



Bengaluru's SWM Information Manual

PART II : Ward specific Manual

Bruhat Bengaluru Mahanagara Palike
Solid Waste Management

November 2017



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FOREWORD



Sri. K Sampath Raj
Worshipful Mayor

It is a historic moment for Bangalore City with the formation of the Ward Committees, while upholding the 74th amendment of the Constitution, the BBMP has recognized and institutionalized the spirit of decentralization, allowing for collaborative and participative governance at the Ward Level.

I am confident that all the Ward Committees under the able chairmanship of the Ward Corporators, will rise up to the occasion and discharge their roles and responsibilities and bring in improvements, efficiency and transparency in the civic services especially with respect to solid waste management.

With the active involvement and participation of the Ward Committee, I look forward to every Ward taking up the challenge of setting up ward level waste management facilities and bringing in visible changes in the cleanliness of the Ward.

I welcome each and every one of the Ward Committees and extend the fullest co-operation from BBMP in our joint endeavour for a Clean Bengaluru.

November 2017



Smt. Padmavathi Narashimamurthy
Deputy Mayor

It is a proud moment for the City of Bangalore to see the emergence of decentralized planning and governance through the Ward Committees. I welcome the Ward Committee members who have come forward to contribute their time and effort to supporting the Ward Chairman in the development of the Ward.

I am confident that the Ward Committee members will be able to promote the importance of segregation at source amongst the citizens of the Ward. I am also confident that the functioning of the Ward committees will result in efficiency and timely payments to the various people engaged at the Block level in carrying out the daily operations. I am confident that the Ward committees will also develop the Ward facilities like Toilets, changing rooms, tools and equipments and other amenities which will benefit all the Street sweepers, Collectors, Helpers and the waste pickers who are engaged in providing solid waste management services and help in keeping the city clean.

I once again wish this Micro Plan implementation through the Ward Committees all success.

November 2017



Sri. Muzahid Pasha

Chairman - Public Health Standing Committee

Solid Waste Management is an important function that touches each and every citizen of the City. A clean and healthy City is therefore of utmost importance and will enhance the quality of life of Bangalore Citizens.

It is therefore to be recognized that role of the members of the Ward Committee in monitoring the implementation of the Ward Micro plan is an important one. Furthermore, the development of the ward facilities for processing of the solid waste generated in the ward itself will relieve the pressure on the City to search for more landfill space without causing trouble to the villages surrounding the City. Bangalore City has already seen successful piloting of various Ward processing units over the last five years and I am very sure that the Ward Committees under the leadership of the Ward Corporators will be able to enact a Ward Action Plan over the next one year and show real development in the area of solid waste management.

The BBMP is committed to support all such endeavours and provide the necessary financial support for the development of the Ward facilities.

November 2017



Sri. N. Manjunath Prasad
Commissioner

BBMP has introduced many pioneering initiatives in the area of solid waste management and the introduction of this Micro Plan is another very important milestone in delivering effective and sustainable solid waste management in the City.

Further with the setting up of the Ward Committees and under their leadership , I am very confident that the Micro Plan and the Ward Plan for SWM facilities, will get implemented effectively bringing in real and visible changes in waste management as envisioned and planned .

In order to provide all possible support in the implementation of the Micro Plan and the Ward Plan for SWM facilities, this information booklet provides all the necessary general information regarding the SWM Rules, Act, High Court directions, Government Orders and Public Notifications .

For the first time a comprehensive compilation of the Ward planning with the support of digitized GIS maps giving a total breakdown of roads , vehicles and manpower deployed at the block level has been provided. Standards and Processes that have to be followed in the daily routines of waste management have also been clearly detailed and I am confident that this will greatly assist the Ward Committees in overseeing the effective functioning of waste management by the civic officials , staff and service providers.

BBMP is committed to effective Solid Waste Management with the support of the Ward Committees.

November 2017

PRELUDE

The Solid Waste Management policy has been adopted by the BBMP, with the pioneering directions of the Hon'ble High Court of Karnataka, guidance of the SWM Expert Committee and the enthusiastic involvement of the Citizens. Further the BBMP SWM Policy has been strengthened by the SWM Rules 2016, again influenced by the Bangalore Model and the directions of the Hon'ble High Court of Karnataka. The Central Government Swachh Bharath Mission further clearly defines the requirements of implementation. The progress of the Municipality in achieving requirements of the Policy is monitored by the Swachh Survekshan.

In the period from 2012 to 2016 the Bangalore SWM Model receiving the complete support of the State Government has to its credit a number of firsts in the area of Solid Waste Management

- 1) The First City to implement Segregation at Source through 3 way Segregation of Wet: Dry : Sanitary
- 2) The First City to have state of the art SWM Plants having a processing capacity of 2300 TPD
- 3) The First City to set up 198 Dry Waste Collection centres (DWCCs)
- 4) The First City to identify Bulk Generators and the system of Empanelled Destinations/ Service Providers
- 5) The First City to promote Ward Level Composting and Bio Meth, Leaf Shredder facilities with the goal of minimizing long distance secondary transportation
- 6) The First State to ban the Single Use Plastic
- 7) The First City to enumerate and issue ID cards to 7500 Waste Pickers and further integrate them into SWM by entering into a

direct MOU with them for operation of the DWCCs

8) The installation of Bio Filters in the Composting Plant

9) And now, The First City to create a Ward Micro Plan and to have the Ward Committees prepare the ward level plan for SWM facilities .

HISTORIC DIRECTION BY KARNATAKA HIGH COURT TO BBMP ENSURE WARD COMMITTEES PREPARE WARD LEVEL SOLID WASTE MANAGEMENT PLAN

In a historic decision by the Division Bench of Hon'ble High Court of Karnataka consisting of Justice Mr. B.S. Patil and Justice Mrs. B. V. Nagarathna, Bruhat Bengaluru Mahanagara Palike (BBMP) has been directed to ensure that Ward Committees constituted on 31st October 2017 in all the 198 wards of the city should meet by end of November in accordance with Section 13-H of the Karnataka Municipal Corporations Act, 1976. The Court further directed that during this first meeting each and every Ward Committee shall prepare a ward level plan to "ensure proper solid waste management and sanitation work in the ward and finalise location of new public sanitation units" as per Sec 13 (I) (i) of the Act. These plans will be consolidated into an Action Taken Report (ATR) by BBMP and placed on its website, and a report of progress will be produced in Court prior to the next date of hearing i.e. 8th December 2017.

Figure 1 : Quoted Directive
(Source: Environment Support Group, 2017)

HONBLE JUSTICE B.S PATIL AND B.V.NAGARATHNA

10/11/2017 | Order in WP 24739/2012

As per directions issued earlier in these writ petitions, particularly vide order dated 04.09.2017, Ward Committees have been constituted and in this regard, counsel for the respondent-Bruhat Bangalore Mahanagara Palike (BBMP) has filed the decision taken by the BBMP on 31.10.2017, which shows that Ward Committees have been put in place.

Petitioners have come up with suggestions that Ward Committees have to now discharge the twin task. Firstly of examining Ward Micro Plan prepared by the BBMP for each Ward with regard to solid waste management and secondly, to prepare a fresh plan depending on the needs of each Ward pertaining to solid waste management as per directions already issued by this Court from time-to-time (i.e. on 17.12.2015, 23.06.2016 and on other different dates).

In order to facilitate Ward Committees to effectively discharge their duties as per directions issued by this Court and in terms of obligations cast upon it under Section 13 I (h) of the Karnataka Municipal Corporations Act, 1976 so as to ensure proper solid waste management and sanitization in the respective Ward, the BBMP has to make available orders containing specific directions issued by this Court in these writ petitions from time-to-time by preparing booklets. The BBMP shall also make available the Ward Micro Plan prepared to each of the Wards. This exercise shall be completed within ten days from today. Thereafter, the BBMP shall ensure that Ward Committee Meetings are convened at ward-level on or before 30.11.2017.

We hope and trust that Ward Committees will engage themselves seriously in the task assigned to them under the provisions of the Municipal Corporations Act, 1976, particularly, Section 13 I, and also in terms of the Rules pertaining to Municipal Solid Waste Management Rules, 2016.

We also hope that respective Ward Committees will prepare action plan and submit action taken report to the BBMP in such meetings and the BBMP shall place before the Court substance of such decision taken, and action initiated, for perusal and further action by this Court prepared in a tabular form Ward-wise and the same shall also be uploaded in the BBMP website.

It is submitted by the petitioners that the BBMP has now resorted to dumping the solid waste in Quarries situated in Bagalur, Mittiganahalli, Bellahalli and other Quarries in those villages situated in the vicinity of Bengaluru City. According to the petitioners, this has resulted in serious health hazard to the residents of nearby villages located in the vicinity of said Quarries apart from resulting in several other problems.

Confronted with this, learned counsel appearing for the BBMP submits that now that Ward Committees have been constituted, the BBMP will come up with action plan to establish additional plants for managing wastes within the Wards by identifying suitable places.

We are of the view that this exercise has to be done on top priority and action plan in this regard furnishing details of additional plants to be established and its locations in different Wards has to be submitted by the BBMP by the next date of hearing, after furnishing a copy of the same to the petitioners.

Re-list these matters on 08.12.2017.

A copy of this order be handed-over to learned counsel for the Corporation.

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INTRODUCTION

1.1. ABOUT THE MANUAL AND ITS FEATURES

This information manual has been developed in order to simplify the understanding of the Solid Waste Management (SWM) System that is set in place by BBMP, for Bengaluru City. It includes:

- A quick understanding of Solid Waste Management (SWM) in the Indian context
- States the aspirations of CLEAN BENGALURU and our road map to achieve it
- Important documents that provide the larger official mandate by MoUD, Swachh Bharat Mission, Karnataka Government and the Karnataka High Court
- Detailed data and information at ward level, which will help support and guide the implementation process on ground

1.2. STRUCTURE OF THE MANUAL

The manual has the following structure and addresses different target groups in its different sections:

PART I:

This is the Introductory Manual that aims to promote an understanding of the Solid Waste Management (SWM) system along with its challenges and opportunities. It is for all stakeholders in the system, in order to help them understand Solid Waste Management, the City's CLEAN BENGALURU Program and relevant rules and regulations that govern the system. The manual will provide guidance to these stakeholders, to initiate necessary processes in aligning with achieving the City's goals.

PART II:

This is the ward specific manual and is primarily for the BBMP officials, Ward Committee Members, Service Providers and Shuchi Mitras working within their wards. It focusses on 3 main aspects – Ward Micro Plan, Decentralised Processing Facilities and the Action Plan relevant to the respective ward. This section provides a detailed description of the Ward Blocks, technologies for treatment and processing of waste, schematic layouts, applicability of evolving technologies, and planning frameworks to undertake concrete measures toward streamlining the system of Sustainable Municipal Solid Waste Management at the Ward Level.

SECTION A

WARD MICRO PLAN

2

WARD MICRO PLAN

2.1. CREATING THE WARD MICRO PLAN

A Ward Micro Plan is a process of creating a solid waste management collection and transportation plan for the smallest unit of management (i.e. Wards). As per the Micro Plan, a Ward is split into Blocks (750 Households + small commercial units) (Figure 02) to which man power and vehicles are allotted. Additionally, for Street Sweeping, roads have been classified into Major, Intermediate and Minor roads, each of which have been assigned a unique road ID.

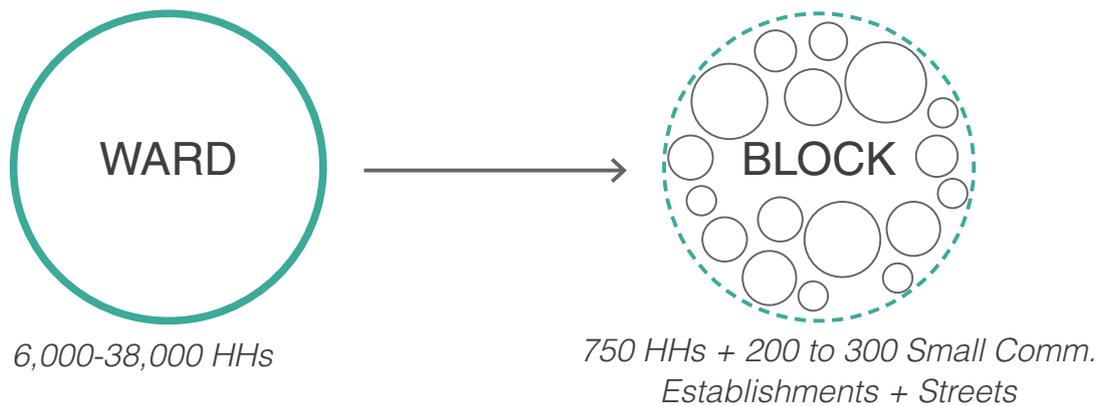


Figure 2: Ward Micro Plan – the creation of Blocks for easy management

WARD TEMPLATE:

Ward Level Data filled and soft copy submitted to Head Office

BLOCK DATA:

Ward Level Data filled and soft copy submitted to Head Office

WARD/BLOCK MAP:

Blocks demarcated on a physical map and scanned copy submitted to Head Office

The process for stream-wise collection and transportation is shown in Figure 03.

The Micro-Plan has been launched City-wide on February, 1st, 2017.

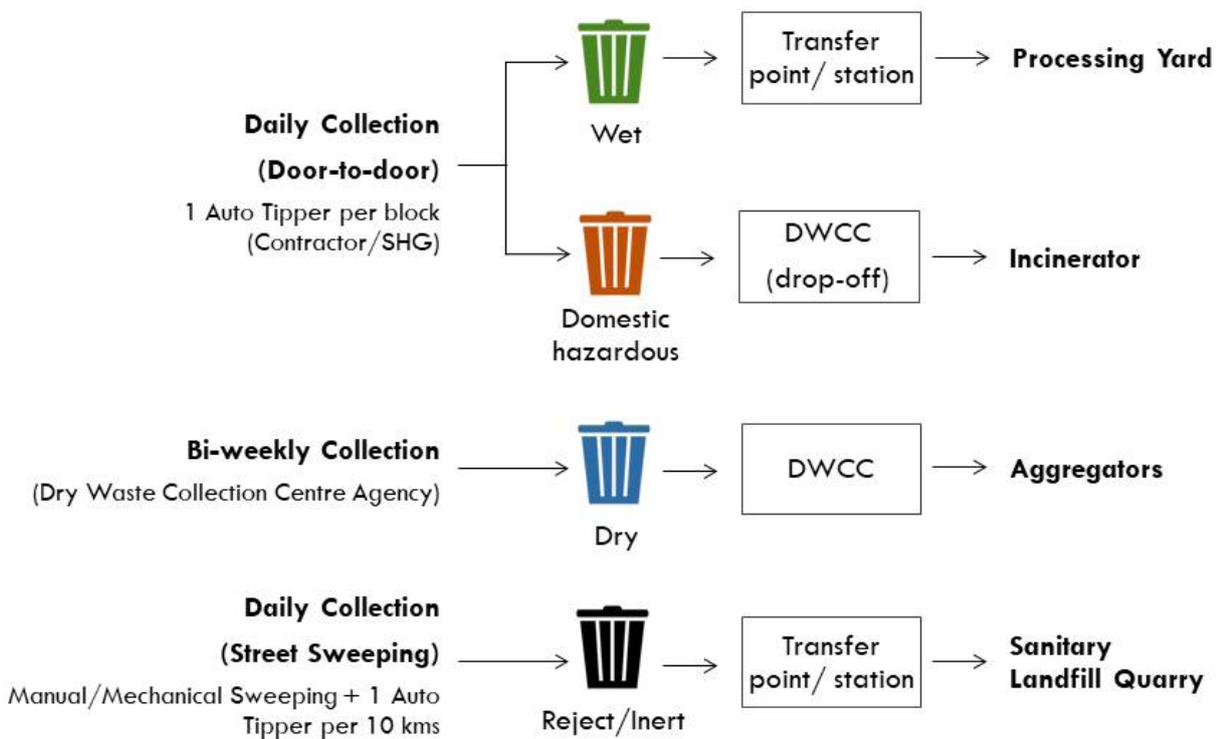


Figure 3: Process for collection of waste by stream

The process includes:

- Creating a Ward wise Block map based on the number of Households and Shops (non Bulk Generators)
- Allotment of one Auto Tipper for each block for Wet and Sanitary waste collection , with the details of the Vehicle and driver given to the block residents. Geo fencing the block and tracking the Auto tipper to ensure reliable and timely collection
- Scheduling Block wise pick up of Dry waste twice a week by the Ward Dry Waste Collection Centre
- Assigning the Lorry points for the Secondary collection
- Identifying 3 Mustering Points per Ward, with Biometric attendance
- Mapping a cluster of Blocks to each Mustering Point
- Identifying the Major , Intermediate and Minor Roads
- Identifying the nature of street sweeping either Mechanical or Manual
- Fixing the frequency of street sweeping based on Road Type eg. Major and Intermediate Roads daily, Minor roads alternate days or weekly twice.
- Assigning the Pourakarmikas by Road Type and Length
- Scheduling the gangwork cleaning of public areas
- Identification of willing block residents (two per block) to volunteer as Shuchimithras, to create door to door awareness and improve the quality of segregation at source
- Empowering the Shuchi Mithras to monitor the collection through phone apps and report non-compliance in their block

2.2. NORMATIVE STANDARDS

Normative Standards have been developed by BBMP through a Time and Motion Study conducted in 2015, for the following aspects – generation, coverage, hand over method and the process. These have further been tested and adopted on ground for increased efficiency. Additionally, a Government Order [GO No: UDD 126 TMS 2016 dtd: 7/8/2017] has been issued defining normative standards for the requirement of Pourakarmikas (PKs). Based on these, the standards that have been adopted by BBMP for its Collection and Transportation system, is detailed out below:

2.2.1. SEGREGATION AT SOURCE

As per the High court directive dated 17 December 2015, a 3-way segregation at source for domestic generators and a 2-way segregation for commercial generators was mandated.

The poster below (Figure 04) demonstrates the segregation guidelines for domestic generators.

WASTE SEGREGATION GUIDELINES



1. Organic Waste

(Do **NOT** use a plastic liner)

Kitchen Waste

Vegetable/fruit peels
Cooked food/Leftovers
Egg shells
Chicken/fish bones
Rotten fruits/vegetables
Tissue paper soiled with food
Tea bags/Coffee grinds
Leaf plates



Garden waste

Fallen Leaves/twigs
Puja flowers/garlands
Weeds



2. Dry Waste

(Use only **REUSABLE BAGS/BIN** for disposal)

Plastic (Must be rinsed if soiled)

Plastic covers/bottles/boxes/items
Chips/toffee wrappers
Plastic cups
Milk/Curd packets

Paper (Must be rinsed if soiled)

Newspaper/Magazines
Stationery/Junk mail
Cardboard cartons
Pizza boxes
Tetrapaks
Paper cups and plates



Metal

Foil containers
Metal cans



Glass (handle with care)

Unbroken glass bottles



Other dry waste

Rubber/Thermocol
Old mops/Dusters/Sponges
Cosmetics,
Ceramics, Wooden Chips,
Hair
Coconut shells



E-waste (handle with care)

Batteries
CDs/Tapes
Thermometers



Bulbs/tube lights/CFLs
(hand over separately)



3. Sanitary/Reject Waste

(Do **NOT** use a plastic liner)

Sanitary waste

(Use a newspaper for wrapping)

Diapers/Sanitary napkins
Bandages
Condoms
Nails
Used tissues
Medicines
Swept dust



(Limited quantities of mixed waste is allowed, such as heavily soiled plastic or soiled paper)

Sharps (small quantities only; wrap in newspaper and hand over separately)

Razors/Blades
Used syringes
Injection vials



Construction debris/Inerts

(Hand over separately)

Rubble
Paints
Silt from drains
Cement powder
Bricks
Flower pots



Broken glass
(wrap in newspaper)



Figure 4: Waste segregation guidelines for Households

2.2.1.1. RESIDENTIAL UNITS/ HOUSEHOLDS

All Households are mandated to segregate waste at source into Wet, Dry and Domestic Hazardous Waste (Refer Figure 05).



Figure 5: 2-bin 1-bag system

GENERATOR	BIN SYSTEM SPECIFICATION
Independent Homes	<u>2 BINS – 1 BAG</u> Green Bin – Organic Waste Blue/White Bag – Dry Waste Red Bin – Domestic Hazardous Waste (Sanitary & Bio-medical Waste)
Multi-Dwelling Units (<50 flats)	<u>3 BINS</u> (for every 120 kgs generated) Green Bin – Organic Waste Blue Bin – Dry Waste Red Bin – Domestic Hazardous Waste (Sanitary & Bio-medical Waste)

Table 1: Bin requirement for non-bulk residential generators

2.2.1.2. COMMERCIAL UNITS

All commercial establishments are mandated to segregate waste into Wet and Dry Waste. Sample bins are shown in Figure 06.



Figure 6: 2-bin system

GENERATOR	BIN SYSTEM SPECIFICATION
Commercial (<10 kgs/day) <i>Shops, Supermarkets, commercial establishment, Campuses, Institutions, Clinics, Nursing Homes, etc.</i>	Green Bin – Organic Waste; Blue Bin – Dry Waste
Eateries (<10 kgs/day) <i>Food vending carts, food stalls, canteens, Bakeries, Darshinis, small hotels, etc.</i>	Green Bin – Organic Waste; Blue Bin – Dry Waste
Street Vendors <i>Vending stalls, counters, etc.</i>	Green Bin – Organic Waste; Blue Bin – Dry Waste

Table 2: Bin requirement for small commercial establishments

2.2.2. PRIMARY COLLECTION AND TRANSPORTATION

This includes three activities - wet and domestic hazardous waste collection (daily), dry waste collection (bi-weekly) and street sweeping (frequency based on road width). Primary collection and transportation will take place on a daily basis from 6:30 am to 2:30 pm. The work schedule is divided as shown below:

TIMING	ACTIVITY
06:15 am to 06:45 am	Mustering
06:45 am to 10:45 am	Collection & Transportation (Residential) Street Sweeping
10:45 am to 11:15 am	Mustering (Re-deployment) / Food Break
11:15 am to 02:00 pm	Collection & Transportation (Commercial) Street Sweeping Waste Collection
02:00 pm to 02:30 pm	De Mustering

Table 3: Deployment plan for Primary Collection and Transportation (including Street Sweeping)

2.2.2.1 WET WASTE CYCLE

Wet and Domestic Hazardous waste (including Sanitary Waste) is collected using an Auto Tipper on a daily basis. One Auto Tipper is assigned per block for the collection of wet waste and colour coded yellow bags will be supplied for separate storage of Domestic Hazardous Waste. The process for collection of wet and domestic hazardous waste using and Auto Tipper is shown in Figure 07 and the normative standard is listed in Table 4. The vehicle specifications, allotment of manpower, tools and equipment, uniform and other details are attached in Table 6.

