सत्यमेव जयते

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दिल्ली सरकार
PWD

अपर महानिदेशक (अनुरक्षण एवं सेतु)
लोक निर्माण विभाग (दिल्ली सरकार)
12वीं मंजिल, बहुमंजिला भवन
आई.पी. एस्टेट, नई दिल्ली-110002

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Addl. Director General (Maint. & Flyover)
Public Works Department (GNCTD)
12th Floor, MSO Building
I.P. Estate, New Delhi -110002

फ. स. 23(52)/अपर महानिदेशक (अनु. एवं सेतु)/लो.नि.वि./2025/**1766** दिनांक: **12.12.2025**

विषय: Release of Standard Operating Procedure (SOP) for Maintenance Van Operations for Road Repair Works under PWD, Delhi.

Public Works Department (PWD), GNCTD, is one of the key government agencies responsible for maintaining roads with a Right of Way (ROW) of 18 meters and more. In order to keep the roads in a motorable condition and ensure the safety of road users, PWD conducts immediate & Urgent repairs, routine maintenance, and upkeep of the ROW across various roads under its jurisdiction.

To facilitate these activities, Maintenance Vans are deployed by different Road Maintenance Divisions. However, the Government of Delhi has observed a lack of uniformity in the deployment and operation of these vans across the various Zones of PWD.

To address this issue and ensure consistency in the deployment and operation of Maintenance Vans, clear guidelines were necessary. So, now **"Standard Operating Procedure (SOP) for Maintenance Van Operations for Road Repair Works under PWD, GNCTD"** has been prepared and attached herein to be followed by all divisions responsible for maintaining PWD roads uniformly to enhance efficiency in the maintenance issues.

Encl: As above.

(प्रदीप गुप्ता)
अपर महानिदेशक (अनु. एवं सेतु)

प्रतिलिपि सूचनार्थ:

1. माननीय मंत्री, लो.नि.वि., रा. रा. क्षेत्र, दिल्ली सरकार के विशेष कर्तव्यस्थ अधिकारी (OSD)।
2. अपर मुख्य सचिव, लो.नि.वि., रा. रा. क्षेत्र, दिल्ली सरकार के निजी सचिव (PS)।
3. प्रमुख अभियंता, लो.नि.वि., रा. रा. क्षेत्र, दिल्ली सरकार।
4. मुख्य अभियंता (पूर्व/उत्तर/दक्षिण/उपरिगामी सेतु) लो.नि.वि., रा. रा. क्षेत्र, दिल्ली सरकार।
5. लो.नि.वि., रा. रा. क्षेत्र, दिल्ली सरकार वेबसाईट।
6. गार्ड फाईल।

12.12.25
उप- निदेशक (कार्य)

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सत्यमेव जयते

PUBLIC WORKS DEPARTMENT, GNCTD

STANDARD OPERATING PROCEDURE (SOP)

FOR

Maintenance Van Operations for Road Repair Works

दिल्ली सरकार

PWD

1. Purpose:

The primary purpose of this Standard Operating Procedure (SOP) is to outline the procedures for the operation and management of Road Maintenance Van(s) (RMV) deployed for immediate or emergency repairs, routine maintenance, and upkeep of the Right of Way (ROW) across various roads. This includes the maintenance of elements such as the carriageway, footpaths, central verges, side drains, and other components of the ROW, as managed by the Public Works Department (PWD), Delhi.

2. Scope:

This SOP applies to all component and personnel involved in:

a) Operating the RMVs.
b) Carrying out all types of repair & maintenance works in ROW.
c) Transporting tools, materials and equipment.
d) Safety Guidelines, Records, and Specifications for Procuring Vans.
e) Insurance.

It covers daily operations, on-site procedures and post-operation activities.

3. Responsibilities:

3.1 Maintenance Van Driver:

a) Ensuring preparedness of RMV before departure.
b) Safely transporting the personnels as well as tools & materials.
c) Ensuring proper parking of RMV and placement of safety warning devices at all work sites.

3.2 Road Repair Crew:

a) Ensuring tools and materials are loaded securely.
b) Conducting repair work as per safety guidelines.
c) Maintaining cleanliness and ensure availability of proper inventory inside the van.

