

**Director of Agriculture  
Bihar, Patna**

**Invitation of Tender**

Sealed tenders in prescribed format are invited only from ISO certified manufacturers or their authorized dealers who do business with ETHICAL and MORAL values, for the purchase of Mobile Soil Testing Laboratory (Van with instruments), Atomic Absorption Spectrophotometer (AAS), Electronic Balance with internal calibration, and Soil Sample Crusher for Soil Testing Laboratories, under Directorate of Agriculture, Bihar, Patna.

Bids, complete in all respect should reach in the office of Deputy Director of Agriculture (Central Soil Testing Laboratory) Bihar, Mithapur Farm, Patna-800001 latest by 12:00 hours on **12.11.2014**. The bids will be opened in the office chamber of the Director Agriculture, Vikash Bhawan, Patna-15 on the same day at 3:00 PM. Bidders themselves or their representatives may attend the meeting. Pre bid meet is also scheduled on 27.10.2014 (Monday) at 03:00 PM

Tender details are available on website: [www.krishi.bih.nic.in](http://www.krishi.bih.nic.in) and also at [www.prdbihar.gov.in](http://www.prdbihar.gov.in)

Joint Director of Agriculture,  
Adaptive Research  
Bihar, Patna.

**Government of Bihar**  
**Office of Director Agriculture**  
**Agriculture Department**

**LIST OF ANNEXURE FOR TENDER DOCUMENT**

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1	General Terms & Condition, EMD, PSD, After Sales Services, CMC, MSTL Van Terms & Condition, Detailing of Technical Bid Proforma, Quoting Rate, Detailing of Financial Bid Proforma, Opening of Offer date & address. Certificate by Bidder.	Main Body of the Document	1 - 5
2	List of Minimum Technical Specifications as under Group A for MSTL Van Body, AAS, Spectrophotometer, Digital Flame Photometer, Digital Conductivity Meter, Digital pH Meter, Soil Sample Crusher, Rotary Shaker, Electronic Balance, Hot Plate, Genset, AC, Stabilizer, Fire Extinguisher, RO, Laptop, Printer, Home UPS, Chemicals, Glassware & Plasticwares, Laboratory Articles with MSTL Van.	I	6 – 8
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**General Terms and Conditions**

1. Sealed tenders in prescribed format are invited only from bonafied and ISO certified manufacturer or their authorized dealers / registered suppliers who do business with ETHICAL and MORAL values, for the purchase of essential equipments / instruments only for the following items-

Group / Item No	Instruments/Equipments	Expected Nos.	EMD amount	Delivery Point/ Paying Authority
<b>A</b>	<b>Van with Instruments and other accessories</b>			
1	Mobile Soil Testing Laboratory (Composite one) with following items as per terms & condition and <b>annexure I</b> - (specifications for every item is as per <b>annexure -I</b> ) Any suitable four wheeler van having more than 6 ton capacity ( Bus Type ) including requisite fabrication on <b>annexure -I</b>	9 (Nine)	Minimum 2% of quoted item's expected price. i.e. quoted price X expected nos. X 0.02 (Min.)	Patna, Gaya, Saran, Muzaffarpur, Darbhanga, Munger, Bhagalpur, Purnea, Saharsa,
2	Atomic Absorption Spectro Photometer with accessories and Gas cylinder (Filled)			
3	Spectrophotometer			
4	Digital Flame Photometer with Gas cylinder (Filled)			
5	Digital Conductivity Meter			
6	Digital pH Meter			
7	Soil Sample Crusher			
8	Rotary Shaker			
9	Table Top Electronic Balance			

10	Hot Plate (Rectangular)			
11	Green Gen Set Silent 7 KVA			
12	Air Conditioner & Suitable capacity Stabilizer			
13	Fire Extinguisher			
14	RO (Reverse Osmosis-Drinking Water)			
15	Lap Top ,Printer & Home UPS			
16	Chemicals for 1000 soil samples analysis <b><u>annexure -II,</u></b> Glasswares/Plasticwares & Lab Articles for 50 soil samples analysis at a time, Aspirator Bottle with Stopcock for Distilled Water of 20 lts X 2 no. + 10 lts (1no.) <b><u>annexure - III</u></b>			
17	Other accessories and helping instruments			
<b>B</b>	<b>Equipment for Static Soil Testing Laboratory</b>			
1	Atomic Absorption Spectro Photometer with Accessories and Gas cylinder (specification as per <b><u>annexure - V)</u></b>	8		Nalanda, Vaishali, East Champan, Aurangabad, Katihar, Nawada, Siwan, Kaimur.
<b>C</b>	<b>Instruments for Static Soil Testing Laboratory</b>			
1	Electronic Balance with internal calibration (specification as per <b><u>annexure – VI (1)</u></b> )	4		JDA AR,Patna, CSTL,Patna, Ara, Bettiah.
2	Soil Sample Crusher (Specification as per <b><u>annexure - VI (2)</u></b> )	39		CSTL,Patna & all the 38 districts of the State STL.

**Note :-** The quantity may vary as per the actual requirements.

2. As per Bihar Financial Rules the tender should be submitted in two bid systems (Technical & Financial bids) in separate envelope **for each group item** in prescribed **Technical bid form-1** and **Financial Bid Form-2 group wise** as enclosed. The Technical Bid & Financial Bid should be submitted group wise separately in **sealed cover** super-scribed as "***Bid for supply of MSTL (Gr A) / Laboratory Equipments (Gr B) / Laboratory Equipments (Gr C)***" as applicable, addressed in manner given in **Para 23 of the general terms & conditions**. The name & address with email & Telephone/Mobile no. of the bidder should also be written/ printed on the cover of the envelopes containing Technical & Financial Bids. On the Technical bid and Financial bid envelope bidder should also mention the **GROUP and ITEM NOS.**
  - 2.1. Technical Bid should contain all the technical details along with proof of specification of the tendered items with original brochures, ISO/BIS Registration Certificate, Earnest Money Deposit (EMD) & other supporting papers except financial part of tendered item. All required details in the **Technical Bid Form-1** should be complete in itself and duly page numbers entered as per the column.
  - 2.2. Financial Bid should contain price of the quoted items in the prescribed **Financial Bid format Form-2 group wise** duly completed in all respect.
3. Bidders are required to be registered in the Income Tax Department & in the Sales Tax Department of Bihar State also as per state government norms.
  - 3.1 Bidders have to enclose last 3 years audited report.
  - 3.2 Bidders for group 'A', & 'B' should have annual turn over of more than Rs Two Crores of last three years successively.

- 3.3 Bidders have to submit supply order of such laboratory items in Government/Semi-Government sectors for minimum amount of Rs. 25 Lacs during the last 3 years.
4. **Firms will have to deposit an Earnest Money Deposit (EMD) as mentioned in para column 4 in the shape of crossed DD/FDR/Banker's cheque in favor of Deputy Director of Agriculture (Central Soil Testing Laboratory) Bihar, Patna payable at Patna.**
  5. Except successful bidder, the EMD will be returned to the Firms after completion of the tender formalities.
  6. A pre appraisal presentation will have to be given before the technical committee the date of which will be communicated on the mail address of the Bidders. This will add to the technical performance of the manufacturer.
  7. For group A & B, performance Security Deposit (PSD) @ 5% of order Value of the contract will have to be made within 7 days on receipt of the supply order to ensure due performance of the contract by the successful bidders. The amount should be deposited with the respective purchasing authority / paying authority.  

