



SPECIAL ADVISORY FOR BULK WASTE GENERATORS, GURUGRAM

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**BY
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Municipal Corporation Gurugram

General Guidelines for Bulk Waste Generators (BWGs)-2026

1. The Rule 3 (i) of **Solid Waste Management Rules, 2026** defines Bulk Waste Generators as, "Bulk Waste Generator covers the entities, given below, if they satisfy at least one of the following criteria; (i) buildings with floor area of 20,000 sq. m. or above; or (ii) water consumption of 40,000 litres per day; or (iii) solid waste generation of 100 kg per day, namely: -

Institutional users including buildings occupied by the, -

- (i) Central Government departments or undertakings, State government departments or undertakings;
- (ii) Local bodies;
- (iii) Public sector undertakings or private companies;
- (iv) Schools, colleges, universities, other educational institutions; and community places or like;

(a) Commercial users including: -

- (i) Commercial establishments including railways, bus stations or depots, airports, ports;
- (ii) Industrial units and industrial area;
- (iii) Malls, multiplexes;
- (iv) Hotels;
- (v) Hospitals, nursing homes;
- (vi) Hostels;
- (vii) Wholesale markets, including "Mandis", for agricultural and horticultural produce, fish and meat;
- (viii) Stadium, sports complexes;
- (ix) Community halls, convention halls, auditorium;
- (x) Marriage or banquet halls;
- (xi) Conference centres, Expo centres, exhibition areas; and
- (xii) Tourist spots

(b) Residential societies

2. Authorized Agency: -

The authorized Agency includes any Agency authorized by Central Pollution Control Board or State Pollution Control Board or Municipal Corporation, Gurugram for management of Municipal Solid Waste, E-waste & Industrial Waste.

3. Legal Framework

Some of the important rules regarding Bulk Waste Generators mentioned in **Solid Waste Management Rules, 2026 and Ministry of Housing and Urban Affairs(MoHUA), Government of India** are as follows: -

Rule-5 of SWM Rules, 2026: - Duties of waste generator. — (1) Every waste generator shall-

- (a) adopt measures to prevent or reduce environmental pollution caused by solid waste;
- (b) segregate and store the waste generated by them in four separate streams at source namely wet waste, dry waste, sanitary waste and special care waste; and handover segregated waste to authorised waste pickers or waste collectors as per the direction or notification by the local authorities from time to time;
- (c) wrap securely the used sanitary waste like diapers, sanitary pads etc., in the pouches provided by the manufacturers or brand owners of these products or in a suitable wrapping material as instructed by the local bodies or authorities and shall place the same in the sanitary waste bin separate from bins meant for dry waste or wet waste or special care waste;
- (d) store separately construction and demolition waste, as and when generated, in their own premises and shall dispose of as per the Environment (Construction and Demolition) Waste Management Rules, 2025;
- (e) store horticulture waste or garden waste generated from their premises or land separately in their own premises and dispose of as per the directions of local bodies authorities from time to time;
- (f) not throw, burn or bury the solid waste generated by them, on streets, open public spaces outside his premises or dispose in the drain or water bodies;
- (g) every street vendor shall keep suitable containers for storage of waste generated during the course of his activity such as food waste, disposable plates, cups, cans, wrappers, coconut shells, leftover food, vegetables, fruits, etc., and shall deposit such waste at waste storage depot or container or vehicle as notified by the local body;
- (h) pay such user fee for solid waste management, as specified in the bye-laws of the local bodies;
- (i) keep suitable containers for storage of segregated solid waste viz. wet waste, dry waste, special care waste and sanitary waste segregated waste to authorised waste collectors or through waste collection vehicles as notified by the local body;
- (j) not organise an event or gathering of more than one hundred persons at any unlicensed place without intimating the local body, at least three working days in

- advance; and such person or the organiser of such event shall ensure segregation of waste at source and handing over of segregated waste to waste collector or Agency as specified by the local body and the waste generated shall be disposed of in the manner prescribed under these rules.
- (k) shall not mix biomedical waste covered under Biomedical Waste Management Rules, 2016 with solid waste, provided it is identified as an occupier under Biomedical Waste Management Rules, 2016.
- (2) All gated communities and institutions with more than 5,000 sq.m. area and all resident welfare associations, market associations, hotels, restaurants, shall, within one year from the date of notification of these rules in the Official Gazette and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed of through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or Agency as directed by the local body.

Rule -6 of SWM Rules, 2026: - Key Responsibilities of Bulk Waste Generators

Rule 6 of **Solid Waste Management Rules, 2026** also highlights the duties of waste generators which are given below: -

Duties of bulk waste generator — Every bulk waste generator shall-

- (a) register themselves with the concerned local body through the centralised online portal. The certificate of registration shall specify conditions required to be fulfilled for registration to remain valid. Any change in the information provided during registration and the conditions specified in the registration shall be notified to the local body;
- (b) make necessary arrangements for collecting and handing over of dry waste, sanitary waste, special care waste, to the local body or Agency authorised by it;
- (c) make necessary arrangements to collect and process wet waste or horticulture waste if applicable, generated by them, in a decentralised manner through composting or bio-methanation or any other approved technology;
- (d) set up and operate wet waste processing facility of adequate capacity, including for horticulture waste to ensure processing of complete wet waste generated by them, in case of all new bulk waste generators. In case of existing bulk waste generators, who are not able to set up and operate decentralised wet waste processing, they shall get the exemption from the local body, and such bulk waste generators shall procure Extended Bulk Waste Generator Responsibility certificates from local body

concerned for processing of wet waste equivalent to complete wet waste generated by them;