3.3 Supervisor / Foreman:

a) Verifies planned work schedule and resource allocation.
b) Ensures SOP compliance and monitors work execution.
c) Reports incidents, delays or equipment failures.
d) Maintains record for Before & After photographs/videos of the work.

3.4 Vehicle Accessories:

a) GPS/communication device
b) Tool inventory list

4. Equipment and Materials:

The maintenance van shall carry (as applicable):

4.1 Mandatory Tools:

Sl. No.	Tools & Plants
1	Gainty (Minimum 1 No.)
2	Tasla (Minimum 4 Nos.)
3	Phawra (Minimum 4 Nos.)
4	Hammer 500 gm (Minimum 1 No.)
5	Hammer 2 kg (Minimum 1 No.)
6	Rammer/ Durmatt 2.5 kg for compaction (Minimum 1 No.)
7	Hammer 5 kg (Minimum 1 No.)
8	Chisel of various sizes (Minimum 4 Nos.)
9	Karni for mason.
10	Drums 20 lit. to 50 lit. capacities. (Minimum 2x 20 Lit. & 1x 50 Lit.)
11	Portable Plastic safety cones with rope attachment system (Min 6 Nos.)
12	Helmets (One each per labour, Mason, supervisor + 1 Extra for additional need)
13	Jacket (with reflecting "PWD" logo (One each per labour, Mason, supervisor + 1 Extra for additional need)
14	"Work in Progress" boards of size 2.5' x 4' with reflective tape (A-frame sign board Min. 1 Nos.).

4.2 Tools and Machinery as and when required:

Sl. No.	Description
1	Bamboos (for sewer cleaning)
2	Rain coat and rain shoes.
3	Torch with cell (4 batteries)
4	Ropes 10 mt.
5	Axe for wood.
6	Hacksaw & blades
7	Generator
8	Rammer (5KG)
9	Traffic regulation torch
10	Carpenter's saw
11	Steel Rod (bari) and J-Kunda
12	Walk behind pedestrian operated light roller (Single drum) for rolling of cold bitumen patch repair or plate vibrator
13	Bucket
14	Bituminous road cutter
15	Automatic plate vibrator
16	Air compressor.
17	Hilti breaker and other manual tools required for civil work
18	Grass cutting machine

4.3 Safety Equipment:

a) Helmets, gloves, boots
b) Portable Plastic Cones, barricades, warning signs.
c) Reflective tapes, flashing beacons
d) First-aid kit

4.4 Materials:

(a) Cold mix asphalt

(b) Aggregates
(c) Manhole cover
(d) Kerb stone

5. Procedure:

5.1 Pre-Operation Checks (before leaving from AE/JE office):

1. **Vehicle Inspection**:

a) Check fuel level, engine oil.
b) Inspect tires (pressure + tread).
c) Verify functioning of lights, indicators, horn, siren/beacon.
d) Ensure tool compartments are secured.

2. **Safety Equipment Inspection**:

a) Confirm presence of Plastic Safety Cones, Barricades, Reflective Signs.
b) Check first-aid kit

3. **Load Check:**

a) Ensure required repair materials are loaded.
b) Verify tools are accounted for using the inventory list.

4. **Documentation:**

a) Ensure agreement copy is available.
b) Log departure time, crew details and destination.

5.2 Travel to Work Site:

a) Follow safe driving practices and speed limits.
b) Use hazard lights and beacon when near or entering work area.
c) Avoid sudden braking or sharp turns when carrying loose materials.

5.3 On-Site Setup:

I. Secure Parking:

a) Park the van at a safe distance from the work area.
b) Position the van to protect workers from traffic when possible.

II. Deployment of Safety Devices:

a) Place warning signs "50-100 meters" before the site depending on road speed.
b) Set up traffic cones, barricades, and flaggers if required.

5.4 Primary and first priority:

The primary and first priority of the Road Maintenance Van (RMV) is to ensure the safety and convenience of the public by addressing urgent road maintenance issues promptly. This includes:

1. Immediate identification and repair of critical hazards on the road, such as potholes, exposed road surfaces, or other obstructions that may pose a danger to drivers and pedestrians.

2. Clearing of waterlogging and other drainage issues to prevent flooding and disruption of traffic flow.

3. Addressing safety concerns related to footpath damage, medians, and other ROW elements that may pose a risk to pedestrians.

