पनवेल महानगरपालिका

ता.पनवेल, जिल्हा - रायगड, पनवेल -४१०२०६.

दूरध्वनी कार्यालय : ०२२-२७४५८०४०,४१,४२
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उपायुक्त कार्यालय : ०२२-२७४५५७५१
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प.म.पा./वाहन/२१-२२/प्र.क्र.०७/जा.क्र. ७० /२०२३ दिनांक :०५ /०४ /२०२३

Notice for inviting Quotation

The Commissioner, Panvel Municipal Corporation invite quotations for below mentioned work from date 10/04/2023 to date 17/04/2023 till 3.00 pm

Sr. No.	Description of Work	Quantity	Amount in Rs. (Incl. all taxes)
1	Preparation of estimate of "Fabrication & supply of Multipurpose Sprayer and Dust Suppression vehicle on 14 ton minimum GVW, WB up to 3900mm BS-VI (Euro VI) cabin chassis, with all equipment's/accessories including all taxes transit insurance and duties, complete." with 7yrs AMC.	01 No.	
2	Monthly cost for hiring of crew team consisting of 1 Supervisor +1 Driver and 1 Helper – maximum 8 Hrs of running per day and 26 days in a month.(For the period of 07 years)	Per Month	

- This quotation is invited exclusively for preparation of estimate.

DETAILED TECHNICAL SPECIFICATIONS AS MENTIONED BELOW.

BASE CHASSIS

- The chassis will be purchase from the supplier BS VI norms or any suitable chassis of indigenous make.
- The chassis will be maximum 14 ton GVW /Engine power suitable for crawling and pumping applications, goodschassis suitable to carry designed load (distribution chart to be submitted with documents)
- The wheelbase of chassis limited to 3900mm as the vehicle shall be compact and shorter turning radius.
- Arrangement for drivers +1 cabin factory made luxuries cabin with full foreword control.
- Chassis with all necessary tools, spare wheel with wheel rim.
- Maximum length will be limited to the gross permissible length of chassis OEM.
- Maximum transport height shall be limited to 3.3 mtr. and same shall be shown in drawing.
- Chassis shall be able to meet the following performance requirement when fully loaded as Gross Vehicle Weight :14ton.
- Vehicle shall be able to achieve minimum speed of 50 Km/hr on level road when fully loaded.
- The Steering shall be integral power steering.
- The chassis shall be complete with standard features & accessories.
- The Chassis shall be supplied with standard tool kit, hydraulic jack, spare wheel assembly and Operation &maintenance manual.

- The cabin shall be painted with standard color paint.
- Any modification like Welding, drilling etc. on framework of chassis should be done as per the bodybuildingguideline given by the chassis supplier.
- The weight distribution chart on axles. All axels should beloaded within the maximum permissible pay load specified by the chassis manufacturer.
- All wiring shall be properly fixed in position and should be protected against heat, oil and physical damage. Wherever possible wiring should pass through PVC Sleeves.

- All-important electrical circuits shall have separate fuses suitably indicated and grouped in a common fuse box located in an easily accessible position. Provision should be made for a minimum 4 Nos. spare fuses in the fuse box. Fuse box should have visual marking to identify individual fuse details.

- Design and engineering drawing of supporting superstructure arrangement shall be submitted along with designcalculations.

- Other details and requirements which are not covered under this specifications document, but may be necessary to complete the EV.

B) WATER TANK

Capacity	6000 Liters
Material of Construction	Mild steel (MS)
Bottom Plate Thickness	4 mm
Side Plate Thickness (Die Pressed Stiffened on Two Sides)	4 mm
Top Plate Thickness	3 mm
Baffles Thickness	3 mm
No of compartments in water tank	Suitable
Numbers and Size of Manhole	1 x 500 mm
Numbers and Size of Cleaning Hole (Bottom of Tank)	1 x 250 mm
Drain Pipe on Cleaning Hole	25 mm
Overflow Pipe Size	80 mm
Tank Filling Line Size	80 mm
Number of Tank Filling Connections	1 x 63 mm
Tank to Pump Line Size.	80 mm

C)DESIGN & PLUMBING

The water tank shall be designed to carry approx. 3% Liters of water in excess of the designed capacity. The Water tank shall be so installed as to allow the full flow of water to the pump. The tank will have baffle plates inorder to avoid surge when the vehicle is braking, accelerating and cornering. Inspection manholes will be provided on top of the tank one at rear and one at front. The manhole will have a hinged cover so that the manhole will also act as a filling orifice.

Suitable eyes will be provided on the shell of the tank to enable it to be lifted off the vehicle for repairs when required. A cleaning hole shall be provided at the bottom of the tank. It will be fitted with a drain pipe & valvewhich will be taken down to a point well below the chassis without reducing the effective ground clearance. Thetank will be fitted with an overflow pipe taken down to a point well below the chassis that discharges the water away from the wheels. Hydrant connection incorporating a strainer will be provided for filling the tank. A pipeline will be taken from the tank to the suction inlet of the pump incorporating a quick action ball valve. Thetank will

be connected with the pump in such a manner that pressurization of water tank or water tank pumpconnection is avoided when pumping water from an outside source of supply.