- (e) fulfil Extended Bulk Waste Generator Responsibility for (i) processing of wet waste and ensure environmentally sound management of collected dry waste, special care waste, sanitary waste. The calculation for Extended Bulk Waste Generator Responsibility obligation for total solid waste generated by bulk waste generator shall be estimated based upon norms issued by Central Pollution Control Board in consultation with Ministry of Housing and Urban Affairs and Department of Drinking Water and Sanitation from time to time;
- (f) procure Extended Bulk Waste Generator Responsibility Certificates from local body for undertaking environmentally sound management by collection and transportation of dry waste, special care waste, sanitary waste and wet waste, in case wet waste is not processed by bulk waste generator, and by sending to registered waste processing facility for further processing and treatment of waste;
- (g) not engage with any entity not having registration mandated under these rules;
- (h) submit annual returns by 30th June every year on the centralised online portal in respect of the Extended Bulk Waste Generator Responsibility obligation including procurement of Extended Bulk Waste Generator Responsibility certificate for total calculated solid waste generated by them and the annual returns shall be submitted to local bodies for further processing and same shall be made available in public domain on the website of local body on a yearly basis;
- (i) give the residual solid waste generated or inert during waste processing in case of decentralised waste processing facilities to authorised waste collectors or an Agency authorised by local body or local body;
- (j) in case of construction of new units, promptly clean up and move away the solid waste generated by them and left during the course of construction, and have it managed in compliance with these rules;
- (k) ensure that solid waste is not littered during the transportation and the solid waste generated during journey and at bus stations and railway station is managed as per the provisions of these rules, in case of entities engaged in public transport including roadways and railways;
- (l) in accordance with the relevant rules, develop and operate facilities for collecting and processing or disposal of various category of solid waste in case of entities engaged in construction projects including development and redevelopment of residential, institutional areas, community facilities, infrastructure such as roads, transmission lines or engaged in the operation and management of public facilities including such as airports, bus stops or railway stations, shopping malls;
- (m) not mix biomedical waste covered under Bio-medical Waste Management Rules, 2026 with solid waste provided it is identified as an occupier under Bio-medical

Waste Management Rules, 2026. In such cases, the Biomedical Waste Generator shall provide information, while filing annual returns, on the quantity of biomedical waste generated and handed over to authorised Bio-medical Waste Treatment and Disposal Facility entities for collection, treatment or disposal under Bio-medical Waste Management Rule 2026.

All BWGs are required to manage their own wet waste and make their own arrangements for processing and disposal of bio-degradable, non-biodegradable, special care waste, sanitary waste, horticulture waste, e-waste and all type of other waste. However, it has been observed that currently BWGs in the city lack adequate in-house expertise and infrastructure. To support the BWGs, Municipal Corporation, Gurugram has authorized the Agencies that can provide waste management services to the BWGs. The BWG can only engage those Agencies which are authorized by MCG. If any BWG has engaged an Agency (which is not authorized by MCG) for management of its MSW and the BWG wants to continue with the same Agency then the BWG shall ask the concerned Agency to apply for authorization from MCG.

All the BWGs are required to manage their Construction & Demolition (C&D) waste as per Construction & Demolition Waste Rules, 2025. The BWG shall collect the C&D waste separately and hand over the same to the collection points earmarked by Municipal Corporation, Gurugram or at C&D waste processing plant established at Basai, Gurugram. The C&D waste shall not be handed over to the Agencies authorized for collection of MSW.

As mentioned in para (d) of Rule 6 of SWM Rules, 2026, the BWGs shall set up and operate wet waste processing facility of adequate capacity including horticulture waste in the premises (in situ), if the BWG has around 200 sq. yds. land (residential areas) and 50 sq. yds. (commercial areas) to ensure decentralized waste processing. It can be done through various methods and technologies approved by Government and competent authorities. It can also be done by installing machines as advised by MoHUA.

The Municipal Corporation, Gurugram shall establish a dedicated BWG Helpline for technical support of BWGs, however MCG shall not provide any financial assistance to the BWGs for establishing infrastructure etc.

It is the duty of every BWG as not to litter/dump Solid Waste at unauthorized places particularly roadsides, rivers, waterways, wetlands, lakes, nalas, panchayat or revenue lands, land owned by PWD or other various authorities. In this regard, the Hon'ble National Green Tribunal, Principal Bench, New Delhi in its order dated 26th July, 2024, directed that there shall be complete prohibition on littering/dumping of Solid Waste at unauthorized places particularly roadsides, rivers, waterways, wetlands, lakes, nalas, panchayat or revenue lands, land owned by PWD or other various authorities in the entire State of Haryana with effect from the date of this order i.e. 26th July, 2024. For such incidence of default, BWG shall be liable to pay environmental compensation for Littering/dumping of Solid Waste amounting Rs. 25,000/- (1st instance) and Rs. 50,000/- (2nd instance).

The charges for common sanitation services such as road sweeping in the city, treatment of legacy waste, processing & disposal of C&D and horticulture waste, etc. shall be levied on BWGs and will be notified separately.

As per rule 5(2) of SWM Rules, 2026, all gated communities and institutions with more than 5,000 sq. mtr. area and all resident welfare associations, market associations, hotels, restaurants, shall, within one year from the date of notification of these rules in the Official Gazette and in partnership with the local body, ensure segregation of waste at source by the generators as prescribed in these rules, facilitate collection of segregated waste in separate streams, handover recyclable material to either the authorised waste pickers or the authorised recyclers. The bio-degradable waste shall be processed, treated and disposed of through composting or bio-methanation within the premises as far as possible. The residual waste shall be given to the waste collectors or Agency as directed by the local body.

Keeping in view the above rule all the sectors developed by Haryana Shehri Vikas Pradhikaran (non-gated sectors) shall not be considered as a BWG for a period of one year. However, if any RWA of the sector is already managing their own waste as per BWG guidelines may continue to do so. If some other RWA want to manage their own waste as per BWG guidelines, they can also start it. They shall be required to follow all the orders/guidelines issued by MCG or any other competent authority regarding BWG from time to time. Such BWGs which are voluntarily managing their MSW will be given incentive by MCG.