After depositing the PSD the earnest money will be returned to successful bidder. Performance security deposit will be refunded when contract period expires (i.e. one year from installation of instruments). If the instrument supplied is/are not working satisfactorily during the contract period & the services provided is inadequate the expenses incurred for repairs & spares will be recovered from PSD or as the case, full deposit may be forfeited.
  8. Conditional tender will not be accepted.
  9. Tender must enclose Technical Brochure in original and duly attested by the firm for the quoted brand items so that required specifications may be confirmed.
  10. All taxes & duties must be indicated clearly and separately in the **Financial Bid Form 2 group wise.**
  11. In case of any ambiguity & false information found, the tender is liable to be rejected. EMD will be forfeited and company will be blacklisted.
  12. Quoted rates should be in INR & valid up to **31<sup>st</sup> March, 2015** from the tender opening date.
  13. Quoted equipments should carry minimum one-year warranty for all the items from date of Installation & additional 4(four) years CMC (Comprehensive Maintenance Contract – implies service & spares) for Atomic Absorption Spectrophotometer with accessories, Spectrophotometer, Digital Flame Photometer, Digital Conductivity Meter, Digital pH meter, Soil Sample Crusher, Rotary Shaker, Electronic Balance, Hot Plate, Green Gen Set, Suitable capacity Stabilizer, Air Conditioner, Fire Extinguisher, RO (Reverse Osmosis – Drinking Water Purification system), UPS Home, Lap Top, Printer.  
    - In case of authorized dealers/supplier the documents regarding CMC must be approved and supported by the manufacturer.
  14. Tender will not be accepted after the last date & time.
  15. Payment will be made only after check up of the product as per specification, proper installation, satisfactory demonstration & its operationalization.
  16. Bidder will have to arrange training for operation of the instruments/equipments to the concerned technical officials free of cost.
  17. Price quoted must include all concern essential accessories to the equipments/apparatus etc.
  18. Successful bidders will have to deliver the items within 30 days of supply order received, unless extended. In case of imported items, bidders are expected to mention at the earliest about the delivery period.
  19. Bidders are at liberty to withdraw or amend their quotations till the prescribed date and time of the tender.

20. No separate intimation will be delivered to the bidders regarding attending the meeting of the Tender Opening Committee.
21. In case of delay or failure in supply, order may be cancelled & PSD forfeited.
22. Undersigned reserves the right of acceptance of the tender in part, or rejecting any one or all at any stage without assigning any reason.
23. The Sealed tender completed in all respects will be received at the office of the **Deputy Director of Agriculture (Central Soil Testing Laboratory) Bihar, Mithapur Farm, Patna latest by 12:00 hours on 12.11.2014**
24. Technical tenders will be opened at 15:00 hours on **12.11.2014** in the office of Director of Agriculture, Bihar, Vikash Bhawan, Patna.
25. Bidders may remain present in self or through representatives during opening of tenders. Tenders will be opened even if no bidders or their representatives are present.
26. In case of any dispute, the jurisdiction will rest with Patna High Courts only.

**MSTL Van Terms and Conditions**

***Along with General Terms & Conditions***

1. Supplier should have complete solution comprising Van, required equipments with accessories & logistics.
2. For group A consisting of MSTL Van with instruments and other accessories price, should be quoted for complete set of unit i.e. vehicle and instruments with accessories in prescribed.  
**Financial Bid Form 2 Group-A.**
3. Registration, Insurance and entry tax of Van will be made as per actual.(Basic Price, Excise, CST/VAT, Road Tax)
4. Warranty and servicing of vehicle will be as per the authorized dealer who is able to provide after sales annual service guarantee facilities along with supply of genuine spare parts.
5. Instruments like Spectrophotometer, Digital Flame photometer, Digital Conductivity meter, Digital pH meter, Green Genset silent, Air Conditioner with suitable capacity Stabilizer, RO, Laptop, Printer, and Home UPS should have service centre in Bihar.
6. Payment to the suppliers will be made after complete delivery of the each MSTL van at the defined location.
7. Year wise AMC cost, excluding tax & Insurance Charges, of vehicle should be as per the norms of the manufacturer.
8. The supplier will have to provide Training of handling MSTL van as well as the instruments.
9. MSTL van equipped with Lab Instruments like AAS with accessories, Spectrophotometer, Digital Flame photometer, Digital Conductivity meter, digital pH meter, Soil Sample Crusher, Rotary Shaker, Electronic Balance, Hot Plate, Green Genset, Suitable capacity Stabilizer, Air Conditioner, Fire Extinguisher, RO (Reverse Osmosis-Drinking Water), Home UPS, Lap Top, Printer should be such that provision for at the spot service immediately on call be made available.

10. Chemicals to be supplied for each Mobile Soil Testing Laboratory will be for analysis of minimum 1000 samples as per **annexure - II**
11. Glasswares / Plasticwares & Lab Articles to be supplied for each Mobile Soil Testing Laboratory will be for analysis of minimum 50 samples at a time with suitable rack & as per **annexure - III**
12. Chemical, Glasswares & Plasticwares with Lab Articles to be provided with the MSTL Van should be of a reputed company like Merck / Rankem / Aldrich / Sigma / Tarsons / Borosil & Filter paper should be of Whatman
13. **MSTL Van Lay Out-** MSTL Van plan out lay is attached with inside, LHS & RHS view as per **annexure – IV A, B, & C**

Dy. Director of Agriculture,  
Central Soil Testing Lab,  
Bihar, Patna

Joint Director of Agriculture,  
Adaptive Research,  
Bihar, Patna.

### **CERTIFICATE:**

Certified that the information furnished above are true and correct to the best of our/my knowledge and belief. In case, any or all the information given above is found to be incorrect at any time I undertake the liability to be proceeded with any manner, (Any change or changes in regard to the furnished information will be intimated to you as and when such changes occur).

Place & Date.