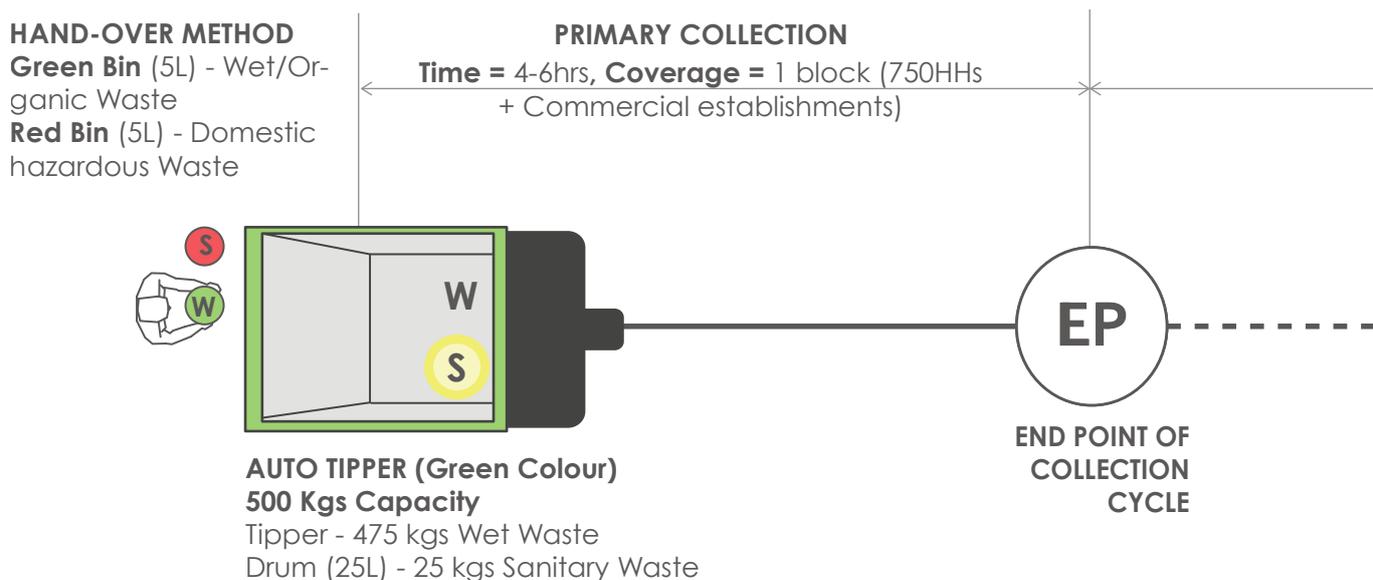
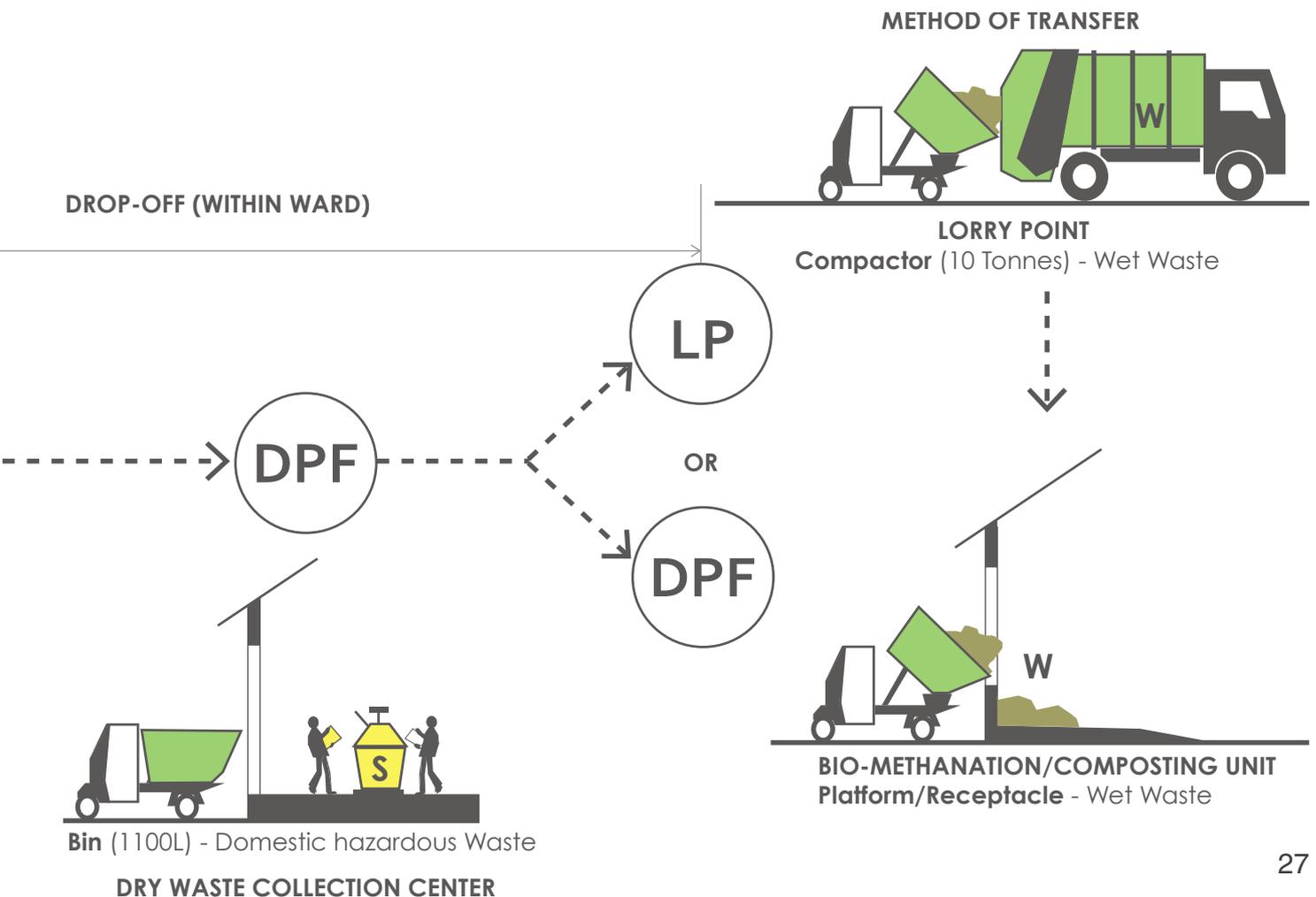


Figure 7: Process diagram for the collection of wet and domestic hazardous waste

Vehicle	1 Auto Tipper
Waste Streams	Wet, Domestic Hazardous (incl. Sanitary)
Equipment	Colour coded bag for Domestic Hazardous Waste
Frequency	Daily
Timing	6:45 – 10:45 am 11:15 am to 02:00 pm (waste from commercial units can be collected between 10-11am)
Coverage (4 hrs)	750 HHs / 1000 Units (including commercial)
Re-deployment (2 hrs)	The vehicle will be re-deployed to collect street sweeping waste or for intensive cleaning
Additional Deployment (in case of Commercial and Market Areas)	
Timing	4:00 – 10:00 pm
Coverage (6 hrs)	1000 Units
Destination – Wet Waste	Ward Decentralised Processing Facility (DPF) or Wet Compactor at Lorry Point (LP)
Destination – Mixed Waste	Mixed Compactor at Lorry Point (LP)
Destination – Domestic Hazardous Waste (Sanitary Waste)	Sanitary waste Collection Bin at Ward Dry Waste Collection Centre

Table 4: Norms followed for the primary collection of wet and domestic hazardous waste



In case of Special Areas (commercial, slum, markets, etc.) where these cannot be accessed by an Auto Tipper, Push carts are assigned to go door to door, and these will inturn drop off the waste into the respective Auto Tippers/Luggage Autos. The process for collection of all waste using Push Carts is shown in Figure 08 and the normative standard is listed in Table 5.

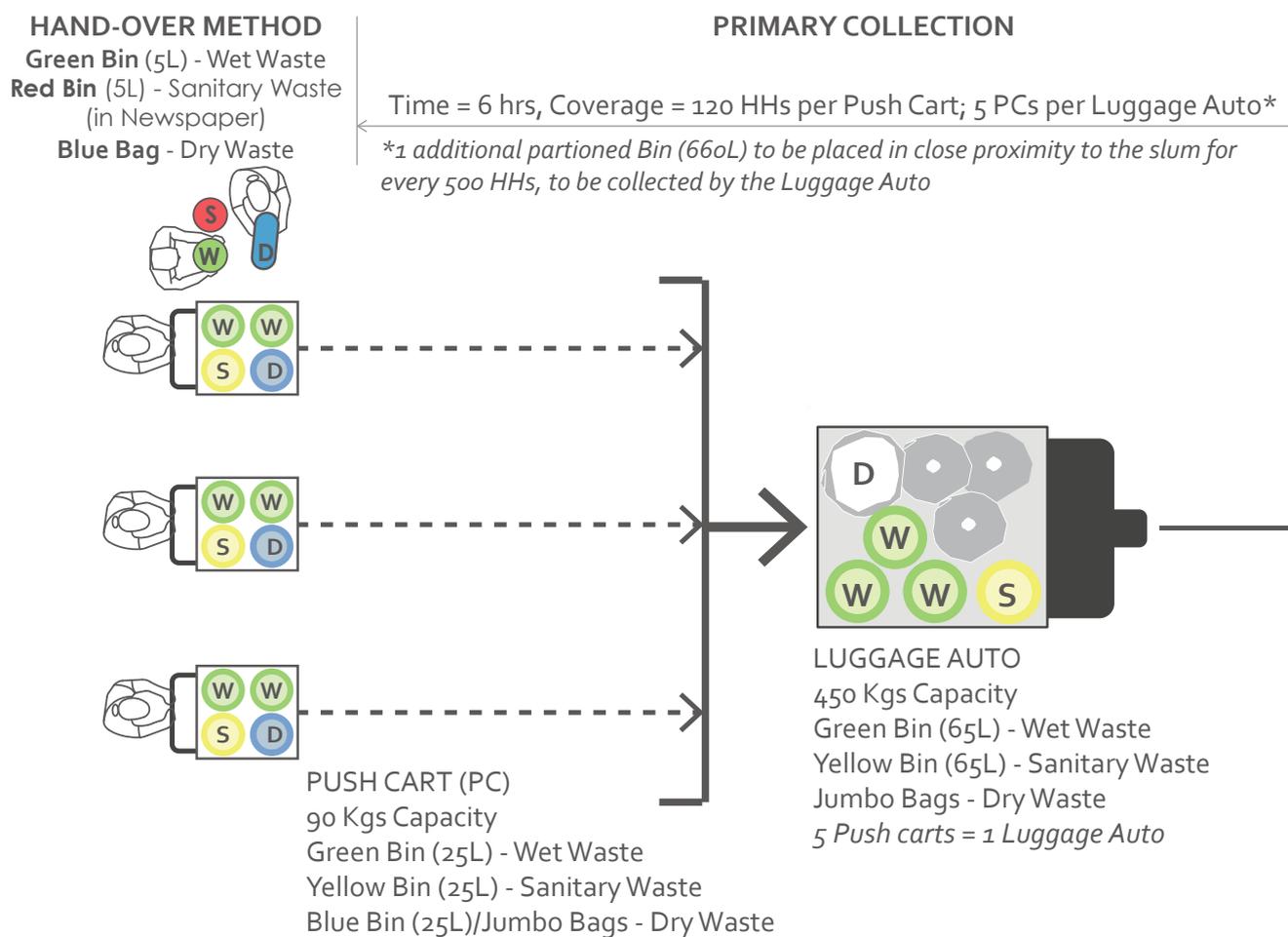
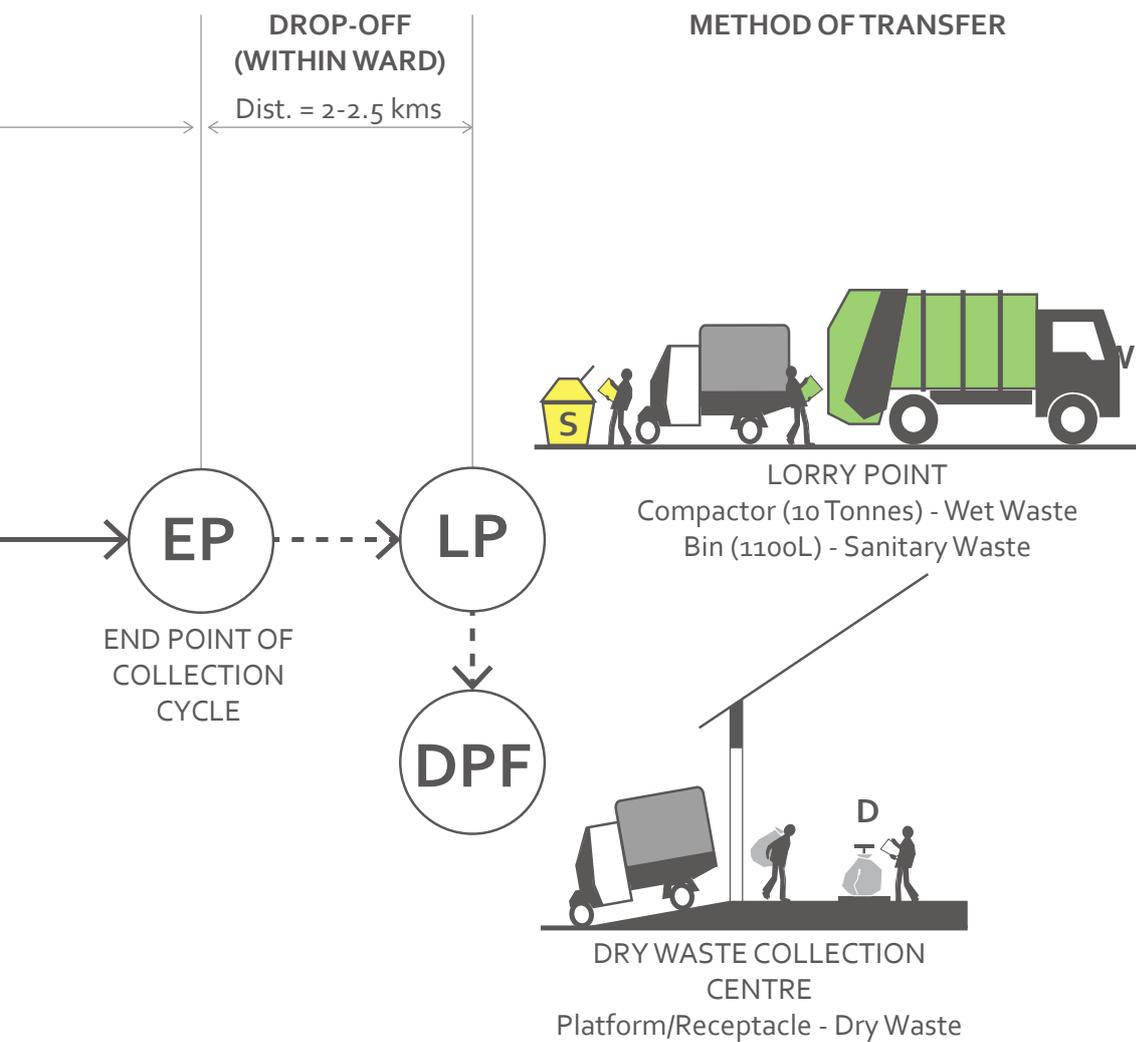


Figure 8: Process diagram for the collection of all waste using a Push Cart

Vehicle	1 Push Cart
Waste Streams	Wet, Domestic Hazardous (incl. Sanitary) and Dry
Equipment	Coloured bins
Frequency	Daily
Timing	6:45 – 10:45 am 11:15 am to 02:00 pm
Coverage (6 hrs)	120 HHs/ Commercial Units
Re-deployment (2 hrs)	The vehicle will be re-deployed for intensive cleaning

Table 5: Norms followed for the primary collection of all waste using a Push Cart



REQUIREMENT	NORMATIVE STANDARD
Allotment of Vehicle	1 Auto Tipper for 1 Block (750 to 1000 Households and Shops)
Allotment of Additional Vehicles (for Natural Market areas / designated Markets)	Auto Tippers as per waste generated
Special (for Slum Areas where Auto Tipper has no access)	1 Push Cart for 120 Households and shops
Vehicle	<p>AUTO TIPPER: Four wheeled, Tipper Vehicle Collection volume 1.2 cum Painted Green Fitted with Mike, PA system Fitted with GPS 1 Driver and 1 Helper with uniforms (colour coded T Shirt, Pant, Gloves) Display Ward and Block Number</p> <p>PUSHCART: Four wheeled Painted Green 1 Pourakarmika with uniform Display Ward and Block Number</p>

Table 6: Vehicle and Manpower Allotment and specifications for Primary Collection of Wet and Domestic Hazardous Waste

2.2.2.2. DRY WASTE CYCLE

Dry waste is collected by the DWCC Vehicle on a bi-weekly basis. One vehicle is assigned per 1750 households/units for the collection of Dry Waste. The process for collection of dry waste is shown in Figure 09 and the normative standard is listed in Table 7. The vehicle specifications, allotment of manpower, tools and equipment, uniform and other details are attached in Table 8.

Vehicle	1 Auto Tipper/Luggage Auto (modified Box Auto)
Waste Streams	Dry
Equipment	Jumbo bags
Frequency	Bi-weekly from households Daily from small commercial establishment generating large volumes of dry waste
Timing	6:45 – 10:45 am (households) 11:15 am to 02:00 pm ⁷ (Small commercial units)
Coverage (6 hrs)	1750 HHs / Units (including commercial)
Additional Deployment (in case of Commercial Areas)	
Timing	4:00 – 10:00 pm
Coverage (6 hrs)	1750 Units
Destination	Ward Dry Waste Collection Centre

Table 7: Norms followed for the primary collection of dry waste

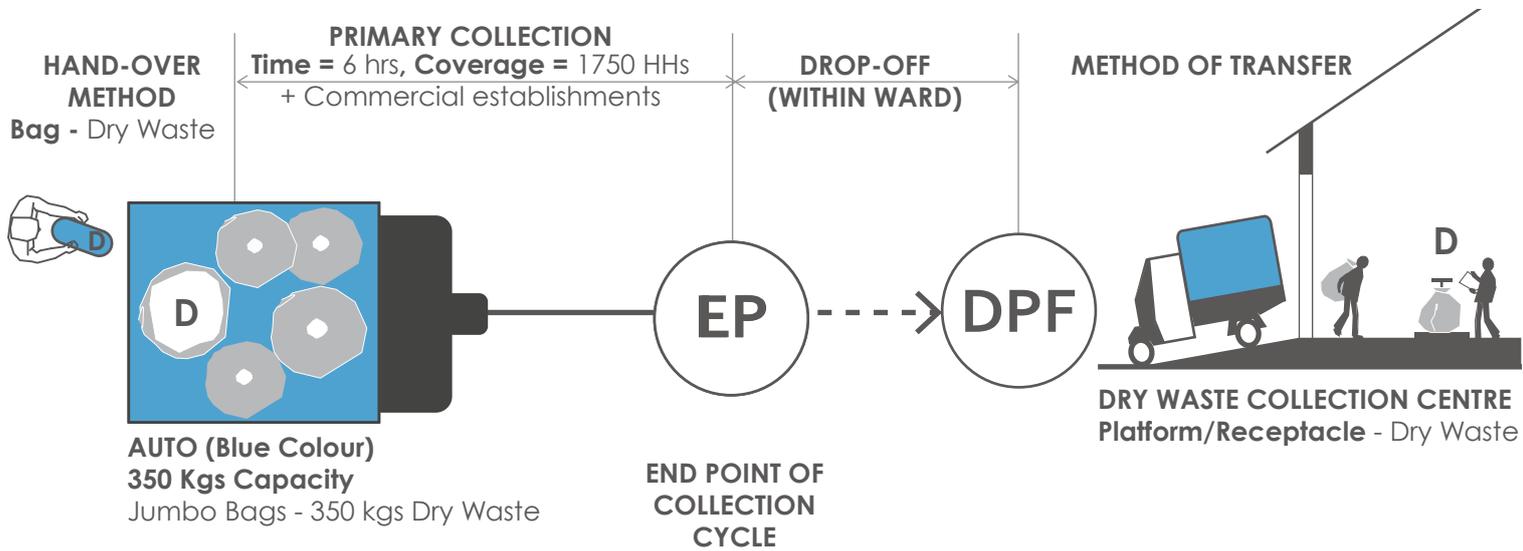


Figure 9: Process diagram for the collection of dry waste

REQUIREMENT	NORMATIVE STANDARD
Vehicle Allotment	1 Box Auto for 1750 Households and Shops
Allotment of Additional Vehicles (for Commercial / Market Areas)	1 Box Auto for 1750 Shops in Commercial Blocks
Vehicle	BOX AUTO: Four wheeled , Non -Tipper Vehicle Collection volume 2.7 cum Painted Blue Fitted with Mike, PA system Fitted with GPS 1 Driver and 1 Sorter with Uniforms (colour coded T shirt, Pant , gloves) Display Ward and Block Number

Table 8:: Vehicle and Manpower allotment and specifications for Primary Collection of Dry Waste

2.2.2.3. STREET SWEEPING AND CLEANING

Street sweeping will be done both manually through Pourakarmikas and using a mechanical sweeper. Mechanical Sweepers will be allotted to Arterial Roads in the city which fall under the Major and Intermediary Road Categories. The remaining roads will be swept manually. Additional exceptions will be made incase of Special Areas (Commercial, Market, Slums and High Profile Areas) where additional deployment will be required.

Norms have been established for both situations. The vehicle specifications, allotment of

manpower, tools and equipment, uniform and other details are attached in Table 11.

MANUAL STREET SWEEPING

Pourakarmikas are allotted for Street Sweeping of Major, Intermediate and Minor Roads. The process for the manual sweeping of roads is shown in Figure 10 and the normative standard for the sweeping and the collection of sweeping waste is listed in Table 9 & 10.

Vehicle/ Manpower	1 Pourakarmika
Waste Streams	Inert / Leaf Waste
Equipment	Brooms, Jumbo bags
MAJOR ROADS	
Frequency	Daily
Timing	6:45 – 10:45 am 11:15 am to 02:00 pm
Coverage	0.35 km (4 hrs)
Re-deployment	Remaining 2 hrs the PKs will be re-deployed for gang work, intensive cleaning, cleaning of burial grounds, vacant sites, open grounds, etc.
INTERMEDIATE ROADS	
Frequency	Daily
Timing	6:45 – 10:45 am 11:15 am to 02:00 pm
Coverage	0.5 km (4 hrs)
Re-deployment	Remaining 2 hrs the PKs will be re-deployed for gang work, intensive cleaning, cleaning of burial grounds, vacant sites, open grounds, etc.
MINOR ROADS	
Frequency	Bi-weekly
Timing	6:45 – 10:45 am 11:15 am to 02:00 pm
Coverage	0.5 km (4 hrs)
Re-deployment	Remaining 2 hrs the PKs will be re-deployed for gang work & intensive cleaning - burial grounds, vacant sites, open grounds, etc.

