	unit	4,000,000.00	4,000,000.00
	Specifications:				
	Applicable Methods: Constant and Falling Head				
	Minimum Head-height: 1 cm				
	System Resolution: 1 mm of change in water				
	Standard Reservoir Inside Diameter: at least 5.13 cm (2.02 in)				
	Standard Reservoir Height: at least 48.26 cm				
	Standard Reservoir Cross-Sectional Area: at				
	Standard Reservoir Volume: at least 1 L (0.26				
	Soil Core Inside Diameter: at least 5.38 cm				
	Soil Core Height: at least 6.0 cm (2.36 in)				
	Soil Core Cross-Sectional Area: at least 22.73				
	Soil Core Volume: at least 136.40 cm ² (21.14				
	Pressure Transducer: Monitor Precision				
	Tempe Cell: Standard (at least 5.7 cm diameter,				
	System options: Single unit or five independent				
	Software: Can control up to 20 independent units				
	External PC connectivity: Required				
	Saturated hydraulic conductivity (Ksat)				
	Sensor Range: -1,000 to +1,000 cm H ₂ O				
	System weight: at least 18.14 kg (40 lbs)				
	Dimensions (LxWxH): at least 33 x 18 x 18 in				
	Inclusions:				
	2 pcs Soil Core Sampler for Bulk Density Analysis				
	20 pcs Brass Cylinder for Core Sampler				
	40 pcs Soil Core Cylinder Cap				
	1 unit Laptop Computer				
	1 unit Tablet				
	1x Sieve no. 60				
	1x Sieve no. 140				
	1x Brass Cover				
	1x Brass pan				
	1x Desiccator Cabinet				
	3x Mini-dehumidifier				
	1x Indicating desiccant				
	1x Data Acquisition Software				
	Training for three (3) end-users at manufacturer's				
	at least 1 yr warranty on parts and service				
	bidders are required to submit a Manufacturer's				
	Delivery Sites:				
	-BSWM (1)				
2	Motorized ASTM Liquid Limit Machine	1	Unit	120,000.00	120,000.00
	Specifications:				
	uniform testing with greater degree of accuracy				
	with geared motor to give proper operating speed and automatic counter				
	attached to metal plate with rubber feet				
	Includes H-4229 ASTM grooving tool and gauge block				
	Complies with ASTM D4318; AASHTO				
	Included Accessories:				
	Liquid Limit ASTM Plastic Grooving Tools (10 pk)				
	Liquid Limit Metal Grooving Tool, AASHTO				
	Porcelain Evaporating Dish				