Signature of Bidder  
Name & Address in Block Letters

**TECHNICAL SPECIFICATIONS FOR MSTL VAN & THEIR INSTRUMENTS**  
**(MINIMUM SPECIFICATION)**

**GROUP - A**

Item No.	Details of Item			Specification Required	Actual Specification of the Product (as per Mnf.)	Deviations if any
	Name of Group / Item	Brand Name	Model/ Make No.			
1	2	3	4	5	6	7
1	<b>MSTL Van body building</b>			<ol style="list-style-type: none"> <li>1. Any suitable four wheeler van having more than 6 ton capacity ( Bus Type )</li> <li>2. Procured from original manufacturer or their authorized dealer. Fabrication should be done by approved ISO certified workshop, fitted with following equipment in shock proof/vibration free design. Laboratory area with atleast 2 x 3.450 meter, height 1.65 meter. Generator room 1.000 x 2.000 meter &amp; driver cabin having additional seat.</li> <li>3. Enclosed chamber of 65% lab working area with sliding door &amp; window panels for sample preparation and acid reaction with space for acid stock storage. This chamber should have provision for exhaust and fire extinguisher.</li> <li>4. Laptop and Printer should be provided.</li> <li>5. Genset of minimum 7 KVA branded silent type in special enclosure to remove fumes. Exhausts to be provided for laboratory area.</li> <li>6. Under frame shall have 100 X550mm MS Rolled Channel with 70 X 25 X 3 mm formed GI Channels as longitudes. Provision of Safety exit.</li> <li>7. Floor shall be with 12mm Web Cheque covered with 1.50 mm Vinyl Floor.</li> <li>8. Side, Front, Rear and Roof Structure should be with 40 X 40 X 2 mm GI Square Tubes with 40 X 3 mm Skirt angle. Roof exterior paneling shall be in 0.90 mm GISPS , side exterior between Waist to Crib level shall be in 0.90 mm, and side skirt paneling shall be in 1.60 mm Aluminium Panels.</li> <li>9. Front end show should be in FRP and rear show should be covered with 0.90 mm GI sheet.</li> <li>10. 2 no. doors has to be provided on left side in saloon, 1 no door should be provided with 750 mm clear width at middle of rear end to accommodate Generator and 2 no. Doors in Driver Cabin. Sliding door to be provided in Lab to make partition. 4 no. Windows, 2 no. on each in Lab area and 2 no. in driver Cabin to be provided with Aluminium Mazda section and 4,80 mm toughened Bronze tinted glasses.</li> <li>11. One no. acid proof Washbasin with water pipe line and 200 Lts. Capacity water tank to be provided at top of the roof in luggage carrier with collapsible ladder.</li> <li>12. 1.50 Ton Air Conditioner make of reputed branded make should be provided having authorized service centre in most of the districts of Bihar.</li> <li>13. Interior wood work as per laboratory standard top covering furnishing with acid proof, heat resistant, Granite top Working tables with racks and doors as per choice in 750 mm height X 450 mm width and length as per requirement on both sides with 18 mm ISI mark plywood with sun glass lamination as per color choice to Keep Chemicals and Glassware stands. Two lab chairs to be provided.</li> <li>14. Total wiring to be done with Finolex/Finocab fire retard wires and Modular switches and sockets, 4 no. lights at interior roof, 4 no. Indicator lights at all exterior top corners. Extra power points, 1 no. 32 Amps ELCB and 4 no. MCV with change over switch should be provided to run either on generator or on external supply of 230 Volts.</li> <li>15. Provision for concealed space for LPG &amp; acetylene gas cylinder.</li> <li>16. Working space for Soil Sample Crusher, pH meter, Conductivity meter, Flame Photometer, Spectrophotometer, AAS, Rotary Shaker, Table top Centrifuge, Electronic Balance, Aspirator Bottle with Stopcock for Distilled Water of 20 X 2 + 10 lts., Hot plate (Rectangular), RO, Home UPS, 2 Lap Tops, Printers, and some small equipments.</li> <li>17. Storage space for Glass ware, Plastic ware, Chemicals, soil samples, Trolley.</li> <li>18. All steel components used in the fabrication should be pre treated and applied with grade-I metal primer and body with cabin to be painted with PU paints as per color choice. Provision for display relating to 'SOIL TESTING APPLICABILITY' on the outer body of the Van.</li> <li>19. The MSTL Van plan outlay for inside will be as per sheet attached.</li> </ol>		



Item No.	Details of Item			Specification Required	Actual Specification of the Product (as per Mnf.)	Deviations if any
	Name of Group / Item	Brand Name	Model/ Make No.			
1	2	3	4	5	6	7
2	AAS			<p><b>Atomic Absorption Spectrophotometer</b> (Computer controlled true double beam Atomic Absorption Spectrophotometer (Manufactured by ISO certified firm) with following condition :-</p> <ul style="list-style-type: none"> <li>• Four Lamp (on more) automatic turret with dedicated power supply. Compatible with coded lamps.</li> <li>• Monochromator with wavelength range: 190 to 900 nm or better, Focal length: 300 mm (approx), grating: 1800 lines / mm.</li> <li>• Must have wavelength locating by automatic peak searching and auto loading of all parameter. Slit width 0.1 to 2.0 mm automatically selectable through computer. Deuterium lamp background correction system. Reciprocal liner dispersion 1.5 to 2.0 nm/mm.</li> <li>• Single element coded hollow cathode lamp: Cu, Fe, Zn and Mn to be supplied with equipments.</li> <li>• Titanium burner suitable for air / acetylene flame to be supplied as standard. Burner rotation through computer.</li> <li>• Fully insert nebulizer. PTFE inert spray chamber incorporating impact bead.</li> <li>• Sensitivity: Greater than 0.80 absorbance for 5mg/L Cu solution.</li> <li>• Computer controlled automatic flame control system with automatic flame changeover.</li> <li>• Full safety interlocks including pressure sensors on lines, power failure protection, burner interlock and flame sensor. Automatic flame ignition.</li> <li>• Software: Software compatible with Windows XP professional / Windows 7, user friendly. Should select analysis parameter for instruments control, analyse the samples and perform calculations such as slope, mean value, standard deviation and RSD etc. provide a comprehensive AA cookbook for all elements.</li> <li>• Accessories: <ul style="list-style-type: none"> <li>- Acetylene gas cylinder filled with gas, acetylene gas with regulator (double stage), Oil free silent air compressor, Exhaust hood and vent assembly, 3.0 KVA servo voltage stabilizer (130-270V).</li> </ul> </li> </ul> <p>Desktop Computer (Make – HP/Dell) with latest configuration, along with HP laser Jet printer, UPS (1 KVA) &amp; maintenance free batteries.</p>		
3	Spectrophotometer (Single Beam)			<p><b>Scanning Visible Spectrophotometer</b> (Micro-Processor based Scanning Visible Spectrophotometer with facility for auto concentration (CNC) / Transmittance (%T), Absorbance (ABS) measurements by K Factor and multi standards. Wavelength range: 340-1000 nm approx).</p> <p><b>Accessories</b></p> <ul style="list-style-type: none"> <li>• PC based Software</li> <li>• Two pairs of quartz cuvette.</li> <li>• Suitable online 2 KVA UPS.</li> </ul> <p><b>Warranty:</b> Instrument should have <b>warranty of one year from the date of installation.</b></p>		
4	Digital Flame Photometer			<p><b>Flame Photometer</b> (Micro-Processor/Micro-controller based, with Na, K and Ca filters, printer interface, air compressor and automatic ignition etc.).</p> <ul style="list-style-type: none"> <li>• Flame System : LPG</li> <li>• <b>Power Requirement</b> : 230 ±10V, 50 Hz AC</li> <li>• <b>Accessories with Instruments:</b> Filters for Na, K, Ca, Li. Air Compressor with built in air regulator and air filter. Gas lighter and Air Gas tube.</li> </ul> <p><b>Warranty:</b> Instrument should have <b>warranty of one year from the date of installation.</b></p> <p>The tender must indicate <b>CMC</b> charges for the quoted model for a period of 4 year's after warranty period is over with year wise break up.</p>		