4. Removal of unclaimed debris (malba) and other obstructions that could hinder road use.

5. For any major issues that cannot be resolved immediately, the maintenance van crew will escalate the situation to the senior officials for further action.

5.5 Execution of Road Repair Tasks:

Depending on the maintenance job:

5.5.1 Pothole repair:

a) Clean debris using shovel/broom.
b) Cut/shape pothole (if required).
c) Apply tack coat or binder.
d) Fill with asphalt mix.
e) Compact using manual rammer or plate compactor.

5.5.2 Crack Sealing:

a) Blow out debris.
b) Fill with sealant.
c) Allow proper curing time.

5.5.3 Clean the choked bell mouth and remove any waterlogging, if present:

(a) Take immediate action on any stagnated water on the road surface by clearing the bell mouth or opening and cleaning the manhole, as required.

5.5.4 Emergency Response:

a) Deploy cones immediately.
b) Repair or secure the damaged area.
c) Communicate with AE/JE in charge as needed.

5.5.5 Other Miscellaneous works:

a. Cleaning of Road Surface: -
b. Remove Grass on footpath and berm portion and dispose of malba.
c. Remove dust from kerb channel.
d. Replacement of damaged / Refixing of missing manhole cover.
e. Cleaning of drainage pipe under footpath.
f. Removal of water logging on road surface due to any reason
g. Cleaning of road signs and delinators (routine maintenance) i/c supporting activities.
h. Cleaning of overhead signs i/c supporting structures except overhead gantry and overhead signages.
i. Repair or resetting of road signs and delineators.
j. Re-fixing of dislocated kerb stones.
k. Restoration of damaged / dislocated M.S./ S.S. railings.
l. Removal of Banners, Posters, hoardings, Wall writings & other such items.
m. Removal of new encroachment.
n. Removal of unclaimed malba.

5.5 Closing the Site:

1. Remove all tools and materials from the roadway.
2. Collect and store cones, barricades, and signs.
3. Inspect the area to ensure no hazards remain.
4. Record completion details in the logbook.

5.6 Return to Office:

1. Park vans in designated area.
2. Unload leftover materials.
3. Check for tool losses or damages.
4. Report any vehicle or equipment issues.
5. Submit daily work report and log sheet.

6. Safety Guidelines:

a) Always wear PPE.
b) Keep van engine off when refuelling or loading hot mix.
c) Never overload vehicle.
d) Ensure proper hydration and heat safety for crew.
e) Avoid working without proper traffic management setup.

7. Emergency Procedures:

a) Report accidents immediately to supervisor.
b) Use first-aid kit for minor injuries.

8. Records and Documentation:

a) Vehicle inspection sheet
b) Tool inventory list
c) Copy of Agreement
d) Daily activity log book
e) Incident/accident reports

9. Particular Specifications For Maintenance Van:

1. Necessary traffic Permission from the traffic Police for running of Maintenance Vans during all hours.
2. All workers and drivers should wear uniform as per the colour and design approved by PWD. There may be slight variation in winter uniform.
3. Labours/Masons deployed on Maintenance Van can be shifted to any other Maintenance Van to execute the repair work for better efficiency.

10. Special Condition for Van:

1. Services of Maintenance van shall be required during normal working hours and also beyond normal working hours as and when required.
2. The van shall have to be deployed early in the morning and sometimes late night as per requirement, and as per instruction of the Engineer-in-charge. Normal working time is 09.00am to 05.00 pm.
3. Minimum nos. of labour for each maintenance van such as one Supervisor, one Mason and Four Beldars shall be provided in each van.
4. The Camera integrated with GPS System through a software to provide seamless monitoring setup.

5. The Driver should be having commercial License and a copy of license shall be submitted to concerned Assistant Engineer before start of work.
6. The Camera integrated with GPS system on Maintenance Vans (to be provided as per contract) shall consist of:
   (a) Providing & installing Camera integrated with GPS system tracking instrument on identified machines.
   (b) Operating and maintaining web-based Camera integrated with GPS system Tracking System installed on machines.
   (c) Generating requisite MIS report in both forms i.e. electronic & hard copy etc.
7. The 360-degree camera fitted in the maintenance van shall be sim based with Camera integrated with GPS system enabled setup. The video footage upto 1 month shall be preserved through inbuilt setup and the same be handed over to PWD in pen drive every month.