	Spatulas, Straight Edge				
	Glass Graduated Cylinder				
	Liquid Limit Resiliency Tester				
	Durometers				
	Hydrometer (2 pcs)				
	with Validation Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
3	Core Sampler Set, with extension rod and stainless	1	unit	750,000.00	750,000.00
	Specifications:				
	1 set Soil Sampler				
	Soil Sample Shoe diam. at least 55 x 140mm				
	Handle with beating head, at least 10cm				
	Hammer with nylon heads: at least 2kg				
	Brush and knife set				
	Case				
	1 set Extension rod, at least 100cm				
	17 set Stainless Sampling Tube: at least 100ml				
	6pcs with 12 lids and cloth case/set				
	Soil Core Diameter: at least 5.0 cm, Height: 5.1 cm				
	Soil Core Diameter: at least 5.0 cm, Height: 5.1 cm				
	1 pc Convection Oven				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>4,870,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1316: LOT 14- MIR/FTIR SPECTROSCOPY	1	unit	3,000,000.00	3,000,000.00
	Specifications:				
	Interferometer: 25 mm, permanently aligned, 45°, mechanical flexture				
	Enclosure: Sealed and desiccated				
	Spectrometer interface: USB-2				
	Size: at least 16 x 31 x 13 cm (6 x 12 x 5 inches)				
	Sample interface: DialPath (30 to 250 µm),				
	Diamond ATR, Diffuse Reflectance, Transmission				
	Germanium ATR, 5 Bounce ZnSe ATR, 10 Degree				
	Software: PC software, Automated IQ/OQ,				
	21 CFR Part 11 compliant				
	advanced data analysis				
	Power: 110 – 240 V AC, 60/50 Hz				
	Spectral range: KBr 7000–350 cm ⁻¹ ; ZnSe				
	Spectral resolution: <2 cm ⁻¹				
	Wavenumber accuracy: 0.05 cm ⁻¹ Measured with traceable standard				
	Wavenumber reproducibility: 0.005 cm ⁻¹				
	Measured with a NIST 1921 traceable standard				
	Standard Accessories and Inclusions:				
	1 pc - ZnSe Windows and Internal Optics				
	1 pc - Diffuse Reflectance Sample Accessory				
	1 pc - Diamond ATR Accessory				
	1 pc - Dial path Accessory				
	1 pc - Transmission Sample Interface				
	2 pcs - Diffuse Samples Slide, Spare				
	1 pc - Polystyrene Film for ATR/Transmission				
	PC Software				
	1 unit - Desktop Computer, 64-bit				
	1 unit - Laptop				
	1 pc - Microsoft Windows 10 Pro + Microsoft Office				
	1 unit - Inkjet Printer				
	1 unit - AVR 2KVA				
	Two (2) years warranty				
	Free Preventive Maintenance Service within Warranty Period				
	Training for three (3) end-users at Manufacturer's Training Site inclusive of transportation cost and accomodations				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>3,000,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1317: LOT 15 - UV-VIS SPECTROMETRY				
1	UV-Vis with fiberoptics	1	unit	1,500,000.00	1,500,000.00
	Specifications:				
	Source: Unique full spectrum Xenon Flash Lamp				
	Monochromator: Czenry-Turner				
	Fiber optic probe				
	Grating: Holographic, 27.5x35mm, 1200				
	Beam splitting system: Beam Splitter				
	Detectors: 2 Silicon diode detectors for simultaneous sample beam and reference beam measurements.				
	Optical Design: Double beam Czenry-Turner				
	UV-VIS Limiting Resolution: $\leq 1.5\text{nm}$				
	Toluene/hexane limiting resolution: (EP/BP and				
	Stray light:				
	At 198 nm (12 g/L KCl, TGA & BP/EP method) \leq				
	At 220 nm (10 g/L NaI ASTM method) $\leq 0.018\%$ T				
	At 370 nm (50 mg/L NaNO ₂) $\leq 0.008\%$ T				
	Wavelength Range: 190 – 1100nm				
	Wavelength Accuracy: ± 0.06 at 541.94nm				
	Wavelength Reproducibility: $\pm 0.01\text{nm}$				
	Photometric Accuracy: Using NIST 960E filters at				
	Photometric Range: ± 4.0 Abs				
	Photometric Display: $\pm 9.9999\text{Abs}$, $\pm 200.00\%$ T				
	Photometric Reproducibility (Abs): Using NIST				
	Maximum deviation at 1 Abs: < 0.004 Abs				
	Standard deviation for 10 measurements: $<$				
	Using NIST 930E filters, at 546.1 nm, 2 s SAT				
	Maximum deviation at 0.5 Abs: < 0.003 Abs				
	Standard deviation for 10 measurements: < 0.0030 Abs				
	Standard Accessories:				
	3.5mL, 10mm Pathlength Quartz Cuvette (Pair)				
	Desktop Computer, 64-bit with Windows 10 OS and				
	Inkjet Printer				
	AVR 2KVA				
	18-Cell Holder, Thermostatted with 8 pairs cuvette				
	Dip Probe Coupler with doors				
	Quartz fixed (10 mm) pathlength probe				
	Inclusions:				
	Capable of Remote Data Management System				
	Three (3) years warranty Xenon lamp				
	2 Free Preventive Maintenance within Warranty Period				
	Delivery Sites:				
	-BSWM (1)				
2	UV-Vis Spectrometer	3	UNIT	1,000,000.00	3,000,000.00
	Specifications:				
	Photometric System – Double beam with rear beam				
	Detectors – Silicon photodiode detectors for				
	Stray Light (%T)				
	Wavelength accuracy (nm) ± 0.2				
	Photometric accuracy (Abs)NIST 930E filter at 1 Abs -				

