

Maulana Azad  
National Institute of Technology Bhopal- 462 003

(An Institution of National Importance under MoE, Govt. of India)



**LIMITED TENDER ENQUIRY**  
FOR  
SUPPLY OF Rainfall Simulator (Advanced Hydrology System)  
in Civil Engineering Department

Website: [www.manit.ac.in](http://www.manit.ac.in)  
Email Address: [info@manit.ac.in](mailto:info@manit.ac.in)

Fax No: 0755-2670562  
Telephone No: 0755-4051000, 0755-4052000

## INDEX

<b>SN</b>	<b>Description</b>	<b>Page No</b>
1	Notice Inviting Tenders	3
2	Important Information at a Glance	4
3	Instructions to Bidders	5-8
4	ANNEXURE-I-- Bill of Quantity and Specifications	9-10
5	ANNEXURE-II-- Price Bid Form	11

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No. MANIT/CIVIL/2021/04

Date:23/08/2021

**NOTICE INVITING TENDERS**

Sub: *Supply of Rainfall Simulator (Advanced Hydrology System).*

Tenders are invited for *Supply of Rainfall Simulator (Advanced Hydrology System) in Civil Engineering Department.* Interested Manufacturers/Authorized Partner/Agencies may log on Institute website [www.manit.ac.in](http://www.manit.ac.in) and CPPP website [www.eprocure.gov.in/epublish/app](http://www.eprocure.gov.in/epublish/app) for further details. Tender Document can be downloaded and the duly completed be submitted to the Assistant Registrar, Stores & Purchase, Maulana Azad National Institute of Technology- Bhopal- 462 003.

Last date of receipt of complete tender document is 16/09/2021 up to 12.00 hours. The Director of the Institute reserves the right to accept or reject any or the entire tender in full or in part without assigning any reason whatsoever.

**Registrar**

*Maulana Azad*  
National Institute of Technology Bhopal- 462 003

<b>IMPORTANT INFORMATION AT A GLANCE</b>		
Tender No & Date	No. MANIT/CIVIL/2021/04	
	Date: 23/08/2021	
SCOPE OF TENDER		
Brief Description of Goods/Items	Quantity	Remarks
Rainfall Simulator (Advanced Hydrology System)	01 No.	Detailed Specification at Annexure-I
Estimated cost of Tender	Rs. 15,50,000.00	
Location of Supplies & Installation	Civil Engineering Department, MANIT, Bhopal, at Institute	
TENDER DOCUMENT		
Tender Document can be downloaded free of cost from <b>Institute website <a href="http://www.manit.ac.in">www.manit.ac.in</a> and CPPP website <a href="http://www.eprocure.gov.in/epublish/app">www.eprocure.gov.in/epublish/app</a></b>		
<b>Last Date &amp; Time of Submission of Tender</b>	<b>16/09/2021 up to 12:00 hours</b>	
<b>Date &amp; Time of Opening of Bids</b>	<b>17/09/2021 at 15:00 hours</b>	
Tender Validity period	<b>60 days</b> from the date of opening of the Technical Bid	
Delivery/ Supply period	<b>04 to 06 weeks</b> from the date of issue of Supply Order	
Warranty Period	Two year (s) from the date of successful Installation & Commissioning of equipments/ items	
Bid Security/ EMD	NIL	
Performance Security	3% on Basic Value of PO	
Details of Contact Persons for Query if any		
<b>Name :</b> Dr. H. L. Tiwari <b>Designation :</b> Associate Professor <b>Tel No:</b> 0755-4051228 <b>Email:</b> hltiwari@rediffmail.com	<b>Name :</b> Dr. Rutuja Chavan <b>Designation:</b> Assistant Professor <b>Tel No:</b> 0755-4051239 <b>Email:</b> rutujachavan297@gmail.com	