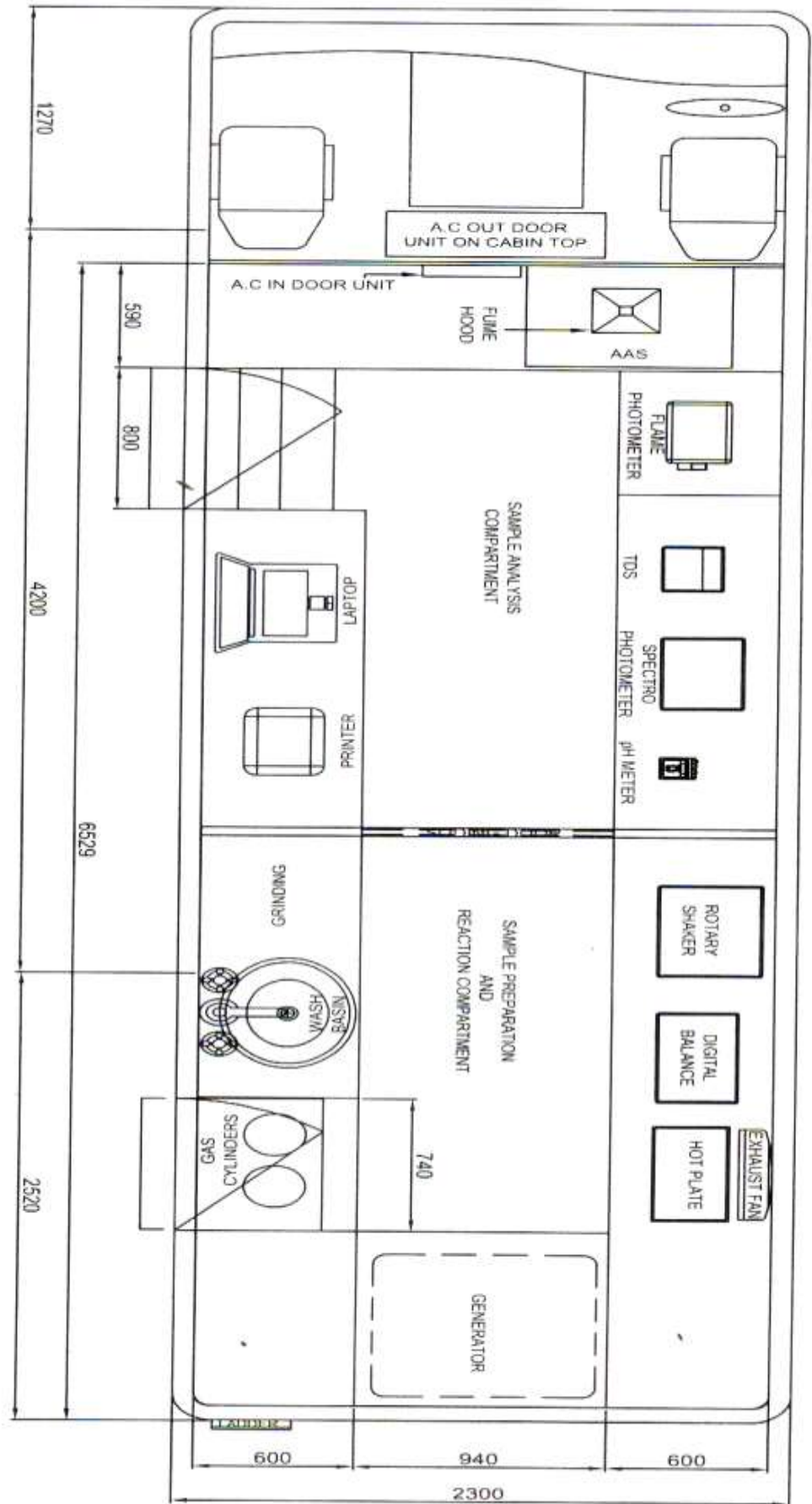
Item No.	Details of Item			Specification Required	Actual Specification of the Product (as per Mnf.)	Deviations if any
	Name of Item	Model/Make No.	Brand Name			
1	2	3	4	5	6	7
5	Digital Conductivity Meter			<b>Conductivity Meter</b> (Micro-Processor/Micro-Controller based, with ATC Probe and Conductivity Cell, Reproducibility: 1µS). • Calibration : Automatic with battery back-up <b>Accessories with Instruments: Conductivity cell, (0.1 &amp; 1.0) Temp prob., Stand with cell holding clamp.</b>		
6	Digital pH meter			<b>pH Meter</b> (Micro-Processor/Micro-Controller based, with ATC Probe and combined electrode, 3 point calibration.) <b>Accessories:</b> pH Electrode, Temperature Probe, Electrode Stand & Clamp, With printer port		
7	Soil Sample Crusher			<b>Hopper</b> Capacity : Max. 500 mg. <b>Crusher</b> Roller : A pair of hexagonal roller Rotation Speed : 103 rpm (50 Hz) Oscillating Sieve : Mesh size 1 Or 2 mm (Exchangeable) • Power Source : 220 V.		
8	Rotary Shaker			<b>Rotary Shaker:</b> (Rotary type Shaking machine for 25 no. 100ml Flask Electrically operated variable speed controlling device.)		
9	Electronic Balance			<b>Electronic Precision Table Top Balance with internal Calibration</b> - with glass cover having Weighing capacity: 300g approx., Readability: 0.001 g		
10	Hot Plate (Rectangular)			Rectangular Hot Plate, body made from thick (at least 18 mm) mild steel painted with hammertone paint. Upper portion is of thick (at least 25mm) iron plate or machine casted iron plate which can withstand high temperature, should have temperature control switch with sunvic energy regulator indicator lamp, wire and plug. Size: (45 cm x 60cm x 15cm) Rating 3 Kilo-watt • <b>Warranty:</b> Instrument should have <b>warranty of one year from the date of installation.</b> The tender must indicate <b>CMC</b> charges for the quoted model for a period of 4 year's after warranty period is over with year wise break up.		
11	Green Genset Silent 7.0 KVA			Suitable for MSTL Van - of a repute company.		
12	Air Conditioner & Stabilizer			Suitable for MSTL Van of a repute company.		
13	Fire Extinguisher			Suitable for Lab purpose - of a repute company.		
14	RO			<b>Reverse Osmosis</b> – Drinking Water of a repute Company		
15	Laptop, Printer & Home UPS			Suitable for MSTL Van - of a repute company. <b>Home</b> – UPS having capacity of minimum 1 KW		
16	Chemicals & Glasswares/ Plasticwares – Aspirator Bottle with Cock for Distilled Water (for 1000 soil sample analysis)			As per attached Annexure – II & III		