	Photometric noise (Abs/RMS)				
	z-height 15 mm				
	with UV workstation software				
	with sipper				
	with PC, printer and complete genuine office and OS				
	with 2KVA AVR				
	Three (3) years warranty Xenon lamp				
	2 Free Preventive Maintenance within Warranty Period				
	Delivery Sites:				
	-RSL (2)				
	TOTAL:				<u>4,500,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1318: LOT 16- BOD SENSOR SYSTEM	1	unit	500,000.00	500,000.00
	Specifications:				
	Construction material: technopolymer				
	Power: 2 W				
	Power supply: 115 V or 230 V / 50-60 Hz				
	Dimensions (WxHxD): at least 270x300x185				
	Weight: at least 2.3 Kg (5.1 lb)				
	Reading value mg/l (ppm) directly on PC (or on the display)				
	Measurement by electronic pressure probe				
	Bottle total capacity: at least 500 ml				
	Data storage for BOD5: every 30 min / 1 / 2 / 4 /				
	Data storage for longer test: every 2 / 4 / 6 / 8 /				
	BOD values: automatic data calculation and				
	Scales: 90, 250, 600, 999 ppm. Higher values after				
	Display: digits 3 LED				
	Safety class: 3 IEC 1010				
	Electronic protection degree CEI EN 60529: IP 54				
	Accessories:				
	BOD EVO Sensor (with KOH traps)				
	Stirring station, 6 positions 230V/50Hz (with				
	Control Test tablets				
	Sensor check				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				500,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1319: LOT 17 - WEIGHING INSTRUMENTS				
1	Analytical Balance	3	UNIT	150,000.00	450,000.00
	Specifications:				
	Capacity: 220 g				
	Minimum Display: 0.1 mg				
	Repeatability (Standard Deviation): ≤0.1 mg				
	Linearity: ±0.2 mg				
	Response Time: Approx. 3.0 seconds				
	Operating Ambient Temperature: 5-40°C 20-85%				
	Temperature Coefficient Sensitivity (ppm/C):				
	Pan Size (mm) at least.: Ø91				
	Main Body Dimensions (mm) at least.: 213(W) x				
	Power requirement: 12V, 1A				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
2	Top Loading Balance	10	UNIT	100,000.00	1,000,000.00
	Specifications:				
	Capacity: 620g				
	Readability: 0.01g				
	Repeatability: 0.01g				
	Linearity: 0.02g				
	Operating Ambient Temperature: 10 - 30				
	Temperature Coefficient Sensitivity (ppm/C): ±5				
	Pan Size (mm) at least.: ø110				
	Power requirement: AC adaptor (DC12V, 1A)				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-RSL (3)				
3	Weighing Scale, Big Capacity	2	UNIT	100,000.00	200,000.00
	Specifications:				
	Measuring Range: max 150 kg				
	Resolution: 10 g (below 60 kg), 20 g (above 60 kg up to				
	Accuracy: ± 3 d (3 x the resolution)				
	Tare function: multiple tare function of full weighing				
	Interface: RS-232 bi-directional /D-SUB 9 female				
	Display: LCD				
	Units of measurement: kg / lb				
	Power supply: 6 V / 4.5 Ah rechargeable battery or 9 V				
	with ISO Calibration Certificate				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (2)				
	TOTAL:				1,650,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1320: LOT 18- AIR CONDITIONING UNITS AND LAB UTILITY EQUIPMENT				
1	Air Conditioning Units for LSD, 1 lot	1	LOT	4,000,000.00	4,000,000.00
	Specifications:				
	Installation of twenty eight (28) air-conditioning				
	3 units -Staff Room 1-3, 1HP				
	1 unit -Instrument Room, 6HP				
	1 unit -Soil Sampling Room, 6HP				
	1 unit -Staff Room 4, 2.5HP				
	2 unit -NDR Room, 3HP				
	2 units -Chemical Stock Room, 4HP				
	1 unit -Clinic Room, 2.5HP				
	2 units -Soil Microbiology Lab 1 Room, 4HP				
	1 unit -Soil Microbiology Lab 2 Room, 5HP				
	2 units -Soil Physics Room, 6HP				
	1 unit -Soil Microbiology Lab 2 Room, 2HP				
	1 unit -Microscope Room, 1.5HP				
	1 unit -Plant Tissue Drying Room, 2HP				
	1 unit -Soil Receiving Room, 2HP				
	1 unit -Soil Preparation Room, 1HP				
	1 unit -Soil Sample Drying Room, 1HP				
	1 unit -Isolation Room, 1.5HP				
	1 unit -Sterilization Room, 1.5HP				
	1 unit -Soil Microbiology Staff Room, 5HP				
	1 unit -RST Room, 5HP				
	1 unit -Pantry Room, 5HP				
	1 unit -Weighing Room, 2HP				
	28 units - condensate drain pump				
	Scope of work and inclusions:				
	Mobilization & Demobilization.				
	Installation of twenty eight (28) air-conditioning				
	Supply and installation of copper tube soft drawn,				
	Supply and installation of PVC pipes with rubber				
	Supply and installation of communication wires				
	Supply and installation of condenser base and				
	Supply and installation of condensate water				
	Supply and installation of feeder line to main				
	Supply and installation of circuit breaker, nema 3r				
	Supply and installation of emt pipes complete				
	Leak testing with nitrogen gas.				
	System vacuuming and charging of refrigerant.				
	Testing & Power Up.				
	One (1) year warranty on workmanship from the				
	One (1) year warranty on parts, Five (5) years on				
	Delivery Sites:				
	-BSWM (1)				
2	Washing Machine	1	LOT	70,000.00	70,000.00
	Specifications:				
	10.5 kg. Front Load Washing Machine				
	Turbo Washer				
	Tempered Glass Door				
	Full Stainless Lifter				
	Inverter Direct Drive Motor				
	14 Washing Programs				
	Rated Input: 230v-60Hz				
	Washing Wattage: 2100 W				
	Inclusions:				

	1 Year Warranty on Parts & Service				
	10 Years Warranty on Compressor				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>4,070,000.00</u>