Table 9: Process followed for the collection of street sweeping waste using a tipper

Vehicle	1 Auto Tipper (Redeployment)
Waste Streams	Inert / Leaf Waste
Equipment	Jumbo bags
Frequency	Daily
Timing	11:15 am to 02:00 pm
Coverage (2 hrs)	10 kms (2 hrs)

Table 10: Norms followed for the manual sweeping of roads by PKs and collection using an Auto Tipper

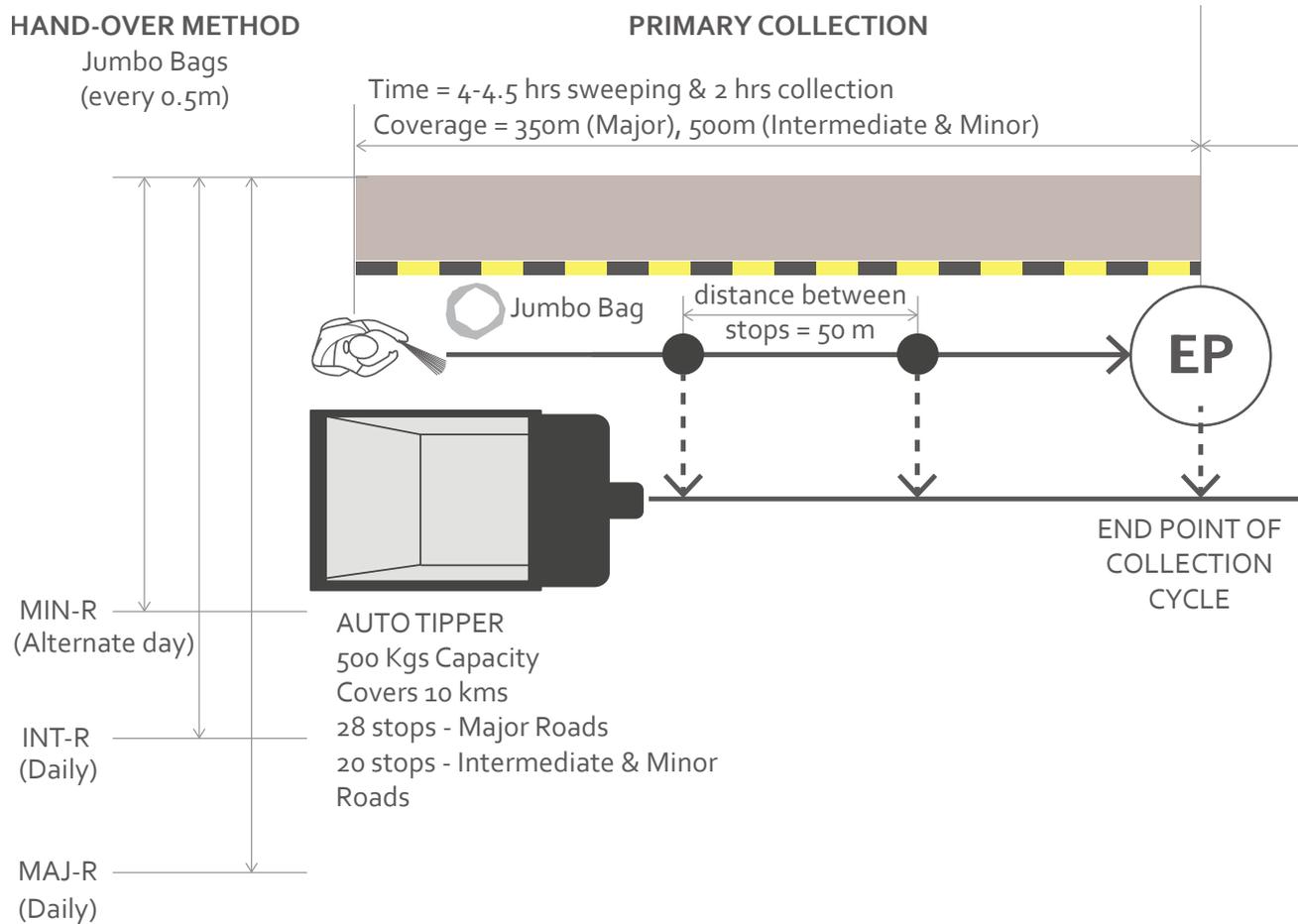
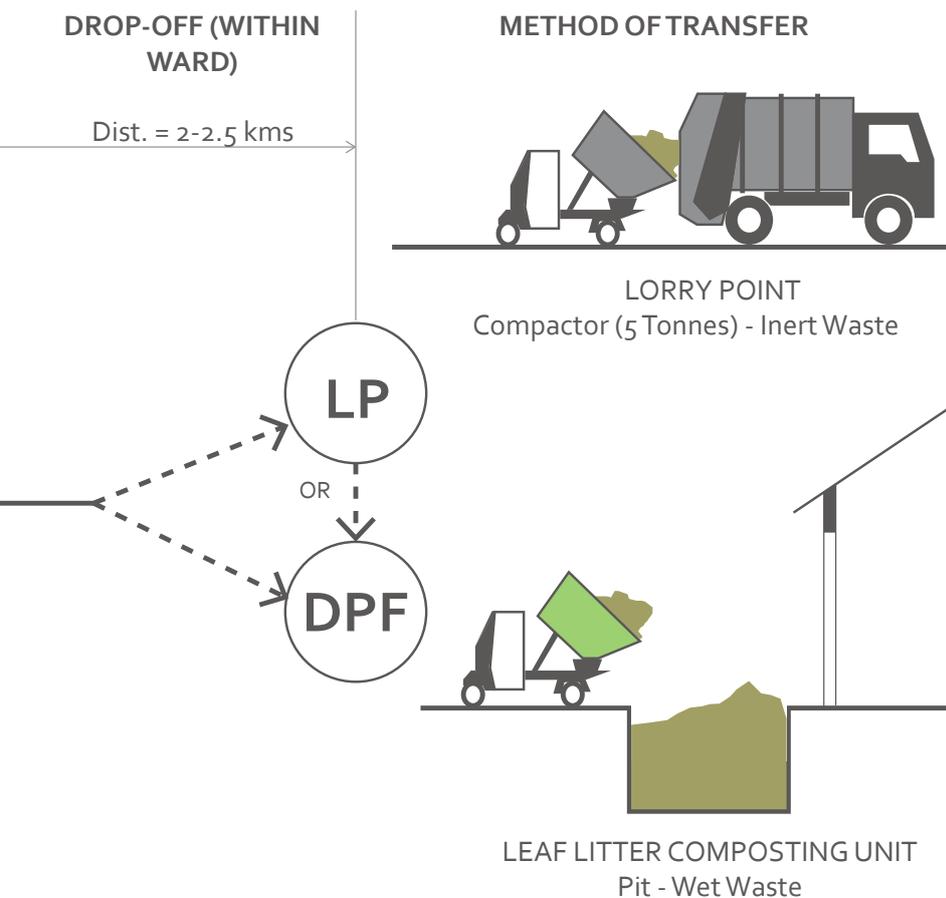


Figure 10: Process diagram for manual sweeping of roads

REQUIREMENT	NORMATIVE STANDARD
Manpower Allotment	Major Road Street Sweeping : 1 PK for every 350 metres - Daily Intermediate Road Street Sweeping : 1 PK for every 500 Metres - Daily Minor Road Street Sweeping : 1 PK for every 500-750 metres - Twice a week Additional 16% of actual requirement to be added as Leave reserve
Additional Manpower Allotment	Minor Road Street Sweeping : 1 PK for every 500-750 Metres - Daily Additional 16% of actual requirement to be added as Leave reserve
Allotment	Pourakarmika (PK) to be assigned with a Road ID With Uniforms (colour coded Coat, mask, gloves, shoes) With Tools and Equipments (Broom, rake, weeder, Leaf Bag)

Table 11: Vehicle and Manpower allotment and specifications for Street Sweeping



MECHANICAL STREET SWEEPING

Mechanical Sweeping Machines will be used for key arterial roads identified within each Zone. However since these machines are unable to access and clean footpaths, Pourakarmikas will be appointed to clean the footpaths along these roads. The process is shown in Figure 11.

Vehicle	Mechanical Sweeper
Waste Streams	Inert Waste
Equipment	-
Frequency	Daily
Timing	10:00 pm – 6:00 am
Coverage (8 hrs)	12.5kms (Major Roads) / 25 kms (intermediate Roads)

Table 12: Norms followed for the Mechanical sweeping of roads

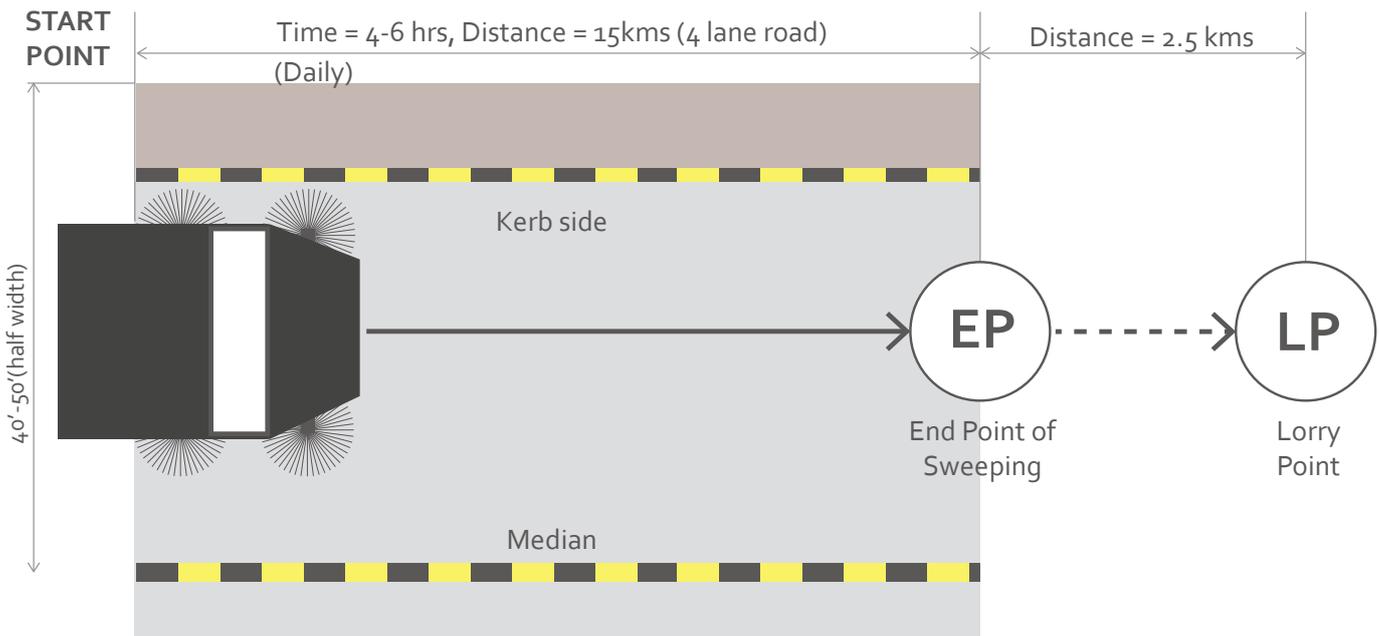


Figure 11: Process diagram for mechanical sweeping of roads

REQUIREMENT	NORMATIVE STANDARD
Mechanical Sweeper (Machine)	Major Road Street Sweeping : 12.5 kms(with median) or 25kms (without median) Intermediate Road Street Sweeping : 12.5 kms(with median) or 25kms (without median)
Normal	Major Road Street Sweeping : 1 PK for every 1 Km - Daily Intermediate Road Street Sweeping : 1 PK for every 1 km - Daily Additional 16% of actual requirement to be added as Leave reserve
Allotment	Pourakarmika (PK) to be assigned with a Road ID With Uniforms (colour coded Coat, mask, gloves, shoes) With Tools and Equipments (Broom, rake, weeder, Leaf Bag)

Table 13: Vehicle and Manpower allotment and specifications for Street Sweeping

TRANSITION FROM INTERIM TO FUTURE PLAN FOR STREET SWEEPING

As per the future plan, we will be using Mechanical Sweepers for Major and Intermediate road and PKs for sweeping of all Minor roads (alternate day), as per the above mentioned norms. The Agency deploying Mechanical Sweepers will also be responsible for the cleaning of Footpaths and Drains alongside Major and Intermediate Roads. However due to the need to shift from Mechanical to Manual Sweeping, till the procurement of Mechanical Sweepers, INTERIM PLAN has been established with a change in frequency. PKs will be deployed on a daily basis to sweep Major and Intermediate roads, but there will be a reduction in **frequency of sweeping all minor roads (alternate day, bi-weekly and once a week)** as per what is currently given by the respective wards.

2.2.3. SECONDARY TRANSFER AND TRANSPORTATION

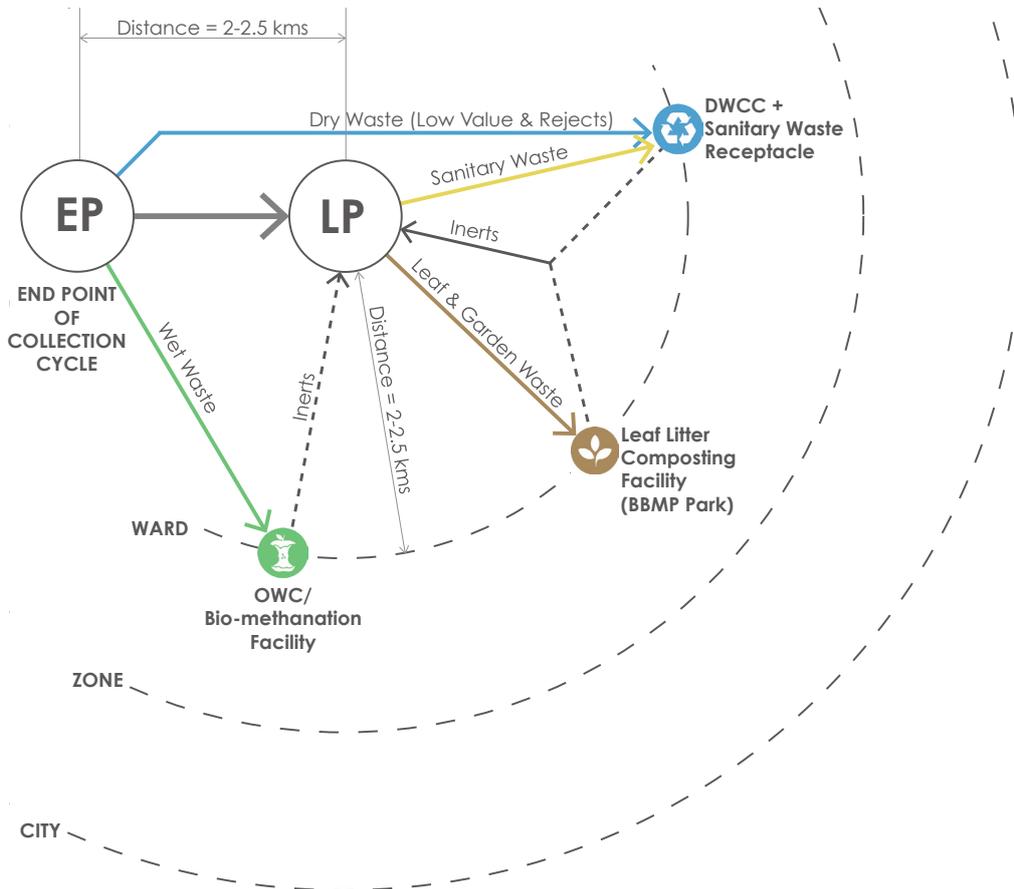
2.2.3.1. PROCESS FOR THE SECONDARY TRANSFER OF WASTE BY STREAM

Transfer of waste will be done at designated transfer points and DWCCs which have been identified at the ward level. The following are transported:

WASTE STREAM	DROP-OFF/ TRANSFER LOCATION	PICK-UP/ DROP OFF VEHICLE	DESTINATION
Domestic Hazardous Waste	DWCC	Picked up by Sanitary Waste Vehicle (Private Agency)	Sanitary Waste Processing Facility (Private)
Dry Waste (low-value)	DWCC	Dropped off by DWCC vehicle	Aggregation Centres
Wet Waste	Transfer Point/ Station	Transferred into 10 tonne Compactor	Integrated Waste Management Yards
Reject/Inert Waste	Transfer Point	Transferred into 5 tonne Compactor	Sanitary Landfill

Table 14: Normative standards for Dry waste, domestic hazardous waste and secondary transportation

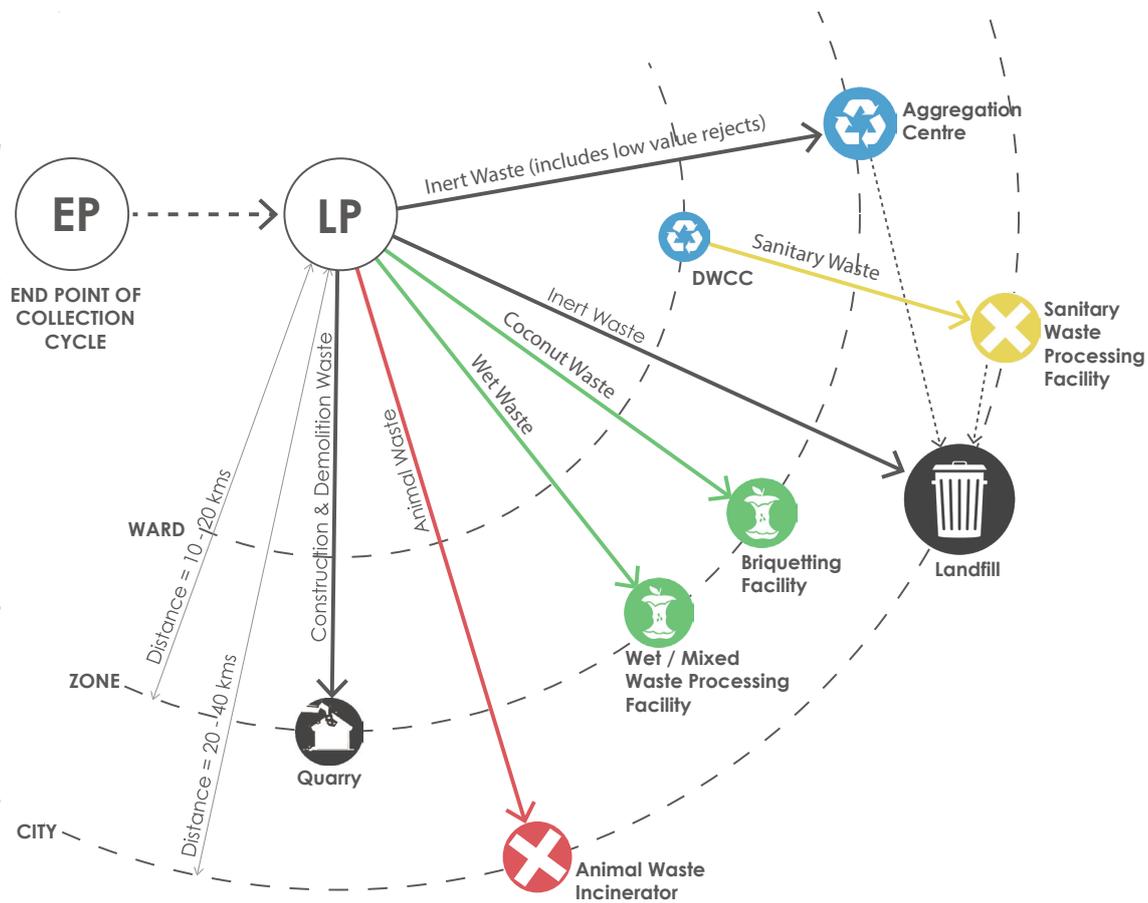
The transportation of waste within the ward to the decentralised facilities and transfer points/stations are shown in Figure 12.



VEHICLE	GENERATOR	DROP-OFF
DRY WASTE		
Luggage Auto	Residential	EP-----> DWCC
Auto Tipper	Commercial	
SANITARY WASTE		
Auto Tipper	Residential	EP-----> DWCC
WET WASTE & % ALL WASTE SEPARATELY		
Auto Tipper	Residential	EP-----> OWC/ BMU
	Commercial	
REJECT WASTE		
Auto Tipper	Residential	EP-----> LP (Compactor)
	Commercial	

Figure 12: Transportation of waste within the ward

The transportation of waste outside the ward to the Divisional, Zonal and City facilities are shown in Figure 13.



VEHICLE	DROP-OFF
WET WASTE	
Compactor (10 tonne)	LP -----> Central Processing Facility
ALL WASTE	
Compactor (10 tonne)	EP-----> Central Processing Facility
REJECT WASTE	
Compactor (10 tonne)	LP-----> Landfill/ Quarry

Figure 13 Transportation of waste outside the ward

2.2.3.2. TRANSFER POINTS AND STATIONS

For the secondary Transfer of Waste from the Primary to the Secondary vehicle, 2-3 points have been identified per ward as informal locations - by the side of the road, vacant sites and in front of decentralised waste facilities. The lack of defined methods/processed results in several issues on ground, such as garbage on ground, creation of black spots, resident opposition, etc.

Therefore, the city aims to move from multiple informal points to a single built transfer station for every 2-3 wards (Figure 14). Normative standards have been established for both Transfer Points (Table 15) and Transfer stations (Table 16). Schematic layout is attached in Annexure I.



