

## ***Section VII. Technical Specifications***

### **Notes for Preparing the Technical Specifications**

A set of precise and clear specifications is 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 No. | Specification  | Statement of Compliance  |
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|          |  | <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> |
| 1        | <b>AUTOMATIC LEVEL PACKAGE</b><br>- Magnification 26X - 30X   Stadia Constant   Accuracy*: +/- 1.5mm (0.06 inch)   Leveling Accuracy @ 50m: 2.5mm   Aluminum Tripod   Measuring Rod Level Staff   With calibration sticker and certificate |  |
| 2        | <b>DIGITAL COMPRESSION TESTING MACHINE</b><br>- Oil Pump Motor Power: 0.75 kW   Machine Size: 900mm x 400mm x 1200mm   Accessories: Capping Retainer with Neoprene   With calibration sticker and certificate                              |  |





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| 3 | <p><b>DIGITAL DIRECT SHEAR MACHINE</b></p> <ul style="list-style-type: none"> <li>- Dead-Weight (120V, 50/60Hz)   2000KN Capacity (200TONS)  Load Capacity 2000 Kn (<math>\pm 1\%</math> Accuracy)   Plate Size 300mm x 300mm   *High Precision Sensor, Easy Operation, Digital Display, High Reliability, Zero Leakage and Automatic Data Processing   Display: monochromatic large digital display (240*128 pixel)   Motor: high accuracy stepper motor with 1/10.000 resolution   Test velocity: infinitely variable from 0.00001 to 9.99999mm/min (within <math>\pm 1\%</math>)   Maximum horizontal force: 5KN   Maximum shear cycles:9 (forward and reverse )   Maximum travel:20mm   Height of the specimen:20mm   Maximum air pressure supply:10 bar(Only for DDS-5F)   Maximum working air pressure: 9 bar   Overall dimensions: 820×500×770mm   Maximum vertical force:5kN   Shear Box Accessories: Loading yoke, Tamper, Shear box, and Cutter   With calibration sticker and certificate</li> </ul> |  |
| 4 | <p><b>DIGITAL PLATFORM BALANCE</b></p> <ul style="list-style-type: none"> <li>- 150 KG CAPACITY Technical Data: *Superior Display Size: Digit height 24mm   Bright Backlight for easy reading of weight   *Internal Resolution: 1/600,000   *Standard RS-232 can connect to a printer (LP-50) or computer.   * Single scale input (impedance <math>&gt; 87\Omega</math>; <math>&lt; 350\Omega</math>)   *Power supply: integrated in balance. 220V/60Hz, AC-DC adapter 12V/500mA, internal rechargeable battery 6zV/4Ah.   *Dimension Platform: 420mm x 520mm   With 1 year Calibration Certificate by Supplier and must be DPWH-BRS Accredited   With calibration sticker and certificate</li> </ul>   |  |
| 5 | <p><b>GLOBAL POSITIONING SYSTEM</b></p> <ul style="list-style-type: none"> <li>- Rover Base, RTK &amp; GNSS   1808 Channels All constellation supported   Fast fixed technology even in heavy canopies   Long-range capabilities up to 8km+++ without external radio   Auto-IMU Tilt: 60° (With Calibration)   Single button operation with 4 LED indicator   With advanced Anti-magnetic Interference   Built-in 8GB SSD +</li> </ul>  |  |