Rule -7 of SWM Rules, 2026: - Duties of operator of solid waste processing facilities –

The operator of every waste processing facility shall, -

- (a) register with the local body through the centralised online portal in case of wet waste, dry waste, sanitary waste, special care waste, horticulture waste processing facilities including Waste to energy, Compressed Bio-Gas plant, composting, incinerators, common biomedical waste facilities;
- (b) ensure that treatment standards are such that no harm is caused to human health or environment, and shall meet the standards as laid down in Schedule II and Schedule III;
- (c) file quarterly returns by 15th of the first month of the next quarter and annual returns by 30th June every year to the concerned local body in Form III, and the local body shall validate the returns filed before further onward processing, in respect of the quantity or volume of wet waste, dry waste, special care waste, sanitary waste, horticulture waste received for processing, as applicable; quantity of solid waste processed; details of non-recyclable and non-energy recoverable dry waste and inert sent to sanitary or operational landfills; availability, quality and sale or use of organic manure or compost produced from processing of wet waste and horticulture waste; and other relevant details. Such data shall also be made available in the public domain and published on the website;
- (d) give the residual solid waste or inert generated during waste processing to authorised waste collectors or an Agency authorised by local body or local body;
- (e) design and set up the facility as per the technical guidelines issued by the Central Pollution Control Board in this regard from time to time and the manual on solid waste management prepared by Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Housing and Urban Affairs or Department of Drinking Water and Sanitation (DDWS);
- (f) obtain authorization under the rules by making an application Form I through local body for setting and operation of waste processing units from the State Pollution Control Board,
- (g) be responsible for the safe and environmentally sound operations of the solid waste processing facilities as per the standards prescribed in the rules and following the guidelines issued by the Central Pollution Control Board and Ministry of Housing and Urban Affairs or Department of Drinking Water and Sanitation (DDWS), from time to time;
- (i) register all bio-methanation or Compressed Biogas or biogas plants on the GOBARDHAN portal and link to centralised online portal;
- (j) not deal with any other waste processing facility not having registration mandated under these rules;

- (k) ensure engagement of trained manpower for operation of waste processing facilities;

Rule-9 of SWM Rules, 2026: - Duties of the entity involved in sorting of recyclable or non-recyclable waste at Material Recovery Facility: -

- (1) Each entity involved in sorting of waste, into recyclable or non-recyclable waste, preferably from dry waste shall be registered with the local body.
- (2) It shall be the responsibility of the entity to, -
 - (a) ensure that a facility operates in accordance with the guidelines prescribed by the Central Pollution Control Board, Ministry of Housing and Urban Affairs;
 - (b) ensure that hazardous waste generated from any activity of the entity is managed as per the provisions under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2026.
- (3) The sorted recyclable or non-recyclable waste shall be channelized to the registered waste processing entities or recycling entities.
- (4) The entity shall report to the concerned local body through the online portal regarding the quantity of solid waste received, quantity of solid waste sorted and channelized to registered waste processors or sanitary landfills on a quarterly basis by 15th of first month of next quarter.
- (5) Facility or entity shall not deal with any other entity not having registration mandated under these rules.
- (6) Ensure engagement of trained personnel for operation of Material Recovery Facility.
- (7) The registered material recovery facilities may provide the following services, where possible, for channelization of waste for waste processing especially in those waste streams where extended producer responsibility has mandated under separate rules notified under Environment (Protection) Act, 1986, -
 - (i) act as an uptake point for plastic waste processors or waste processors of other waste such as e-waste or producers, importers and brand owners or obligated entities mandated to fulfil extended producer responsibility under separate rules notified under Environment (Protection) Act, 1986;
 - (ii) act as a deposition centre for e-waste, special care waste, sanitary waste or other waste for which separate rules have been notified under Environment Protection Act, for further channelization of wastes towards processing;
 - (iii) act as drop off centres or deposition centres to promote circularity in waste following principle i.e. Reduce, Reuse, and Recycle

- (8) The local body shall determine the cost of service provided by the Material Recovery Facility and also the cost of the collected waste as mentioned in sub-rule (7) above, following due procedure of the local body.

Rule-10 of SWM Rules, 2026: - Extended Bulk Waste Generator Responsibility Certificate for Processing of Waste:

- (1) Only local body is mandated to generate Extended Bulk Waste Generator Responsibility certificate on centralised online portal for fulfilment of Extended Bulk Waste Generator Responsibility obligation of bulk waste generator as per scheme given in sub-rule (38) of Rule 39.
- (2) The local body shall register themselves on the centralised online portal prior to generation of Extended Bulk Waste Generator Responsibility certificates for solid waste collected from bulk waste generator and handed over to the registered waste processing facilities or recyclers.
- (3) The following formula shall be used to estimate the Extended Bulk Waste Generator Responsibility certificates: Extended Bulk Waste Generator Responsibility certificates (kilograms) = Quantity of solid waste collected, transported and sent to registered processors or recyclers by local body (kgs)
- (4) Extended Bulk Waste Generator Responsibility certificates generated against the wet waste shall be generated by the local body only after the corresponding registered wet waste treatment or processing facilities to whom the waste was handed over submits report providing details of quantity of wet waste received and processed, on the centralised online portal.
- (5) All such transactions shall be recorded and submitted by local body or the registered third party or the concessionaire on the centralised online portal at the time of filing annual returns.
- (6) Extended Bulk Waste Generator Responsibility certificates generated by the local body in a particular year shall be valid for meeting the obligations of bulk waste generators for a period of three years.
- (7) The cost of the Extended Bulk Waste Generator Responsibility certificate to be charged by the local body shall be finalized as per guidelines issued by Central Pollution Control Board in consultation with Ministry of Housing and Urban Affairs and Department of Drinking Water and Sanitation (DDWS).
- (8) Local body shall collect the cost of Extended Bulk Waste Generator Responsibility certificates from bulk waste generators for fulfilment of their Extended Bulk Waste Generator Responsibility obligations.
- (9) The cost charged by local body for Extended Bulk Waste Generator Responsibility certificate shall be shared with the concerned concessionaire or the third party authorised by the local body as well as with the State Pollution Control Board and

could be used by local body towards development and maintenance of solid waste collection, transportation, processing infrastructure, or audit of concessionaire or the third party by State Pollution Control Board in accordance with the guidelines issued by Central Pollution Control Board in this regard.