SHED WITH 2-3 PORTABLE REFUSE STATIONARY COMPACTORS



TRUCK MOUNTED HOOKLOADER FOR TRANSPORTATION

Figure 14: Transfer station (Source: Kolkatta City Municipality)

Vehicle Allotment (Wet Waste)	14 cu.m. (8-10 Tonne) Compactors (allotted based on quanta and no. of Trips) Destination: Wet Waste Processing Unit
Vehicle Allotment (Mixed Waste) - Interim	14 cu.m. (8-10 Tonne) Compactors (allotted based on quanta and no. of Trips) Destination: Quarry (interim provision till 80% segregation is Achieved)
Vehicle Allotment (Reject/ Inert Waste)	14 cu.m. (8-10 Tonne) Compactors (allotted based on quanta and no. of Trips) Destination: Quarry
Additional Vehicle allotment	For Evening or Night Collection from: <ul style="list-style-type: none"> • Natural Markets/Market Areas • Commercial Areas Destination: Wet Waste processing Unit
Vehicle and Manpower specifications	8-10 Tonne capacity (14 cu.m.) 1 Driver , 1 Cleaner (Colour coded Uniform) Signage with Ward Number
Location and Process for Transfer (Lorry) Point	<ul style="list-style-type: none"> • Vehicle to Vehicle transfer (no garbage on ground) • Transfer Point on Roads or empty land (avoid Major Roads) • Without hindering vehicular movement • Concrete mat to prevent damage to the road surface and allowing for leachate run off

Table 15: Vehicle and Manpower allotment and specifications for Transfer/Lorry Points

Vehicle Allotment (Wet Waste)	16 cu.m. (10-12 Tonnes) Stationary Compactors (allotted based on quanta and no. of Trips) Destination: Wet Waste Processing Unit
Vehicle Allotment (Mixed/ Reject/ Inert Waste)	16 cu.m. (10-12 Tonnes) Stationary Compactors (allotted based on quanta and no. of Trips) Destination: Quarry
Infrastructure, Vehicle and Manpower specifications	Infrastructure: <ul style="list-style-type: none"> • Shed with Leachate treatment facility and Signage with Ward Number 10-12 Tonne capacity (16 cu.m.) Stationary Compactor Manpower: 1 Operator, 1 Cleaner Vehicle: Hook Loader Manpower: 1 Driver , 1 Cleaner (Colour coded Uniform)

Table 16: Vehicle and Manpower allotment and specifications for Transfer Stations

2.3. SPECIAL WASTE MANAGEMENT

2.3.1. LEAF WASTE

Leaf waste can be collected and processed as per the specific area requirement, where there is dense foliage. The quantum of Leaf waste generated is usually seasonal and is collected as a part of the street sweeping cycle. This can be taken directly to a Leaf Litter Processing Facility or cut and composted in a nearby BBMP park using a leaf shredder/cutter. A Case study for the process of collection and the setting up of a unit attached as Annexure II.

2.3.2. E-WASTE

E waste will be collected with by the Dry waste collection vehicles and stored in the Dry waste Collection centre. The DWCC will route the E waste through the designated E waste recyclers. CFLs, Tubes will also be collected through the DWCC.

2.3.3. ANIMAL WASTE

Animal waste largely includes waste from slaughter houses and poultry and chicken waste. These are to be collected using separate vehicles and transported to a vacant land for deep burial. Locations for the same are to be identified at Zonal Level. Current interim location has been identified at Kogilu bande.

2.3.4. COW DUNG CLEANING

Cow dung can be collected by the Block Wet waste vehicles and the same can be sent either to the ward biomethanation plant or sent along with the Wet Waste compactor to the wet waste processing units.

2.3.5. FESTIVAL WASTE

Festival seasons generate many more times of normal waste and need special arrangements. The nature of the waste stream also need different collection mechanisms.

- Ganesha Festival management includes widespread publicity to promote the use of econ ganesha and moving away from POP ganeshas , setting up mobile immersion ponds, recording the number of and type of Ganesha idols used, removing the flowers and biodegradable material before immersion of the idol and sending ht esame for compostin, , C& D destination assigned for the dredged immersion material of POP and clay
- Bakrid waste management includes widespread publicity through Masjid networks, special collection vehicles for collection of animal waste and sending the same to specially designed destinations for burying the animal waste.
- Additional planning and deploying of collection vehicles in the market areas for collection of the additionally generated waste material post festival sales of banana leaf, sugarcane, flowers etc.

Case study attached in Annexure III.

2.3.6.PLASTIC DISPOSABLES

Karnataka has with its very progressive ban on the use of Plastic single use plastic has been able to bring source reduction in the generation of plastic which creates a huge nuisance in blocking drains and flooding and finding its way to landfills.

The ban has promoted

- the shift from plastic carry bags to paper bags
- the use of reusable cutlery in hotels and restaurants
- the improvement in packaging in the case of take aways

This ban has to be enforced with periodic seizing of plastics and fining as per the order attached in Annexure IV.

2.4. DEPLOYMENT AND SCHEDULING

The deployment and activity schedule for primary and secondary collection and transportation is shown in Table 17.

1 st hr	2 nd hr	3 rd hr	4 th hr	BREAK	5 th hr	6 th hr
<p>Household Collection: Primary Collection & Transportation 1. Wet, Sani & Rejects – Daily - AT 2. Dry Waste – Bi-weekly (by DWCCs) – AT/LA</p> <p>Dry Waste and Sanitary Waste - Transported to DWCC Wet and Reject Waste – Transported to Transfer Station/Lorry Point</p>					<p>Small Commercial Est.: Primary Collection & Transportation – Wet Waste (Daily) and Dry Waste (bi-weekly); <i>Redeployment of Vehicles used for HHs (Wet and Dry)</i></p> <p>Street Sweeping: Auto Tippers used to collect the gathered silt from bags <i>Redeployment of Vehicles used for HHs (Wet)</i></p> <p>Other works (Vehicles): Pick up of waste from conservancy lanes, Festivals, Special streams coll. (green, garden, animal, coconut, cow dung, etc.), Burial Grounds & Play Grounds</p> <p>Other works (Sweepers): Tertiary drains, open grounds (burial grounds and play grounds), gang work, intensive cleaning in their mustering blocks <i>If required, additional primary vehicles need to be deployed</i></p>	
<p>Street Sweeping Major & Intermediary Roads – Daily Minor Roads – Bi-weekly* * Undeveloped/Mud roads in outer regions will be swept once a week or fortnightly based on MSW generated</p>						
<p>Secondary Transportation (Rejects & Wet Waste) – Parallel Activity</p>						

Table 17: Deployment and scheduling

2.5. MONITORING AND REPORTING

The monitoring and reporting system to ensure check and balances in the system, include a combination of auto mated tracking systems (GPS tracker, biometric), Applications and Digital update via a website, Some of the systems already set up are as listed below:

2.5.1. BIOMETRIC ATTENDANCE

To capture the daily attendance of the Pourkarmikas , the Biometric attendance has been introduced in an ongoing way in all the 198 Wards . Each Ward has identified 2-3 mustering points , where the Biometric is managed by the BBMP Ward Daffedar. The Biometric database will additionally capture the ESI, PF Bank account and Aadhar details of the Pourakarmika.

2.5.2. CLEAN BENGALURU APP

The features of the CLEAN Bengaluru App are listed below, and the screen shots of the same are shown in Figure 15.

- Citizen can register and report any garbage related issues.
- BBMP Officers at the Ward Level for the concerned Ward (AE, Health Inspectors) will get SMS on request/complaint submission. No Call Centre Involvement.
- Ward Officers can view the request, can update the request with resolution and photos and finally close the request.
- Citizen/ Requester get SMS as request progress from one status to another.

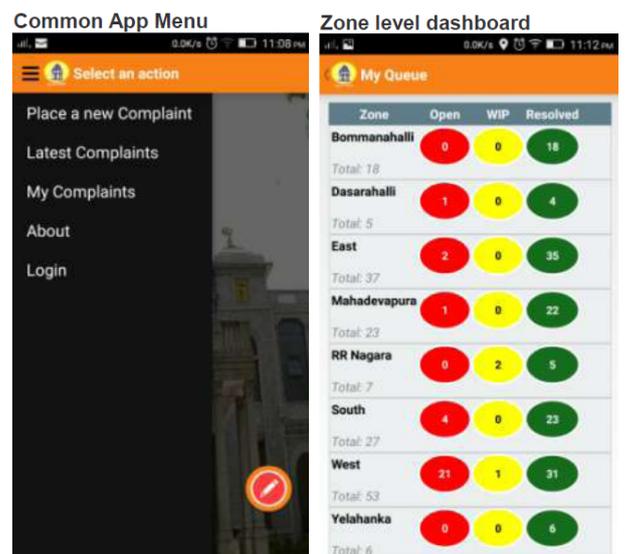


Figure 15: Screenshots of the CLEAN Bengaluru App

2.5.3.SHUCHI MITRA APP

The features of the Shuchimitra App are listed below, and the screen shots of the same are shown in Figure 16.

- Shuchimitra Team to capture daily reporting
- Report Waste Details
- Report Attendance Details
- Add photos at the Location

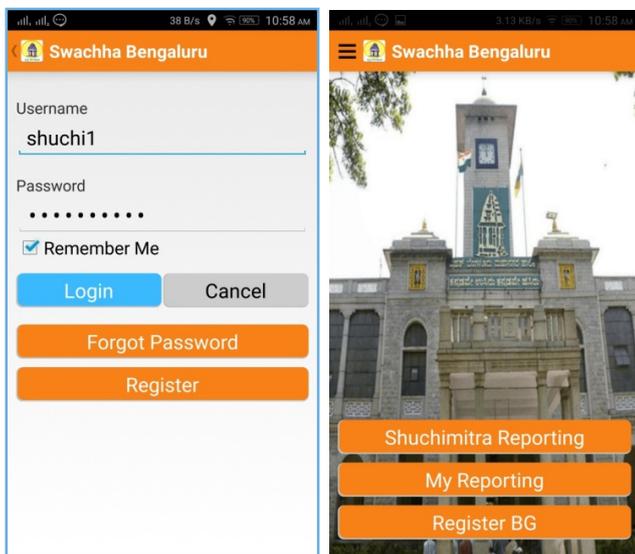


Figure 16: Screenshots of the Shuchi Mitra App

2. 5.4. COMPLAINT REDRESSAL

As per the Amendment to the KMC Act, the fining powers have been delegated to the Junior , Senior Health Inspectors, Assistant Executive Engineers-SWM.

They are empowered to issue notices and levy the fines as per the Schedule of fines for non-compliance. The fines to be charged as per the offense, are attached in Annexure V

2.5.5. BG-NET

BG – Net, an abbreviation of Bulk Generator Network, and is an online portal where all information of the Bulk Generators on how they manage their waste is recorded including the details of the inhouse Waste management systems, their empanelled vendors for the various waste streams . Every Bulk Generator is required to be registered on the BG- Net and receive a BG Code. This information will be updated on an annual basis.

2.6. BULK GENERATOR MANAGEMENT

The BBMP Bulk Generator Notification issued in August 2013 broadly classifies the Bulk Generators as Domestic (Residential greater than 50 units) and Commercial (generating more than 10kgs a day) and requires that the Bulk Generators carry out in situ management of organic waste and handing over of garden-horticulture waste, sanitary waste , dry waste and e-waste to empaneled vendors.

In order to give a thrust and incentivize the Bulk Generators to carry out the in-situ programme it was proposed in the Budget 17-18 that a rebate of 50% of the SWM Cess can be availed. It is therefore proposed that for the Property Tax payable in April 2018, SWM Cess Rebate of 50% can be availed by the generators listed in Table 18. In order to avail the Cess Rebate, the following will be required to be done by the Bulk Generator:

- Register their details online on BBMP BG Net portal, on doing so, they will receive their unique code, which will link with their property tax details.
- Provide proof of operations on setting up of the in-situ infrastructure through a self-declaration form. This will be further inspected on field by the AEE (SWM) or Health Inspector, who will then issue a Compliance Certificate.

The BG will be eligible only on the submission of both these documents.

A Comprehensive information on the roles and responsibilities of the Bulk Generators and the Empanelled Destinations is provided

in the Annexure XI in the form of FAQ (Frequently answered Questions)

1. Residential – Apartments, Multi-dwelling units and Gated Communities
2. Company
3. Hotel
4. Restaurant
5. Choultry
6. Educational Institutes
7. Mall
8. Supermarket
9. Paying Guest
10. Club
11. Caterer
12. Auditorium
13. Shops

Table 18: Indicative list of BGs who can avail a Cess Rebate on setting up of an in-situ processing facility

2.7. IEC AND AWARENESS

2.7.1. COMPOST SANTHE

Compost Santhe is an initiative started by the BBMP in February 2017. The intent of initiative is to build awareness and waste minimization henceforth reduces burden on landfills. Also, santhe brings together citizens, political leaders and the administration at the community level which helps build a stronger governance system on ground. At every Santhe, attendees receive hands-on training on easy home composting techniques with demos of various composting and kitchen solutions exhibited by 30-40 stalls vendors.

It is proposed for these to be held atleast 3-4 times a year. Images from the same are shown in Figure 17 and a case study is attached in Annexure VI.

2.7.2. BLACK SPOT CLEANING

Black spot cleaning initially began where citizens would engage with officials and Pourakarmikas to clean up and beautify chronic spots in their ward where there was accumulation of waste. This was then popularised by citizens who choose to be anonymous (called the Ugly Indian) started in the year 2010. The cleaning of Black Spots involves the following process:

- Identify & classify black spots based on the characteristics and causality in the ward
- Geo-locate all black spots
- Ideate solutions for each type of cause (lack of collection,
- Estimate the cost break up for:
 - o Elimination of spot
 - o Implementation of solution



Figure 17: Ward Level Compost Santhes held in the City

- o Maintenance of spot (if required)
- Engage local RWAs and Schools for being a part of the Clean Up.

Images from a few black spot cleaning drives are shown in Figure 18. A case study is attached in Annexure VII.



Figure 18: Blackspot Cleaning Drives in the City, by multiple groups

2.7.3. PLASTIC BAN

Awareness programs on preventing the use of plastic products like bags, straws, cutlery, etc. has to be targeted at both consumers (citizens) and the commercial entities (shopkeepers, vendors, wholesalers, retailers, traders, hawker, salesman, delivery agencies, etc.) selling them. Door to flyers and small workshops to educate user and showcase alternate options must be done at the ward level along with Shuchi Mitras

and Link workers.

2.7.4. SCHOOL PROGRAMS

A number of focused initiatives have been undertaken with Government and Private Schools, Colleges and Academic institutions. Segregation drives, setting up of composting facilities and special awareness programs for Eco Ganesha and Green Diwali have been especially successful and received massive participation. Special books like Trashonomics designed for School students have been launched with intensive training programs for bringing in awareness and behavior change.

2.7.5. COMMUNITY ENGAGEMENT

Multi stakeholder initiatives in various Wards have seen resounding success in various Wards of Yelahanka, Malleswaram, HSR Layout, Kormangala. Comprehensive programs for promoting plastic ban of carry bags, home composting, zero waste weddings and public functions, temple waste management has seen widespread adoption. Setting up of inhouse programs in gated communities, Public sector residential colonies has been facilitated by providing information and support.

2.8. ROLES & RESPONSIBILITIES

2.8.1. WARD COMMITTEES

As per the KMC (Amendment) Act, 2011, the functions of the Ward Committee are as listed below:

- It shall forward proposals for schemes and development programmes to be implemented in the area, to the Ward Committee, or in its absence to the Corporation, for inclusion in the ward development scheme and programs and schemes implemented by the Corporation.
- It shall select eligible persons from the area for beneficiary oriented schemes of the Corporation and forward the same for approval of the Ward Committee or in its absence, to the Corporation.
- It shall cross verify the eligibility of persons getting various kinds of welfare assistance from Government such as pensions and subsidies and submit list of ineligible beneficiaries, if any, to the Ward Committee or in its absence, to the Corporation.
- It shall support tax mapping and to remind and encourage Area Sabha members of their obligations to pay municipal taxes and user charges.
- It may identify the deficiencies in the water supply and suggest remedial measures.
- It may identify deficiencies in the sanitation arrangements and suggest remedial measures.
- It may identify the deficiencies in the street lighting arrangements and suggest remedial measures.
- It shall impart awareness on matters of public interest such as cleanliness, preservation of the environment and prevention of pollution and parks and such other public amenity schemes in the area.
- It may assist the activities in public health centers in the area, especially in disease prevention and family welfare and create awareness and to report outbreak of epidemics and natural calamities.
- It shall provide and mobilize voluntary labour and contributions in cash and kind for development programmes and to supervise such development works through volunteer organizations.
- It shall promote harmony and unity among various groups of people in the Area and encourage cultural and sports activities;
- It may co-operate with the Ward Committee in discharging of any functions assigned to it. and
- It shall perform such other functions as may be assigned to it by the Corporation in accordance with the bye-laws.

2.8.2 ASSISTANT EXECUTIVE ENGINEER (AEE) - SWM

The roles and responsibilities of Divisional AEEs are as listed below:

- AEE – SWM should report to the Zonal JCs & SEs.
- JHIs & PKs should report to the AEEs-SWM
- Should manage the solid waste management of the Division as per the SWM Rules 2016 and the Ward Micro plan
- Should be present at the mustering location by 6:00 AM and should take attendance of PKs, primary and secondary vehicles before 6:30AM. Should ensure attendance by 11:30am and third attendance at 2:30pm
- Is responsible for the preparation of the Ward Microplan & identifying of 2 shuchi Mithras in each block in co ordination with the Ward Committee.
- Should identify Shuchi mitras/NGO/RWA/SHG in each block. And involve them in SWM activities.
- Should schedule the daily routine of Link workers in creating door to door awareness
- Should ensure collection of wet waste daily and household domestic hazardous waste daily and dry waste collection twice a week
- Should supervise contractors and service providers to collect only segregated wet and domestic hazardous excluding waste from Bulk Generators.
- Should ensure identification of BGs, which are apartments >50 units and commercial establishments >10 kg waste generation units and their exclusion from the Door to door collection.
- Should ensure transportation of wet waste to the nearby wet waste processing facilities (Organic Waste converter, Bio Methanation Unit, and Waste Processing Plants) and dry waste to DWCCs.
- Should ensure the collection of segregated domestic hazardous waste and transportation of the same to the Bio-medical waste processing plants by biomedical agencies/BBMP compactor
- Should identify land for dry waste collection centres. And identify SHGs and Waste pickers.
- Should penalise under KMC act those who throw waste outside and create black spots.
- Should arrange to provide training to the shuchi mitras/RWA/NGO/SHG/contractors and PKs with the help of Master trainers.
- Should take an initiative to manage the Leaf litter waste in the same ward. With respect to above build pits in BBMP parks and make compost from it.
- Should ensure setting up of Ward Organic Waste converter, Bio methanation plants and Briquetting units. Should also ensure the proper O& M of existing facilities.
- Should verify bills of contractors/service providers/departmental bills and submit it to higher officials, before the 5th of

every month.

- Should ensure payments happen in a timely way to Pourakarmikas.
- Should ensure payment to Pourakarmikas on a timely basis along with ESI and PF. Should also verify the bills.
- Should take necessary steps Tenders can be called under KTPP act for solid waste cleanliness, collection and transportation.
- Should inspect and report requirements of tools and equipments, and vehicles and call for tenders where necessary
- Should follow notifications and directions given by the Head office

2.8.3.SOLID WASTE INSPECTORS

Solid Waste Inspectors are Junior health Inspectors (JHI) that include both permanent and temporary officials and Senior Health Inspectors.

Solid Waste Inspector (SHIs) work under AEEs (SWM) mainly for Bulk Waste Management and Market Areas in the Division/Ward
Solid Waste Inspector (JHIs) works under AEEs (SWM) & SHIs. PKs of the ward reports to the JHI.

The roles and responsibilities of the Solid Waste Inspectors are as listed below:

- Should manage the solid waste management as per the SWM Rules 2016 and the Ward Micro plan.
- Should be present at the mustering location by 6:00 AM and should ensure attendance of PKs, and of the primary and secondary vehicles before 6:45a.m.. Second attendance should be completed by 11:15 a.m. and third attendance at 2:30p.m..
- Should ensure Link Workers identify 2 Suchi Mithras in every Block in consultation with Ward committee and RWA members
- Should work in co ordination with the Suchi Mithras, Ward Co ordinators and RWAs
- Should schedule the daily routine of Link workers in creating door to door awareness.
- Should ensure segregation of waste into

Wet , Dry and Sanitary and its separate collection . Collection of wet and sanitary waste on a daily basis, Dry waste twice a week , excluding the Bulk generator waste.

- Should supervise contractors and service providers collect only segregated wet and domestic hazardous waste from Households and exclude waste from BGs.
- Should ensure to separate BGs, which are apartments >50 units and commercial establishments >10 kg waste generation units.
- Should ensure transportation of wet waste to the nearby wet waste processing facilities (Local OWC facilities , Bio Methanation Unit & Waste Processing Plants)
- Should ensure collection of segregated domestic hazardous waste and transportation of the same to the Bio-medical waste processing plants by biomedical agencies/BBMP compactor
- Should identify land for dry waste collection centres. And identify NGO, SHG, Rag pickers
- Should ensure building the Organic Waste Converter (OWC) at ward level.
- Should ensure DWCC has an MOA with BBMP to facilitate door to door collection from Households twice a week
- Should penalise under KMC act, those who throw waste outside and create black spots.
- Should prepare and process the files relating to Solid waste management .
- Should provide training to the Suchi

mithras/RWA/NGO/SHG/contractors and PKs with the help of Master trainers.

- Should ensure that the dry leaves generated in the wards should be collected and composted in the ward parks
- Should ensure setting up of Ward Organic Waste converter, Bio methanation plants and Briquetting units .Should also ensure the proper O& M of existing facilities.
- Should ensure payments happen in a timely way to Pourakarmikas direct to their bank account and ensure deduction of ESI and PF
- Should verify bills of contractors/service providers/departmental bills and submit it to higher officials, before the 5th of every month.
- Should inspect and report requirements of tools and equipments, and vehicles to the higher officials
- Should respond to the citizen complaints and should follow notifications and directions given by the Head office.

2.8.4.LINK WORKERS

The SWM Link workers will carry out the door to door SWM Public Outreach activities and serve as the link between the public and the BBMP SWM services. These frontline workers will be trained as per the training modules. The Link Workers will start door to door awareness creation once they are trained and have completed the mapping of households will carry out surveys, assessments, demos and work to create door to door awareness among citizens, bulk waste generators and agencies involved in handling of municipal solid waste through face to face interactions giving information on collection process, requirements of segregation at source, home composting, No Plastic information.

A total of 360SWM Link Workers will be assigned across , with each Constituency being assigned 13 members.

OUTREACH INFORMATION:

- The SWM Link Workers shall provide information on (1) Collection Process (2) Quality of Segregation (3) Home/In situ composting methods (4) No plastic campaign
- Festival waste management
- Special streams of waste, like tender coconut, tailoring shops, hair cutting salons

COVERAGE AND ACTIVITY- Door to Door awareness - 6 Days a week

- Residential Blocks (9am to 1 pm)
- Commercial Areas (2-5pm)
- Target Coverage – 3 Blocks per Week (2 Residential Block)(1Commercial Block)

REPORTING SWM Link Workers Shall report to the SWM AEE and give the daily Activity Record every evening before leaving

FEEDBACK – SWM Link Workers shall

- (1)verify the Mapping information on the Block Map
- (2) Establish communication with the Suchi Mithra existing /note name and phone number of interested block resident who would like to volunteer as Suchi Mithra

DAILY ACTIVITY RECORD – Maintain a record of Blocks covered

- (1) Get a sign off on block coverage by the Suchi Mithra daily
- (2) Get a sign off on demo training, workshops by Master Trainer, as and when
- (3) Get a feedback from at least 3 of the residents of the Blocks visited daily
- (4) Submit the Daily Activity Record to the AEE every evening , before leaving
- (5) Give the names of interested block residents who would like to volunteer as Suchi Mithras
- (6) Maintain a Complaint register and record Block resident complaints

MONTHLY REPORT

- GENERAL REPORT
 - i. Collection
 - ii. Segregation
 - iii. Composting
 - iv. No plastic

- OTHER REPORTS
 - i. Provide the List of Suchi Mithra with details of Block no, phone no. Ward no
 - ii. Provide the List of Master Trainers with details
 - iii. Summary Feedback Report
 - iv. Summary complaint Report

2.8.5. SHUCHI MITRAS

Shuchi Mithra is the name given by the BBMP to a resident who volunteers to engage and participate in the monitoring and awareness creation of door to door collection , street sweeping that happens in the Block. BBMP will provide an ID to the Shuchi Mithra.