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
1	2021-07-1321: LOT 19- POWER SUPPLY EQUIPMENT (SOLAR POWER SYSTEM)	1	UNIT	3,500,000.00	3,500,000.00
	Specifications:				
	1 unit - Solar Panel (PV panel)				
	SPECIFICATION :				
	Electrical data				
	Peak Power (P _{max}) : 450.00 W				
	Maximum Power Voltage (V _{mp}) : 41.40 V				
	Maximum Power Current (I _{mp}) : 10.87 A				
	Open Circuit Voltage (V _{oc}) : 50.22 V				
	Short Circuit Current (I _{sc}) : 11.48 A				
	Cells Efficiency (%) : 22.8%				
	Module Efficiency (%) : 20.26%				
	Temperature and Maximum rating				
	Maximum System Voltage (V) : 1500				
	Maximum Series Fuse Rating (A) : 20				
	Power Tolerance : 0~+3 %				
	P _{max} Temperature Coefficient (s W/°C)				
	V _{oc} Temperature Coefficient (s V/°C) : -0.286%				
	I _{sc} Temperature Coefficient (s A/°C) : 0.057%				
	NOCT Nominal Operating Cell				
	40~+85				
	Mechanical characteristic				
	Cell Type : 166x83 Mono				
	No. of Cells : 144 (12x12)				
	Dimensions : 2115x1050x40mm				
	Weight : 23.50kg				
	Front Glass : 3.2mm high transmission, low iron,				
	Frame : Anodized Aluminium Alloy				
	Junction box : IP68 3 diodes				
	Output cables : 4mm ² cable 90cm+mc4				
	MaxWind Load/Snow Load : 2400Pa/5400Pa				
	Inclusions:				
	1 unit - HYBRID INVERTER				
	SPECIFICATION :				
	AC and backup output conduit size : 25.4mm				
	PV input conduit size ; 25.4mm				
	Battery input conduit size : 34.5mm				
	Operation Temperature range : -25 - +60°C				
	environment humidity : 0-95%				
	Altitude : 0-4000M r Derating when over 2000m)				
	IP Grade : IP65				
	Weight : 30kg				
	Dimension (W x H x D) : 530x 660 x 200mm				
	Cooling : Natural cooling				
	Noise emission(dB) : <25dB, <29dB				
	Display : LCD				
	Communication : Modbus. RS485. WIFI,4G				
	Self-consumption at night : < 2.5 W (with battery				
	No transformer : YES				
	Safety : UL1 741SA all options. UL1699B, CSA 22.2				
	EMC : FCC Part 15 ClassB				
	1 unit - Battery cabinet				
	SPECIFICATION :				
	Voltage Range (V) : 208 ~288 V				
	LifeP04 Single Cell : 3.2 V206Ah,Prismatic, Aluminum				

	Series and Parallels : 1P - 80s				
	Rated Voltage : 256				
	Rated capacity(Ah) : 206				
	Rated Energy (KWh): 52.74				
	Maximum output power (kW) : 60				
	Maximum Discharge Current (A): 250				
	Maximum Charge Current (A): 100				
	Discharge cut-off voltage (V) : 200V				
	Maximum charge Voltage (V): 288V				
	Recommended Charge type : 280V, CC-CV until current				
	Cycle life (@25°C,0.2C/0.7C,100%DOD): > 2000				
	Dimension (W*D*H) : 600*800*1800mm				
	Total weight (Kg) : Approx 520				
	Battery Rack Thermal Management : Natural Air				
	Operating temperature : -5~55°C				
	Operating humidity : 5% ~95% R.H.				
	Communication : CAN RS485				
	Dry contact : Optional				
	Maximum system parallels : 15				
	LCD Screen Monitor : Integrated with the CBMS Panel				
	Delivery Sites:				
	-Tanay (1)				
	TOTAL:				<u>3,500,000.00</u>

Distribution Lists for Technical and Scientific Equipment Lot 1-19

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SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1303: LOT 1 - SAMPLE PREPARATION EQUIPMENT				
1	Acid Cabinet	8	unit	150,000.00	1,200,000.00
	Specifications:				-
	Galvanized steel shelves				-
	lead-free epoxy/polyester powder-coat				-
	Three-point stainless steel bullet latching system				-
	Adjustable legs and Grounding wires				-
	Capacity Gal/Ltr: 90/340				-
	Shelves: 2 pcs				-
	Shelves capacity: 100 kg				-
	Door type: double-door, swing doors, with key				-
	Dimensions (HxWxD mm): at least				-
	Inclusions:				
	complete ductworks				
	ISO Calibration				
	Training for end user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-Bohol (2)				-
	-Bulacan (3)				-
	-Bukidnon (3)				-
2	Air-Type Vacuum Pump	2	Unit	80,000.00	160,000.00
	Specifications:				-
	Oil-free vacuum pump				-
	piston-powered, oil-free pump				-
	quiet and low vibration				-
	compact and light weight				-
	clean and maintenance free				-
	Thermal protection device				-
	Air inlet filter cartridge				-
	Max. Vacuum : 105 mbar				-
	Max. flow : 37 L/min				-
	Motor rotation : 1750 RPM				-
	Horse power : 1/6 HP				-
	Noise level : 52 dB				-
	Training for end user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (2)				-
3	Autoclave	1	Unit	1,430,000.00	1,430,000.00
	Specifications:				-
	Effective capacity: 75 liters (2.6 cu.ft.)				-
	Chamber material: SUS304 (Austenitic stainless steel)				-
	Maximum pressure: 0.248MPa [34.8psi]				-
	Sterilization temperature: 115°C to 135°C				-
	Culture medium melting temperature: 60°C to				-
	Keep warm temperature: 45°C to 60°C				-
	Sterilization timer: 1 minute to 300 minutes				-
	Melting timer: 1 minute to 300 minutes				-
	Keep warm timer: 72 hrs. fixed				-
	Program timer: 1 week (Designation: Year, month, minute)				-
	Exhaust tank: 2-liter polyethylene tank				-
	Exhaust control: Exhaust valve open temperature				-
	Safety devices: Pressure safety valve, over-				-
	anti-scorch limiter, door interlock, over-pressure				-