- (10) In case of non-compliance by the obligated entity, environmental compensation shall be levied.

Rule-17 of SWM Rules, 2026: - Imposition of Environmental Compensation

- (1) The Environmental Compensation shall be levied based upon polluter pays principle on persons, who are not complying with the provisions of these rules, including the following activities: -
- (a) entities carrying out activities without registration as mandated under these rules;
 - (b) entities providing false information or wilful concealment of material facts by the entities registered under these rules;
 - (c) entities submitting forged or manipulated documents by the entities registered under these rules;
 - (d) entities engaged in collection, segregation, sorting, transportation, processing and disposal of solid waste.

Rule-20 of SWM Rules, 2026: - Annual Report

- (1) Every registered bulk waste generator shall submit online annual report in the format prescribed by Central Pollution Control Board and the operator of waste treatment facility shall prepare and submit online an annual report in Form III to the local body concerned and the State Pollution Control Board or Pollution Control Committee concerned by the 30th June of every year.
- (2) **MoHUA / Central Public Health and Environmental Engineering Organization (CPHEEO) Guidance (BWG SOP & Decentralised Composting Advisory)**
- a) Emphasises **on-site / decentralised management** of organic waste, reduction, reuse and recycling.
 - b) CPHEEO Guidelines describe in detail about the type, model and technology of machines for processing of wet waste. The detailed guidelines could be accessed at or through MCG website (www.mcg.gov.in)

3.1 Segregation and types of waste:

- a) **Wet waste** - “wet waste” means and includes organic waste including kitchen waste, food waste, vegetable waste, meat waste, fruits waste, flower waste, and such similar waste and biodegradable waste.
- b) **Dry waste**- dry waste means waste other than wet waste sanitary waste, special care waste and includes recyclable waste and non-recyclable waste;

- c) **Sanitary waste-** “sanitary waste” means waste comprising of used diapers, sanitary towels or napkins, tampons, condoms incontinence seeds and other similar waste;
- d) **Special care waste-** “special care waste” means and includes discarded paint drums, pesticide cans or containers or bottles, compact fluorescent lamp or bulbs, tube lights, expired medicines, broken mercury thermometers, waste batteries, used or waste needles and syringes and contaminated gauge, or any other waste notified by Central Pollution Control Board from time to time, generated at the household level;
- e) **Construction & Demolition waste-** store separately construction and demolition waste, as and when generated, in their own premises and shall dispose of as per the Environment (Construction and Demolition) Waste Management Rules, 2025;
- f) **Horticulture waste-** means plants-based waste from parks, gardens, traffic islands, road medians etc. including grass and wood clippings, weeds, pruning, branches, twigs, wood chipping, straw or dead leaves and tree trimmings, which cannot be accommodated in the daily collection system for wet waste. Stored horticulture waste or garden waste generated from their premises or land separately in their own premises and dispose of as per the directions of local bodies authorities from time to time;

3.2 Management/Processing of Different Waste Streams

I. Wet Waste

- a) Wet waste must not be mixed with dry or hazardous waste and must not be sent to landfill.
- b) 100% of biodegradable waste such as routine kitchen, canteen and food waste etc. has to be processed within premises as far as possible through composting or bio-methanation or by using any other machines as mentioned in the MOHUA Guidelines for BWGs (Nov. 2017).
- c) The compost prepared during processing can be used for various purposes such as growing of vegetables, food grains and horticulture etc as per the standards mentioned in the SWM Rules, 2026.
- d) Biogas generated during processing of biodegradable waste can also be used for various purpose.

II. Dry Waste

- a) Ensure proper collection and segregation of dry waste at the household level.
- b) The various dry waste such paper, cardboard, plastics, metal, glass, packaging materials, textiles, thermocol, etc shall be handed over to either authorised waste pickers or authorized recyclers or Agencies authorised by MCG.

III. Special Care Waste

- a) Ensure proper collection and segregation of special care waste at the household level.

- b) The various special care waste such as discarded paint drums, pesticide cans or containers or bottles, compact fluorescent lamp or bulbs, tube lights, expired medicines, broken mercury thermometers, waste batteries, used or waste needles and syringes and contaminated gauge, etc shall be handed over to either authorised waste pickers or authorized recyclers or Agencies authorised by MCG.

IV. Sanitary Waste

- a) wrap securely the used sanitary waste like diapers, sanitary pads etc., in the pouches provided by the manufacturers or brand owners of these products or in a suitable wrapping material as instructed by the local bodies or authorities and shall place the same in the sanitary waste bin separate from bins meant for dry waste or wet waste or special care waste;
- b) BWG shall make necessary arrangements for collecting and handing over of sanitary waste, to the local body or Agency authorised by it;

V. Horticulture Waste

- a) Horticulture Waste such as Leaves, grass, small branches to be mulched and composted inside premises in the leaf composters / pits / cages.
- b) Only large logs or excess quantities, where in-situ is not feasible, may be handed over to the Agencies authorised by the MCG.