AIR CURTAIN BASE WATER MIST SUPPRESSION SYSTEM.CAPACITY 30MTR AT STILL AIRCONDITIONS

S N.	BOM	Qty	Specification
1	HFC-30 blower with high volume and high pressure fan	1 Nos	High Flow Blower. with electric motor- vent, 5.5 KW,with high efficiency vent and air flow straightens,
2	Air straightens and inbuilt silencer	1 Nos	Mild Steel. Fitted in blower exhaust, far- fetched featureto reduce noise and provide flow stability.
3	SS nozzles ring with nozzles	1 Nos	Socket welded. Removable and cleanable nozzle arrangement. Outer andinner ring.
4	Solid cone nozzles, SS304	20 Nos	Stainless Steel finest orifice to produce finest particle, solid cone flow pattern. Effective to controleven 10 micron dust particles.
5	Fan safeguard mesh	1 Nos	Mild Steel made mesh guard to protect personals,animals, birds. Fitted at rear ofthe cannon.
6	Automatic Vertical Movement	1 Nos	Hydraulic cylinder lifting mechanism 0- 45 deg elevation controls Local and remote control provided
7	Automatic Adjustable Horizontal Movement	1 Nos	Hydraulically driven heavy duty slew drive for rotations.Automatic adjustable oscillation option.
8	Control Panel	1 Nos	IP-55, Double door Electric control panel with Star-deltastarter over blower motor and DOL pump starter, overload protection, phase protection, dry run controller,emergency stop.
9	High pressure multistage pump	1 Nos	3 KW,
10	Discharge hose	1 Nos	Hyd Hose, 500 PSI hydraulic fitting hose for pump tonozzle discharge.
11	Inlet Strainer with SS mesh	1 Nos	Stainless steel, 200 microns mesh filter, Washable and replaceable.
12	Dry run safety, Single phase Preventer, locking system for elevation and rotation,other safety	1 Nos	Inbuilt in control panel
13	Coverage	1 Nos	2800 Sq Mtrs
14	Automatic Adjustable	1 Nos	Operation through local panel and Remote-control form100 mtrs range.
15	Automatic Vertical Movement	1 Nos	Operation through local panel and Remote control form100 mtrs range.
16	Wireless remote Control	1 Nos	Operation through local panel and Remote control: UP/DN, Oscillation, Pump Start & Stop, Emergency Stop.

D) FRONT ROAD FLUSHING SYSTEM.

There shall be flushing nozzles provided at front end of driver cabin which will be able to flush dusty . muddyand oily roads having effective working range 3 times of vehicle width approx 25 ft . the pressurized water supply for these nozzles will be provided by medium pressure pump driven by vehicle engine while vehicle in motion@ 15 to 20 km/hr minimum.
Additional fine mist high pressure European imported having individual filtration for each nozzle (make Fireco or Dynamic) with washing bar shall be provided at front side and approx. 1 ft at left and right perimeter of the cabin working at 75-100 bar pressure.The pumping will be operated by vehicle engine during vehicle is in motion At speed 15-20kmph.
All the controls to enable these operations shall be provided in drivers cabin.

E) REAR ROAD FLUSHING SYSTEM.

There shall be flushing nozzles provided at Rear end of vehicle which will be able to flush dusty , muddy andoily roads having effective working range 3 times of vehicle width approx 25 ft . the pressurized water supplyfor these nozzles will be provided by medium pressure pump driven by vehicle engine while vehicle in motion@ 15 to 20 km/hr minimum.
All the controls to enable these operations shall be provided in drivers cabin.

F) GREEN BELT GARDNING CLEANING SYSTEM

At the rear end platform of the vehicle two nos vertical nozzle bars shall be provided to suitable height having independent control for watering and flushing of road side and middle green belt plants.The pressure and flowof the nozzle shall be maintained in such a way that there shall not any physical damage to the plants.The saidoperation shall be done when vehicle is in motion at steady speed 10 to 15km/hr.

G) HIGH HEIGHT TREES CLEANING SYSTEM.

High pressure jet nozzles shall be provided at top of the vehicle 3 nos each on LH and RH side having individual control for set of 3 having jet range of 10 to 12 mtr. For washing of big trees on road side .

The top of the tank shall equipped with a high-pressure water gun shall have 360deg rotation elevation and depression operated manually and can be used to spray objects of various heights and can clean blind cornersthat are not easy to reach. It shall be additionally used as auxiliary firefighting and landscaping watering, and shall have jet and spray mode.

H) ROAD DIVIDER CLEANING SYSTEM.

High pressure duck bill nozzles shall be provided LH and RH side having projectile of water towards direct effect on the dividers for cleaning purpose having individual control .

POWER GENERATOR:

Diesel driven reputed power generator shall be mounted in enclosed canopy behind drivers cabin with suitable control panel and environment protection of capacity having power output of Suitable for water mist suppression system , water cooled CPCB approved make : kirloskar, Greaves ,Mahindra , Eicher ETC.