	Pressure vessel type: Small-scale pressure vessel				-
	Power supply: 220V single phase, (50Hz-60Hz)				-
	Power consumption: 4kW				-
	External dimensions: at least (W x D x H): 478 x				-
	Weight: at least 71kg (157 lbs.)				-
	Chamber dimensions (diameter x depth): at				-
	Effective chamber height including recess in lid:				-
	Accessories included: Stainless steel baskets -				-
	Drain hose: 1, Exhaust tank: 1, tank mounting				-
	bracket: 1 and tip-resistant metals: 2				-
	Power Supply: 220V, 60Hz				-
	Inclusions:				-
	Training for Three (3) end users at				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
4	Block Micro Digester (40 placer) with	4	Unit	970,000.00	3,880,000.00
	Specifications:				-
	Sample positions: 40				-
	Temperature range max. (in °C): 430				-
	Digestion vessel size (in ml): 100				-
	Programs: 10				-
	Power consumption (in W): 2200				-
	Current consumption (in A): 10				-
	Non-corrosive casing				-
	Removable viewing door				-
	Standard Accessories and Inclusions:				-
	Round bottom digestion vessel, 100 ml for micro-				-
	dispenser for metering sulfuric acid, 2.5-25 ml				-
	Kjeldahl Neutralizer (extraction				-
	Digital burette, 2 pcs				-
	Digital Titrator, 2 pcs				-
	Pipettor, 5 pcs, 100-1000 µl				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
5	Centrifuge, 8 placer	1	lot	400,000.00	400,000.00
	Specifications:				-
	Max. Capacity: 8 x 50ml				-
	Max. RPM: 6,000 min-1				-
	Max. RCF: 4,226				-
	Running Time: 1 sec-99min:59sec, continuous				-
	Dimension: at least 257x366x430mm				-
	Weight: at least 2.3 kg without rotor				-
	Standard Accessories and Inclusions:				-
	Swing Out Rotor				-
	Max. Capacity: 8x50ML				-
	Max. RPM: 4,000				-
	Max RCF: 2,469				-
	Angle: 45 degrees				-
	Fixed Angle Rotor				-
	Max. Capacity: 8x50ML				-
	Max. RPM: 6,000				-
	Max RCF: 4,226				-
	Angle: 35 degrees				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-RSL IVA (1)				-
6	Drying Oven	6	lot	400,000.00	2,400,000.00
	Specifications:				-
	Controller Type: Microprocessor control with				-
	Temperature Stability: ±0.4°C				-

	Timer: ON / OFF				-
	Temperature: 50°C to 250°C				-
	Capacity: 176 L				-
	Type: Gravity Convection				-
	No. of Shelves: 2 min - 19 max.				-
	Electricals: 208/240 V 60 Hz; 3360W; 14A				-
	Wattage: 3360 w				-
	Dimensions: at least (L x W x H) 29.1 x 25.2 x				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
	-RSL (4)				-
	-Bohol (1)				-
7	Drying Oven (Microbiology)	2	Unit	400,000.00	800,000.00
	Specifications:				-
	Convection: Forced-Air				-
	Capacity: 210 Litres				-
	Temperature range: 40 to 180°C				-
	Fluctuation: ± 1°C				-
	Chamber Material: Aluminium coated mild steel				-
	Exterior Material: Easy clean powder coated body				-
	Int. dimensions (cms): at least 54 high x 93 wide				-
	Ext. dimensions (cms): at least 94 high x 106				-
	Control panel position: Base mount				-
	Control: 3.2 in. colour touch screen temperature				-
	Indicators: Display shows chamber temperature,				-
	Air circulation: Fan assisted, mounted in base				-
	Sensor: Pt100 Class B probes offering high				-
	Shelving: Supplied with 3 off chrome wire shelves				-
	Power supply: 220-240VAC, 50hz				-
	Inclusions:				-
	Compatible AVR and UPS				-
	Data logger thru Controller transferrable via				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (2)				-
8	Fertilizer Ball Mill	1	Unit	300,000.00	300,000.00
	Specifications:				-
	complies with ASTM C409				-
	features a 1/3hp single-phase, geared motor				-
	mounted to a rigid, cast-aluminum base with				-
	grinding mill head construction is made of sturdy,				-
	mill head can be easily removed and				-
	without the use of any special tools				-
	grinding plates are made of a hard iron alloy				-
	Plate-to-plate clearance is easily adjusted by hand				-
	Output capacity is up to 40lbs (18kg) per hour				-
	material hopper provides 50in3(820ml)				-
	with the dry grinding feeder and disk set				-
	Inclusions:				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
9	Fumehood (Perchloric)	1	unit	1,000,000.00	1,000,000.00
	Specifications:				-
	Material: Steel covered with chemically resistant				-
	Solid ceramics: 38mm thick, with integrated				-
	Recommended airflow (m3/h): 650...850				-
	Maximum power consumption (kW): 3.5				-
	Power supply: 220V 60hz				-
	Exit air sub pipe diameter (mm): Ø200				-

