



# HOWRAH MUNICIPAL CORPORATION

4, MAHATMA GANDHI ROAD, HOWRAH-711 101

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Engineering Department (Drainage & Sewerage)

No. WB-HMC/TN/ED/S&D/08/2023-2024

Date: 18.07.2023

## E-TENDER

Executive Engineer (S&D), Howrah Municipal Corporation invites E-Tenders in prescribed form from reputed resourceful & bona-fide contractors who have sufficient experience in similar nature of work with at least 40% of the value of work in a single tender within last 5 years. The tender paper shall be accompanied by non-refundable copies of GST, Trade License, Pan Card, I.T return & Professional Tax challan copy, Credential etc. signed by the applicant with the seal of the firm / company.

Earnest Money to be deposited online as it is available in E-Tender Portal of Govt. of West Bengal in favour of "MUNICIPAL AFFAIRS DEPARTMENT // URBAN LOCAL BODIES // HOWRAH MC".

App based Scheme monitoring is mandatory and the agencies will have to upload pictures through HMC Apps and the agency has to abide by regulations, like providing safety equipments etc, as stipulated in The Prohibition of Employment as Manual Scavengers and their Rehabilitation Rules, 2013 and more particularly, in Chapter-II thereof, in execution of your work.

Sl No	Name of Work	AA&FS No.	Earnest Money (Rs)	Time of Completion
1	Procurement of Advanced Manhole Cleaning Robot along with Operation and Maintenance for 2 Years	[COF/AA/23-24/279 Dated: 29.04.2023]	1,35,000.00	30 Days for Supply of 1no. Manhole Cleaning Robot Operation and Maintenance of Manhole Cleaning Robot for 2 Years ( 24 Months)

### Date and Time Schedule:

Sl No:	Particulars	Date & Time
1	Date of uploading of N.I.T. & other Documents (online)	19.07.2023 2.00 p.m.
2	Documents download start date (Online)	19.07.2023 2:00 p.m. onwards
3	Bid submission start date (On line)	19.07.2023 2:00 p.m. onwards
4	Bid Submission closing (On line)	14.08.2023 upto 5.00 p.m.
5	Date for opening of Part – I Proposal ( Online )	17.08.2023 2 :00 p.m.
6	Date of uploading list for Technically Qualified Bidder(online)	INTIMATED AFTERWARDS
7	Date for opening of Financial Proposal (Online)	INTIMATED AFTERWARDS

### 1. ELIGIBILITY CRITERIA FOR PARTICIPATION IN THE TENDER

Sr.No	Bidder's Criteria	Documents to be submitted
1	The Bidder shall be a Registered Entity Under the Relevant Act in India for Minimum of 5 Years as of the bid submission date.	As proof thereof, a copy of the Certificate of Incorporation/Registration Under the Relevant Act In India, Relevant MSME Certificate. Also, the PAN card of the Entity should be submitted.
2	The bidder must be an authorized seller/OEM/Distributor, and then submit the corresponding Document. Further, if bid is submitted by authorized seller or distributor then the supply experience of OEM will be considered.	Latest Authorization Letter from its manufacturer or OEM Certificate Should be submitted
3	The bidder should have previous experience of 3 years in Delivering Similar Work (Delivery of Manhole Cleaning Robot along Operation and Maintenance) mentioned in the bid document.	The bidder should submit Work/Purchase Order copies for Minimum 5 quantities for Similar Work (Supply of Manhole Cleaning Robot) from the last 03 years from the Government of India or any State Government, Public Sector Undertaking, and ULB's.

4	The Average Annual Turnover of the Bidder, in the last Two (2) Financial Years from 2020-21 should not be less than Rs. 3,00,00,000/- (Rupees Three Crore only) for a Similar Work for the Supply of a Manhole Cleaning Robot ).	Bidder shall submit Annual turnover Certificate issued by CA.
5	The manufacturers should be an ISO9001:2015/CE standard certificate company with a Scope of work clearly mentioning the Design, Supply, and manufacturing of Robots for the Sanitation Area.	ISO Certificate/CE Standard Certificate
6	The Net worth of the bidder shall be positive during the last Three Financial Years from FY 2019-2020.(Note: Financial Years means the period beginning from the 1st April to 31st March of the next year.)	A Positive Net worth Certificate issued by a CA for the last Three Financial Year from FY 2019-2020.
7	The bidder shall not be black listed under any Municipal bodies, Government institutions, ULB's or Sewerage bodies.	An undertaking of non-Blacklisting.
8	The bidder should provide an experienced and authorized person/operator to provide training for workers.	Authorized Key personnel Details including experience in using Robotic machines in any state/ULBs.
9	Prior Turnover and Prior Experience exemption are not allowed.	

## 2. TECHNICAL SPECIFICATION SHEET

### A) Stand Unit with vertical lifting arrangement.

Sr. No	Description in brief
i	<b>Operational Manhole Diameter:</b> Min 450mm to 600mm (Standard Manhole Size)
ii	<b>Dimensions:</b> Min Length(mm):1430±30, Min Width(mm):810±10, Min Height(mm):1700±30.
iii	<b>Vertical lift:</b> Min 1.5 Meter to 8 Meter. <b>Hoist Capacity:</b> Maximum 125kg.
iv	<b>Portability:</b> 4 wheels (Diameter: Minimum 200mm) for maneuvering on stand unit.
v	<b>Material:</b> The stand unit shall be made of steel Alloy and to be treated with powder coating for corrosion resistance. The mounting Parts on stand unit shall be made of plastic and/or Aluminum and/or rubber.
vi	<b>Cameras:</b> 1 No. IP68 suitable underwater camera, Resolution minimum 720P and wide angle for monitoring the robot entering and exiting the manhole.
vii	<b>Display:</b> Minimum 13.3 inch, ips screen full HD with toughened capacitive touch display, 4 channel video output.

viii	<b>User Interface:</b> The stand unit shall have a minimum 10.1inch Interactive Touch screen which enables additional information to be displayed. The stand unit shall have provision of manual switches for operation of the robot. The UI shall also have tutorial application for skill development of the manual scavengers including graphical understanding of the Robot Operation. Touch screen shall also have feature of monitoring the presence of Poisonous gases.
ix	<b>Interface to the monitoring of poisonous gases:</b> The Robot shall have poisonous gas detectors to provide additional safety to the operator from gases like Methane, Carbon Monoxide, Hydrogen Sulphide, smoke and Ammonia. The indication of the same shall be available on interactive touch screen provided with the stand unit
x	<b>Tutorial Software:</b> Built in software to learn the operations of the robot quickly with each schematic button of control unit linked to the respective Graphical information's or animations showing on the tutorial software representing it's respective active actions of the robot and is available in 10.1inch interactive Touch screen with software which should be upgradable.
xi	<b>Lights:</b> 2no's, minimum 5W High Intensity LED Lights, 1No minimum 5W Light.
xii	<b>Supply Voltage:</b> 230VAC/50-60Hz
xiii	<b>Working Air Pressure:</b> minimum average 7Bar

**B) Robotic Unit (which goes inside the sewage Manhole for cleaning)**

Sr. No.	Description in brief
i	<b>Robotic Arm Degree of Freedom:</b> Four (3 Rotational Degree and 1 Linear Degree with minimum 150mm Stroke Length).
ii	<b>Diving Height:</b> Min 1.5 meter to 8 meter
iii	<b>End Effectors:</b> Multi-Purpose (for shoveling action and for picking action)
iv	Bucket Capacity: Min 8 liters to 12 liters
v	<b>Robotic Arm Actuators:</b> 3 Pneumatics and 1 Electric. The electric motors will be IP68 rated working on minimum 48 VDC.
vi	<b>Cameras:</b> 3No's. IP68 suitable underwater camera. Resolution: minimum 720P and wide angle (120 deg).
vii	<b>Material:</b> CFRP (Carbon Fiber Reinforced Polymer), Powder Coated stainless Steel, Aluminum, Plastic, Rubber, PLA and any of the non-corrosive materials or Mix of different materials as above. Body fixing plates (02No's) and leg unit (4x2no's) should be made up of light weight CFRP for more strength and reliability.
viii	<b>Robotic Legs:</b> 4nos. of legs made up of CFRP for moving inside manholes.

**C) Additional Accessories**

Sr.No	Description in brief
i	<b>Electric Generator:</b> Rated Output: minimum 2.8KVA, 230V/50HZ
ii	<b>Air Compressor:</b> Minimum 1.5HP, Minimum 6 Bar Outlet Pressure with minimum 30 Liter Tank Capacity.
iii	<b>Pneumatic Hose (PU tubes):</b> 6mm diameter, 15 meter length.
iv	<b>Extension Box (3no, 16Amps switch with indicator and socket):</b> 12meter, 16Amps, 3core 4sq.mm cable

v	<b>Power Connector:</b> Industrial splash proof angle socket and industrial splash proof fire retardant straight plug 3pin 16Amps.
vi	<b>Tray:</b> powder coated tray with 3 wheels for collecting wastes.
vii	<b>Plywood Ramp:</b> Wooden ramp for loading and unloading of the Robot.
viii	<b>Raincoat:</b> Protective shield for stand unit made up of polyvinyl chloride transparent sheets.

### **3. PAYMENT TERMS AND CONDITIONS**

- 100% of the Robot cost shall be paid on the successful delivery of the Robot onsite upon submission of the Delivery Note.
- The operation and maintenance payment shall be made on a monthly basis after submission of the monthly log record with the monthly bill to the concerned authorities of Howrah Municipal Corporation.

### **4. Required Documents for Participation in the Tender**

Valid Scanned & Signed Copies of the following documents (As applicable)

- i. PAN Card,
- ii. Goods and Service Tax (GST) registration certificate mentioning the 15-digit Goods and Service Taxpayer Identification Number under the GST Act 2017,
- iii. Income Tax Return Certificate for the Last Three Financial Years.
  - a. The prospective bidders shall neither have abandoned any work nor any of their contract have been rescinded during the last 5 (five) years. Such abandonment or rescission will be considered as disqualification towards eligibility. A declaration in this respect through affidavit has to be furnished.
  - b. Statutory Auditor's Certificate that provides the information explicitly on the bidder's financial condition. The bidder must have Positive Net Worth in the last three financial years from FY 2019-2020.

### **5. PRICE SCHEDULE**

1. Price should be Ex-works price; inclusive of all taxes & duties, freight, etc.
2. Price quoted should be firm and should remain valid up to 180 days from the date of opening of the tender.

### **6. WORK ORDER/CONTRACT**

1. The bidder should submit Work/Purchase Order copies for Minimum 5 quantities for Similar Work (Supply of Manhole Cleaning Robot) from the last 03 years from the Government of India or any State Government, Public Sector Undertaking, and ULB's.
2. The L1 bidder may be asked for giving a demo of the Product.

### **7. DELIVERY SCHEDULE**

1. Time of delivery of the product is 30 days after receiving the purchase order.
2. Product is required to be delivered at HMC.
3. **PRE - DELIVERY** Inspection shall be conducted by the HMC Officials at suppliers factory within 10 Days after receiving work order.

## **8. AVAILABILITY OF SERVICE CENTRE**

1. There must be Key personnel for service support at Howrah or Kolkata and details of which must be mentioned in the submission document.
2. For providing after sales service the agency should clearly mention the contact number that will be available 24x7,

## **9. WARRANTY SCHEDULE**

The warranty period of the supplied products shall be 1 year from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods.

## **10. OTHER TERMS & CONDITIONS**

1. HMC reserves the right to accept or reject the tenders wholly or partly depending on its requirement on the date of order without assigning any reason. The Howrah Municipal Corporation also reserves the right to increase order ease the quantity.
2. Conditional tender will not be accepted.
3. All disputes under this contractor subject to Howrah jurisdiction only.

## **11. EXTENSION OF TIME**

In cases where the delay is not due to any default on the part of the contractor extension of time will be allowed to the contractor as Executive Engineer or his representative may think fit.

## **12. CLAIMS FOR INTEREST**

No claim for interest will be entertained by the HMC with respect to any money or balances which may be or alleged to be due to the contractors owing to any disputes between engineer and the contractors or with respect to any delay on the part of the HMC in making final monthly or final payment or otherwise.

Corporation reserve the right to accept or reject part or whole tender without showing any reason what so ever. Detail Information may be had from the office of the undersigned.

**N B: - 1) Intending bidder may download the tender document from the website <https://wbtenders.gov.in> directly with the help of Digital Signature Certificate.**  
**2) Hard copied (Part-I) will be verified from originals if required**

Executive Engineer (S&D)  
Howrah Municipal Corporation  
Date: 18.07.2023

No. WB-HMC/TN/ED/S&D/08/2023-2024

Copy to:-

1) Hon'ble Chairman, BOA, HMC 2) Commissioner, HMC, 3) C.O.F, HMC, 4) Engg. Accounts 5) E.E./A.E. Borough - I to VII, HMC, 6) Sabhadhipati Zilla Parishad, Howrah 7) Chief Engineer, HIT, 19, G.T.Road, Howrah, 8) Asst. Engg. PWD Constn Divn. No 1, 2, M.G.Road, Howrah, 9) R.A.O, HMC (Govt Audit), 10) I.T. Department, HMC Website 11) Secretary Department (General) - For Paper Publication 12) Notice Board 13) Office Copy.

Executive Engineer (S&D)  
Howrah Municipal Corporation