LOW PRESSURE SELF PRIMING PUMP:

For providing pressurized water supply to miscellaneous applications mentioned above side CROWLING PTO driven self priming pump shall be mounted below chassis having following operating parameters and able to use during movement of the vehicle .
The pump shall be having below specifications.

DESCRIPTION	CAPACITY
MINIMUM FLOW RATE	1000LPM
RATED OUTPUT PRESSURE	7 TO 8 BAR
RPM	1200
MOC	CAST STEEL

HIGH PRESSURE PUMPING FOR FINE MISTING AND PRESSURE WASHING

This system enables very fine misting in environment making heavier dust and carbon particles produced by vehicles and settle down on ground, front and rear high pressure nozzle bar used for cleaning purpose also cleaning of road barriers the pump shall have following specifications.

PUMP:

The high-pressure water mist/ fog system pump shall be of min. 70 LPM at 100bar pressure. It shall be a min. three plunger positive displacement type pump, working to its capacity. A by-pass for letting the water back to the tank shall be provided to release excess pressure generated due to shutting of the hand line. The pump shall have double seal on each plunger with low pressure intermediate chamber to keep the water sealscool & lubricated. This system will also permit the recirculation of any leakage from the high pressure back to the pump inlet. The pump shall have synthesized pistons of super-hard ceramic. The connecting rods will be of special alloys with low attrition coefficient, high wear resistance & high anti-seize properties. The pump suction line shall have inline mesh filters.

PIPELINE AND PLUMBING

All the pipeline and plumbing shall be done in GI material all lines above shall be flanged joints. All valves" size shall be IC BALL valve socket end type of rated pressure and reputed make.

CONTROL PANEL:

Following general plumbing and controls

- Tank to low pressure pump line with valve and filter.
- Pump to front LP BAR electro pneumatic valve for LH & RH.
- Pump to rear LP BAR electro pneumatic valve for LH & RH

- Pump to rear LP SIDE NOZZLE electro pneumatic valve for LH & RH
- Pump to Monitor LP.
- LP Pump to tank filling line
- Overflow cum air breather.
- HP pump suction.
- HP Mist control front bar
- HP upper jet control LH
- HP Upper jet control RH
- Fog canon suction line.
- Water level indicator electronic and Tube type.

ALL valve shall be suitable to control from drivers' cabin while vehicle in motion.

POWER TRANSMISSION SYSTEM

The engine power of base vehicle shall be used for different applications mentioned abov suitable means of power transfer unit shall be mounted so that Power and speed shall be split move the vehicle on road at road speed of 15-20 km/hr and simultaneously mechanical pow shall be transmitted to HI-PRESSURE pumps atsuitable rpm and hp , The controls and indicato shall be provided in drivers cabin at accessible location.

GENERAL

- Proper access ladder with Grab rails and non-skid steps shall be provided to give access to roof for approaching.
- Access handrails shall be provided at each entrance to all compartments for maintenance purpose.

ACCESSORIES:

- Suction hose with strainer and cam lock coupling 3 mtr.
- Tool kit for routine maintenance.
- Flashing led light bar with PA system mounted on driver cabin
- Direction indicators led type approx length 2ft , visible distance approx 750mtr.
- Rear View Camera with LCD display in Drivers Cabin
  - Powder type Fire Extinguisher – 5 Kg capacity: 2 nos (for operator room and driver ca

PAINTING AND MARKING:

1. *Vehicle Exterior Paint*: The complete vehicle (all exterior surfaces) should be painted wi *one coat of zincsilicate primer* of minimum 50 *microns* DFT by spray painting. Thereafter two coats of high build polyurethane finish paint each coat of 50 microns DFT shall be applied. Further improvement on the paint may be carried out by the manufacturer beyond that mentioned above, to give better protection &surface finish. The color of exterior body shall be informed later.

2. *Surface Preparation* Once the paneling is completed, all the outside surfaces should be painted with a good quality paint of Du-Pont /PPG/Standox/Akzonoble only. This should be polyurethane (PU) based paint with a life of minimum 10 years. Du-Pont hardner shall be applied on paint.
3. The entire structure will be prepared by grinding the welded surfaces, priming the finished material with azinc rich primer & then finally coated with two packs epoxy-based paint.
4. All the lockers / cabins shall be provided with Stainless steel Name Plates with letters etched on it boldlyindicating the content.

* *Reflective stripes* Reflective stripe(s) shall be affixed to the perimeter of the apparatus. The stripe or combination of stripes shall be a minimum of 4 in. (100 mm) in total width and shall conform to the minimumrequirements of ASTM D 4956, Standard Specification for Retro reflective Sheeting for Traffic Control, Type I, Class 1 or Class 3. At least 50 percent of the cab and body length on each side, at least 50 percent of the

width of the rear, and at least 25 percent of the width of the front of the apparatus shall have the reflective material affixed to it.

* Any material or equipment not specifically stated in the specification but which are necessary for satisfactory operation and commissioning of the display boards shall deem to be included in the scope of supply.

(Kailas Gawade)
Dy.Commissioner
Panvel Municipal Corporation