11. Safety Measures for sewer cleaning:

When workers are employed in sewers and manholes that are in active use, the contractor has the responsibility to ensure proper safety measures are in place to protect workers and the public. Beyond ventilating the manholes and ensuring the area is cordoned off, here are some additional safety measures that should be adhered to:

(i) **Personal Protective Equipment (PPE)**:

   (a) Workers should be provided with appropriate PPE such as helmets, gloves, rubber boots, coveralls, safety harnesses, and breathing apparatus (if required).
   (b) Respirators or air purifying systems should be used if there are risks of hazardous gases or low oxygen levels inside the manhole.

(ii) Air Quality Monitoring:

   (a) Before workers enter the manhole, the air should be tested for hazardous gases such as methane, hydrogen sulphide, or carbon monoxide.
   (b) Continuous air monitoring should be maintained, and if gas concentrations exceed safe limits, work should be halted, and additional ventilation or protective measures should be implemented.

(iii) Rescue and Emergency Plans:

(a) A trained rescue team should be readily available to respond quickly in case of emergencies.

(b) Rescue equipment, such as ropes, harnesses, and a tripod/ Ladder with a winch, should be in place to retrieve workers in case of a fall or other accidents.

(iv) Lockout/Tagout Procedures:

(a) All utilities and machinery connected to the sewer system should be properly isolated using lockout/tagout procedures to prevent accidental activation during maintenance work.

(v) Supervision and Training:

(a) Work in manholes should only be carried out by personnel who have been specifically trained in confined space entry and rescue procedures.

(b) The contractor should ensure that work is supervised at all times by a competent safety officer who is aware of the risks involved and can enforce safety protocols.

(vi) Communication:

(a) Effective communication systems should be established to maintain contact between workers inside the manhole and those outside. This can include two-way radios or other reliable communication devices.

(vii) Traffic Control:

(a) Proper traffic control measures should be in place to prevent unauthorized persons from entering the work zone, which could include roadblocks, warning signs, or cones.

(b) Pedestrians should be diverted away from the area, and drivers should be given clear indications of the work zone through signage or flaggers.

(viii)Inspection of Equipment:

(a) All equipment, such as ladders, ropes, pumps, and tools, should be inspected regularly to ensure they are in good working condition before use.

(b) Ensure that manhole covers are secured properly after the work is completed, and workers should be trained on safe handling of such covers to avoid injuries.

(ix) Lighting:

(a) Adequate lighting should be provided inside the manhole to ensure that workers can see clearly and reduce the risk of accidents while working in confined spaces.

(x) First Aid and Medical Assistance:

(a) The worksite should have a first-aid kit readily available, and workers should be trained in basic first-aid procedures.

(b) A qualified first-aider should be present, and the nearest medical facility should be notified in advance in case of any serious injury or health issues that require attention.

By following these safety protocols, contractors can minimize the risks involved in working in active sewers and manholes, ensuring the safety of both the workers and the general public.

(xi) **Other safety measures:**

In addition to the safety measures already mentioned, there are several other protocols that should be followed to ensure maximum safety for workers involved in manhole and sewer operations. These protocols focus on further minimizing risks and enhancing overall site safety:

Pre-Work Hazard Assessment:

(i) A comprehensive risk assessment should be carried out before any work begins to identify potential hazards, including chemical, biological, and physical risks.

(ii) All workers involved should be briefed about the risks identified and the measures taken to mitigate them.

Continuous Ventilation:

(iii) Mechanical ventilation should be used to continuously circulate fresh air into the manhole to maintain a safe atmosphere inside.

(iv) If there are intermittent work pauses, ventilation should not be stopped until the manhole is securely closed, and workers are clear of the area.

Gas Testing Prior to Entry:

(v) Atmospheric testing should be conducted before the manhole entry and continuously throughout the work.

(vi) Specifically, workers should test for:

(a) Oxygen levels (at least 19.5%).

(b) Combustible gases (methane, etc.).

(c) Toxic gases (hydrogen sulfide, carbon monoxide, etc.).

(vii) Documentation of all gas readings should be recorded.