## INSTRUCTIONS TO BIDDERS

1	<b>Scope of Supplies &amp; Work:</b>	
a	The Goods/ Items shall be supplied as per the Bill of Quantity and Specifications mentioned in <b>ANNEXURE-I</b> . However higher specification of equipment may be considered subject to their cost economics competitiveness.	
b	Bidder should supply illustrated leaflet giving technical details of Rainfall Simulator (Advanced Hydrology System) and attach the same with the tender to facilitate evaluation.	
c	Bidder should quote the price of only one best & appropriate model of Bench Mounted Ground Water Flow Model(Unit)available with them.	
d	Bidder should quote preferably other than made in China items as mentioned in the Bill of Quantity due to current relation between India & China. Certificate of origin shall also be submitted along with the bid.	
e	Where ISI certification marked goods are available in market, procurement should generally be limited to goods with those or equivalent marking only. The warranty/AMC required must be specified	
f	After the supply of Bench Mounted Ground Water Flow Model(Unit) as mentioned in the <b>ANNEXURE-I</b> , the bidder has to execute its installation at the designated location(s).No extra cost shall be paid for this reason.	
2	<b>Delivery of Supplies &amp; Installation:</b>	
a	The purchaser interested for complete delivery of equipments along with Installation, Testing and Commissioning within the period as mentioned at IMPORTANT INFORMATION AT GLANCE sheet. However, the bidder has an option to submit the best delivery with installation time.	
b	The material shall be inspected on receipt at site and bidder shall be responsible for any damage during the transit of Goods/Items.	
c	The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/ installation shall be obtained by bidder in his own name and not in the name of purchases.	
3	<b>Warranty &amp; After Sales Services:</b>	
a	The bidder shall offer on-site comprehensive warranty of equipments as mentioned at IMPORTANT INFORMATION AT GLANCE sheet at the designated location & shall cover each and every part of the equipments including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.	
b	The bidder shall ensure to render after sales services during the warranty period to the satisfaction of purchaser.	
c	The performance security at the rate 3% of the basic value is required for the warrantee period plus sixty days extra.	
4	<b>Eligibility Criteria:</b>	
a	If the bidder is a authorized distributor or dealer, he should authorized dealer of the Manufacturer. Copy of authorization certificate should be enclosed along with the bid.	

	b	Bidder should have minimum annual turnover (Double value of estimated cost of tender) in last year .CA certification in this regard is to be submitted.
	c	Bidder should have GST Number & Income PAN both.
	d	OEM Authorization Letter and ISO Certificate should be attached along with the Tender Document.
	e	Service Center must be in India.
	f	Copies of P.O and installation certificate of similar equipment installed at IITs, NITs and Reputed Organizations/Institutes must be submitted with offer.
5	<b>Amendment of Tender Document:</b>	
	a	At any time prior to the date submission of bids, the purchaser, may, for any reason, whether at its own initiative or in response to a clarification sought by a prospective bidder, amend bid document by issuing corrigendum. The corrigendum will be notified/ published in e-tendering website <a href="http://www.eprocure.gov.in/epublish/app">www.eprocure.gov.in/epublish/app</a> and Institute website only.
6	<b>Price Bid</b>	
	a	The Prices should be quoted in Indian Rupees only.
	b	Purchaser (being a research Institution) is registered with the Department of Scientific & Industrial Research (DSIR) for the purpose of availing custom duty exemption in terms of GoI Notification No. 51/96-Customs dated 23 July 1996. The bidder should quote their prices considering the exemption certificate. If any certification needed by bidder, may be given to avail this benefit.
	c	Government of India, Ministry of Finance (Department of Revenue) Notification No: 47/2017 integrated Tax dated 14/11/2017, the NITs are exempted from GST in excess of the amount calculated at the rate of 5 per cent under the following categories: <ul style="list-style-type: none"> <li>(a) Scientific and technical Instruments, Apparatus, Equipment (including Computers);</li> <li>(b) Accessories, Parts, Consumables and live animals ( experimental purpose);</li> <li>(c) Computer Software, Compact Disc-Read only Memory (CD-ROM), recorded magnetic tapes, Microfilms, Microfiches;</li> <li>(d) Prototypes, the aggregate value of prototypes received by an institution does not exceed fifty thousand rupees in financial years.</li> </ul> <p>The bidder should quote their prices considering the exemption. If any certification needed by bidder, may be given to avail this benefit.</p>
	d	Bidder shall take into account all costs including unloading at the location of purchaser, cartage etc. for giving delivery of material at site(s) before quoting the rates. In this regard no claim what so ever shall be entertained.
	e	The bidders are advised not to indicate any separate discount. Discount, if any, should be merged with the quoted unit prices.
	f	The price quoted in price bid shall be firm but subject to change in rate of applicable taxes if any.
	g	The Bidder should avoid the use of vague term such as “Extra as applicable”. Such offers shall be treated as non-responsive.