Shuchi Mithra will carry out door to door awareness on segregation at source, monitor the daily timely collection by the Autos and daily , timely sweeping by the Street sweepers in the Block.

BBMP will provide a Shuchi Mithra App , where the Shuchi Mithra will provide his feedback and status of collection and street sweeping on a daily basis.

BBMP will provide training periodically and the Shuchi Mithra will be supported in his role by Master Trainers, SWM Link Workers and the Ward Level Health Inspectors.

Those interested can apply in the given format and give their application to the Ward Office.

2.9. SERVICE AGREEMENTS - STRUCTURE AND TENURE

2.9.1. STREET SWEEPING

2.9.1.1. MANUAL STREET SWEEPING

The Pourakarmikas are engaged by the BBMP directly. The Pourakarmikas are monitored through the Biometric system and will be paid by the BBMP directly based on their daily attendance record.

2.9.1.2. MECHANICAL STREET SWEEPING

The Mechanical Sweepers will be tendered with a Lease condition supported with Operations and Maintenance, by the Leasing Agency, including supply of the manpower for the total Mechanical Sweeping operations. The proposed Lease period is five years.

2.9.2. COLLECTION AND TRANSPORTATION

2.9.2.1. PRIMARY COLLECTION –WET WASTE

The Primary Collection of Wet Waste will be carried out in any of the following ways;

- Self Help Groups (SHG) – Existing operations by SHGs, by blocks, will continue and can be encouraged to be scaled up for the total Ward. The BBMP will provide the Auto Tippers to the SHGs. The payment will be salaries of the manpower deployed and service fee. Where the SHG is only partially servicing the Ward, the remaining collection operations will be carried out by the BBMP only, through Department oper-

ations.

- BBMP –Department Operations – The BBMP will directly carry out the collection operation using vehicles procured on a Lease agreement basis directly from the Vehicle manufacturers, supported with Operations and maintenance of the vehicles, including supply of manpower for the Primary collection operations.
- Outsourced Contracts - The BBMP will issue tenders for the total outsourcing of the primary and secondary collection and transportation of the Ward to service providers/ contractors. The payment will be made for the total bid amount.

2.9.2.2. PRIMARY COLLECTION – DRY WASTE

The Dry Waste collection Centre (DWCC) operating in the Ward will be responsible for carrying out the door to door collection of Dry waste. The BBMP will procure and provide the Box Autos. No other payment will be made by the BBMP. The cost of manpower and vehicle running cost will have to be borne by the DWCC.

2.9.3. SECONDARY TRANSPORTATION

WET –MIXED WASTE MOBILE COMPACTORS

- a. BBMP –Department Operations – The BBMP will directly carry out the collection operation using vehicles procured on a Lease agreement basis directly from the Vehicle manufacturers, supported with Op-

erations and maintenance of the vehicles , including supply of manpower for the Secondary collection operations.

b. Outsourced Contracts - The BBMP will issue tenders for the total outsourcing of the primary and secondary collection and transportation of the Ward to service providers/ contractors. The payment will be made for the total bid amount for supply of vehicles and manpower.

TRANSFER STATIONS

c. BBMP –Department Operations – The BBMP will directly carry out the collection operation using vehicles procured on a Lease agreement basis directly from the Vehicle manufacturers, supported with Operations and maintenance of the vehicles , including supply of manpower for the Secondary collection operations.

SANITARY WASTE

The secondary transportaion will be carried out the by the designated Biomedical waste . The operations of the Wards will be tendered out . Payment will be made on the basis of volume .

ANIMAL WASTE

BBMP –Department Operations – The BBMP will directly carry out the collection operation using vehicles procured on a Lease agreement basis directly from the Vehicle manufacturers, supported with Operations and maintenance of the vehicles , including supply of manpower for the collection operations.

3

YOUR WARD MICRO PLAN

The process of creation on the Ward Micro Plan includes the following data sheets and information:

1. WARD DETAILS

- A ward template with details on number of Non-bulk generators (regular households and slums, small commercial establishments), Road Lengths, No. of block and total vehicle and man-power requirement for Wet and Sanitary Waste Collection, Dry Waste Collection and Street Sweeping
- Special Area details which require additional frequency of cleaning (ex. Commercial, Market and other Public Areas with high floating population, High Profile Areas and Slums)
- Road IDs
- Mustering locations

2. BLOCK DETAILS

- Block Template and Maps (including key ward map) which give all details of generators and boundaries within the block

3. STREET SWEEPING DETAILS

- Street Sweeping template with Pourakarmikas (PKs) and Mechanical Sweepers linked to Street IDs and their Ward Mustering location

4. BULK GENERATOR DETAILS

- BG Data Sheet
- List of empaneled vendors

3.1. WARD DETAILS

This following documents include the details of the ward:-

- 3.1.1. Ward Map
- 3.1.2. Ward Template
- 3.1.3. Special Areas: Commercial Areas
- 3.1.4. Special Areas: Slum Areas
- 3.1.5. Special Areas: Markets
- 3.1.6. Mustering Locations
- 3.1.7. Road IDs

[Data sheet attached separately]

3.1 WARD DETAILS

3.2. BLOCK DETAILS

This following documents include the details of the block:-

3.2.1. Block Maps & Data Sheets

[Data sheet attached separately]

3.2 BLOCK DETAILS

3.3. STREET SWEEPING DETAILS

This following documents include the street sweeping details :-

3.3.1. Pourakarmika allotment details

[Data sheet attached separately]

3.3 STREET SWEEPING DETAILS

3.4. BULK GENERATOR DETAILS

This following documents include the bulk generator details :-

3.4.1. Bulk Generator Data Sheet

3.4.2. List of empaneled vendors

[Data sheet attached separately]

3.4 BULK GENERATOR DETAILS

SECTION B

SWM FACILITIES

4

DECENTRALISED SWM FACILITIES

Decentralised smaller units of collection and processing will create savings on transportation costs and improved recovery. This has been recognised by the SWM Rules 2016 and by the progressive directions of the High court of Karnataka.

The various composting and biomethanation units that are installed and running in various parts of the City have shown that technology is dependable and capable of processing in small land parcels upto 5 tonnes per day of wet waste. Other types like coconut shredding facilities, briquette making have also seen some successful pilots. The list of the tried and tested technologies , so far , are given as an information starting point.

4.1. WET WASTE

Wet waste includes household kitchen waste , food waste from small hotels and bakeries and garden waste. In order to process this waste, the city encourages home composting solutions which is being showcased via ward level compost santhes. For city level processing of wet waste, we are using a combination of organic waste convertors (OWC) and bio-methanation units (BMU) as per ward requirement - small hotels and markets, and windrow composting in Waste Processing Plants(WPP) at zone level.

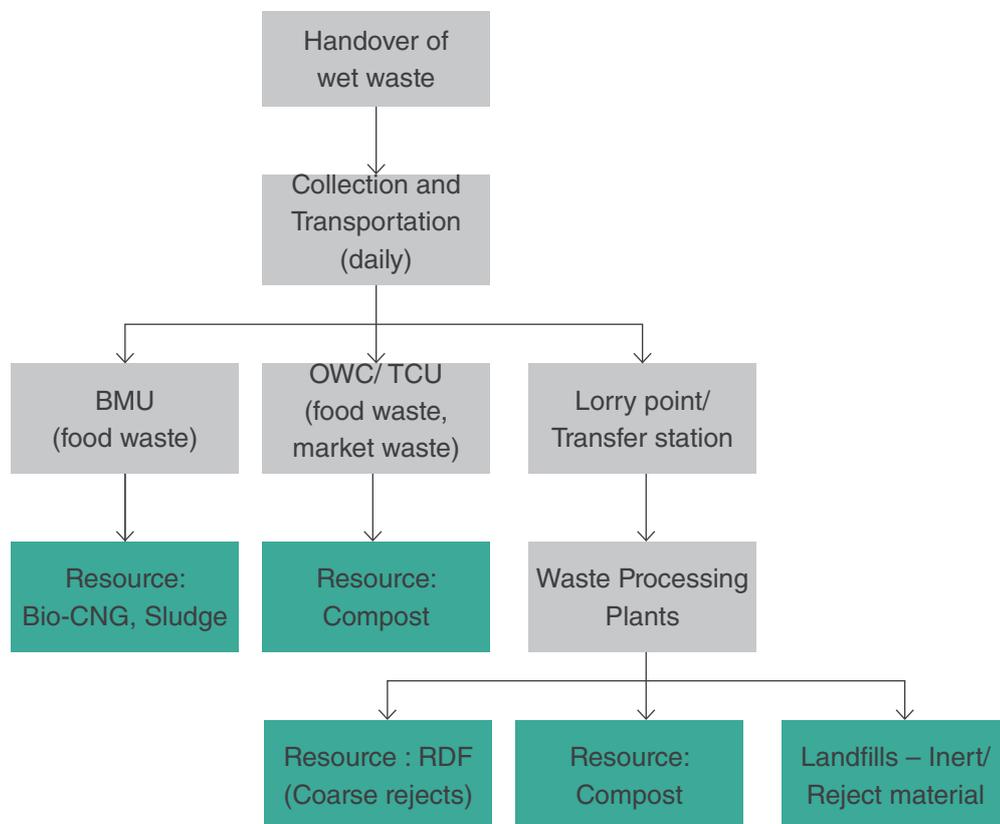


Figure 19:Wet waste flow diagram

4.1.1. ORGANIC WASTE COMPOSTING FACILITIES

The Organic Waste Converter (OWC) plant works on the principle of Aerobic Microbial decomposition of solid waste into compost. This is a Bio Mechanical process which produces a homogeneous odour free output.

STRUCTURE



Figure 20: OWC, Jayanagar



Figure 21: Racks inside the OWC



Figure 22: OWC machine

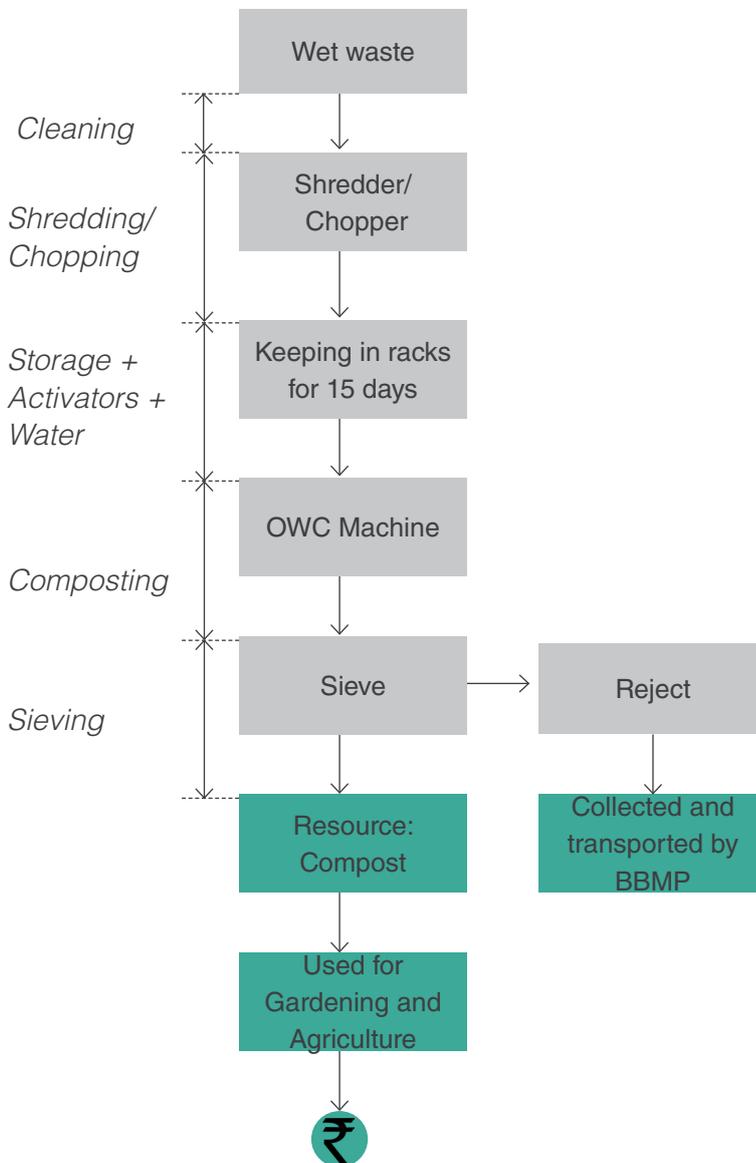


Figure 23: Wet processing flow

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : **BBMP**

Ownership : **BBMP**

Operation & Maintenance : **Agency/ SHG**

Daily reporting : **Operator (Agency/ SHG)**

SIZE & CAPACITY

SIZE ~220sq.m

CAPACITY ~1TPD

NUMBERS 7

4.1.2 BIO-METHANATION UNIT (BMU)

Bio-methanation is the anaerobic digestion of organic waste in an enclosed space under controlled conditions of temperature, moisture, pH, etc.

The overall performance of the unit is greatly influenced by the input feed specification, and the plant requires segregated wet waste (example hotel waste and market waste). The process converts the waste into bio-gas that can be used as fuel for households, automobiles and lighting.

STRUCTURE



Figure 24: BMU, KR Market



Figure 25: Segregation in the BMU



Figure 26: Digester in the BMU

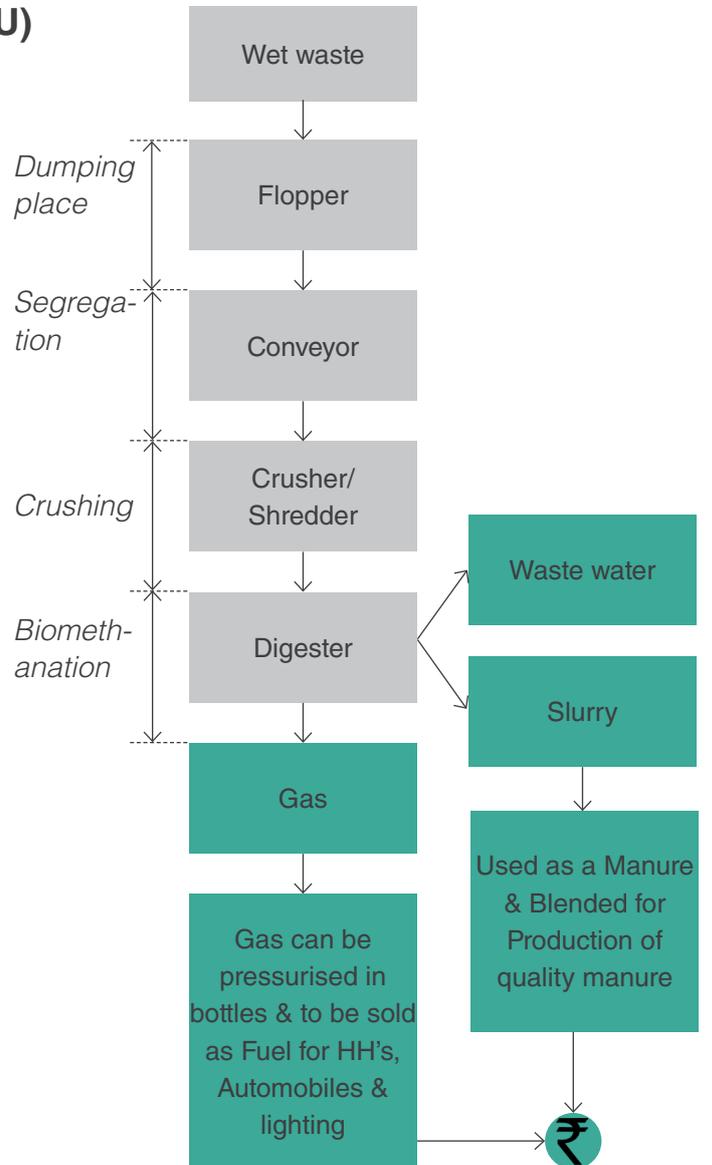


Figure 27: Wet waste processing flow in BMU

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : **BBMP/ Waste contractor**

Ownership : **BBMP**

Operation & Maintenance : **Agency + Technology provider**

Daily reporting : **Operator (Agency/ SHG)**

SIZE & CAPACITY

	DECENTRALISED	CENTRALISED
SIZE	~600sq.m	20,234sq.m
CAPACITY	~5 TPD	250 TPD
NUMBERS	11	1 73

4.2. DRY WASTE

For recycling of Dry waste in the city, we have built Dry Waste Collection Centres(DWCC) , 1 per ward and larger Aggregators, as per zonal requirement. Additionally DWCCs to become drop-off location for special streams like e-waste and domestic hazardous waste. The process flow is shown along side.

4.2.1 DRY WASTE COLLECTION CENTRE

Dry Waste Collection Centres (DWCCs) facilitate the stream lining of the entire process of waste management in the city, by concentrating exclusively on dry waste. They are equipped with appropriate infrastructure capable of purchasing, collecting, aggregating and processing both high value and low value dry waste such as plastics, paper, glass, tetra-packs, etc. These centers will be operated by waste pickers registered by BBMP and supported by NGOs, under a tri- partied agreement. Additionally some DWCCs maybe handed over to self help groups. (SHGs).

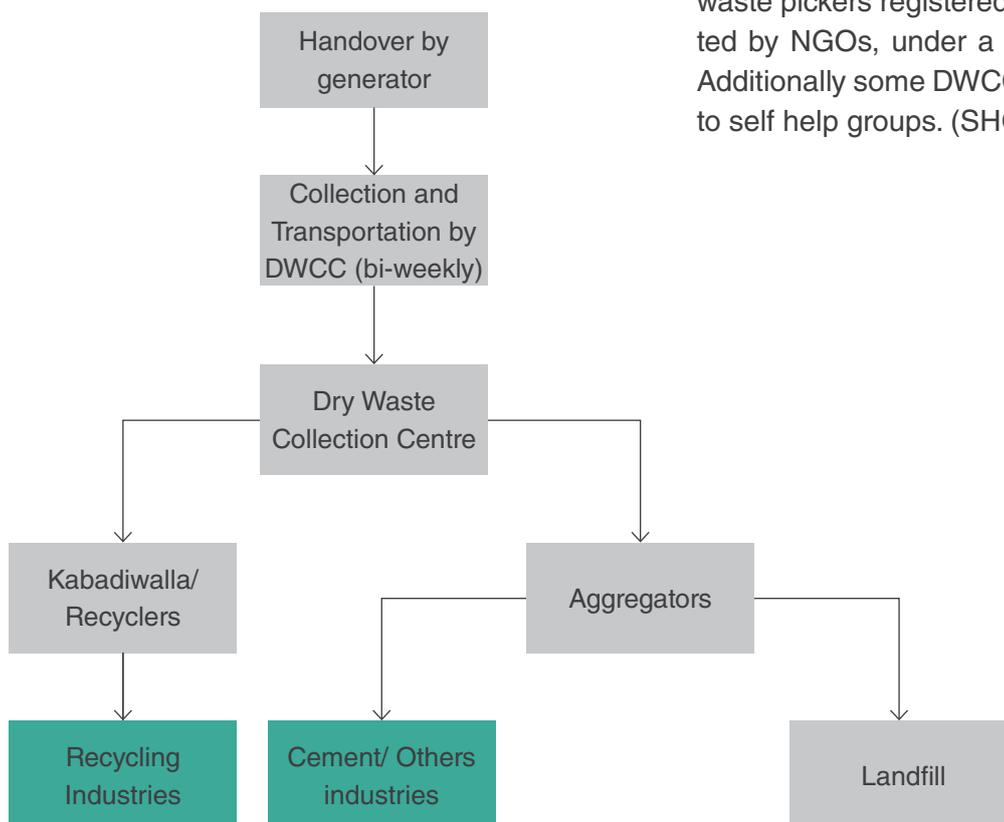


Figure 28: Dry waste flow

STRUCTURE



Figure 29: DWCC, Malleshwaram



Figure 30: Inside the DWCC

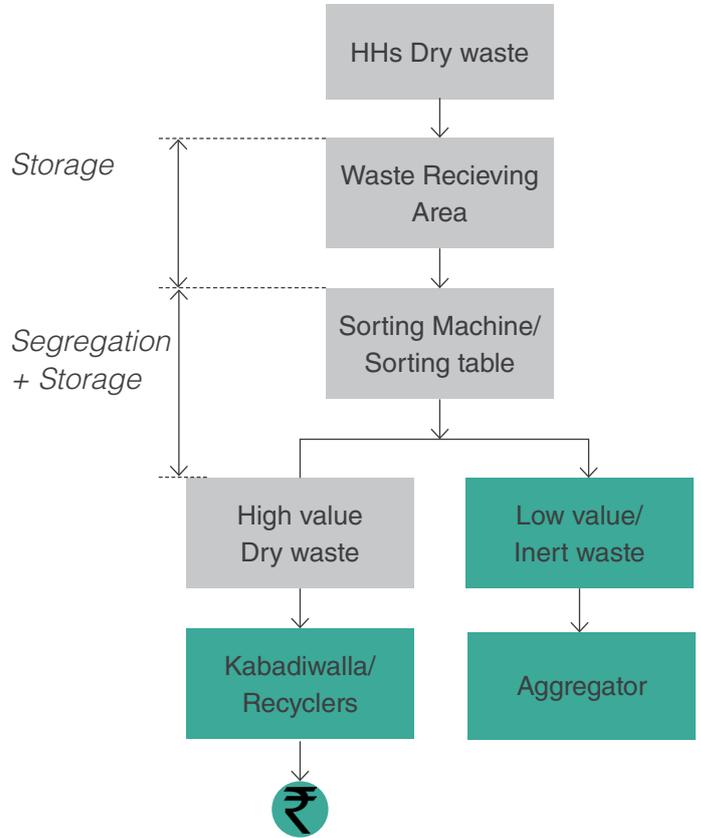


Figure 31: Dry waste processing flow in DWCC

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : **BBMP/ Waste contractor**
 Ownership : **BBMP**
 Operation & Maintenance : **Agency + Technology provider**
 Daily reporting : **Operator (Agency/ SHG)**

SIZE & CAPACITY

	DECENTRALISED	CENTRAL-
ISED		
SIZE	~600sq.m	20,234sq.m
CAPACITY	~5 TPD	250 TPD
NUMBERS	11	1

SIZE & CAPACITY

SIZE	660sq.m
CAPACITY	50 TPD
NUMBERS	1

4.2.2 AGGREGATOR

An aggregator is a storage facility which is equipped to receive low value waste from dry waste collection center (accumulated over 15 days). The low value waste consists of thermacol, laminates, cloth, mattresses, etc

STRUCTURE



Figure 32: Aggregator, Kormangala

4.3. DOMESTIC HAZARDOUS WASTE

4.3.1. SANITARY WASTE PROCESSING FACILITIES

The segregated domestic hazardous waste (incl. Sanitary Waste) will be collected from DWCCs and processed by existing biomedical waste processing agencies. The facilities include incinerators, Autoclaves, Shredders and Effluent Treatment Plants to scientifically dispose this waste.