**Chemicals to be supplied with MSTL Van  
(Analysing Capacity 1,000 samples)**

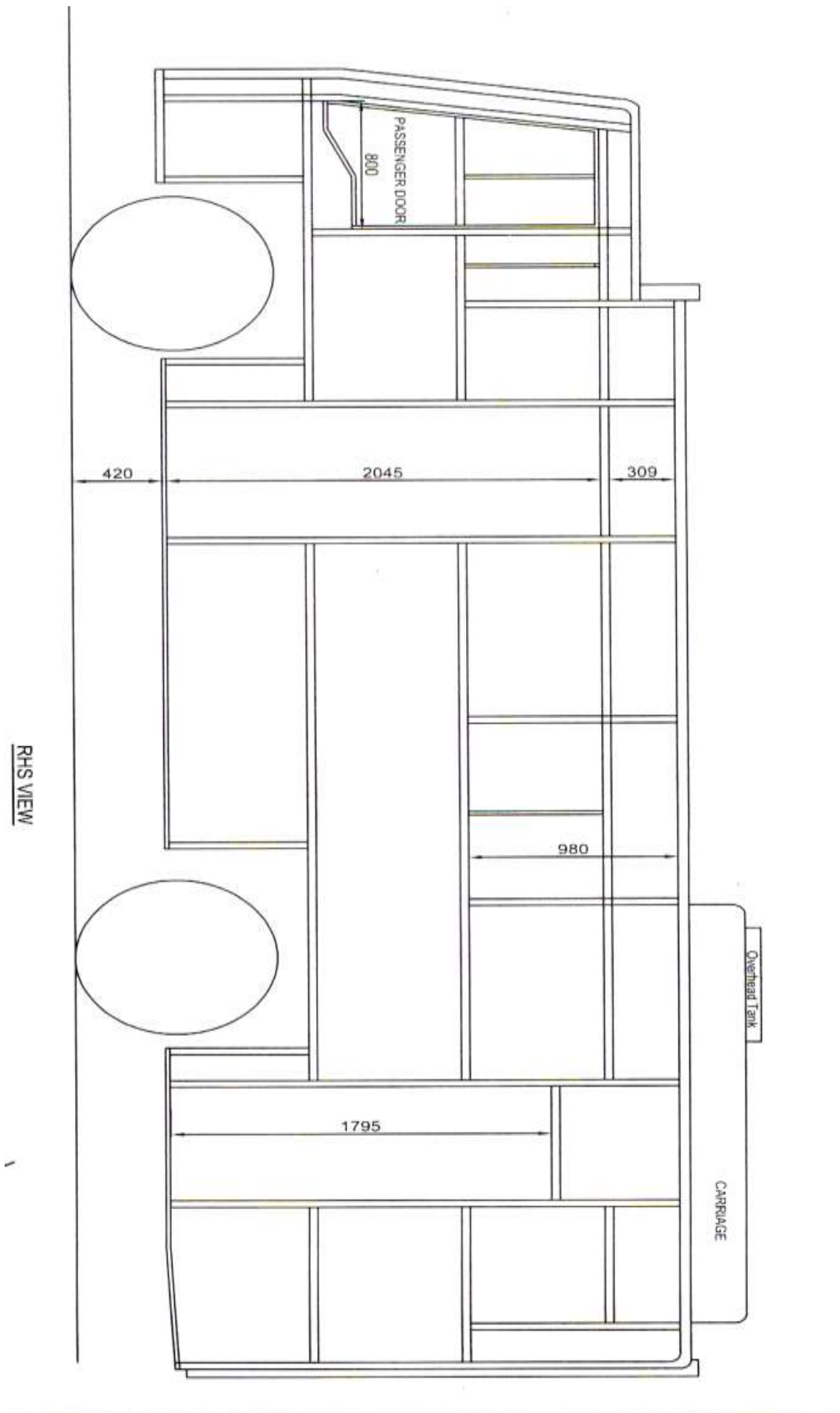
<b>S. No.</b>	<b>Name of the Chemicals</b>	<b>Grade</b>	<b>Packing Size</b>	<b>Quantity of Chemical</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1	Acetylene Gas			1 no.
2	Ammonium Acetate	GR	500 gm	5 nos.
3	Ammonium Molybdate Tetra hydrate		100 gm	1 no.
4	Antimony Potassium Tartrate		250 gm	1 no.
5	Ascorbic Acid		100 gm	2 nos.
6	Buffer Sachet 4.0		10 Sachet	1 no.
7	Buffer Sachet 7.0		10 Sachet	1 no.
8	Buffer Sachet 9.2		10 Sachet	1 no.
9	Calcium Chloride	AR	500 gm	2 nos.
10	Charcoal Activated		250 gm	4 nos.
11	Copper Sulphate	pure	500 gm	1 no.
12	Di-phenyl-Amine Indicator	AR	100 gm	1 no.
13	DTPA (Di-ethylene Tri-amine Penta Acetic Acid)	AR	250 gm	1 no.
14	Ferrous Ammonium Sulphate	AR	500 gm	10 nos.
15	Glacial Acetic Acid		2.5 Lt	1 no.
16	Hydrochloric Acid Conc.	AR	2.5 Lts.	2 nos.
17	Ortho-phosphoric Acid 85%	LR	2.5 lts.	2 nos.
18	Oxalic Acid Di-hydrate	GR	2.5 lts.	1 no.
19	P-Nitrophenol Indicator		100 gm	2 nos.
20	Potassium Chloride	GR	500 gm	2 nos.
21	Potassium Dichromate	AR	500 gm	5 nos.
22	Potassium Permanganate	GR	500 gm	1 no.
23	Potassium-dihydrogen Orthophosphate	GR	500 gm	1 no.
24	Sodium bi-carbonate	AR	500 gm	5 nos.
25	Sodium Fluoride	GR	500 gm	3 nos.
26	Sodium Hydroxide (Pilets)		100 gm	1 no.
27	Sulphuric Acid (Conc.)	AR	2.5 lts.	12 nos.
28	TEA (Tri Ethaloamine)	AR	500 ml	1 no.
29	Zinc Sulphate	pure	500 gm	1 no.
30	Whatman Filter Paper No.-41 (Sheet)		100 Pc.	10 nos.
31	Tissue Paper Roll			10 rolls