	h	No extra payment shall be paid on account of any discrepancy in nomenclature of items. The bidder shall seek clarifications if any before submitting the tender.
7	<b>Bid Submission:</b>	
		The tender must be placed in a properly sealed envelope super-scribed “ <i>Tender for the Rainfall Simulator (Advanced Hydrology System)</i> ” with tender inquiry number and its due date addressed to The Director, Maulana Azad National Institute of Technology- Bhopal- 462003 and must reach the office of <b>The Assistant Registrar- Stores &amp; Purchase, Maulana Azad National Institute of Technology, Bhopal</b> on or before as mentioned at IMPORTANT INFORMATION AT GLANCE sheet. The sealed Envelop should be consisting of followings:
	a	Copy of Certificate of Registration of firm, GST Number and Income Tax PAN.
	b	Certificate mentioning of Turnover for the last year and OEM authorization letter.
	c	<b>BOQ</b> Annexure-I and Price <b>Bid</b> Annexure-II duly filled and signed.
8	<b>Evaluation of Bids:</b>	
		The Institute shall evaluate all the items together or separately depending upon nature of items of circumstance and compare the quotations determined to be substantially responsive i.e. which
	a	are properly signed;
	b	Confirm to the eligibility criteria of the vendor; and
	c	Confirm to the terms & conditions, and technical specifications.
	d	In case, required goods/items in this tender are independent and complete in nature. Institute may evaluate independently as far as price is concerned for placing order(s).
9	<b>Validity of Tender:</b>	
	a	The tender shall be valid as mentioned at IMPORTANT INFORMATION AT GLANCE sheet. Terms and financial details submitted in the bid shall be treated as firm during the validity period.
	b	In exceptional circumstances, prior to the expiry of the bid validity period, the purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing.
10	<b>Notification of Award:</b>	
	a	Prior to the expiry of the period of bid validity, the purchaser shall notify the successful bidder, in writing, that its bid has been accepted. The notification letter shall specify the sum that the purchaser will pay to the bidder in consideration of the <i>Supply of Goods/ Items</i> with the details of selected location.
11	<b>Penalty Clause:</b>	
	a	The bidder shall indicate the period within which the ordered quantity will be supplied along with Installation & Commissioning of Goods/ Items. The bidder shall note that in case bidder fails to do so within the period of delivery indicated by the bidder in price bid of this tender, penalty @ 0.50 % on basic value of the PO per week of delay would be levied subject to maximum 20 weeks. It means, the bidder shall have the liability of delayed supply to the maximum of 20 weeks after expiry of scheduled delivery date.
12	<b>Terms of Payment:</b>	

	a	The Payment shall be made by purchaser after supply and installation of Goods/ Items and proper training to concern staff at free of cost.
13	<b>Jurisdiction:</b>	
	a	In the event of any dispute the legal matter shall be subjected to the jurisdiction of Bhopal court only.



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**BILL OF QUANTITY**

S. No	Technical Specification	Quantity	Remarks
1.	<p><b>Rainfall Simulator (Advanced Hydrology System) with following specifications:</b></p> <p>A self-contained floor standing apparatus for hydrology and fluvial geomorphology demonstrations, comprising: Catchment tank: SS304, 1m x 2m x 2mm thickness</p> <ul style="list-style-type: none"> <li>- Investigation of precipitation discharge relationships, storage capacity of soils, seepage flows, groundwater flows and sediment transport closed water circuit</li> <li>- Inclined stainless steel experiment tank contains 19 measuring connections to detect groundwater levels, transparent splash guard and screens for separating the chamber.</li> <li>- Experiment tank, inclination adjustment: -1% to 5% through two jacks equally placed &amp; balanced.</li> <li>- Area: 2x1 m<sup>2</sup>, depth: 0.2 m, max. sand filling: 0.3 m<sup>3</sup></li> <li>- Two wells points with open seam tubes in the experiment tank; adjustable precipitation device;</li> <li>- precipitation time can be adjusted via timer</li> <li>- Precipitation device: 8 nozzles, switchable in 4 groups of 2 nozzles.</li> <li>- Water supplies and drains: transparent measuring tank (flow) and force sensor (determining the amount of sediment)</li> <li>- 3 models for pillars: round, square, oval instruments: tube manometers (groundwater), flow meter (2x at the supply) and measuring weir in the measuring tank (1x at the drain)</li> <li>- Water pump-Type: Centrifugal- Power: 0.5Hp/ single phase, Quantity 01Nos.</li> <li>- Level sensors- Type: Capacitance; Range: 0 to 400mm / 4-20mA, Quantity: 10Nos.</li> <li>- Flow sensor- Type: Turbine wheel type; Range: 100 to 1500LPH, Quantity: 02nos</li> <li>- Load cell- Type: Beam type force sensor; Range: 0 to 40Kg, Quantity: 02nos</li> <li>- Solenoid valves- operation @230volt, single phase; End connection: 1" BSP (quantity:04nos); End connection: ½" BSP (quantity:08 Nos)</li> </ul>	01 No.	