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : BBMP/ Contractor
(Primary) Agency (Secondary - from DWCC)

Ownership : Agency

Operation & Maintenance : Agency

Daily reporting : Agency

SIZE & CAPACITY

SIZE ~ 6500sq.m

CAPACITY 10 TPD

NUMBERS 1

4.4. SPECIAL STREAMS

4.4.1. COCONUT WASTE PROCESSING UNITS

Coconut waste processing unit receives coconut and sugarcane waste. The agency has independently geo-tagged coconut vendors and is currently collecting over 20 tonnes per day. The waste received is shredded, dried and compacted to create briquettes and pellets of superior quality, that are being used as alternate fuel to fossil fuels.



Figure 33: CWPU, Freedom park



Figure 34: Shredding



Figure 35: Sieving

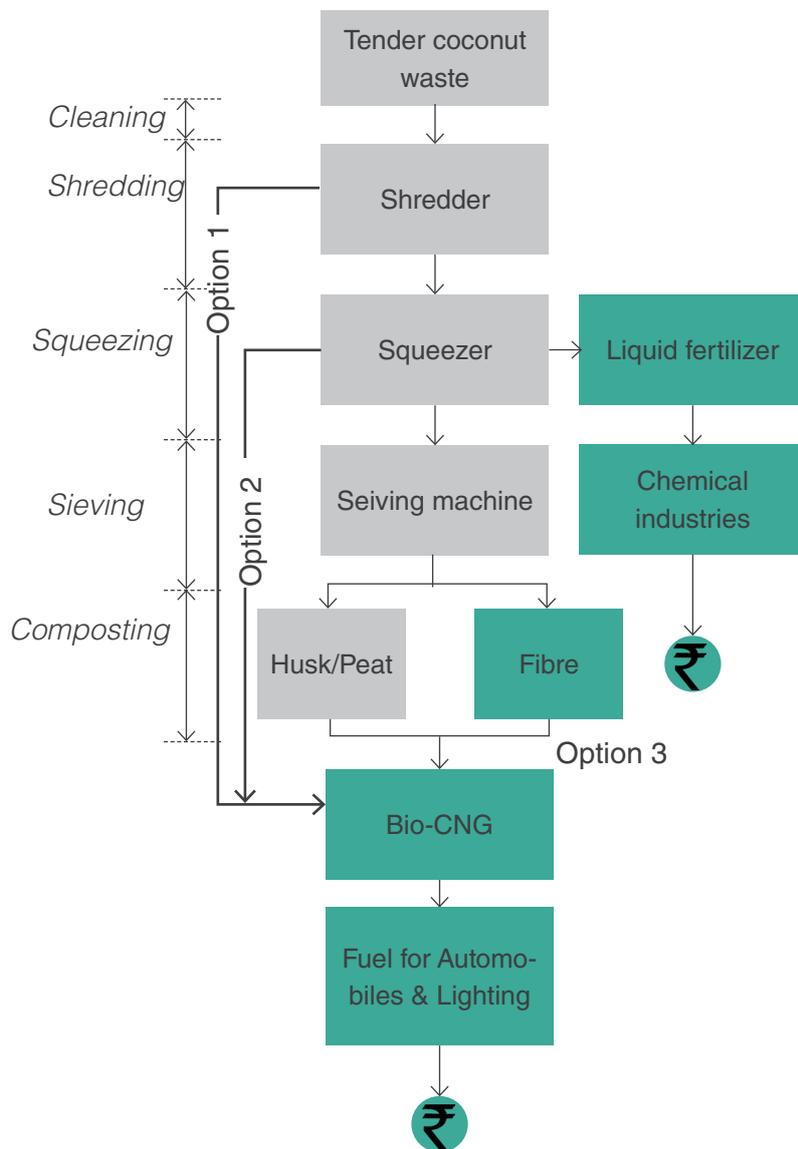


Figure 36: Coconut Waste processing flow in CWPU

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : Agency/ Individual drop-off

Ownership : BBMP

Operation & Maintenance : Agency

Daily reporting : Operator (Agency)

SIZE & CAPACITY

SIZE 750sq.m

CAPACITY 12 TPD

NUMBERS 2

4.4.2.LEAF LITTER PROCESSING UNIT

Leaf litter from parks and nearby streets are composted naturally in pits through aerobic microbial decomposition. Shredding of branches & twigs, along with a mulching process to decompose leaves, collected separately in neighborhoods is gaining momentum. This compost is then filtered through the sieving machine to result in fine compost. The compost is used as manure for gardening and agriculture.



Figure 37: Leaf litter



Figure 38: Sieving in the LLPU



Figure 39: Manure for gardening & agriculture

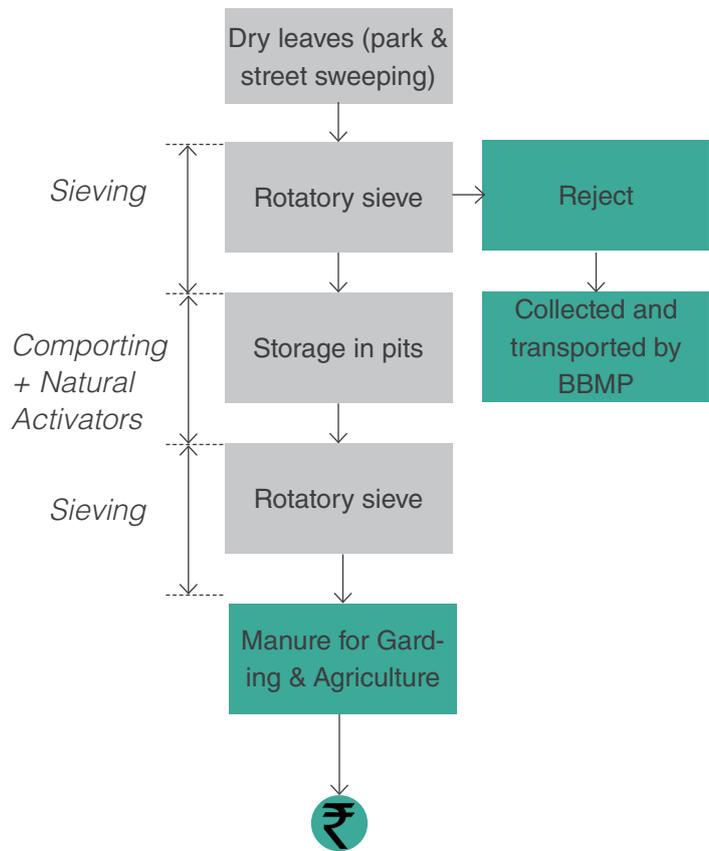


Figure 40 : Leaf litter waste processing flow in CWPU

MANAGEMENT & OPERATION

ACCOUNTABILITY

Waste collection : BBMP/ Waste contractor

Ownership : BBMP (Horticulture department)

Operation & Maintenance : BBMP (Horticulture department)

Daily reporting : BBMP (Horticulture department)

SIZE & CAPACITY

SIZE depends of the size of the park

CAPACITY ~1 TPD

NUMBERS 4

4.5. SERVICE AGREEMENTS - OPERATIONS AND MAINTENANCE- STRUCTURE AND TENURE

4.5.1. DWCC

TERMS OF THE AGREEMENT	STRUCTURE
Allotment Norms	<p>General:</p> <p>A Tripartite agreement between Waste Pickers (Operator) , BBMP(Principal) and NGO (Facilitating Organisation) as a third party for a period of 5 years.</p> <p>As per the SWM Rules 2016 and the directions of the High Court of Karnataka, the Waste pickers have the first right to the recyclables.</p> <p>Detail:</p> <ol style="list-style-type: none"> a. The present NGO or EPR companies that are operating will be given the first right to continue to operate. However they have to show compliance with the requirements of the technical and the financial criteria. b. For the remaining centres Expression of Interest (EOI) to be called inviting NGOs or EPR companies as Facilitating organisations , for managing the DWCC. c. The Waste pickers to be shortlisted from the Enumerated list of waste picker with IDs. Waste pickers will be assigned centres based on their preference. d. The allotment of the DWCC to the NGO or EPR co ,will be based on the scrutiny of the applications in response to an on the basis of Assessment criteria e. Allotment norms - a minimum of 5 and a maximum of 50 DWCCs may be allotted to each of the Facilitating organizations ie. NGO or EPR companies . In the case of shortfall of applications , more DWCC can be allotted to those showing interest . this will be decided on a case to case basis f. Assessment criteria - Financial <ol style="list-style-type: none"> i. Minimum 3 years audited statements of the NGO ii. Has received grants or other income of atleast Rupees 10 lakhs in the last 3 years iii. Suitable requirements for a Limited company • Assessment Criteria – Technical <ol style="list-style-type: none"> i. NGO refers to a Trust or registered under the Societies Act and which is working with Waste, environment and livelihoods ii. EPR company refers to a FMCG, Packaging prescribed under the Plastic Waste Management Rules 2016, or a company prescribed under the E waste Management Rules 2016. Also as per the responsibilities of the companies/ industries laid down in the Solid Waste Management Rules 2016.

DWCC Facility	<p>BBMP Obligation</p> <p>a. To provide a minimum size of 2500sq feet upto an average size of around 6000 sq ft which provides a holding capacity of around 3 tonnes per day. Secure facility with gate and Toilet facility provided with water and power connection.</p> <p>b. Furniture and Fixtures: To provide cupboard, weighing machine, table, chair, sorting table signage , light fixtures, baling machine</p> <p>c. Dry waste Collection Vehicle: To provide a 1-1.5 tonne box auto</p> <p>d. Electricity and Water : To pay the monthly bills of Electricity and Water</p>
Scope of the Agreement	<p>a. To carry out the Door to Door Collection of all Dry waste as per the Micro Plan requirements</p> <p>b. To buy back the dry waste which is dropped off at the DWCC by the Pourakarmikas or by residents</p> <p>c. To carry out the Sorting , grading and sale of the recyclable/saleable waste.</p> <p>d. To drop off the non recyclable/ non saleable , bulk dry waste items at the Aggregation Centre</p> <p>e. To develop networks or associate with recyclers for increasing the number of dry waste items that can be sold or sent for recycling</p>
Operations and Maintenance	<p>a. There is NO financial compensation by way of O&M to the DWCC payable by the BBMP</p> <p>b. The Facilitating organization will provide the Management resources to the DWCC operators – Data management support, co ordination support, back end integration and creating value from dry waste items</p>
Revenue Model	<p>a. The Operator will sell the sorted –graded recyclable saleable material in the free market and run the DWCC and the collection operations out of the revenue earned</p> <p>b. The Operator will be compensated at a fixed nominal rate/ kg of non recyclable , non saleable waste which is sent to the Aggregation centre. This will be used as feedstock for the upcoming WTE plants.</p> <p>c. The Facilitating organization will not have a share in the revenue from the DWCC or charge the DWCC operator for their services</p>

Table 19: Service Agreements - DWCC

4.5.2. AGGREGATION CENTRE

TERMS OF THE AGREEMENT	STRUCTURE
Allotment Norms	<p>a. The Operator of the Zonal Wet waste Processing Plants will be responsible for managing the Aggregation Centres on their premises.</p> <p>b. The Aggregation Centres set up in the Zones will however be allotted for management to the Facilitating Organisations/ EPR Companies of the DWCCs.</p>
Aggregation Centre Facility	<p>BBMP Obligation</p> <p>a. To provide a minimum size of 10,000sq feet upto an average size of around 20,000 sq ft which provides a holding capacity of around 20 tonnes per day. Secure facility with gate and Toilet facility provided with water and power connection.</p> <p>b. Furniture and Fixtures: To provide cupboard, weighing machine, table, chair, sorting table signage , light fixtures, baling machine</p> <p>c. Hydraulic Baling facility to be provided</p> <p>d. Electricity and Water : To pay the monthly bills of Electricity and Water</p>
Operations and Maintenance (O&M)	The BBMP will pay the cost of Manpower managing the Centre

Table 21: Service Agreements - Aggregation Centre

4.5.3. WET WASTE PROCESSING FACILITIES (COMPOSTING /BIO-METHANATION, COCONUT WASTE PROCESSING)

TERMS OF THE AGREEMENT	STRUCTURE
Allotment Norms	The daily operations of the Facility will be carried out by the organization setting up the Processing facility .
Centre Facility	This will be defined as per the terms and conditions of the Tendered conditions
Operations and Maintenance (O&M)	The financial structure will be as per the Terms and conditions stipulated in the tender
Revenue Model	This will be as per the Terms and conditions stipulated in the Tender

Table 21: Service Agreements - Wet Waste Processing Units (New)

TERMS OF THE AGREEMENT	STRUCTURE
Allotment Norms	The daily operations of the Facility will be carried out by technically qualified organizations who are successful in the Tender
Centre Facility	This will be defined as per the terms and conditions of the Tendered conditions
Operations and Maintenance (O&M)	The financial structure will be as per the Terms and conditions stipulated in the tender
Revenue Model	This will be as per the Terms and conditions stipulated in the Tender

Table 22: Service Agreements - Wet Waste Processing Units (Existing)

4.5.4. LEAF CUTTER/SHREDDER

TERMS OF THE AGREEMENT	STRUCTURE
Allotment Norms	The daily operations of the Facility will be carried out by technically qualified organizations who are successful in the Tender
Centre Facility	BBMP Obligation To provide the stipulated minimum shed to size at the Ward Parks or designated location which provides a holding capacity of around 3 tonnes per day. Secure facility with gate and Toilet facility provided with water and power connection
Operations and Maintenance (O&M)	The financial structure will be as per the Terms and conditions stipulated in the tender
Revenue Model	This will be as per the Terms and conditions stipulated in the Tender

Table 23: Service Agreements - Leaf Cutter/Shredder

5

YOUR WARD FACILITIES

This template includes all information and details of decentralised facilities currently within the ward. These are listed below:

- OWC
- Bio-methanation Unit
- DWCC
- Leaf Litter processing facility/Shredder
- Aggregator
- Coconut Waste processing Unit

[Data sheet attached separately]

SECTION C

WARD ACTION PLAN

6

WARD ACTION PLAN

It is the responsibility of the Ward Committees to draft the Ward Action Plan taking into consideration the ward requirement, budgetary allocations, infrastructure requirement while aligning it with the SWM policy of ULB.

The Ward Action Plan will reflect the following aspects:

- Ward Data (Data sheets from 'Your Ward Micro Plan' and 'Your Ward Facilities')
- Action taken report
- Target Setting
- Setting up of Future Facilities
- Action Plan (Summary)

The ultimate objective of the Ward Action Plan is to:

- Implement the Ward Level Micro Plan
- Optimise the management and operations within the Ward
- Enable and maximise sending of segregated waste to the appropriate facilities
- Build in decentralised capacity to process waste within their wards
- Minimize Mixed waste to Landfill

6.1. WARD- ACTION TAKEN REPORT

The Ward Action Taken Report helps to track the actual status of implementation against the required outcomes, identified as Targets, on a monthly basis.

- The data will be based on the actuals and have to be provided by the concerned Ward officials. The -- Ward Action Taken report should be prepared by the AEE-SWM based on the information

provided by the concerned Ward Solid Waste inspectors – JHI/ SHI

- The Ward Committee will deliberate on the Ward Action Taken Report and the necessary steps that are required to achieve the targets.
- This will be submitted on a monthly basis to the BBMP Zonal Joint Commissioners

BBMP WARD - ACTION TAKEN REPORT

REQUIREMENT	TARGET	TIMELINE	ASSESSMENT PARAMETER	TARGET	ACTION TAKEN	% ACHIEVED
100% DOOR TO DOOR COLLECTION & TRANSPORTATION						
1 HH with 100% D2D	100%	2 MONTHS	Random weekly Surveys	Specify total No of HH in the Ward	Specify total No of HH with D2D collection	(Action Taken / Target) *100
2 Wet Auto Tipper Deployed	100%	Immediate	Actuals	Specify total No of Blocks in the Ward	Specify total No of Auto Tippers in the Ward	(Action Taken / Target) *100
3 Dry Auto Deployed	100%	Immediate	Actuals	Specify requirement as per Micro Plan	Specify total No of Dry Autos in the Ward	(Action Taken / Target) *100
4 Commercial Area Evening Collection	100%	Immediate	Actuals	Specify requirement as per Micro Plan	Autos for Evening Collection	(Action Taken / Target) *100
5 Market Area Evening Collection	100%	Immediate	Actuals	Specify requirement as per Micro Plan	Tippers for Evening Collection	(Action Taken / Target) *100
6 Slum Area PushCart Collection	100%	Immediate	Actuals	Specify requirement as per Micro Plan	Specify total No of Push Carts for Slum Collection	(Action Taken / Target) *100
7 Compactor Deployed	100%	Immediate	Actuals	Specify requirement as per Micro Plan	Specify total No of Dry Autos in the Ward	(Action Taken / Target) *100
SEGREGATION AT SOURCE (DOOR TO DOOR)						
8 Wet Waste	90%	4 months	Wet Waste Processing Unit (WWPU)Data) waste generated as per actuals	Specify wet waste sent to WWPU	(Action Taken / Target) *100
9 Mixed Waste	10%	4 months	Landfill data) waste generated as per actuals	Specify mixed waste sent to Landfill	(Action Taken / Target) *100
10 Dry Waste	100%	4 months	Dry waste Collection Centre (DWCC) data	Specify requirement as per Micro Plan	Specify wet waste sent to DWCC	(Action Taken / Target) *100
11 Sanitary Waste	NA	Immediate	Collection Centre (SWCC) data	NA	Specify wet waste sent to DWCC	NA
12 Fines and Penalties	NA	Immediate	Fine Receipts	NA	Specify Fine Amount Collected	NA
STREET SWEEPING						
13 Mechanical Sweeping of Major and Intermediate Roads	100%	-	Actuals	requirement as per Micro Plan	having started Mechanical Sweeping	(Action Taken / Target) *100
14 Road assignment by Road ID	100%	Immediate	Actuals	Total No of PKs in the Ward	No. of PKs assigned Roads with Road ID	(Action Taken / Target) *100
15 Attendance of Pourakarmikas	100%	Immediate	Actuals as per Biometric	Total No of PKs in the Ward	Average daily attendance of PKs in the Ward for the month	(Action Taken / Target) *100
16 Tools and Equipment issued to Pourakarmikas as per Schedule	100%	Immediate	Actuals	Total No of PKs in the Ward	Total No. of PKs with Tools and Equipment	(Action Taken / Target) *100
VISUAL CLEANLINESS						
17 Black spot eradication	100%	2 MONTHS	Physical verification	Specify total No of Black Spots beginning of the	Specify total No of Black Spots end of the month	((Target-Action Taken) / Target
18 Are the Roads with Mechanical Sweeping Dust Free	100%	1 MONTH	Physical verification	Tick against your choice	Totally dust free	
					Partially dust free	
					Not at all dust free	
19 Are the Pourakarmikas in Total Uniform	100%	1 MONTH	Physical verification	Tick against your choice	In Total Uniform	
					In Partial Uniform	
20 Are the Collection Vehicles washed regularly and visually clean	100%	Immediate	Physical verification	Tick against your choice	Satisfactory	
					Not Satisfactory	

Table 24: BBMP WARD- Action taken Report 1

BBMP WARD - ACTION TAKEN REPORT

	REQUIREMENT	TARGET	TIMELINE	ASSESSMENT PARAMETER	TARGET	ACTION TAKEN	% ACHIEVED
INFORMATION , EDUCATION & COMMUNICATION (IEC)							
21	Link Workers	100%	Immediate	Actuals	Total No of Link Workers assigned to the Ward	Total No of Link Workers in the Ward	(Action Taken / Target)*100
22	Suchi Mithras	100%	3 MONTHS	Actuals	Specify total No of Blocks in the Ward	Blocks with Suchi Mithras	(Action Taken / Target)*100
23	Workshops, Training with Master Trainers	2 sessions	Immediate	Actuals	No. of Sessions planned	completed	(Action Taken / Target)*100
BULK GENERATORS							
24	Bulk Generators using Empanelled Agencies	100%	2 MONTHS	Actuals	Specify total No of BGs in the Ward	using Empanelled Agencies	(Action Taken / Target)*100
25	Bulk Generators doing in situ management	100%	2 MONTHS	Actuals	Specify total No of BGs in the Ward	doing in situ management	(Action Taken / Target)*100
COMPLAINTS -GRIEVANCE REDRESSAL							
26	Non collection of waste	Zero	Immediate	As Reported	No. of Complaints received	No. of Complaints resolve	(Action Taken / Target)*100
27	No street sweeping	Zero	Immediate	As Reported	No. of Complaints received	No. of Complaints resolve	
28	Others	NA			No. of Complaints received	No. of Complaints resolve	
ENFORCEMENT				Actuals		imposed in the month (in Rs.)	amount (in Rs.)
29	AS PER KMC ACT						
	i.	Fine for Littering					
	ii.	Fine for Spitting, bathing, Urinating, Defecating					
	iii.	Fine for Delivering Waste that is not segregated into wet/dry/hazardous/sanitary/medical and stored as specified in separate bins by small generators					
	iv.	For Non composting by bulk Generators or in new					
	v.	For not delivering construction and Demolition waste in a segregated manner as specified					
	vi.	For not delivering garden waste and tree trimmings as specified					
	vii.	For disposal of waste by burning					
	viii.	For not delivering (non Household) fish, poultry and meat waste in a segregated manner as specified					
	ix.	For a vendor/ hawker without a container /waste basket and who does not deliver waste in a segregated manner as specified					
	x.	For littering by pets / owned animals					
	xi.	For not cleaning up after public gathering /event within 24 hours					
	xii.	Burning of waste (including dry leaves, plastic etc)					
30	AS PER PLASTIC BAN NOTIFICATION						
	xiii.	Fine for use/sale of plastic carry bags					
	xiv.	Fine for use/sale of banned plastic items					
	xv.	Quantity Siezed					

Table 25: BBMP WARD- Action taken Report 2

6.2. TARGET SETTING

The Ward Action Plan should take into account all of the above while ensuring timely execution with the setting of timelines. The Ward Action Plan will present in a 3 phase plan; 3 months, 6 months and 1 year ;implementation planning , infrastructure planning, costs , savings and revenues of the contract and operations & maintenance.