**Glasswares / Plasticwares & Lab articles to be supplied with MSTL Van  
(Analysing Capacity 1,000 samples)**

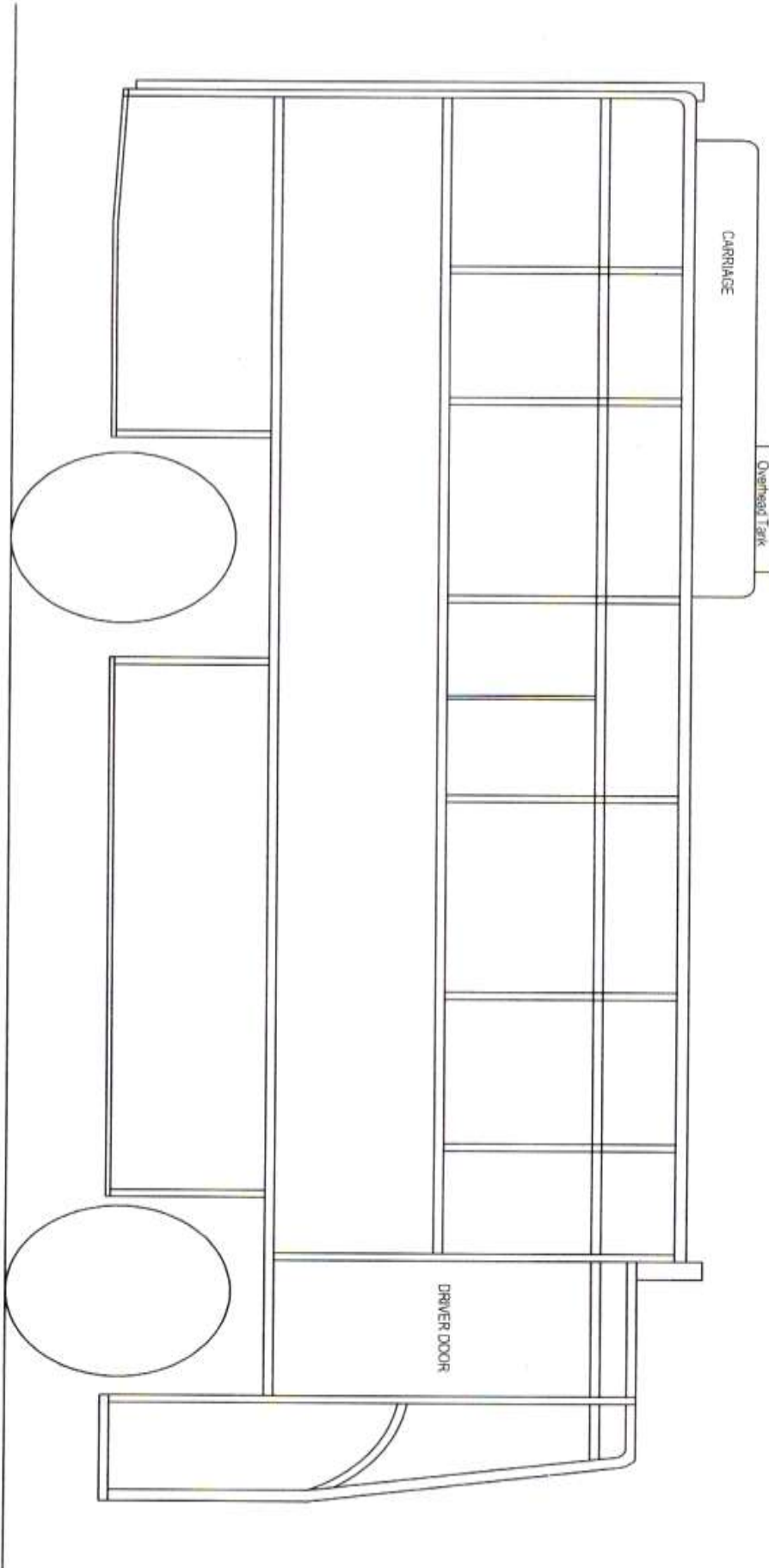
Sl. No.	Name of Glass ware	Capacity	Total Glass ware required in nos.	
1	Bottle (Polyethelene)	20 Lt.	2	
		10 Lt.	2	
2	Bottle (Glass) for reagents with glass stoppers	Glass Stoppered 250 ml	10	
		500 ml	20	
		1000 ml	5	
		2000 ml	5	
3	Bottle (Glass) Amber	500 ml	5	
4	Bottle (Polyethylene) - wash Bottle	250 ml	6	
		500 ml	6	
5	Burette (Mounted on reservoir ) Graduation Interval (0.1)	50 ml	2	
6	Measuring Cylinder (Glass) Graduated with an Interval of 0.5 ml	10 ml	2	
		1 ml	25 ml	2
		2 ml	50 ml	2
		2 ml	100 ml	2
		5 ml	500 ml	2
7	Conical Flask	250 ml	10	
		500 ml	50	
8	Volumetric Flask	25 ml	5	
		50 ml	10	
		100 ml	10	
		500 ml	20	
		1000 ml	15	
9	Beaker	50 ml	50	
		100 ml	100	
		250 ml	5	
		500 ml	5	
		1000 ml	5	
10	Graduated Pipettes	5 ml	2	
		10 ml	2	
		25 ml	2	
		50 ml	2	
11	Glass Funnel	75 mm	50	
		100 mm	5	
12	Spatula & Spoons (Stainless Steel)	1 gm	2 Sets	
		2 gm		
		2.5 gm		
		5 gm		
		10 gm		
		20 gm		
13	Burette Stand		2	
14	Pipette Stand		2	
15	Filter Stand (Wood / Plastic Make)	12 hole	3	
16	Bottle Top Dispenser	50 ml	2	
		100 ml	2	
17	Tilt Measure	10 ml	2	
		20 ml	2	
18	Pipetteting Bulb		2	
19	Glass Rod		4	
20	Plastic Bottle	50 ml	50	
		100 ml	50	
21	Others-Apron, Gloves, Masks, Wipe Rubber & Duster	as per requirement	4 Set	
22	Plastic Tray 1.5' x 1'		6	
23	Aspirator Bottle with Stop Cock	10 lts	1	
		20 lts	2	
24	First-Aid-Box Kit		1	



PLAN VIEW



LHS VIEW



**TECHNICAL SPECIFICATIONS FOR STATIC SOIL TESTING LAB EQUIPMENT**  
**(MINIMUM SPECIFICATION)**

**GROUP – B**

Item No.	Details of Item			Specification Required	Actual Specification of the Product (as per Mnf.)	Deviations if any
	Name of Group / Item	Brand Name	Model/ Make No.			
1	2	3	4	5	6	7
1	AAS			<p><b>Atomic Absorption Spectrophotometer</b>            (Computer controlled true double beam Atomic Absorption Spectrophotometer (Manufactured by ISO certified firm) with following condition :-</p> <ul style="list-style-type: none"> <li>• Four Lamp (on more) automatic turret with dedicated power supply. Compatible with coded lamps.</li> <li>• Monochromator with wavelength range: 190 to 900 nm or better, Focal length: 300 mm (approx), grating: 1800 lines / mm.</li> <li>• Must have wavelength locating by automatic peak searching and auto loading of all parameter. Slit width 0.1 to 2.0 mm automatically selectable through computer. Deuterium lamp background correction system. Reciprocal liner dispersion 1.5 to 2.0 nm/mm.</li> <li>• Single element coded hollow cathode lamp: Cu, Fe, Zn and Mn to be supplied with equipments.</li> <li>• Titanium burner suitable for air / acetylene flame to be supplied as standard. Burner rotation through computer.</li> <li>• Fully insert nebulizer. PTFE inert spray chamber incorporating impact bead.</li> <li>• Sensitivity: Greater than 0.80 absorbance for 5mg/L Cu solution.</li> <li>• Computer controlled automatic flame control system with automatic flame changeover.</li> <li>• Full safety interlocks including pressure sensors on lines, power failure protection, burner interlock and flame sensor. Automatic flame ignition.</li> <li>• Software: Software compatible with Windows XP professional / Windows 7, user friendly. Should select analysis parameter for instruments control, analyse the samples and perform calculations such as slope, mean value, standard deviation and RSD etc. provide a comprehensive AA cookbook for all elements.</li> <li>• Accessories:               <ul style="list-style-type: none"> <li>- Acetylene gas cylinder filled with gas, acetylene gas with regulator (double stage), Oil free silent air compressor, Exhaust hood and vent assembly, 3.0 KVA servo voltage stabilizer (130-270V).</li> </ul> </li> </ul> <p>Desktop Computer (Make – HP/Dell) with latest configuration, along with HP laser Jet printer, UPS (1 KVA) &amp; maintenance free batteries.</p>		