VI. Construction and Demolition Waste (C&D Waste)

- a) C&D Waste such as demolition debris, broken tiles, bricks, plaster and other building material shall not be mixed with municipal waste.
- b) C&D Waste shall not be dumped at roadside, streets, open spaces etc.
- c) The C&D waste shall only be handed over at the sites designated by MCG at applicable charges. It can also be handed over to the Agency authorised by MCG.

VII. E-waste

- a) E-Waste such as computers, printers, wires, CFLs, shall be stored in separate room / cage or lockers for temporary storage.
- b) E-Waste shall be disposed off through authorised e-waste recyclers.

3.3 Action to be taken by BWG:**Registration, Data Reporting & Vendor Management:**

- a) All the qualified BWGs shall register themselves on the MCG BWG portal as provided on <https://onemapdepts.gmda.gov.in/BWG> and on the portal provided by Central Pollution Control Board (CPCB).
- b) After registration on the MCG BWG portal, each BWG shall upload the daily/monthly/quarterly/yearly (as and when required) data required on portal.
- c) The BWG shall maintain documents such as agreements, bills, transporter details, lab test reports of compost, etc. for verification by MCG / Pollution Control Board which may be scrutinized at the time of visit of MCG Officials.
- d) The BWG shall disclose whether they are segregating, collecting, processing in situ and disposing of itself or has hired any Agency for all or any of the above activities.
- e) If the BWG is not segregating, collecting, processing in situ and disposing of itself then the BWG shall ensure to engage waste management service provider under a proper MoU, who is:
 - I. Authorized waste picker
 - II. Authorized recycler
 - III. Any Agency empanelled by MCG (listed on the MCG BWG portal)
- f) It is to be noted that BWGs are responsible for final disposal of MSW as per provisions mentioned in SWM Rules 2026.

4. Recommended few In-Situ Composting Technologies for BWGs

The guidelines/advisory issued by MoHUA and SWM manual highlighted some of the commonly adopted on-site wet waste treatment options suitable for BWGs in Gurugram. (For reference, **100 kg/day** of food + household horticulture waste is typical for a medium residential society (~150–200 flats) or mid-size institution).

4.1 Simple Aerobic Compost Pits / Boxes (NADEP / Trench Composting)

Description: Simple Aerobic Compost Pits or Boxes—commonly known as NADEP composting or Trench Composting—are low-cost, decentralized technologies used for processing biodegradable (wet) waste such as kitchen waste, vegetable peels, fruit waste, garden clippings, and food leftovers. These systems work on aerobic decomposition, meaning the waste is broken down by naturally occurring

microorganisms in the presence of air, converting it into nutrient-rich compost within 45–90 days.

In this method, biodegradable waste is placed daily into a brick-lined pit, concrete trench, or prefabricated compost box. Each layer of fresh waste is covered with dry material such as dry leaves, sawdust, cocopeat, or garden soil, along with a small quantity of cow dung slurry or microbial culture to accelerate decomposition. Adequate air circulation is ensured through side gaps (in NADEP pits) or periodic turning of the waste (in trench or box systems). As no mechanical equipment is involved, the system is odor-free, energy-free, and environmentally safe when operated properly.

What a Society / Bulk Waste Generator (BWG) Needs to Set It Up

To establish this composting unit within a residential society or institutional campus, the following are required:

- a) **Space:** An open or semi-covered area within the society (basement corner, parking edge, green area, or utility zone).
- i. **Structure:** Brick masonry NADEP pits, RCC trenches, or prefabricated compost boxes (depending on available space and budget).
- b) **Segregated Waste:** Strict **source segregation** of wet and dry waste at household level is essential.
- c) **Bulking Material:** Dry leaves, sawdust, husk, cocopeat, or soil for layering.
- d) **Inoculum:** Cow dung slurry or commercially available composting culture.
- e) **Basic Tools:** Spade, rake, watering can, and hand gloves.
- f) **Manpower:** One trained housekeeping staff or gardener for daily feeding, covering, and periodic turning.
- g) **Curing Space:** A small area for curing the compost for 2–3 weeks before use.
- h) **Indicative land requirement & cost (for 100 kg/day wet waste)**

Composting requires approx. 25 Sq. mtr. area per ton of MSW (only for windrow formation for 21 days composting and maturity yard for 30 days stabilization). The additional area required is for machinery, packing and storage). Approx. **10–15 sq. mtr.** is sufficient for handling 50–100 kg wet waste per day.

Key Benefits

- i. Reduces **70–80% wet waste** going to landfills.
- ii. Produces **organic compost** usable in society gardens.
- iii. Low capital and operational cost.
- iv. No electricity or machinery required.
- v. Complies with **Solid Waste Management Rules, 2026** for BWGs.

This technology is ideal for **housing societies, schools, hospitals, hostels, and institutions**, enabling them to manage biodegradable waste sustainably within their own premises.

4.2 Vermi-composting Units

Description:

Vermicomposting is an eco-friendly and natural method of processing biodegradable (wet) waste using earthworms to convert organic waste into high-quality manure called vermicompost. This technology is especially suitable for residential societies, institutions, schools, and other Bulk Waste Generators (BWGs) that generate kitchen waste, vegetable and fruit waste, garden waste, and food leftovers.

In this process, segregated biodegradable waste is placed in specially designed vermicomposting beds, tanks, or boxes, where selected species of earthworms (such as red worms) feed on the waste. The worms digest the organic matter and excrete it in the form of fine, nutrient-rich compost. The entire process is aerobic, natural, and does not involve any machinery or electricity. Under proper conditions of moisture and shade, vermicompost is ready within 45–60 days.

The system is simple to operate but requires care to maintain a suitable environment for earthworms. Waste should not contain plastic, chemicals, oils, or spicy food in excess, as these can harm the worms. Regular covering of waste with dry material and maintaining moisture (not flooding) ensures smooth operation and avoids Odor.

