



Republic of the Philippines  
**DON HONORIO VENTURA STATE UNIVERSITY**  
Villa de Bacolor, Pampanga

**SUPPLEMENTAL/BID BULLETIN NO. 1**

**ENHANCEMENT OF ENGINEERING LABORATORY EQUIPMENT**  
**ABC: P 10,000,000.00**

This bid bulletin dated November 23, 2020 is issued to clarify, modify or amend items in the Bidding Documents. This shall form an integral part of the Bid Documents.

- Under Section I. *Invitation to Bid* - No. 9

As stated in the Bid Document	Modification/Amendment
Bid opening shall be on November 25, 2020, 10:30 am.	Bid opening shall be on December 1, 2020, 2:30 pm (as discussed during the Pre-Bid Conference).

- The format for the bidding forms (bid form, omnibus sworn statement, contract agreement, bid securing declaration) in the fifth edition of the Philippine Bidding Documents will still be adopted for the procurement of the above project. Copies of such will be sent via email upon request.
- Under *Section II. Instruction to Bidders*, No. 15 (Sealing and Marking of Bids), the procuring entity will be requesting **one (1) original and four (4) additional copies** of the first and second components of the bid. It is also advisable that documents will be arranged and organized, preferably with tabs/separators.
- Under *Section VII. Technical Specifications*  
***Fluid Mechanics and Hydraulic Apparatus***

<b>1. Hydrostatic and Properties of fluids</b>
Capable of the following: <ul style="list-style-type: none"><li>• Determining of fluid properties includes density, specific gravity, surface tension and viscosity</li><li>• Demonstrating of hydrostatic principles such as Pascal's law, Archimedes' principle and determination of pressure at a point in a fluid</li><li>• Experiments of buoyancy, flotation and metacentric height, forces on a plane surface, hydrostatic pressure, operation and dead weight pressure gauge calibrator and liquid column manometers</li><li>• Principles of a hydrometer usage</li></ul>

- Capillarity in tubes and between plates
- Measurement of viscosity by falling sphere method
- Measurement of fluid levels by vernier hook gauge
- Fluid flow head relationship
- Stability of a floating body
- U-tube manometers with fluids of various density

Supplied with:

- Reservoir tank with hand pump
- Hook gauge
- Fluid level apparatus: 5 off interconnected glass tubes of varying cross sections and shapes
- Pressure gauge: Bourdon type with visible mechanism and dead weight calibrator
- Manometers: 2 off U-tubes
- Capillarity apparatus: glass tubes of various bores, glass plates with plastic shims for various separations
- Calibrated hydrometer
- Measuring cylinder
- Graduated beaker
- Timer
- Floating rectangular pontoon with adjustable centre of gravity
- Specific gravity bottle
- Eureka can
- Air pump
- Three-beam balance
- Centre of pressure tank and balance
- Archimedes' mass
- Various ball bearings

Surface tension balance include:

- 5 x glass slides
- 50 off masses (stainless steel bearings)
- 1 m wire
- Hexagon tools

Hares tube include:

- 3 x 100 ml glass beakers
- 2 acrylic tubes mounted on a metal frame, connected in an 'm' formation to a syringe.

## **2. Permeability tank**

- Visualisation and measurement of flow through porous medium
- Dye-injector system to visible flow lines
- Clear plate glass resists abrasion to visible flow patterns

- Includes pressure tappings and piezometer tubes to measure head distribution; Plates to simulate models of walls, sheet piling and dams ; adjustable overflow pipes to vary the head across the models
- Capable of the following:
- Determination of seepage beneath a structure
  - Constructing of flow nets and determination of coefficient of permeability
  - Stream under a sheet pile and determination of critical seepage force at which ‘piping’ occurs
  - Seepage stream under an impermeable dam
  - Stream through an earth dam with and without a toe drain
  - Reduction in horizontal stream (simulation of ground water flow into a river or well)
  - Determine of uplift pressures on structures building foundations
  - Flow through a porous medium (Darcy’s law)

### ***Construction Material and Testing and Soil Mechanics Equipment***

#### **3. Heavy Duty Oven**

Digital Display Constant Temperature Convection Oven  
Specifications:

1. Temperature range: 50-300°C
2. Accuracy:  $\pm 1^\circ\text{C}$
3. Heater: 2 groups
4. Perspective window to look inside
5. Working voltage: AC220V
6. Capacity: 225L

#### **4. Sieve Shaker**

Specifications:

1. Shaking frequency: 2500/min.
2. Shaking method: up and down
3. Shaking amplitude: 1.5mm
4. Time setting: 0 – 30min. selectable
5. Sieve size: Ø200 x 50mm opening: 20 – 0.75mm
6. Motor power: 25W
7. Power supply: 220V

### ***Surveying Equipment***

#### **5. Electronic Prismless Total Station**

Powerful, Precise & Rapid Measurements:

- 5km/5000m single prism range
- 6 Line Large Dual LCD Display
- 24 Alphanumeric Keys for Easy and Quick Data Input - SD Card, USB Cable and RS232 Interface:

#### **6. Global Positioning System**

Display size

1.5"W x 2.5"H (3.8 x 6.3 cm); 3" diag (7.6 cm)

Display resolution

240 x 400 pixels Display type transflective color TFT touchscreen Touchscreen Yes
<p><b>Bidder additional requirements:</b></p> <ol style="list-style-type: none"> <li>1. Training: 5 days actual training at site</li> <li>2. Delivery Period: 150 calendar days</li> <li>3. Warranty: Bidder must submit 5yrs Manufacturer Warranty Certificate</li> <li>4. After Sales Support: Bidder should provide re-training and maintenance free of charge within 5 years upon request of DHVSU</li> <li>5. Bidder should include in the bid proposal Experiment / Laboratory Manual</li> <li>6. Country of Origin for items 1 and 2 should be made in any of the following countries: Europe, UK, Japan or USA</li> <li>7. Bidder should submit Similar Project be related to CIVIL ENGINEERING EQUIPMENT</li> </ol>

#### **Important Reminders:**

- **Dropping of Bids** will be at the Bids and Awards Committee Office, 2<sup>nd</sup> Floor University Food Center (UFC), DHVSU Main Campus, Bacolor, Pampanga. As a precautionary measure and to give time for disinfection of the submitted bids, submission at least **two (2) days** before the opening is **encouraged**. However, bids can still be accepted until December 1, 2020 at 2:29 pm.
- Online/electronic submission of bids is not yet permissible.
- **Opening of Bids** will be on **December 1, 2020 at 2:30 PM** and proceedings will be streamed via Zoom. Meeting link will be sent to the official email address provided by the participating bidders. However, non-bidders who wish to observe during the opening may send a written request to the procuring entity thru email-DHVTSUBACSECRETARIAT@gmail.com.
- Bidders at any time shall strictly follow the **University's standard health and safety protocol** as set forth by the National Government thru IATF against Covid-19.

Please be guided accordingly.

**(SGD) ANTONIO B. MERCADO**  
Head, BAC Secretariat

**(SGD) RANIE B. CANLAS, MSCpE**  
Chairman, Bids and Awards Committee