**TECHNICAL SPECIFICATIONS FOR STATIC SOIL TESTING LAB EQUIPMENT**  
**(MINIMUM SPECIFICATION)**

**GROUP – C**

Item No.	Details of Item			Specification Required	Actual Specification of the Product (as per Mnf.)	Deviations if any
	Name of Group / Item	Brand Name	Model/ Make No.			
1	2	3	4	5	6	7
1	Electronic Balance			<b>Electronic Precision Table Top Balance with internal Calibration</b> - with glass cover having Weighing capacity: 300g approx., Readability: 0.001 g		
2	Soil Sample Crusher			<b>Hopper</b> Capacity : Max. 500 mg. <b>Crusher</b> Roller : A pair of hexagonal roller Rotation Speed : 103 rpm (50 Hz) Oscillating Sieve : Mesh size 1 Or 2 mm (Exchangeable) • Power Source : 220 V.		

.....  
 Place & Date.

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 Signature of Bidder  
 Name & Address in Block Letters

**Agriculture Department**

## LIST OF LABORATORIES UNDER SOIL TESTING

Sl. No	District	Functioning Place	DDO
1	CSTL, Patna	Central Soil Testing Laboratory, Rasayan Bhawan, Mithapur Farm Area, Patna-800 001.	Deputy Director of Agriculture, CSTL
2	Patna	J.D.A. (Adaptive Research), Mithapur Farm, Patna Pin - 800001	Joint Director of Agriculture, FES, Patna
3	Bhojpur	District Soil Testing Lab., Japani Farm, Ara (Bhojpur), Pin - 802301	Deputy Director of Agriculture Farm, Bhojpur
4	Nalanda	District Soil Testing Lab., In front of Sadar Hospital, Bihar Sharif, Nalanda, Pin - 803101	Assistant Soil Chemist, Nalanda
5	Gaya	District Soil Testing Lab., Block Office Campus, Chandauti, Gaya, Pin – 823001	Assistant Soil Chemist, Gaya
6	Nawada	District Soil Testing Lab., Agriculture Farm, Shobhiapar, Nawada, Pin - 805110	Assistant Soil Chemist, Nawada
7	Aurangabad	District Soil Testing Lab., Horticulture Nursery, Sadar Block, Aurangabad, Pin - 824101	DAO, Aurangabad
8	Saharsa	District Soil Testing Lab., Combined Agriculture Building, Saharsa, Pin - 852201	DAO, Saharsa
9	Purnia	District Soil Testing Lab., Koshi Colony, Purnia Pin - 854301	Deputy Director of Agriculture FARM, Purnia
10	Madhubani	District Soil Testing Lab., S.M. Farm, Rampatti, Madhubani, Pin - 847211	DAO, Madhubani
11	Darbhanga	District Soil Testing Lab., Horticulture Nursery, Bahadurpur, Darbhanga, Pin – 846001	DAO, Darbhanga
12	Samastipur	District Soil Testing Lab., Bazar Samiti, Samastipur, Pin – 848101	DAO, Samastipur
13	Muzaffarpur	District Soil Testing Lab., Combined Building, Muzaffarpur Pin – 842001	DAO, Muzaffarpur
14	E. Champaran	District Soil Testing Lab., Agriculture Farm, Pipra Kothi, Motihari, Pin – 845401	DAO, E. Champaran
15	W.Champaran	District Soil Testing Lab., Barbat Agriculture Farm, Bettia, Pin – 845438	DAO, W.Champaran
16	Vaishali	District Soil Testing Lab., DAO Campus, Hajipur, Pin – 844101	DAO, Vaishali
17	Sitamarhi	District Soil Testing Lab., Sub Divisional Farm, Sitamarhi, Pin – 843301	DAO, Sitamarhi
18	Saran	District Soil Testing Lab., Combined Building, Bajar Samiti, P.O. - Sarha, Chhapra, Pin - 841301	DAO, Saran

19	Goplaganj	District Soil Testing Lab., Horticulture Nursery, Gopalganj, Pin - 841428	DAO, Goplaganj
20	Siwan	District Soil Testing Lab., DAO Campus, Bidurati Hata, Siwan, Pin – 841226	DAO, Siwan
21	Munger	District Soil Testing Lab., Agriculture Farm, Shankarpur, Munger, Pin – 811201	DAO, Munger
22	Khagaria	District Soil Testing Lab., Sub-Divisional Farm, Khagaria, Pin - 851204	DAO, Khagaria
23	Katihar	District Soil Testing Lab., S.M. Farm, T.V. Tower Road, Katihar, Pin – 802101	Katihar
24	Araria	District Soil Testing Lab., S.M. Farm, Araria, Pin - 854311	Araria
25	Kaimur	District Soil Testing Lab., DAO Campus, Bhabhua, Pin – 821101	Kaimur
26	Begusarai	District Soil Testing Lab., S.M. Farm, Bishanpur, Begusarai, Pin – 851211	Begusarai
27	Rohtas	District Soil Testing Lab., Horticulture Nursery, Sasaram, Pin – 821115	Rohtas
28	Buxar	District Soil Testing Lab., Bazar Samiti, Buxar, Pin - 802101	Buxar
29	Jahanabad	District Soil Testing Lab., S.A. Farm, Kako Road, Jahanabad, Pin – 804408	Jahanabad
30	Lakhisarai	District Soil Testing Lab., Horticulture Nursery, Lakhisarai Block, Lakhisarai, Pin - 811311	Lakhisarai
31	Sheikhpura	District Soil Testing Lab., Horticulture Nursery, Sheikhpura Block, Sheikhpura, Pin - 811105	Sheikhpura
32	Arwal	District Soil Testing Lab., Horticulture Nursery, Arwal Block Arwal, Pin – 824115	Arwal
33	Madhepura	District Soil Testing Lab., Coconut Board, Singheswar, Madhepura, Pin - 852113	Madhepura
34	Supaul	District Soil Testing Lab., S.M. Farm Gaurav Garh, Supaul, Pin – 852131	Supaul
35	Kishanganj	District Soil Testing Lab., S.A. Farm, Kishanganj, Pin – 855107	Kishanganj
36	Sheohar	District Soil Testing Lab., S.M. Farm, Sheohar, Pin - 843329	Sheohar
37	Jamui	District Soil Testing Lab., Horticulture Nursery, Jamui, Pin – 811307	Jamui
38	Banka	District Soil Testing Lab., S.A. Farm, Banka, Pin - 813104	Banka
39	Bhagalpur	District Soil Testing Lab., Combined Agriculture Building, Tilka Manjhi, Bhagalpur, Pin - 812001	Bhagalpur