	Water supply: G 1/2"				-
	Sewage connection diameter (mm): Ø50				-
	Standard Accessories and Inclusions:				
	Standard airflow sensor, conformity with				-
	Standard equipment: 2 electrical socket 230V				-
	tap, sink				-
	Electrical insulation class: Class				-
	Permissible work board load (kPa): 4				-
	dismantling of old unit , ducting, installation,				-
	validation certificate				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-Bohol (1)				-
10	Fumehood (Regular)	1	unit	1,000,000.00	1,000,000.00
	Specifications:				-
	Material: Steel covered with chemically resistant				-
	Solid ceramics: 38mm thick, with integrated				-
	Recommended airflow (m3/h): 650...850				-
	Maximum power consumption (kW): 3.5				-
	Power supply: 220V 60hz				-
	Exit air sub pipe diameter (mm): Ø200				-
	Water supply: G 1/2"				-
	Sewage connection diameter (mm): Ø50				-
	Standard Accessories and Inclusions:				
	Standard airflow sensor, conformity with				-
	Standard equipment: 2 electrical socket 230V				-
	tap, sink				-
	Electrical insulation class: Class				-
	Permissible work board load (kPa): 4				-
	dismantling of old unit , ducting, installation,				-
	validation certificate				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-Bohol (1)				-
11	Horizontal Reciprocating Shaker	8	Unit	365,000.00	2,920,000.00
	Specifications:				-
	Operating Speed: Variable speed 60 – 260				-
	with tachometer display				-
	Stroke: 1.5" Horizontal				-
	Type of mounting: Benchtop, Suction cup feet to				-
	Load Capacity: up to 50lbs				-
	Power: 230V, 60Hz				-
	Size and weight: at least L-24.5", W-13.5", H-				-
	Standard Accessories and Inclusions:				
	Includes: Utility box carrier with anti-slide surface				-
	with Calibration Certificate				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
12	Incubator	2	Unit	350,000.00	700,000.00
	Specifications:				-
	Air convection: natural				-
	Chamber capacity: 112 L				-
	Controller: Microprocessor with external LCD				-
	Display: 4.3" full colour touch screen				-
	Easy data transfer via LAN, USB ports- multi-				-
	Alarm Safety- visual and sound alarm				-
	Internal memory for programs and data storage				-
	Event registry				-
	Quick change of program parameters				-
	Alarm Bar				-

	Can be operated even with gloves on				-
	Temperature range [°C]: +5°C above ambient				-
	Temperature resolution [°C]: 0.1				-
	Over temperature protection: class 2.0 to DIN				-
	Door type: Double door				-
	Interior: acid-proof stainless steel to DIN 1.4301				-
	Housing: Powder coated sheet				-
	Overall dimensions at least [mm]:				-
	Width: 650				-
	Height: 850				-
	Depth: 710				-
	Internal:				-
	width: 460				-
	height: 540				-
	depth: 450				-
	Shelves: atleast 2				-
	Max shelf workload: 25 kg				-
	Inclusion:				-
	Data logger thru Controller transferrable via				-
	External USB drive (16 GB)				-
	Compatible AVR and UPS				-
	Training with End- Users				-
	Delivery Sites:				-
	-BSWM (2)				-
13	Laboratory Refrigerator	5	Unit	400,000.00	2,000,000.00
	Specifications:				-
	Features:				-
	External Dimensions (W x D x H): at least 800 x				-
	Inclusions:				-
	Data Logger				-
	Compatible AVR and UPS				-
	Training for End user				-
	at least 1 yr warranty on parts and service				-
	Delivery Sites:				-
	-BSWM (5)				-
14	Magnetic Stirrer	2	Unit	100,000.00	200,000.00
	Specifications:				-
	Stirring quantity max. per stirring position (H2O):				-
	Motor rating output: 9 W				-
	Direction of rotation: right / left				-
	Speed display set-value: LCD				-
	Speed display actual-value: LCD				-
	Speed control: Turning knob				-
	Speed range: 50 - 1500 rpm				-
	Setting accuracy speed: 10 rpm				-
	Stirring bar length: 30 - 80 mm				-
	Heat output: 1000 W				-
	Temperature display set-value: LCD				-
	Temperature display actual-value: LCD				-
	Temperature unit: °C				-
	Heating temperature range: room temp. - 500				-
	Heat control: Turning knob				-
	Temperature setting range: 0 - 500 °C				-
	Automatic reverse rotation: yes				-
	Intermittend mode: yes				-
	Viscosity trend measurement: yes				-
	Timer: yes				-
	Sensor in medium detection (Error 5): yes				-
	Temperature measure range PT1000: -10 - 400 °C				-
	Speed deviation (no load,nominal voltage, at				-
	Heating rate (1l H2O in H1500): 5 K/min				-
	Heat control accuracy of heating plate (at 100°C):				-
	Permissible ambient temperature: 5 - 40 °C				-