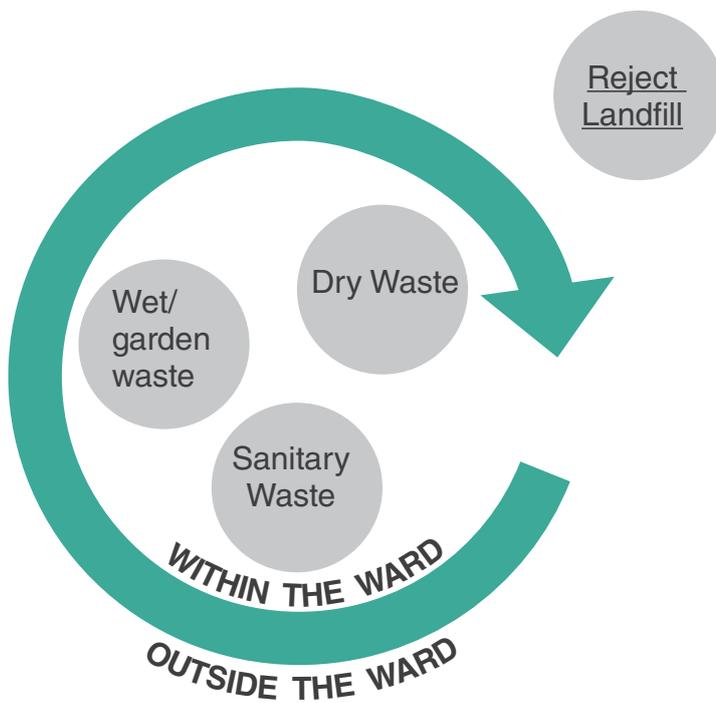


Figure 41: Diagrammatic representation of targets

WARD ACTION PLAN – TARGET SETTING

STEP 1: ASSESS REQUIREMENT

Based on Waste generation

SUMMARY TABLE		Total D2D collection	Wet W	Dry D	Reject R	Total Private collection	Wet W	Dry D	Reject R
Waste Generation estimate Waste type	by	Col A	Col B	Col C	Col D	Col E	Col F	Col G	Col H
		TPD	TPD	TPD	TPD	TPD	TPD	TPD	TPD

Table 26: Assess additional Capacity (Step 1)

STEP 2: ASSESS EXISTING CAPACITY

Assess the existing processing capacity within the ward.

Calculation Table of : % Processing Capacity available (Door to Door collection only)		Waste Generation	Existing Capacity	Total Existing capacity	% Process capacity available	
		Col 1	Col 2	Col 3	Col 4	
		Summary table	INPUT DATA			(Col 3/Col 1) *100
		TPD	TPD	TPD	TPD	
Wet waste						
Ward	Composting					
Ward	Bio methanation					
Ward	Leaf mulching					
Centralised	Composting					
Centralised	Bio methanation					
Centralised	Leaf mulching					
Dry waste						
Ward	DWCC					
Sanitary waste						
Ward	SWCC					
Centralised	Bio medical processing					
Reject waste						
Centralised	Landfill					

Table 27: Assess additional Capacity (Step 2)

STEP 3: ASSESS ADDITIONAL CAPACITY

Based on the existing Ward Capacity available, plan for additional processing capacity to be set up in the Ward

BBMP WARD - ACTION PLAN - NEW PROJECT							
REQUIREMENT	TARGET	SUGGESTED TIMELINE	CAPACITY	PHASE 1 TARGET 3 MONTHS	PHASE 1 TARGET 6 MONTHS	PHASE 1 TARGET 1 YEAR	
Dry Waste Collection Centre	1 per Ward	Immediate	3 TPD	Specify Capacity	Specify Capacity	Specify Capacity	
Aggregation Centre	2 per zone	Immediate		Specify Capacity	Specify Capacity	Specify Capacity	
Leaf Litter Processing Unit	1 per Ward	Immediate	4 TPD	Specify Capacity	Specify Capacity	Specify Capacity	
Composting	1 per Ward	Immediate	1TPD TO 4 TPD	Specify Capacity	Specify Capacity	Specify Capacity	
Bio Methanation Unit	3 per Ward	1 Year	5 TPD / Unit	Specify Capacity	Specify Capacity	Specify Capacity	
Coconut Shredder Unit	1 Per Ward	6 Months	4 TPD	Specify Capacity	Specify Capacity	Specify Capacity	
Special Waste - Festival Waste	1 Per Ward	6 Months	10 Tonnes	Specify Capacity	Specify Capacity	Specify Capacity	

Table 28: Assess additional Capacity (Step 3)

6.3. SETTING UP OF FACILITIES

All wards are required to set up decentralised facilities

6.3.1. LAND IDENTIFICATION

Three (3) types of checks need to be done for Land identification: Three (3) types of checks need to be done for Land identification:

6.3.1.1. LAND FEASIBILITY CHECK

As per the BDA masterplan, certain land has been identified for setting up decentralised SWM facilities. You are required to check if the land is feasible for the respective facilities (DWCC, OWC, Bio-methanation, etc.) and fill up the DATA SHEET 1 (Annexure IX). Information regarding the location is given to the respective AEEs.

6.3.1.2. LAND AVAILABILITY ADJACENT TO EXISTING FACILITIES AND DATA RATIFICATION:

As per the DATA SHEET 2 (Annexure IX), you are required to confirm the address & geo-location of existing facility, list the survey number of and check if any additional land is available adjacent to the existing facility. Information regarding the facility location is available on the BBMP SWM website.

6.3.1.3. NEW LAND AVAILABILITY IN WARD FOR TRANSFER STATIONS AND OTHER SWM ACTIVITIES

If you have any additional land available within the ward, apart from the above mentioned categories, please make a note of the same with the relevant details as listed in the DATA SHEET 3 (Annexure IX).

6.3.2. LAYOUT AND ESTIMATION

Layouts for each type of facility is given in Annexure VIII.

6.3.3. AGENCY IDENTIFICATION AND MOU/MOA

The MoU/MoA format with the relevant agencies is attached in Annexure X.

6.4. WARD ACTION PLAN: TRACKING

Once the Ward Committees have assessed the Ward requirement the same is to be Tracked till completion

BBMP WARD - ACTION PLAN

REQUIREMENT	TARGET	SUGGESTED TIMELINE	CAPACITY	PLANNED	PROPOSAL ACTION TAKEN	PROPOSAL ACTION TAKEN	PROJECT INITIATED	COMMISSIONED
100% DOOR TO DOOR COLLECTION & TRANSPORTATION								
Dry Waste Collection Centre	1 per Ward	Immediate	3 TPD	Specify Capacity	START DATE	START DATE	START DATE	START DATE
Aggregation Centre	2 per zone	Immediate		Specify Capacity	START DATE	START DATE	START DATE	START DATE
Leaf Litter Processing Unit	1 per Ward	Immediate	4 TPD	Specify Capacity	START DATE	START DATE	START DATE	START DATE
Composting	1 per Ward	Immediate	1TPD TO 4 TPD	Specify Capacity	START DATE	START DATE	START DATE	START DATE
Bio Methanation Unit	3 per Ward	6 Months	5 TPD / Unit	Specify Capacity	START DATE	START DATE	START DATE	START DATE
Coconut Shredder Unit	1 Per Ward	6 Months	4 TPD	Specify Capacity	START DATE	START DATE	START DATE	START DATE
Special Waste - Festival Waste	1 Per Ward	6 Months	10 Tonnes	Specify Capacity	START DATE	START DATE	START DATE	START DATE

Table 29: Ward Action Plan tracking

6.5. CONCLUSIONS

Only bringing in Ward level Micro management with uniform metrics and data driven planning will help achieve the Macro objectives of Effective SWM and Good governance as envisioned by Clean Bengaluru .

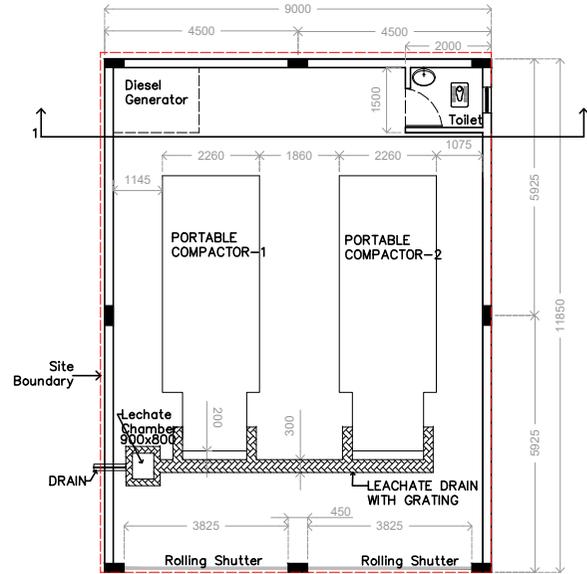
It is our hope and endeavour that this Manual detailing out the requirement of the Ward Micro Plan and the requirements for developing a Ward Action Plan for SWM facilities is adopted in earnest by all the Ward Committees and is able to help achieve the stated objectives.

ANNEXURES

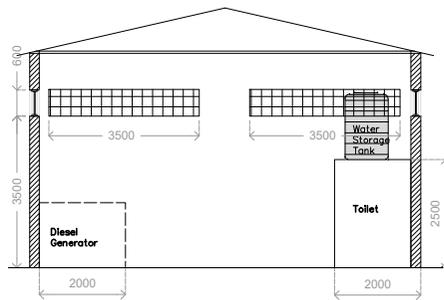
ANNEXURE I.

SCHEMATIC LAYOUT OF A TRANSFER STATION

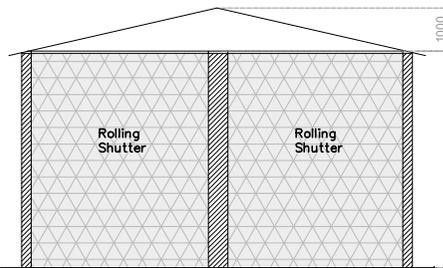
TYPICAL LAYOUT DRAWING OF TRANSFER STATION WITH 2 PORTABLE COMPACTOR 16 ~18 Cum VERTICAL TO ROAD WITH HOOK LOADER OF 25 TON GVW TRUCK CHASSIS



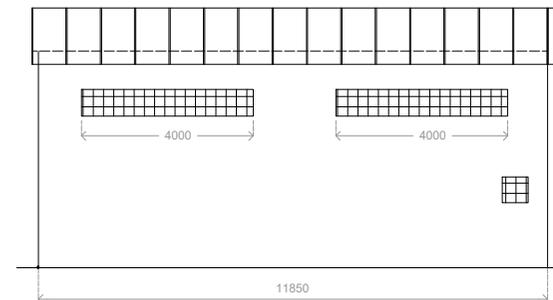
Plan
(At 2m Height from Ground Level)



Cross Section at 1-1



Front Elevation

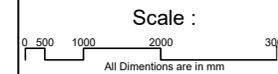


Side Elevation

LEGEND

- Ventilator (Plan View)
- Ventilator (Elevation & c/s)

Mini-Transfer Station (16 cu.m.)
Plan, Section & Elevation



Bruhat Bengaluru Mahanagara Palike
N R Road, Bengaluru-560 002

ANNEXURE II.

**CASE STUDY: LEAF LITTER
PROCESSING UNIT**

LEAF LITTER PROCESSING UNIT (LLPU)

Ward-151 KORAMANGALA

Leaf litter waste is a large component of the waste retrieved through street sweeping. With dense foliage along several roads, this is estimated to be a large proportion of street sweeping waste, especially in certain seasons. This waste has a potential to be converted into high quality compost which can be sold as manure. The process of converting leaves into manure is done in these **Leaf Litter Processing Units (LLPU)**.



Background:

The aim is to process the leaf litter/garden waste generated locally with dense foliage along several roads in the neighbourhood/ward level.

There are multiple low-cost modes that have been experimented in the city by local communities and BBMP but none were succeeded.

Waste generation analysis: Leaf litter generation for the 8 streets (17kms) swept varies based on seasons. During the peak months (January - February), the generation is estimated at 1.17 TPD as opposed to the rest of the 9 months when it is 0.29 TPD. The average generation is 0.51 TPD (i.e, a daily generation of 30 kg/km).

Ward Number	151- Koramangala
Populations - 2011	38316
Area of ward	3.7 sq.km
Road length (km)	Major- 8.70 Intermediate- 6.80 Minor- 63.30

Distance covered	Road width	Total waste generated daily (peak - Jan to March)	Total waste generated daily (normal)	Total waste per km (peak)	Total waste per km (normal)	Distance covered per auto
<i>kms</i>	<i>feet</i>	<i>TPD</i>	<i>TPD</i>	<i>kgs/day</i>	<i>kgs/day</i>	<i>Kms/day</i>
17	<40 (Minor)	1.17	0.29	68.63	17.33	3.5

Setting up unit:

The Koramangala 3rd Block community (RWA), is a unique initiative, has set up a LLPU that will process leaf and garden waste generated in the community/ ward and convert it into usable compost. Unit is located at a public park in the area. Unit includes Shredder and rotary sieves.

Ownership	Land- BBMP Horticulture Structure- Agency Equipment's- Agency
Type of engagement	BBMP- RWA
Capacity	1.5 TPD
Area of unit	600sq.ft. (including storage area)

Process:

Collection Process:

Step 1: Roads in the neighbourhood/ ward are swept by sweepers/ PKs

Step 2: Each sweeper transfers the litter into the Jumbo bag, which is then left alongside the road

Step 3: The Jumbo bags are then picked up by an Auto-tipper, to be taken to the LLPU

Processing at LLPU:

Step 1: Segregation of input material – rejects (paper/ plastic kept in separate bin)

Step 2: Sieving of segregated material to remove smaller size material which need not be shredded

Step 3: Identified coarser size materials shredded and subjected to natural aerobic composting with the help of simple additives such as water and cow dung for about 15 days.

Step 4: After 15 days they turned again which now has started to become coarse compost. This compost is then filtered through the sieving machine to result in fine compost.

Model type	Any name
Source	Leaf litter/ garden waste
Transportation	Auto tippers/ bins
Frequency of collection	Daily
Waste collected by	BBMP/ waste contractor
Transportation	Auto tippers
Output	Compost

The compost is used as manure for gardening and agriculture. This compost has been branded under the name of **Kora3B Compost**. Process flow is as shown below

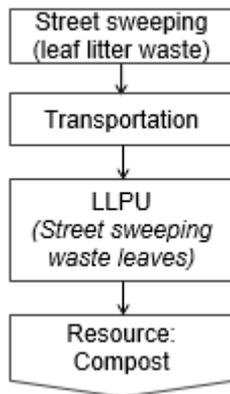


Fig 1: Leaf litter waste flow

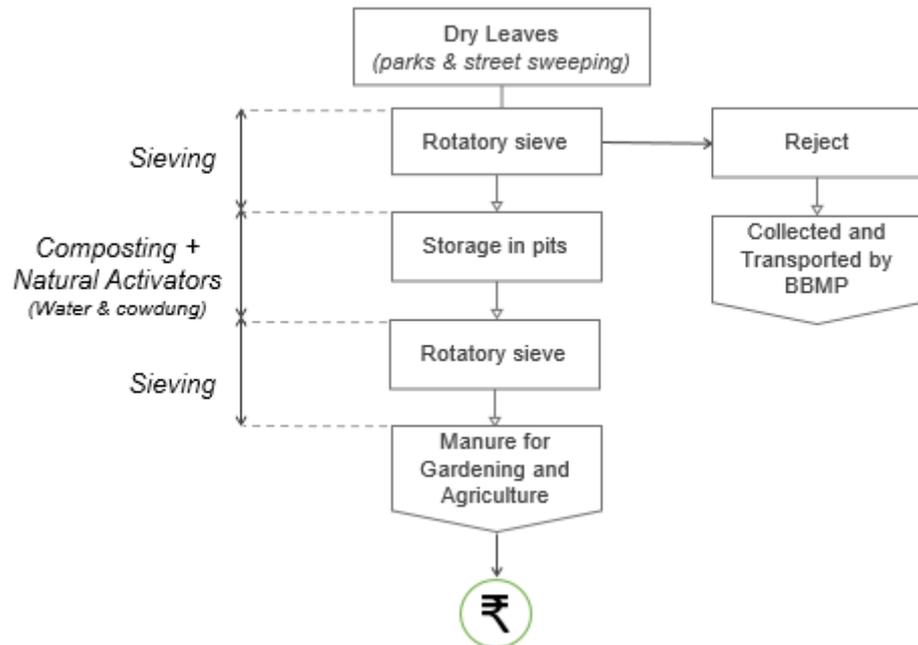


Fig 2: Leaf litter waste process flow in

Advantages/ benefits

- **Open burning reduction:** Since the alternative method in practice to leaf litter composting was the burning of leaves, the leaf litter compost help reduce the open burning of leaves.
- **Create high value from waste:** Leaf when composted can give high quality manure that can be used in agricultural practices. The low quality compost manure can be used for domestic and horticultural practices.

Monitoring and Reporting

- ☛ LLPU has to report data every day to BBMP via [BBMP SWM website](#) using login ID provided by BBMP.
- ☛ *Junior Health Inspector's* (JHIs) are will monitoring at ground level and planning/ strategies for allocation of land to be done at division level by *Assistant Executive Engineer's* (AEEs).

Capex and Opex:

The RWA had spent around ₹4 lakh to set up the unit. It spends about ₹45,000¹ a month on making compost and gets only ₹25,000 from its sale. The RWA sells Kora3B compost at ₹8 per kg for fine grain and ₹4 per kg for coarse grain. They have been selling it to local residents, gardens, tree planters, and big farms outside the city as well.

Replicability

Since the waste coming to the processing facilities are homogenous, it's easier to replicate the processing machinery and the management model, if the required infrastructure and financial support is provided by BBMP.

Sustainability:

¹ <http://www.deccanherald.com/content/539298/koramangala-turns-leaf-litter-quality.html>

- **Active participation of RWAs:** The success of the Kora3B LLPU has a lot to do with the RWA actively engaging and participating under the infrastructure and framework provided by BBMP. Hence RWA's form an integral part of sustainability in LLPU.

Support from civic body:

Expecting BBMP to fill the financial gap in operating and maintaining the unit.

Contact details:

Mr. Anil Chinnaiiah,
Secretary, Koramangala 3rd block RWA,
Koramangala, Bengaluru
Ph. No.: +91 9845210306

ANNEXURE III.

CASE STUDY: FESTIVAL WASTE MANAGEMENT

FESTIVAL WASTE MANAGEMENT

INTRODUCTION:

A group of volunteers in Yelahanka who go around in schools, colleges and households to spread awareness during the series of festival throughout the year in Yelahanka, call themselves as Yelahanka Eco Group.

Initiative of from Yelahanka Eco Group in managing festival waste started in 2015, supported by Joint Commissioner Mr. Sarfaraz Khan from the same zone.

They have volunteers, who go around in schools, colleges and households to spread awareness and discourage the use of Plaster of Paris (POP) and instead encourage the use of clay idols. Last year (2016) they couldn't succeed much as they asked the Pollution Control Board (KSPCB) to ban POP but started the awareness campaign a bit late; POP idols had already been made or bought. This year they are much more firm with POP ban and its regulation; they started campaigning early, around one and half months back and have been successful. They held meetings with BBMP and KSPCB and did workshops. They have also included sculptors so that he could give finishing to the clay idols and would charge a minimal amount like ₹50 to ₹100, depending upon the size of the idol. They have been advising and promoting that for household Ganesha idol, immerse it at the house itself so that lakes are less polluted. To insure that lakes remain clean they advise to remove all the garlands and other things like flowers and puja material, which could later on be sent for composting. For example: Sankey Tank is sending it to the OWC in ward 65 and the rest send it to the processing plants. All the planning is done by AEEs. They along with help of volunteers and citizen plan the immersion points for Ganesha Festival and Tractor points for Bakri-Eid. This planned document is then presented to the Joint Commissioner for approval.



1. Ganesha Tank preparation at Sankey Tank

PROCESS:

Kalayani's have been constructed and water tanks made available in major lakes such as Ulsoor Lake, Sankey Tank, Hebbal Lake, etc. so as the main lake is not disturbed and idols could be immersed separately. Kalyani's are non-movable tanks, built at a corner of the

lake. If the idols are large, they are immersed in the water tanks which are portable. After the end of 11 days they start dewatering the tanks and clean them. This process is done by BBMP authorised contractor. For Ulsoor they have not put up any restriction on height of idols that could be immersed. They use cranes to immerse 7-8 feet idols. But for Sankey Tank they have put a height limit of 5 feet as the Kalyani constructed there is not deep enough to take more than 5 feet idols. Approximately 6,000-30,000 idols are immersed daily depending on what day the immersion is. At every lake or large immersion point, there will be an ambulance and a swimmer available, for any emergency. The entry is given till 10:30 pm only. For each ward, monitoring is done by the nearby residents and the volunteers. This year number of volunteers has increased and usage of POP idols has come down. Each ward has 4-5 numbers of volunteers. In HSR they have a team of 15 members who go around schools for awareness and IEC activities. Still we may find the POP idols in community area as these are huge idols and difficult to make from clay. They are still finding a solution for this.

For Bakri-Eid as well they do extensive awareness campaigns. Volunteers go around and talk to the concerned people. They have a tractor placed at one point in the area (especially near mosques), where all the collected animal waste will be dumped. A pit is created in advance and after the festival gets over the tractor full with animal waste will bury it in the pit.

For Diwali and Dussehra, since less amount of festival waste is generated, there is no need for deployment of extra PKs and vehicles for Street Sweeping. Streets are cleaned every day or alternate days by same PKs only.

AWARENESS AND IEC ACTIVITIES:



2. Awareness Activities during Ganesha Festival

Every ward has Master Trainers (Volunteers) who go around schools, colleges, households, mosques, etc., to spread knowledge with regard to waste management during festivals. Awareness is mainly in verbal form and sometimes they give out handbills from BBMP's behalf. For Ganesha, Waste collectors and link workers at the time of waste collection talks about how to manage waste. Master Trainers go to institutions so that children are guided for eco-friendly Ganesha and in return they can influence their family back at home.

Same awareness campaign is carried out for Dussehra and Diwali by the same set of volunteers. Households are requested to not burst crackers and if so to burst them in

playgrounds and not on streets so that the waste generated can be managed properly and sound of bursting crackers doesn't disturb the neighbourhood.

CAPITAL AND O&M EXPENDITURE:

There is no capital expenditure involved as activities carried out are for limited days only. Operating and Management expenditure is borne by the BBMP directly or indirectly. In Ganesha Festival, KSPCB also contributes in terms of lending vehicles in specific wards. Otherwise, all the extra vehicles deployed or services outsourced from private entity is on BBMP's cost head.

IMPACT:

Around 35,000 idols immersed in Sankey Tank on the 3rd day, only 800 or so were of Plaster of Paris. But as the days pass by, POP Ganesha will increase because of community Ganesha immersion. Previously, before the waste management took place the ratio was 60:40 of POP and clay idols, last year it came to 55:45 ratio of clay and POP idols and this year they are taking average as 70:30 of clay and POP idols respectively.