# Form -1

## Technical Bid Form

### Enclosures on Page No.

- |                                                                                                                            |                  |       |
|----------------------------------------------------------------------------------------------------------------------------|------------------|-------|
| 1. Tender No. -                                                                                                            | : Due Date ..... | ..... |
| 2. Tendered Article (Group/Item No.)<br>(For which bid is submitted)                                                       | : .....          | ..... |
| 3. Name and Address of Bidding Firm                                                                                        | : .....          | ..... |
| 4. ISO/BIS Certificate of Mnf. firm<br>(Certificate enclosed)                                                              | : .....          | ..... |
| 5. Name and Designation of the<br>person signing the bid                                                                   | : .....          | ..... |
| 6. Mobile/Land Line Telephone Number                                                                                       | : .....          | ..... |
| 7. Earnest Money Deposit Details                                                                                           | : .....          | ..... |
| 8. CST/VAT Registration Certificate No.<br>of the tenderer (Copy enclose)                                                  | : .....          | ..... |
| 9. PAN Number (Copy enclosed)                                                                                              | : .....          | ..... |
| 10. Authorized dealer/Distributor<br>(Copy of certificate issued by<br>manufacturing company enclosed)                     | : .....          | ..... |
| 11. Audited Annual last 3 yr. turnover<br>(Copy enclosed)                                                                  | : .....          | ..... |
| 12. Details about Service Centre -<br>Manufacturing Company Letter No.<br>Address - Location                               | : .....          | ..... |
| 13. Year-wise amount of supply order<br>executed in last three years<br>(copy of supply orders/invoices enclosed for each) | : .....          | ..... |
| 14. Terms and Condition of contract mentioned<br>in the invitation bid are ACCEPTABLE/<br>NON-ACCEPTABLE                   | : .....          | ..... |
| 15. Deviation in Terms and conditions/specifications                                                                       | : .....          | ..... |
| 16. Capacity in which bid is signed by the Bidder<br>(PARTNER/DIRECTOR)                                                    | : .....          | ..... |
| 17. Details for each quoted items                                                                                          | : .....          | ..... |

Group/ Item No.	Make/Model	Specification as per tender	Offered Specification (Detailed)	Offered Specification (at par / above par)
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

.....

Place & Date.

-----

Signature of Bidder  
Name & Address in Block Letters

## Form -2

### Financial Bid Form

1. Tender No. - : Due Date - .....
2. Tendered Article (Group/ Item No.) : **Group A**
3. Name and Address of Bidding Firm : .....
4. Name and designation of the person signing the bid : .....
5. Capacity in which bid is signed by the : .....

Bidder (PROPRIETOR/PARTNER/DIRECTOR)

6. Financial Details for each quoted items :  
(In case of MSTL Van Registration, Insurance will be incurred by the purchaser on actual basis)

Item No.	Details of Item Quoted Price & Taxes							Charges for CMC with taxes - year wise breakup				Remarks	
	Name of the Items	Brand Name	Model/ Make No.	Basic Price of Item with all accessories without VAT	Bihar Sales Taxes (Vat)	Other Taxes if any	All Price including VAT (5+6+7)	2 <sup>nd</sup> yr	3 <sup>rd</sup> yr	4 <sup>th</sup> yr	5 <sup>th</sup> yr		
													9
1	2	3	4	5	6	7	8	9				10	
1	Vehicle with body (Bus type)												
2	AAS with accessories												
3	Spectro photo Meter												
4	Digital Flame Photo Meter												
5	Digital Conductivity Meter												
6	Digital pH meter												
7	Soil Sample Crusher												
8	Rotary Shaker												
9	Electronic Balance												
10	Hot Plate (Rectangular)												
11	Green Genset Silent 7.0 KVA												
12	Air Conditioner, Stabilizer												
13	Fire Extinguisher												
14	RO												
15	Laptop, Printer, Home UPS												

Item No.	Details of Item Quoted Price & Taxes							Charges for CMC with taxes - year wise breakup				Remarks	
	Name of the Items	Brand Name	Model/Make No.	Basic Price of Item with all accessories without VAT	Bihar Sales Taxes (Vat)	Other Taxes if any	All Price including VAT (5+6+7)	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>		
								yr	yr	yr	yr		
1	2	3	4	5	6	7	8	9				10	
16	Chemicals & Glasswares / Plasticwares - DW Cannon (for 1000 soil sample analysis)												
<b>Total Quoted Price (without any tax)</b>													
1	Insurance												
2	Temporary Registration												
3	Entry Tax (if any)												
4	Additional Warranty Charges (if any)												
5	Others (if any)												
6	VAT												
<b>Net Price</b>													

.....  
Place & Date.

-----  
Signature of Bidder  
Name & Address in Block Letters

## **Form -2**

### **Financial Bid Form**

1. Tender No. - : Due Date - .....
2. Tendered Article (Group/ Item No.) : **Group B**
3. Name and Address of Bidding Firm : .....
4. Name and designation of the person signing the bid : .....
5. Capacity in which bid is signed by the : .....

Bidder (PROPRIETOR/PARTNER/DIRECTOR)

6. Financial Details for each quoted items :  
(In case of MSTL Van Registration, Insurance will be incurred by the purchaser on actual basis)

Item No.	Details of Item Quoted Price & Taxes							Charges for CMC with taxes - year wise breakup				Remarks	
	Name of the Items	Brand Name	Model/ Make No.	Basic Price of Item with all accessories without VAT	Bihar Sales Taxes (Vat)	Other Taxes if any	All Price including VAT (5+6+7)	2 <sup>nd</sup> yr	3 <sup>rd</sup> yr	4 <sup>th</sup> yr	5 <sup>th</sup> yr		
								9					
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>				<b>10</b>	
1	AAS with accessories												

.....  
Place & Date.

-----  
Signature of Bidder  
Name & Address in Block Letters

## **Form -2**

### **Financial Bid Form**

1. Tender No. - : Due Date - .....
2. Tendered Article (Group/ Item No.) : **Group C**
3. Name and Address of Bidding Firm : .....
4. Name and designation of the person signing the bid : .....
5. Capacity in which bid is signed by the : .....

Bidder (PROPRIETOR/PARTNER/DIRECTOR)

6. Financial Details for each quoted items :  
(In case of MSTL Van Registration, Insurance will be incurred by the purchaser on actual basis)

Item No.	Details of Item Quoted Price & Taxes							Charges for CMC with taxes - year wise breakup				Remarks	
	Name of the Items	Brand Name	Model/ Make No.	Basic Price of Item with all accessories without VAT	Bihar Sales Taxes (Vat)	Other Taxes if any	All Price including VAT (5+6+7)	2 <sup>nd</sup> yr	3 <sup>rd</sup> yr	4 <sup>th</sup> yr	5 <sup>th</sup> yr		
								9					
1	2	3	4	5	6	7	8	9				10	
1	Electronic Balance												
2	Soil Sample Crusher												

.....  
Place & Date.

-----  
Signature of Bidder  
Name & Address in Block Letters