	Permissible relative humidity: 0.8				-
	Protection class according to DIN EN 60529: IP 21				-
	RS 232 interface: yes				-
	USB interface: yes				-
	Voltage: 220-230 / 115 / 100 V				-
	Frequency: 50/60 Hz				-
	Power input: 1020 W				-
	Power input standby: 2 W				-
	Accessories:				-
	with extension, head clamp, holding rod				-
	with temperature sensor				-
	with magnetic stirring bar				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (2)				-
15	Plant Tissue Grinder	2	Unit	350,000.00	700,000.00
	Specifications:				-
	Application: Tissue homogenization, grinding,				-
	LCD: Micro computer controled,7 inch				-
	Speed: 10-70 HZ/M				-
	Adapter Material: PTFE or alloy steel				-
	Grinding method: Dry,wet,cryogenic grinding				-
	Final size: ~5um				-
	Power: 220V/50HZ 2 phases				-
	Grinding Ball Material: Alloy				-
	Dimension: at least 280*400*530mm				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-Bulacan (1)				-
16	Refrigerated Centrifuge	2	unit	605,000.00	1,210,000.00
	Specifications:				-
	Rotor Capacity: 4 x 180 ml				-
	Max. Speed: 5,500 rpm				-
	Max. RCF: 5,580 x g				-
	Control system: Microprocessor				-
	Display: Digital				-
	Centrifugation Chamber: Corrosion-resistant, high				-
	Memory: 6 programs, direct access				-
	Maximum Timer Range: 9 hr, 59 min, plus				-
	Electrical: 230V, 50/60 Hz				-
	Dimensions: at least 24.5 x 23.8 x 14.2 in WDH				-
	Temperature Range: -10 to +40°C				-
	Sound Level (dBA): <61				-
	Drive System: Direct, brushless induction low				-
	Rotor Locking System : Push-button Auto Lock III				-
	Standard Accessories and Inclusions:				-
	1 pc - Swinging Bucket Rotor				-
	1 set - Round Buckets (set of 4)				-
	1 set - Biocontainment Lids (set of 4)				-
	1 set - Adapter for 15 ml conical tubes (set of 4)				-
	1 set - Adapter for 50 ml conical/skirted tubes				-
	1 set - Microliter 30 x 2 ml Aluminum Fixed Angle				-
	with ISO Calibration Certificate				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
17	Reciprocating Shaker	1	Unit	340,000.00	340,000.00
	Specifications:				-
	Shaking Method: Reciprocal				-
	Shaking Speed: 20 - 200rpm				-
	Amplitude: 10 - 40mm (variable sequentially)				-

	Platform size: at least 400 x 300mm				-
	Loading Limit: Approx. 8kg (include shaking rack)				-
	Shaking speed display: Digital				-
	Integrating indicator of shaking time: 0.1 - 999.9h				-
	Safety device / function: Motor protection circuit				-
	Dimensions: at least 450 x 405 x 160Hmm				-
	Weight: at least 17kg				-
	Power Supply: AC100V 0.5A				-
	Standard Accessories and Inclusions: necessary tubes and rotors, and other				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-RSL IVA (1)				-
18	Sonicator	2	Unit	70,000.00	140,000.00
	Specifications:				-
	Frequency : 53KHz				-
	Timer : 1~99 min				-
	Tank capacity : 6L				-
	Housing : SS304 stainless steel				-
	Stainless steel cover : Yes				-
	Ultrasonic power : at least 180W				-
	Degas power : at least 180W				-
	Net weight : at least 5.0 kg				-
	Gross weight : at least 6.0 kg				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (2)				-
19	Test Tube Mixer	5	Unit	30,000.00	150,000.00
	Specifications:				-
	Construction material: zinc alloy and				-
	Support system: 4 anti-sliding feet				-
	Orbital diameter: 4.5 mm				-
	Speed setting: analog				-
	Speed control: electronic				-
	Speed: up to 3000 rpm				-
	Operating modes: touch, continuous				-
	Electronic protection degree CEI EN 60529: IP 42				-
	Power: 15 W				-
	Weight: at least 2.7 Kg (5.9 lb)				-
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (5)				-
20	Water Distilling Unit	1	unit	600,000.00	600,000.00
	Specifications:				-
	Output: 12 L / hr.				-
	Storage Tank: 24 L				-
	Water consumption: at least 198L / hr.				-
	Dimensions (W x D x H): at least 780 x 410 x				-
	Power: 9000 W				-
	Voltage: 400V* 50/60 Hz, 3-phase current				-
	heating element made of stainless steel				-
	Standard Accessories and Inclusions:				-
	3-stage pretreatment filters, good for 1 year				-
	3 storage containers				-
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-Bohol (1)				-
	TOTAL:				21,530,000.00