What a Society/Bulk Waste Generator Needs to Set Up Vermicomposting

To establish a vermicomposting unit within a society complex, the following are required:

a) Vermi-composting Structure:

b) Brick masonry beds, RCC tanks, HDPE/fiberglass boxes, or portable vermicompost units.

c) **Earthworms:** Suitable composting worms procured from authorized suppliers.

d) **Segregated Waste:** Strict segregation of biodegradable waste at source is mandatory.

e) **Bedding & Bulking Material:** Dry leaves, coconut husk, straw, cardboard, or partially decomposed compost.

f) **Water & Shade:** Light sprinkling of water to maintain moisture and protection from direct sunlight and rain.

- g) **Manpower:** One trained housekeeping staff or gardener for daily feeding and monitoring.
- h) **Curing & Storage Space:** For drying and storing finished vermicompost.
- i) **Indicative land requirement & cost (100 kg/day)**
 - Vermi tanks of 4–5 m × 1 m × 0.5 m commonly used; central and state guidelines suggest similar footprints for ~10–15 kg/day of semi decomposed waste.
 - Land: 60–90 m² (650–970 sq ft) including pre-compost area, beds, curing and circulation.
- a) **Capex:**
 - Civil beds, shed, worms, tools: ₹3–7 lakh depending on roofing, paving, leachate drains, etc. (derived from farm vermi-unit cost norms).

Key Benefits

- a) Converts biodegradable waste into valuable organic manure.
 - b) Reduces dependency on landfills and external waste transport.
 - c) Improves soil quality for society gardens and landscaping.
 - d) Low operational cost and environment-friendly.
 - e) Complies with Solid Waste Management Rules, 2026 for BWGs.
- Vermicomposting is an ideal solution for societies that want a sustainable, visible, and circular waste-to-resource system within their own premises.

4.3 Aerated Static Piles / Windrow Composting (Small Decentralised Yard)

Description: Aerated Static Pile (ASP) and Windrow Composting are proven, natural methods for processing large quantities of biodegradable (wet) waste in a small, decentralized composting yard. These technologies are well suited for large residential societies, group housing complexes, institutions, hostels, and commercial campuses that generate substantial kitchen and garden waste.

In this system, segregated biodegradable waste is arranged in long heaps (windrows) or static piles on a prepared platform. The waste is mixed with dry bulking material such as dry leaves, wood chips, sawdust, or shredded garden waste to maintain porosity and airflow. Decomposition takes place under aerobic conditions, meaning oxygen is available to microorganisms that break down the waste into compost.

- I. In Windrow Composting, the piles are turned periodically (manually or with simple tools) to maintain aeration.
- II. In Aerated Static Piles, air movement is ensured through perforated pipes or natural voids, reducing the need for frequent turning.

The biological heat generated during composting helps in pathogen reduction and odor control, and compost is typically ready within 30–60 days, followed by a short curing period.

What a Society / Bulk Waste Generator Needs to Set It Up

To set up an Aerated Static Pile or Windrow composting unit within a society complex, the following are required:

- I. **Space:** An open, level area within the society such as a service yard, green buffer, or utility corner.
- II. **Scale:** 200–1,000 kg/day (cluster or campus-level).
- III. **Platform:** Concrete or paved floor with proper drainage to avoid leachate accumulation.
- IV. **Segregated Waste:** Strict segregation of biodegradable waste at source is essential.
- V. **Bulking Material:** Dry leaves, garden waste, wood chips, sawdust, or husk to maintain airflow.
- VI. **Aeration System:**
 - For windrows: manual turning using spades or rakes.
 - For ASP: simple perforated PVC pipes for passive aeration.
- VII. **Inoculum (Optional):** Cow dung slurry or compost culture to accelerate decomposition
- VIII. **Manpower:** 1–2 trained workers for waste mixing, turning, moisture control, and monitoring.
- IX. **Water Supply:** For maintaining optimum moisture.
- X. **Curing & Storage Area:** Separate space for curing, screening, and storing finished compost.
- XI. **Indicative land requirement:**
 - Compositing requires approx. 25 sq. metre area per ton of MSW (only for windrow formation for 21 days composting and maturity yard for 30 days stabilization). The additional area required is for machinery, packing and storage. Around 100–200 sq. m is adequate for handling 200–500 kg wet waste per day.
- XII. **Capex:**
 - Paved floor, leachate drains, simple shed & aeration system: typically, ₹4–10 lakh depending on size, civil standards, and equipment.

Key Benefits

- i. Handles larger waste quantities compared to pit or box systems.
- ii. Faster composting with effective odour and vector control.
- iii. Low energy requirement and simple operation.
- iv. Produces good-quality compost for landscaping and gardening.
- v. Fully compliant with Solid Waste Management Rules, 2026 for Bulk Waste Generators.

Aerated Static Pile / Windrow Composting offers societies a scalable and robust on-site solution to manage biodegradable waste efficiently while promoting environmental sustainability and circular resource use.

4.4 In-Vessel / Mechanical Organic Waste Composters (OWC Machines)

Description:

In-Vessel or Mechanical Organic Waste Composters (OWC Machines) are compact, enclosed systems designed to process bio-degradable (wet) waste quickly and hygienically within a society or institutional campus. These machines use a combination of mechanical mixing, controlled aeration, and heat generation to accelerate the natural composting process. OWC machines are especially suitable for large residential societies, hospitals, hotels, hostels, and commercial complexes where space is limited and daily wet waste generation is high.

In this technology, segregated biodegradable waste such as kitchen waste, food leftovers, and vegetable waste is fed daily into a closed steel or FRP vessel. The waste is mixed with a bulking agent (usually sawdust or cocopeat) and inoculated with microbial culture. The machine continuously agitates the waste and supplies controlled air, maintaining ideal temperature and moisture conditions for rapid aerobic decomposition. Due to this controlled environment, the volume of waste is reduced by 80–90% within 24–48 hours, producing a semi-composted output.