Confined Space Permit System:

(viii) A permit-to-work system should be implemented to ensure that every work task is authorized by a designated safety officer or supervisor. The permit should include all safety protocols, emergency procedures, and gas testing results.

Isolation of Hazardous Energy Sources:

(ix) Any potential sources of hazardous energy such as electrical, mechanical, or hydraulic systems should be fully isolated before workers enter the manhole.

(x) Lockout/tagout (LOTO) procedures should be enforced to ensure that machinery and equipment cannot be accidentally energized or turned on.

Two-Man Rule:

(xi) To enhance safety, two workers should always enter a manhole together (when feasible). This reduces risks by ensuring that one worker can assist or call for help in the event of an emergency.

(xii) The second worker, positioned outside the manhole, can immediately respond if a problem arises.

Site Signage and Warning Notices:

(xiii) Reflective barriers and cones can help prevent unauthorized access.

Continuous Supervision and Monitoring:

(xiv) A safety officer or supervisor should be designated to monitor work activities continuously, especially when workers are inside the manhole. This person should have the authority to stop work if unsafe conditions are observed.

Disposal of residual /Malba etc.

(xv) Absolutely, once the cleaning of a manhole is completed, ensuring the safe and prompt disposal of residual waste (referred to as malba) is critical for both worker and public safety. This waste can contain hazardous materials, such as toxic substances, sharp objects like broken glass, or debris that can pose serious risks if not properly handled.

12. Insurance:

Upon acceptance of the work, the contractor shall procure an insurance policy covering all materials, public liability, third-party liability, workmen's compensation, and all statutory insurance requirements. A copy of the insurance policy must be submitted before or on the commencement date of the work. The sum insured for each cover must adhere to industry best practices, with a minimum total sum insured of Rs. 1.00 Crore. The Engineer-in-charge shall be the beneficiary of these insurance policies and shall be nominated as the Loss Payee.

4	**1. Salient Features of Maintenance Van (Type-1)**		
	a. Category of Vehicle	**Commercial Goods Vehicle GRAP stage –IV compliant.**	
	b. Model Type	**Mahindra Bolero or Equivalent (more than 2500CC Engine Capacity)**	
	2. Salient Features of Maintenance Vehicle (Type-II)		
	a. Category of Vehicle	**Commercial Light Motor Vehicle GRAP stage –IV compliant.**	
	b. Model Type	**TATA 407 or equivalent (more than 2999 CC Engine Capacity**	

1. Two sides and top covered by M.S. Sheet braced with M.S. Flat for proper stiffening of G.I Sheet.
2. Providing M.S. rolling shutter/ open-able shutter at back side of vehicle.
3. GPS, LED Screen on top for display of direction etc.
4. Information / display / PWD Logo / Address painted with retro reflective paint of approved colour and shade at front, both side and back of the vehicle.