SUPPLY AND DELIVERY OF VARIOUS TECHNICAL AND SCIENTIFIC EQUIPMENT FOR CY 2021

Item #	Item Description	Quantity	Unit	Unit Cost	Total Cost
	2021-07-1352: LOT 2 - SOIL GRINDING EQUIPMENT				
1	Cross Beater Mill	17	pc	1,500,000.00	25,500,000.00
	Specifications:				-
	Working principle: impact				-
	Grinding tools: cross beater				-
	Materials of the grinding tools: hardened steel				-
	Max. feed size (depending on the material): 25				-
	Min. sample quantity: 40 - 50 ml				-
	Max. throughput: at least 80 l/h				-
	Final fineness (sieve inserts): 0.12 - 10 mm				-
	Feeding: batchwise/continuous				-
	Rotor speed: 2,000 - 4,000 rpm				-
	Electrical Details: 200-240 V/1~, 50/60 Hz, 1500				-
	Standard Accessories and Inclusions:				-
	Bottom sieves made of stainless steel 316L:				-
	3 sets - 0.5 mm trapezoidal perforation				-
	5 sets - 2 mm trapezoidal perforation				-
	1 set - universal support stand				-
	5 units - pipettor, 100-1000 µl				-
	1 set - Small volume cyclone separator made of				-
	1 set - cyclone system adaptor				-
	1 unit - vacuum instrument				-
	Compatible AVR and UPS				-
	Training for End user				-
	at least 1 yr warranty on parts and service				-
	Delivery Sites:				-
	-BSWM (1)				-
2	Jaw Crusher	2	pc	4,500,000.00	9,000,000.00
	Specifications:				-
	Working principle: pressure				-
	Grinding tools: fixed and movable crushing jaws				-
	Materials of the grinding tools: zirconium oxide				-
	Max. feed size (depending on material): 95 mm				-
	Min. sample quantity: 20 ml				-
	Max. continuous throughput (depends on material)				-
	Final fineness: 0.3 - 15 mm				-
	Feeding: batchwise/continuous				-
	Eccentric oscillations: up to 308 movements/min				-
	Voltage: 200 V/3~, 50/60 Hz, 3490 W				-
	Standard Accessories and Inclusions:				-
	1 set - fixed crushing jaw, zirconium oxide				-
	1 set - movable crushing jaw, zirconium oxide				-
	1 set - pair made of zirconium oxide				-
	1 set - silent type vacuum cleaner with complete				-
	1 set - Exhaust system, dust category "M"				-
	10 pcs - fleece filter bag for exhaust system				-
	5 pcs - plastic bag for exhaust system (pack = 5				-
	1 set - Compatible AVR and UPS				-
	Training for two (2) end-users at manufacturer's				-
	at least 1 yr warranty on parts and service				-
	Delivery Sites:				-
	-BSWM (1)				-
3	Rotary Cone Sample Divider	1	pc	1,200,000.00	1,200,000.00
	Specifications:				-
	Division ratio: 1:8, 1:10, 1:30				-
	Number of possible sub-samples: 8, 10 or 3				-

	Division: wet/dry				-
	Materials: POM Plastic, aluminium or PTFE-				-
	Capacity of sample bottles: 30, 250, 500 ml				-
	Max. feed particle size: 10 mm, 2.5 mm				-
	Max. sample quantity: 4,000, 2,500, 300 ml				-
	Maintenance-free drive motor with slipping				-
	Electrical details: 230 V/1~, 50-60 Hz, 90 Watt				-
	Standard Accessories and Inclusions:				-
	Division ratio 1:8				-
	Division ratio 1:10				-
	Division ratio 1:30				-
	32 pcs - sample bottle 250 ml (division ratio 1:8				-
	1 each - funnel (5 mm, 10 mm, 22 mm) dia				-
	1 set - protective device, polyacryl				-
	accessories for automatic feeding instrument incl.				-
	1 pc - stand for feeder				-
	Compatible AVR and UPS				-
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				-
	-BSWM (1)				-
4	Sieve Shaker	3	pc	750,000.00	2,250,000.00
	Specifications:				-
	Method of analysis: sieving				-
	Sieving action: two-dimensional				-
	Dry sieving				-
	Measuring range: 20 µm - 63 mm				-
	Max. sample quantity approx.: for sieves < 63 mm:				-
	Sieving time approx.: 3 - 20 min				-
	Wet sieving				-
	Measuring range: 20 µm - 10 mm				-
	Max. sample quantity approx.: 20 - 100 g				-
	Sieving time approx.: 30 - 60 min				-
	Micro precision sieving				-
	Measuring range: 5 µm - 100 µm				-
	Max. sample quantity at least: 0.05 - 0.5 g				-
	Sieving time approx. at least.: 30 - 60 min				-
	Further details				-
	Sieve diameters: 100 mm, 200 mm or 8"				-
	Max. number of sieves per sieve stack: 10 (50 mm				-
	Max. weight of sieve stack: at least 3 kg				-
	Max. height of sieve stack: at least 550 mm				-
	Amplitude: 0.1 - 3 mm				-
	Amplitude control: automatic				-
	Interface: yes				-
	Intermittent mode: yes				-
	Memory for 10 parameter combinations: yes				-
	Electrical details: 100-240 V/1~ 50-60 Hz, 50-60				-
	Standard Accessories and Inclusions:				-
	1 set - clamping lid plexiglas for test sieves 200				-
	1 set - sieve pan made of stainless steel at least				-
	1 unit - riffle splitter per delivery site,				
	Frame and mesh wire made of stainless steel				
	Compatible AVR and UPS				
	Training for End user				
	at least 1 yr warranty on parts and service				
	Delivery Sites:				
	-BSWM (1)				
	TOTAL:				<u>37,950,000.00</u>