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|   | <p>Up to 64GB External Memory IP68: Both the main receiver and controller are waterproof, ensuring durability in harsh environments   With long-lasting battery and can be powered by solar or a standar powerbank   Battery life: up to 20hrs (10200mah)</p> <p>ACCESSORIES: 1pc. SE Lite Base   1pc. SE Lite Rover   1pc. Android Controller   2pcs. Charger for RTK   1pc. Charger for Controller   2pcs. UHF Antena   1pc. Tribach with adapter   1pc. Pole extender   1pc. Bracket   1pc. Lightweight Carrying Case   1pc. Aluminum Tripod   1pc. Fiberpole   1pc. Pole Extender 1meter   With calibration sticker and certificate</p>           |  |
| 6 | <p><b>MECHANICAL SAMPLE SPLITTER</b></p> <p>- Stainless Steel   Manually Operated   Parallel Split Chutes Opening Size 3/4"   With calibration sticker and certificate</p>  |  |
| 7 | <p><b>SET OF STANDARD SIEVES WITH PAN AND COVER</b></p> <p>- (SIEVE, STD., 200mm, 8 Inch Diameter   1 pc. - 200mm x 3" MESH   1 pc. - 200mm x 2 1/2" MESH   1 pc. - 200mm x 2" MESH   1 pc. - 200mm x 1 1/2" MESH   1 pc. - 200mm x 3/4" MESH   1 pc. - 200mm x 1/2" MESH   1 pc. - 200mm x NO. 4" MESH   1 pc. - 200mm x NO. 8" MESH   1 pc. - 200mm x NO. 10" MESH   1 pc. - 200mm x NO. 16" MESH   1 pc. - 200mm x NO. 30" MESH   1 pc. - 200mm x NO. 40" MESH   1 pc. - 200mm x NO. 50" MESH   1 pc. - 200mm x NO. 100" MESH   1 pc. - 200mm x NO. 200" MESH   1 pc. - 200mm x 50mm DEEP BRASS PAN   With calibration sticker and certificate</p> |  |
| 8 | <p><b>TOTAL STATION</b></p> <p>Measuring Range Distance: 0.9 to 100m   Vertical Range (at 0.90 to 22m distance) <math>\pm 25</math> deg, (at 22m to 100m distance) <math>\pm</math> deg   Horizontal Range 360deg   Positioning Accuracy H: 1.5mm at 50m; V:3mm at 50m   Measuring Accuracy <math>\pm 3</math>mm (distance)/5° (angle)   Automatic leveling rang <math>\pm 3</math> deg   Tilt correction type 2-axis liquid compensator   Tilt correction working range</p>  |  |





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|                                   | ±6'   Automatic tracking range 0.90 to 100m<br>  Automatic working range 360deg<br>(horizontal), ±25 deg Vertical   with<br>reflectorized prism   with Tripod   With<br>calibration sticker and certificate   |  |
| 9                                 | <b>UNIVERSAL TESTING MACHINE</b><br><br>- 200kN Servo Fully Automatic   Load<br>Capacity: 200kN   Standard: ASTM A370<br>EN ISO 6892 EN ISO 7500-1 EN ISO<br>15630-1   Range: 2%-100%F.S.(Full Range,<br>without gear)   Reading Accuracy: Grade 1  <br>Error: ±1%   Resolution (F.S.):<br>1/200000F.S.(1/300000 F.S.)   Column<br>Number: 4   Width between two column:<br>430   Max tensile space(mm): 600   Max<br>compression space(mm): 600   Bending test<br>Distance between two points (mm): 100-<br>270   Round specimen clamp diameter(mm):<br>Ø10-Ø32   Flat specimen clamp thickness<br>(mm): 0-15   Stroke (mm): 150   Pistons rise<br>fastest speed(mm/min): 100   Beam rising<br>speed (mm/min): 250   Displacement<br>reading relative error: ±1%   Deformation<br>reading relative error: ±1%   Motor capacity<br>(KW): 2   Main unit dimension (mm):<br>740×460×1900   Oil source cabinet<br>dimension (mm) : 1000×600×910   Main<br>unit net weight (Kg): 1200   Oil source<br>cabinet net weight (Kg) 250   With<br>calibration sticker and certificate |  |
| <b>***** Nothing Follows*****</b> |   |  |

**Additional Requirements:**

The technical specification that shall be submitted by the Bidder shall include, among others:

- a. *product specifications as supported by brochures or catalogues for Item Nos. 2, 3, 5, 8 & 9;*
- b. *bidder's certification that it has after-sales support in Region X for all items;*
- c. *bidder's certification for one (1) year warranty for Item Nos. 1, 4, 6 & 7 only;*
- d. *bidder's certification for two (2) years warranty for Item Nos. 2, 3, 5, 8 & 9 only;*
- e. *certification of Service Center within the Philippines for all items;*
- f. *certification from manufacturer/distributor that bidder is an authorized reseller for all items; and*
- g. *certification of the bidder as an accredited DPWH-BRS for calibration.*

I hereby verify to comply with all the above requirements.

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Signature over printed name of the authorized representative

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Date