The material discharged from the OWC is pre-compost, which requires further curing for 10–15 days in bins or trays to become mature compost. As the entire process takes place inside an enclosed system, issues such as odor, flies, and leachate are effectively controlled, making it suitable for use even in basement or confined areas.

What a Society / Bulk Waste Generator Needs to Set It Up

To install and operate an OWC unit in a society complex, the following are required:

- I. **Space:** A covered, well-ventilated area such as a basement, utility room, or service area. Space requirement depends on machine capacity (typically 50–500 kg/day).
- II. **Scale:** 25–2,000 kg/day; widely used by apartments, hotels and institutions.
- III. **Machine:** OWC of appropriate capacity based on daily wet waste generation.
- IV. **Electricity:** Single-phase or three-phase power connection as per machine specification.
- V. **Segregated Waste:** Strict segregation of biodegradable waste at source is mandatory.
- VI. **Bulking Material & Microbial Culture:** Sawdust/cocopeat and approved composting culture.
- VII. **Odor Control System:** Inbuilt bio-filter or chimney system (usually provided with the machine).

- VIII. **Manpower:** One trained operator for feeding, monitoring, and basic maintenance.
- IX. **Curing Area:** Small space for curing and storing composted output.
- X. **Drainage:** Provision for leachate collection, if applicable.
- XI. **Indicative land requirement & cost (current market data)**
Product listings for 25–150 kg/day organic waste composters in India show:
- XII. **Machine footprint for 100 kg/day** unit typically around:
- 1.7 m × 1.0 m ≈ 1.5–2.0 m²; some vendors explicitly state space required ≈ 5 ft × 3 ft (~1.35 m²).
- XIII. Allowing for **loading area + curing racks + circulation**, practical requirement is:
- **20–30 m²** (215–325 sq ft) for 100 kg/day,
 - **35–60 m²** (375–650 sq ft) for 250 kg/day.
- XIV. **Indicative capital cost (machine only, ex-GST)** based on vendor price ranges:
- 25–50 kg/day: ₹2.0–3.0 lakh
 - 100 kg/day: ₹2.5–4.5 lakh
 - 200–250 kg/day: ₹5.0–8.0 lakh
- (Exact prices vary by make, level of automation, integrated shredder, heating, etc.; BWGs should obtain 3–4 competitive quotes and exercise their discretion.)

Key Benefits

- i. Rapid and hygienic waste processing with minimal manual handling.
- ii. Requires less space compared to open composting methods.
- iii. Effective odor and pest control due to enclosed operation.
- iv. Suitable for high-density urban societies.
- v. Ensures compliance with Solid Waste Management Rules, 2026 for Bulk Waste Generators.

In-Vessel/OWC systems provide societies with a modern, efficient, and space-saving solution for managing biodegradable waste responsibly within their own premises.

4.5 Bio-methanation / Biogas Plants (Optional for Larger Campuses)

Description: Bio-methanation, commonly known as a biogas plant, is a technology used to process biodegradable waste such as kitchen waste, food leftovers, canteen waste, and organic sludge by converting it into biogas and organic manure. This method works on anaerobic digestion, meaning the waste decomposes in the absence of oxygen inside a sealed reactor. Bio-methanation is particularly suitable for large residential societies, institutional campuses, hospitals, hotels, hostels, and universities where wet waste generation is high and consistent.

In this system, segregated biodegradable waste is first shredded and mixed with water to form a slurry. This slurry is fed into a digester tank, where microorganisms break down the organic matter under controlled conditions. During this process, biogas (mainly methane)

is generated and collected in a gas holder. The biogas can be safely used for cooking, heating, or electricity generation, while the leftover material (digestate) is removed from the plant and can be further dried or composted to produce nutrient-rich organic manure. The digestion process typically takes 20–40 days, depending on the plant design and waste characteristics.

What a Society / Bulk Waste Generator Needs to Set It Up

To set up a bio-methanation / biogas plant within a society complex, the following are required:

- I. **Space:** A dedicated open or semi-covered area, preferably at the periphery of the campus. Space requirement depends on plant capacity.
- II. **Scale:** Typically viable for ≥ 100 kg/day of consistent, high-moisture food waste; can be scaled much higher.
- III. **Plant Infrastructure:**
 - Waste feeding system (hopper/shredder)
 - Anaerobic digester tank (RCC/steel/FRP)
 - Gas holder and pipeline system
- IV. **Electricity & Water:** Power for shredders, pumps, and control panels; water for slurry preparation.
- V. **Segregated Waste:** Strict segregation of biodegradable waste at source; plastics and inerts must be completely excluded.
- VI. **Manpower:** Trained operator for daily feeding, monitoring gas pressure, and routine maintenance.
- VII. **Gas Utilisation System:** Biogas stove, boiler, or generator set with proper safety fittings.
- VIII. **Digestate Handling Area:** Space for drying or composting the slurry residue.
- IX. **Safety Provisions:** Flame arrestors, pressure release valves, and basic fire-safety measures. BWGs opting for biogas must ensure all safety and environmental clearances and follow relevant MoHUA/MNRE guidelines.
- X. **Indicative land requirement & cost (around 100 kg/day)**
 - Area requirement for bio-methanation is approximately 25 sq. m/per tonne of MSW. Extra area is required for machinery, gas containing and storage facilities.
 - Vendors offer 100 kg/day modular biogas units for kitchen waste with capacities ~ 6 m³, often marketed for institutional / domestic use.
 - Land requirement (digester + gas holder + slurry pit + access) is typically in the range of:
 - 40–70 m² (430–750 sq ft), depending on layout and tank configuration (inferred from modular plant specs for 0–100 kg/day).

XI. Capex range (excluding major civil works / building):

- Small modular plants handling up to 100 kg/day: roughly ₹1.0–3.0 lakh per unit, depending on FRP/steel, level of automation and vendor.
- Larger engineered plants (hundreds of kg/hr) can easily go into ₹7–20 lakh+ category.

Key Benefits

- i. Converts waste into renewable energy (biogas) and manure.
- ii. Significant reduction in waste sent to landfills.
- iii. Reduces LPG/electricity consumption within the campus.
- iv. Environment-friendly with low emissions.
- v. Fully compliant with Solid Waste Management Rules, 2026 for Bulk Waste Generators

Bio-methanation plants are an ideal waste-to-energy solution for large campuses, enabling societies to manage biodegradable waste sustainably while generating useful energy and compost on-site.

Note

- Land figures are indicative and assume basic circulation, curing and small storage areas. Actual layout must be finalised with vendor/architect as per site constraints and fire norms. Figures are aligned with MoHUA composting manual examples, CPCB technology sheets and vendor dimension data.
- Capex is based on sample vendor listings and typical urban case-studies; BWGs must obtain updated quotations and consider additional costs (shed, power, water, RCC platform, labour, AMC, statutory approvals).

6. Compliance, Monitoring & Penalties

- I. BWGs shall not hand over mixed waste to any Agency; only segregated streams may be given to authorised collectors/recyclers.
- II. BWGs remain fully responsible and accountable for the final fate of their waste, even when appointing private Agencies (as emphasised in MCG empanelment terms).
- III. Continuous monitoring of BWGs will be done by the BWG Inspector or any other officer/official of MCG, and any non-compliance of SWM Rules, 2026 and Environment (Protection) Act, 1986 etc. shall attract penalties.

7. Inspection of BWGs by MCG

- I. Every BWG will be inspected by BWG Inspectors or any other officer authorised by Commissioner, MCG from time to time.
- II. An indicative checklist for inspecting any BWG is enclosed as Annexure-A.

8. Suggested Immediate Action Plan for BWGs

- I. Confirm BWG status and register on the MCG BWG portal with the data as required.
- II. Issue internal circular to all residents/tenants/vendors on mandatory 3-way segregation plus separate handling of horticulture, C&D and e-waste.
- III. Conduct a quick waste audit (at least 7–10 days) to quantify daily wet/dry/hazardous waste.
- IV. Based on space, power and budget, shortlist 1–2 in-situ composting options from Section-5 and seek technical & financial proposals from multiple vendors (preferably MCG-empanelled).
- V. Finalise technology, create layout plan, and start installation & commissioning within a defined timeline.
- VI. Put in place O&M staff, AMC and record-keeping formats; start monthly/quarterly reporting on the BWG portal.

9. References for BWG Advisory

1. Solid Waste Management Rules, 2026 – Ministry of Environment, Forest and Climate Change (MoEF&CC).
2. MoHUA Bulk Waste Generator (BWG) Guidelines – Ministry of Housing & Urban Affairs.
3. MoHUA Advisory on Onsite Composting in Cities, 2019.
4. CPHEEO Manual on Municipal Solid Waste Management (2026, with updates till 2023) and Advisory on On-Site and Decentralized Composting of Municipal Organic Waste.
5. CPCB Guidelines for In-Situ Processing of Organic Waste, 2020 and Selection Criteria for Waste Processing Technologies by CPCB, MoEF&C.
6. Swachh Bharat Mission 2.0 (SBM 2.0) – Operational & IEC Guidelines, 2021

Annexure- I

**INDICATIVE CHECKLIST FOR PERIODIC VERIFICATION OF PREMISES OF BULK
WASTE GENERATORS BY URBAN LOCAL BODY**

Sr. No.	Activities	Yes/No
1.	Is bulk waste generator segregating the municipal solid waste as per SWM Rules, 2026	
2.	Are all the Segregated wastes being stored in separate bins, containers or bags etc.?	
3.	Has the bulk waste generator demarcated a separate space for the segregation, storage and decentralised processing of municipal solid waste in society, RWA, gated community, market association, etc.?	
4.	Is the bulk waste generator storing separately the Construction and Demolition waste?	
5.	Is the bulk waste generator storing the Garden and Horticulture waste separately?	
6.	Is the bulk waste generator burning any waste?	
7.	Is the bulk waste generator burying any waste?	
8.	Is the bulk waste generator paying user fee/charges for solid waste management?	
9.	Is the bulk waste generator intimating the urban local body / authority in case of organizing an event or gathering of more than 100 persons at any of unlicensed premises?	
10.	Is the bulk waste generator handing over recyclable waste to the authorised waste picker or recycler?	
11.	Is the bulk waste generator processing bio-degradable (wet) waste in own premises?	
12.	If so, what is the process – composting or bio-methanation or any other? Please mention.	
13.	Is the bulk waste generator handing over the residual waste from process to the waste collector or Agency designated by Urban local authority?	
14.	Is the waste collection organised by RWA, Association?	
15.	If so, is the waste collector an informal rag picker / waste collector?	
16.	Is the Payment to the waste collector made by the association or by the waste generators/premises owners directly?	
17.	Whether the association/complex is using waste collection personnel provided by the Urban local body?	
18.	Is the RWA /Association organizing IEC activities for proper management of municipal solid waste?	
19.	Has the bulk waste generator tied up for authorized Agency for collection of segregated waste?	
20.	Is there any MoU between waste management Agency and BWG for dry and wet?	

21.	Is the Agency an empanelled Agency of MCG?	
22.	Is BWG maintaining logbook and recording the data of waste generated on daily and monthly basis?	
23.	Is BWG uploading the data regularly in the BWG portal?	
24.	Is BWG aware of location and how final disposal of their waste generated (dry & wet) being disposed of?	
25.	Any other observation noticed by MCG Officers/Officials and BWG Inspectors	