MAINTENANCE VAN

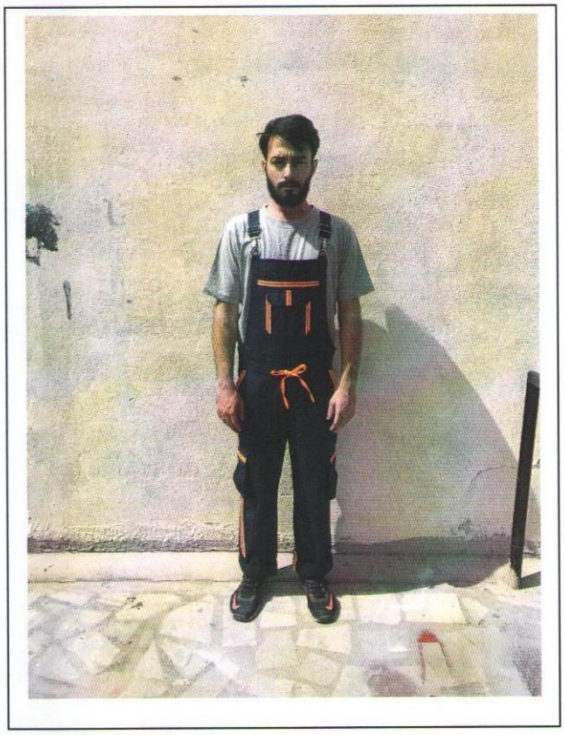


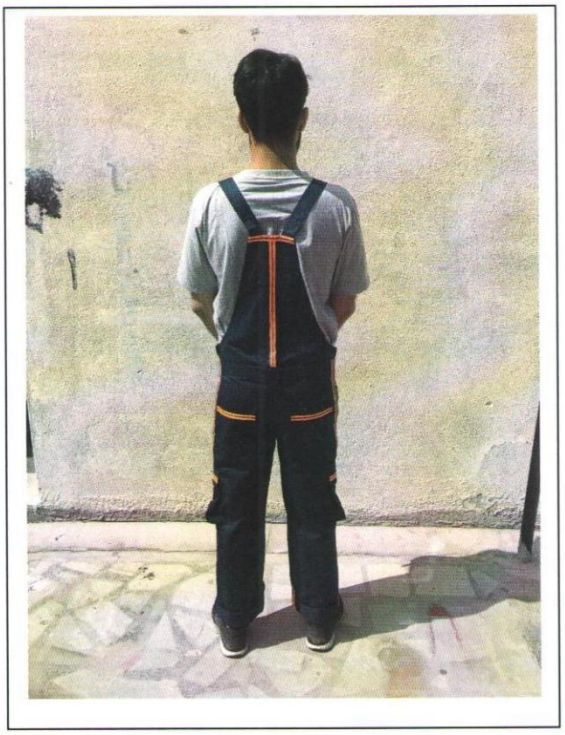

दिल्ली PWD सरकार


GOVERNMENT OF DELHI
PWD
MAINTENANCE VAN
DIVISION SOUTH EAST ROAD-1 (M-412)
SUB DIVISION R - 12
VAN No.
HELP LINE No.1908
CNG

UNIFORM FOR WORKERS ON MAINTENANCE VAN

VISUALS FOR THE DUNGAREE:



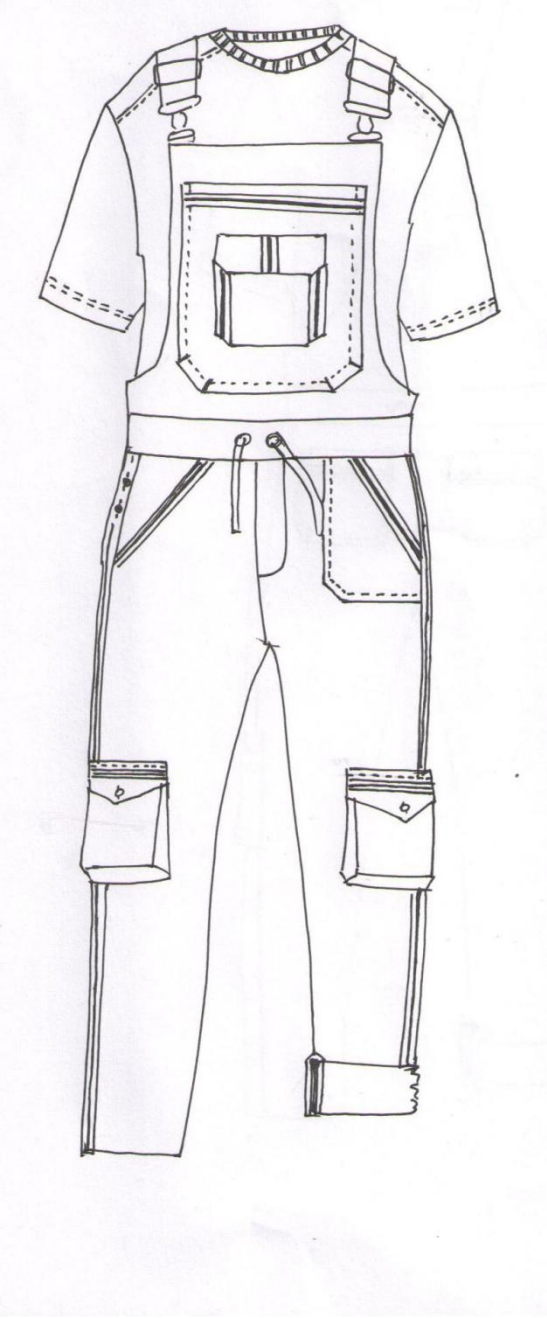






PWD SPECIFICATION SHEET

FRONT



BACK