	<p>- French Drain: Material – Perforated UPVC pipe covered with fine mesh; Quantity: 02 Nos;</p> <p>- Control: Inlet and outlet configuration via QRC coupling and manual ball valve.</p> <p>- Power consumption: 0.55 kW - Max. Flow rate: 1500 L/h - Storage tank capacity (stainless steel): min. 220L. - Pressure: 0 to 300 mm per water column - Data acquisition software DAQ via USB.</p> <p>- Should be able to perform experiments which includes at least: investigating transient processes; effect of rainfall of varying duration on the discharge; storage capacity of a soil; investigating steady processes; seepage flow; effects of wells on the groundwater level over time; flow behavior of rivers, obstacles in the river bed, sediment transport in rivers.</p> <p>- To be supplied with integrated at least 11” HMI panel with integrated computer &amp; IOT based Virtual Data Acquisition system that aids lecturers engage students in their virtual classrooms by demonstrating live experiments. Should allow the laboratory demonstrators or technicians to carry out experiments on the trainers in the laboratory and the students sitting in their respective homes can get the experiment screen shots as well as experiment readings and results along with suitable Laptop.</p> <p><b>Experiment Capabilities</b></p> <ul style="list-style-type: none"> <li>▪ Run-off hydrographs from model catchments</li> <li>▪ Construction of draw-down curves for one or two well systems in a sand bed</li> <li>▪ Ground water flow and hydraulic gradients</li> <li>▪ Model stream flow in alluvial material</li> <li>▪ Hydraulic gradients in ground water flow. Investigation of model stream flow in alluvial material</li> <li>▪ Formation and development of river features over time</li> <li>▪ Sediment transport, bed load motion, scour and erosion</li> <li>▪ Calculation of concentration time for a short storm.</li> <li>▪ Study of the storm hydrograph of an impermeable catchment.</li> <li>▪ Study of the effect of a moving storm on a flood hydrograph.</li> <li>▪ Study of the effect of reservoir storage on a flood hydrograph.</li> <li>▪ Study of the effect of drain pipes on a flood hydrograph.</li> <li>▪ Investigation of stream flows modelled in alluvial material.</li> <li>▪ Study of sediment transport, bed-load motion, scour and erosion.</li> </ul>		
We confirm with our acceptance to the technical specification as given above.			
Date:		BIDDER’S NAME & SIGNATURE WITH SEAL	

		<b>ANNEXURE- II</b>
<b>FORMAT FOR SUBMISSION OF BID PRICE</b>		
To, The Director MANIT- Bhopal- 462 003		

Sub:	Price Bid with reference to Tender Document No: MANIT/CIVIL/2021/04 dated: 23/08/2021.
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SN	Product Description with make & Model	Discounted unit price	Qty	Qty Price	GST	Total Price
1	2	3	4	5	6	7(5+6)
1	<b>Rainfall Simulator (Advanced Hydrology System)</b>		01 No.			
Total offered Price						

Total ( In Words):

Delivery Period required:

The followings things are confirmed and undertake by us that:

a	The price quoted above are inclusive of basic price, statutory levies and taxes, duties, Transportation, Incidental services (including Insurance, Loading/ unloading, Packing & Forwarding charges, Installation etc.) at site.
b	Taxes are subject to change/ revision.
c	We agree with the terms and conditions specified in “Instructions to Bidders” and if selected, the execution of supplies would be made in compliance.

Date:	Signature of Authorized Bidder with proper rubber stamp
	Name:
	Designation:
	Mobile No: