



मिरा-भाईंदर महानगरपालिका

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पाणी पुरवठा व मलनिःसारण विभाग



जा.क्र.मिभा/मनपा/पा.पु.व मलनि/क.अ.६/उ.अ.५/3064/२०२५-२६

दि. 03/02/२०२६

प्रति,
सिस्टम मॅनेजर
संगणक विभाग
मिरा-भाईंदर महानगरपालिका

विषय :- Integrated IoT-based Smart NRW Management and underground water pipeline Leak detection सिस्टमची रचना, पुरवठा, स्थापना, चाचणी, कार्यान्वित करणे आणि वार्षिक सर्व समावेशक देखभाल दुरुस्ती करणे करीता ऑनलाईन दर मागविणेबाबत.

मिरा भाईंदर महानगरपालिका क्षेत्रातील Integrated IoT-based Smart NRW Management and underground water pipeline Leak detection सिस्टमची रचना, पुरवठा, स्थापना, चाचणी, कार्यान्वित करणे आणि वार्षिक सर्व समावेशक देखभाल दुरुस्ती करणे कामाची निविदा मागविणेकरीता अंदाजपत्रक तयार करावयाचे आहे. परंतु सदर कामाअंतर्गत नमुद बाबींकरिताचे दर दरसुचीमध्ये उपलब्ध नसल्याने ऑनलाईन दर www.mbmc.gov.in या संकेत स्थळावर मागविणे करीता सोबत जोडलेल्या बाबींचा तक्ता ऑनलाईन प्रसिद्ध करण्यात यावा.

शहर अभियंता
मिरा-भाईंदर महानगरपालिका



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पाणी पुरवठा व मलनिसारण विभाग

स्व. इंदिरा गांधी भवन, छत्रपती शिवाजी महाराज मार्ग, भाईदर(प)

ता. जि.ठाणे - ४०१ १०१



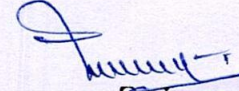
मिरा भाईदर महानगरपालिका क्षेत्रामध्ये Integrated IoT-based Smart NRW Management and underground water pipeline Leak detection सिस्टमची रचना, पुरवठा, स्थापना, चाचणी, कार्यान्वित करणे आणि वार्षिक सर्व समावेशक देखभाल दुरुस्ती करणे कामी मिरा-भाईदर महानगरपालिका खालील तक्त्यातील बाबींकरिता ऑनलाईन दर मागवीत आहे.

उपरोक्त कामांतर्गत बाबींचे दर दि. ०४.०२.२०२६ ते दि. ११.०२.२०२६ रोजी दुपारी १२.०० वाजेपर्यंत watersupply@mbmc.gov.in या ई-मेलवर पाठविण्यात यावे.

DESCRIPTION OF WORK	Aprox Qty	Unit	Rate (Excluding GST)
1. Digital Ground Microphone & Listening Probe Hand-held, battery-powered electro-acoustic leak pin-pointer for metallic and non-metallic service connections. – Broadband sensor: 20 Hz – 5 kHz, flat ±3 dB response. – Real-time graphic display with adjustable digital filters (high-pass, low-pass, band-pass) and automatic noise-level histogram. – Wind-shield ground plate or “foot” sensor to suppress ambient audio. – Wireless headset with >10 m range; audio recording & replay for post-analysis. – Minimum 8 h continuous run-time on field-replaceable rechargeable battery; IP54 enclosure.	2	No	
2. Advanced Leak Noise Correlator Portable dual-accelerator correlator for underground pressure pipelines (DI, CI, MS, PVC, HDPE, AC). – Radio or cable-linked sensors, ≥1 km line-of-sight; automatic velocity calculation from pipe material/diameter database. – Triple-stage adaptive filtering (spectral, time-domain, cross-correlation) for high-traffic ambient noise. – Colour VGA touch panel, sunlight readable; correlation view & spectrum overlay. – PC software for post-processing, GIS export and report generation. – Rechargeable Li-ion battery, ≥12 h operation; IP65 housing.	2	No	
3. Fixed Network Leak Noise Logger (IoT) Permanently deployable acoustic logger with cellular (NB-IoT / LTE Cat-M1) back-haul for 24 × 7 leak surveillance. – High-sensitivity hydrophone / accelerometer; programmable sampling 0.1–5 kHz. – On-board DSP for noise-level trending, automatic alarm escalation and remote correlation between neighbouring loggers. – Internal antenna, submersible to IP68; ≥5-year battery life at 2 samples per night. – Cloud API with JSON webhook for integration into municipal SCADA / DMA dashboard. – Magnetic or strap mounting for valve chamber or hydrant installation.	50	No	

<p>4.Path Ultrasonic Bulk Flow Meter (Insertion / Clamp-on or Spool-piece) Transit-time ultrasonic flow transducer package for district metering points (DMA inlets, transmission mains). – 4-beam diagonal path geometry for ± 0.5 % accuracy down to 0.03 m/s velocity; bidirectional. – Pipe diameters: DN 80 – DN 1200; pressure class PN 10/16 (higher on request). – Data logger integral: 1 min – 24 h programmable interval, 2×10^6 point memory; battery or mains 12-24 V dc. – Outputs: RS-485 (Modbus RTU), pulse, 4-20 mA; optional GSM/GPRS/NB-IoT module. – Temperature compensation, Reynolds correction and automatic drift diagnostics.</p>	8	No	
<p>5.Smart Domestic Water Meter with Integrated Pressure Sensor IoT-enabled volumetric meter (ultrasonic / fluidic oscillating) for consumer end-points. – Metrology: ISO 4064 Class C / R160 minimum; no moving parts; low-flow start 1 L h^{-1}. – Embedded MEMS pressure transducer 0–16 bar. – Pipe diameters: DN 15 – DN 25 – Communication: NB-IoT / LTE-M with eSIM; daily encrypted data payload (volume, pressure, alarm flags). – Battery life ≥ 10 years at 1 transmission per day; IP68 register.</p>	225	No	
<p>6. Precision Multi-Frequency Pipe & Cable Locator Electromagnetic locator kit for tracing metallic water lines, copper service pipes, power & telecom cables. – Active frequencies: 512 Hz, 8 kHz, 33 kHz, 65 kHz, 131 kHz + passive power & radio modes. – Depth read-out to 6 m ± 5 %; current measurement index for line identification. – GPS / GNSS receiver on-board with Bluetooth export to GIS tablet. – TX output 1 W / 10 W selectable; Li-ion battery, ≥ 20 h receiver runtime; IP54.</p>	2	No	
<p>7. Cloud & Software Platform for NRW Management & Leak Detection Browser-based SaaS hosted on ISO-27001-certified infrastructure. – Metering & logger data ingestion: MQTT, HTTPS REST, LoRaWAN, Modbus. – DMA balance engine: automatic night-flow analysis, leak run-time calculator, economic leakage level (ELL) report. – Alert engine: user-configurable thresholds, SMS & e-mail escalation, ticket workflow. – Role-based access, Hindi / English UI, open API for integration with billing or SCADA. – Includes one year hosting, daily back-up, security patching and major-version upgrades.</p>	1	LS	
<p>8.Open-Channel Doppler Flow Meter for Drainage Overflow Audit Portable rod-mounted sensor for spot-measurement of water velocity & level in sewer/storm channels. – Cross-correlation ultrasonic Doppler, velocity range $0.02 - 4.5 \text{ m s}^{-1}$, ± 1 %. – Pressure or ultrasonic level sensor 0 – 3 m; automatic area computation for circular, rectangular, trapezoidal sections. – Hand-held display/logger: colour TFT, 2 GB memory, CSV export via WLAN or USB-C. – Rechargeable battery ≥ 12 h; IP67 field enclosure; stainless-steel sensor 16 mm \varnothing.</p>	2	No	

<p>9.Operation & Maintenance Support & Training (1 Year)</p> <ul style="list-style-type: none"> – On-site corrective & preventive maintenance of all supplied equipment (2 visits per logger per annum). – Calibration certificates for flow meters & pressure sensors traceable to NABL / ILAC. – 24 × 7 help-desk with 48 h on-site response (within 100 km of city municipal limits). – Training: 2 batches × 5 engineers, 3 days each—leak detection, correlator use, DMA balance, cloud dashboard. – Spare-part stock list: 10 % sensors, 20 % batteries, 5 % cables & mounts maintained locally. 	1	LS	
<p>10.Leak Detection Van with Mobile Workstation</p> <p>Factory-fitted LCV (BS-VI or latest emission norm) for rapid deployment of acoustic survey crews.</p> <ul style="list-style-type: none"> – Interior racking for correlators, loggers, ground-mics, locators, safety gear. – On-board inverter 1 kVA pure-sine, 12 V/24 V DC outlets; auxiliary battery isolated from vehicle. – Rugged notebook with GIS software, 4G dongle, GPS tracker; roof-mount telescopic mast for radio antenna. – Safety: beacon light, traffic cones, first-aid kit, fire extinguisher; speed-limit 80 km h⁻¹ governor. 	1	No	



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दि.०३/०२/२०२६