FUTURE COURSE OF ACTION:

If the ban on POP is not followed, they cannot do anything much other than extensive awareness and IEC activities. Since this initiative has already expanded to city level what more they can do is find more innovative and effective ways for spreading the knowledge. Proper notification and circulation of POP ban would be much helpful. For community Ganesha, they are going around and requesting the elected representatives as they are the one giving donation to these big community Ganesha and authorizing it.

CHALLENGES AND ISSUES:

Changing the mindset of people and making them aware of environment is the biggest challenge. Since it is a citizen initiative taken up by people, many didn't take them seriously as they don't have political power and cannot enforce a law or ban. Only when BBMP and KSPCB intervened things started moving and achieved this much success. Making community Ganesha with clay is possible but it becomes heavy whereas POP Ganesha's are comparatively light and hence the community prefers POP.

SUGGESTION/SUPPORT FROM CIVIC BODY:

BBMP and KSPCB to take stringent action to ban POP idols completely and empower citizen initiative group.

CONTACT DETAILS:

1. Dr. Sandhaya (BBMP-Health)
Ph: +91 9480684159
2. Mr. Ramakanth (Expert committee member)
Ph: +91 9341250158

ANNEXURE IV.

KARNATAKA PLASTIC BAN



ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ

ಅಧಿಕೃತವಾಗಿ ಪ್ರಕಟಿಸಲಾದುದು
ಬಿಶೇಷ ರಾಜ್ಯ ಪತ್ರಿಕೆ

ಭಾಗ- IVA	ಬೆಂಗಳೂರು, ಶುಕ್ರವಾರ, ಮಾರ್ಚ್ ೧೧, ೨೦೧೬ (ಪುಷ್ಯಣ ೨೧, ಶಕ ವರ್ಷ ೧೯೩೭)	ನಂ. ೩೭೩
Part- IVA	Bengaluru, Friday, March 11, 2016 (Pulhuna 21, Shaka Varsha 1937)	No. 373

ಆರಣ್ಯ ಪರಿಸರ ಮತ್ತು ಜೀವಿಕಾಸ್ತ್ರ ಸಚಿವಾಲಯ
ಅಧಿಸೂಚನೆ

ಸಂಖ್ಯೆ: ಅನಜಿ: 17 ಇಪಿಸಿ 2012, ಬೆಂಗಳೂರು, ದಿನಾಂಕ: 11.03.2016.

ಪ್ಲಾಸ್ಟಿಕ್ ಕ್ಯಾರಿಬ್ಯಾಗ್‌ಗಳು ಹಾಗೂ ದೈನಂದಿನ ಬಳಕೆಯಲ್ಲಿರುವ ಇತರೆ ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳು ಅಲಾವಧಿ ಹಾಗೂ ದೀರ್ಘಾವಧಿಯಲ್ಲಿ ಪರಿಸರಕ್ಕೆ ಹಾನಿಯನ್ನು ಮತ್ತು ಆರೋಗ್ಯಕ್ಕೆ ಅಪಾಯವನ್ನು ಉಂಟುಮಾಡಲು ಕಾರಣವಾಗಿರುತ್ತದೆ.

ಭಾರತದ ಸಂವಿಧಾನದ ಕಲಂ-48ಎ ಅನ್ವಯ, ಪ್ರತಿ ರಾಜ್ಯ ಸರ್ಕಾರವೂ ಪರಿಸರದ ಮಟ್ಟವನ್ನು ಉತ್ತಮಪಡಿಸುವ ಜವಾಬ್ದಾರಿಯನ್ನು ಹೊಂದಿರುತ್ತದೆ.

ಪ್ಲಾಸ್ಟಿಕ್ ಕ್ಯಾರಿಬ್ಯಾಗ್, ಪ್ಲಾಸ್ಟಿಕ್ ಭತ್ತಿಪತ್ರ, ಪ್ಲಾಸ್ಟಿಕ್ ತೋರಣ, ಪ್ಲೆಕ್ಸ್, ಬಾವುಟ, ಪ್ಲಾಸ್ಟಿಕ್ ತಟ್ಟೆ, ಪ್ಲಾಸ್ಟಿಕ್ ಲೋಟ, ಪ್ಲಾಸ್ಟಿಕ್ ಚಮಚಗಳು, ಕ್ಲಿಂಗ್ ಫಿಲ್ಮ್ ಮತ್ತು ಉಟದ ಮೇಜಿನ ಮೇಲೆ ಹರಡುವ ಪ್ಲಾಸ್ಟಿಕ್ ಹಾಳೆಗಳು ಮತ್ತು ಫರ್ಮೋಕೋಲ್‌ನಿಂದ ತಯಾರಾದ ವಸ್ತುಗಳ ವ್ಯಾಪಕ ಬಳಕೆಯಿಂದಾಗಿ ಪರಿಸರಕ್ಕೆ ಹಾನಿ ಹಾಗೂ ಮಾನವ ಮತ್ತಿತರ ಪ್ರಾಣಿಗಳ ಆರೋಗ್ಯಕ್ಕೆ ಅಪಾಯ ಉಂಟಾಗುತ್ತಿರುವುದು ಸರ್ಕಾರದ ಗಮನಕ್ಕೆ ಬಂದಿರುತ್ತದೆ.

ಪ್ಲಾಸ್ಟಿಕ್ ಪ್ಯಾಚ್ಚುಗಳು ಬರಂದಿಗಳ, ಮೋರಿಗಳ ಮತ್ತು ಒಳಚರಂಡಿಗಳ ಸರಾಗ ಹರಿವಿಗೆ ತಡೆಯನ್ನು ಉಂಟುಮಾಡುವುದರ ಜೊತೆಗೆ ನಗರ ಪ್ರದೇಶಗಳಲ್ಲಿನ ಜಲಕಾಯಗಳ ಮಾಲಿನ್ಯಕ್ಕೆ ಕಾರಣವಾಗುತ್ತಿರುವುದನ್ನು ಗಮನಿಸಲಾಗಿದೆ.

ಆದುದರಿಂದ, ಇಂತಹ ಸಮಸ್ಯೆಗಳು ಪುನರಾವರ್ತನೆಯಾಗದಂತೆ ಪರಿಣಾಮಕಾರಿಯಾಗಿ ತಡೆಯುವ ದೃಷ್ಟಿಯಿಂದ, ರಾಜ್ಯ ಸರ್ಕಾರಕ್ಕೆ ಪ್ರದತ್ತವಾಗಿರುವ ಪರಿಸರ (ಸಂರಕ್ಷಣೆ) ಕಾಯಿದೆ 1986ರ ಸೆಕ್ಷನ್ 5ರಲ್ಲಿನ ಅಧಿಕಾರವನ್ನು ಜನಾಯಿಸಿ ಪ್ಲಾಸ್ಟಿಕ್ ಕ್ಯಾರಿಬ್ಯಾಗ್, ಪ್ಲಾಸ್ಟಿಕ್ ಭತ್ತಿಪತ್ರ, ಪ್ಲಾಸ್ಟಿಕ್ ತೋರಣ, ಪ್ಲೆಕ್ಸ್, ಬಾವುಟ, ಪ್ಲಾಸ್ಟಿಕ್ ತಟ್ಟೆ, ಪ್ಲಾಸ್ಟಿಕ್ ಲೋಟ, ಪ್ಲಾಸ್ಟಿಕ್ ಚಮಚ, ಕ್ಲಿಂಗ್ ಫಿಲ್ಮ್ ಮತ್ತು ಉಟದ ಮೇಜಿನ ಮೇಲೆ ಹರಡುವ ಪ್ಲಾಸ್ಟಿಕ್ ಹಾಳೆ ಹಾಗೂ ಫರ್ಮೋಕೋಲ್ ಮತ್ತು ಪ್ಲಾಸ್ಟಿಕ್ ಮೈಕ್ರೋ ಬೀಡ್‌ನಿಂದ ತಯಾರಾದಂತಹ ಮೇಲ್ಕಂಡ ವಸ್ತುಗಳ ತಯಾರಿಕೆ, ಸರಬರಾಜು ಮತ್ತು ಬಳಕೆಯನ್ನು ನಿಷೇಧಿಸಿ ಸರ್ಕಾರ ರಾಜ್ಯದ ಕೆಳಗಿನ ನಿರ್ದೇಶನವನ್ನು ಹೊರಡಿಸಿದೆ. ಈ ಅಧಿಸೂಚನೆ ರಾಜ್ಯಪತ್ರದಲ್ಲಿ ಪ್ರಕಟಗೊಂಡ ದಿನಾಂಕದಿಂದ ಜಾರಿಗೆ ಬರುತ್ತದೆ.

ನಿರ್ದೇಶನ

- ಯಾವುದೇ ವ್ಯಕ್ತಿ, ಅಂಗಡಿ ಮಾಲೀಕ, ಮಾರಾಟಗಾರ, ಸಗಟುಮಾರಾಟಗಾರ ಅಥವಾ ಚಿಲ್ಲರೆವ್ಯಾಪಾರಿ, ವ್ಯಾಪಾರಿ ಮತ್ತು ಮಾರಾಟಗಾರರು, ಯಾವುದೇ ದಪ್ಪದ ಯಾವುದೇ ರೀತಿಯ ಪ್ಲಾಸ್ಟಿಕ್ ಕ್ಯಾರಿಬ್ಯಾಗ್, ಪ್ಲಾಸ್ಟಿಕ್ ಭತ್ತಿಪತ್ರ, ಪ್ಲಾಸ್ಟಿಕ್ ತೋರಣ, ಪ್ಲೆಕ್ಸ್, ಪ್ಲಾಸ್ಟಿಕ್ ಬಾವುಟ, ಪ್ಲಾಸ್ಟಿಕ್ ತಟ್ಟೆ, ಪ್ಲಾಸ್ಟಿಕ್ ಲೋಟ, ಪ್ಲಾಸ್ಟಿಕ್ ಚಮಚ, ಕ್ಲಿಂಗ್ ಫಿಲ್ಮ್ ಮತ್ತು ಉಟದ ಮೇಜಿನ ಮೇಲೆ ಹರಡುವ ಪ್ಲಾಸ್ಟಿಕ್ ಹಾಳೆ ಹಾಗೂ ಫರ್ಮೋಕೋಲ್ ಮತ್ತು ಪ್ಲಾಸ್ಟಿಕ್ ಮೈಕ್ರೋ ಬೀಡ್‌ನಿಂದ ತಯಾರಾದಂತಹ ಮೇಲ್ಕಂಡ ವಸ್ತುಗಳ ಬಳಕೆಯನ್ನು ರಾಜ್ಯದಾದ್ಯಂತ ನಿಷೇಧಿಸಲಾಗಿದೆ. ಮುಂದುವರೆದು, ಯಾವುದೇ ಕೈಗಾರಿಕೆ ಅಥವಾ ವ್ಯಕ್ತಿ ಯಾವುದೇ ದಪ್ಪದ ಯಾವುದೇ ರೀತಿಯ ಪ್ಲಾಸ್ಟಿಕ್ ಕ್ಯಾರಿಬ್ಯಾಗ್, ಪ್ಲಾಸ್ಟಿಕ್ ಭತ್ತಿಪತ್ರ, ಪ್ಲಾಸ್ಟಿಕ್ ತೋರಣ, ಪ್ಲೆಕ್ಸ್, ಪ್ಲಾಸ್ಟಿಕ್

ಬಾವುಟ, ಪ್ಲಾಸ್ಟಿಕ್ ತಟ್ಟೆ, ಪ್ಲಾಸ್ಟಿಕ್ ರೋಟಿ, ಪ್ಲಾಸ್ಟಿಕ್ ಚಮಚ, ಕ್ಲಿಂಗ್ ಫಿಲ್ಮ್ ಮತ್ತು ಉಟದ ಮೇಜಿನ ಮೇಲೆ ಹರಡುವ ಪ್ಲಾಸ್ಟಿಕ್ ಹಾಳೆ ಹಾಗೂ ಥರ್ಮೋಕೋಲ ಮತ್ತು ಪ್ಲಾಸ್ಟಿಕ್ ಮೈಕ್ರೋ ಬೀಡ್‌ನಿಂದ ಶಯಾನಾದಂತಹ ಮೇಲ್ಕಂಡ ವಸ್ತುಗಳ ತಯಾರಿಕೆ, ಸರಬರಾಜು, ಸಂಗ್ರಹಣೆ, ಸಾಗಾಣಿಕೆ, ಮಾರಾಟ ಮತ್ತು ವಿತರಣೆ ಮಾಡುವುದನ್ನು ರಾಜ್ಯಾದ್ಯಂತ ನಿಷೇಧಿಸಿದೆ.

ಪರಂತು, ಈ ಕೆಳಕಂಡ ಸಂದರ್ಭ ಮತ್ತು ಜಟಿಲತೆಗಳಿಗೆ ಬಳಸುವ ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳಿಗೆ ಈ ಅಧಿಸೂಚನೆಯಿಂದ ವಿನಾಯಿತಿ ನೀಡಲಾಗಿದೆ.

- ಅ) ಏಕೇಷ್‌ ಆರ್ಥಿಕ ವಲಯ (SEZ) ಮತ್ತು ರಫ್ತು ಉದ್ದೇಶಿತ ಘಟಕಗಳಲ್ಲಿ (EOU) ಸ್ಥಾಪಿತವಾದ ಪ್ಲಾಸ್ಟಿಕ್ ಉದ್ಯಮದಲ್ಲಿ ರಫ್ತು ಮಾಡುವ ಉದ್ದೇಶಕ್ಕಿಂದು ಪ್ರತ್ಯೇಕವಾಗಿ ಹಾಗೂ ರಫ್ತು ಆರ್ಡರ್ ಮೇರೆಗೆ ಉತ್ಪಾದಿಸಲ್ಪಡುವ ಪ್ಲಾಸ್ಟಿಕ್ ವಸ್ತುಗಳು.
 - ಆ) ಸಾಮಗ್ರಿಗಳನ್ನು ಬಳಸುವುದಕ್ಕೆ ಮೊದಲು ಉತ್ಪಾದನಾ/ಸಂಸ್ಕರಣಾ ಘಟಕಗಳಲ್ಲಿ ಪ್ಯಾಕ್ ಮಾಡಿ ಸೀಲ್ ಮಾಡಲು ಬಳಸುವ ಹಾಗೂ ಸಾಮಗ್ರಿಗಳ ಪ್ಯಾಕೇಜಿಂಗ್ ಮಾಡುವ ಸಂದರ್ಭದಲ್ಲಿ ಅವಿಭಾಜ್ಯವಾಗಿ ಉಪಯೋಗಿಸುವ ಪ್ಲಾಸ್ಟಿಕ್ ಪ್ಯಾಕ್‌ಗಳು.
 - ಇ) ಸರ್ಕಾರಿ ಇಲಾಖೆಗಳಿಂದ ಅಥವಾ ಇತರೆ ಸಂಬಂಧಪಟ್ಟ ಸಂಸ್ಥೆಗಳಿಂದ ಸ್ವೀಕೃತವಾದ ಆರ್ಡರ್‌ಗೆ ಎದುರಾಗಿ ಆರಣ್ಯ ಮತ್ತು ತೋಟಗಾರಿಕೆ ವರ್ಸಿಂಗ್‌ನಲ್ಲಿ ಬಳಸುವ ಪ್ಲಾಸ್ಟಿಕ್ ಜೀಲಗಳು ಹಾಗೂ ಹಾಳೆಗಳು.
 - ಈ) ಪಾಲಿ ಮತ್ತು ಪಾಲಿ ಉತ್ಪನ್ನಗಳ (ಹೈಮು ಉತ್ಪನ್ನಗಳು) ಪ್ಯಾಕಿಂಗ್‌ಗೆ ಬಳಸುವ ಪ್ಲಾಸ್ಟಿಕ್‌ಗಳು.
2. ಈ ನಿರ್ದೇಶನವನ್ನು ಕೆಳಗೆ ಪಟ್ಟಿಮಾಡಿದ ಅಧಿಕಾರಿಗಳು ಆಯಾ ಹುದ್ದೆಗಳಿಗೆ ನಿಯಮಾನುಸಾರ ಪ್ರದತ್ತವಾಗಿರುವ ಅಧಿಕಾರದಂತೆ ಅವರವರ ಕಾರ್ಯವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಜಾರಿಗೊಳಿಸಬಹುದಾಗಿರುತ್ತದೆ:
- ಆ. ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ ಆಯುಕ್ತರು, ಜಂಟಿ ಆಯುಕ್ತರುಗಳು, ಕಂದಾಯ ಅಧಿಕಾರಿಗಳು, ಪಾಲಿಕೆಯ ಎಲ್ಲಾ ಸಾರ್ವಜನಿಕ ಕಡೋಗ್ಯಾಧಿಕಾರಿಗಳು ಮತ್ತು ಎಲ್ಲಾ ಅಭಿಯಂತರರು.
 - ಇ. ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು.
 - ಇ. ರಾಜ್ಯದ ಎಲ್ಲಾ ನಗರ ಸಭೆ ಆಯುಕ್ತರು, ಮುಖ್ಯಾಧಿಕಾರಿಗಳು, ನಗರ ಸಭೆ ಕಡೋಗ್ಯಾಧಿಕಾರಿಗಳು ಮತ್ತು ಎಲ್ಲಾ ಅಭಿಯಂತರರು.
 - ಈ. ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಸಹಾಯಕ ಪರಿಸರ ಅಧಿಕಾರಿ, ಉಪ ಪರಿಸರ ಅಧಿಕಾರಿ, ಪರಿಸರ ಅಧಿಕಾರಿ ಮತ್ತು ಓರಿಯ ಪರಿಸರ ಅಧಿಕಾರಿಗಳು.
 - ಉ. ಕಂದಾಯ ಉಪ ವಿಭಾಗದ ಎಲ್ಲಾ ಸಹಾಯಕ ಆಯುಕ್ತರುಗಳು.
 - ಊ. ಎಲ್ಲಾ ತಾಲ್ಲೂಕುಗಳ ತಹಶೀಲ್ದಾರರು.
 - ಋ. ಪಾಲಿಜಿ ತೆರಿಗೆ ಇಲಾಖೆಯ ಎಲ್ಲಾ ಅಧಿಕಾರಿಗಳು.
 - ಎ. ಆಹಾರ ಮತ್ತು ನಾಗರಿಕ ಸೂಕ್ಷ್ಮ ಇಲಾಖೆಯ ಎಲ್ಲಾ ಅಧಿಕಾರಿಗಳು.
 - ಐ. ಕೂಕ ಮಾಪನ ಮತ್ತು ಅಳತೆ ಇಲಾಖೆಯ ನಿಯಂತ್ರಕರು, ಉಪ ನಿಯಂತ್ರಕರು, ಪ್ರಾದೇಶಿಕ ಅಧಿಕಾರಿಗಳು.
3. ಈ ನಿರ್ದೇಶನವನ್ನು ಉಲ್ಲಂಘಿಸಿದ ಸಂದರ್ಭದಲ್ಲಿ ಕೆಳಕಂಡ ಅಧಿಕಾರಿಗಳು ಅಪರಾಧದ ಸ್ವರೂಪಕ್ಕೆ ಅನುಗುಣವಾಗಿ ಪರಿಸರ (ಸಂರಕ್ಷಣೆ) ಕಾಯಿದೆ, 1986ರ ಸೆಕ್ಷನ್ 19ರ ಅನ್ವಯ ಪ್ರದತ್ತವಾಗಿರುವ ಅಧಿಕಾರದಂತೆ ಈ ಅಧಿಸೂಚನೆಯನ್ನು ಉಲ್ಲಂಘಿಸಿದವರ ಮೇಲೆ ಆಯಾ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ನ್ಯಾಯಾಲಯದಲ್ಲಿ ಮೊಕದ್ದಮೆಯನ್ನು ಹೂಡಲು ಕ್ರಮ ಜರುಗಿಸುವುದು.
- ಆ. ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿ (ಪರಿಸರ ಮತ್ತು ಬೇವಿಶಾಸ್ತ್ರ) ಆರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ.
 - ಆ. ಎಲ್ಲಾ ಜಿಲ್ಲೆಗಳ ಜಿಲ್ಲಾಧಿಕಾರಿಗಳು
 - ಇ. ಕಂದಾಯ ಇಲಾಖೆಯ ಎಲ್ಲಾ ಸಹಾಯಕ ಆಯುಕ್ತರುಗಳು.
 - ಈ. ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಅಧ್ಯಕ್ಷರು ಮತ್ತು ಸದಸ್ಯ ಕಾರ್ಯದರ್ಶಿಗಳು.
 - ಉ. ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿಯ ಎಲ್ಲಾ ಪ್ರಾದೇಶಿಕ ಪರಿಸರ ಅಧಿಕಾರಿಗಳು.
- ವಿವರಣೆ 1** "ಪ್ಲಾಸ್ಟಿಕ್" ಎಂದರೆ ಪಾಲಿ ಪ್ರೊಪೈಲಿನ್ (PP), ನಾನ್-ಓವನ್ ಪಾಲಿ ಪ್ರೊಪೈಲಿನ್, ಮಲ್ಟಿ ಲೇಯರ್ಡ್ ಕೊ-ಎಕ್‌ಟ್ರೂಡರ್ ಪಾಲಿ ಪ್ರೊಪೈಲಿನ್, ಪಾಲಿ ಇತಲಿನ್ (PE), ಪಾಲಿ ವಿನೈಲ್ ಕ್ಲೋರೈಡ್ (PVC), ಹೈ ಮತ್ತು ಲೋ ಡೆನ್ಸಿಟಿ ಪಾಲಿ ಇತಲಿನ್ (HDPE & LDPE), ಥರ್ಮೋಕೋಲ ಎಂದು ಕರೆಯಲ್ಪಡುವ ಪಾಲಿ ಸ್ಟಿನ್ (PS), ಪಾಲಿ

ಆಮ್ನಿಡ್ (ನೈಲಾನ್), ಪಾಲಿ ಟೆರೆಫ್ಥೇಲೇಟ್ (PT), ಪಾಲಿ ಮೀಥೈಲ್ ಮೆಥಾಕ್ರಿಲೇಟ್ (PMM) ಮತ್ತು ಪ್ಲಾಸ್ಟಿಕ್ ಮೈಸೆಂಜಿ ಬೀಡ್ಗಳಿಂದ ತಯಾರಾದ ಈ ನಿರ್ದೇಶನದಲ್ಲಿ ಹೆಸರಿಸಲ್ಪಟ್ಟಿರುವ ಎಲ್ಲಾ ವಸ್ತುಗಳು.

ವಿವರಣೆ 2 - "ಕ್ಯಾರಿಬ್ಯಾಗ್" ಎಂಬ ಶಬ್ದಕ್ಕೆ ಪ್ಲಾಸ್ಟಿಕ್ ತ್ಯಾಜ್ಯ (ನಿರ್ವಹಣೆ ಮತ್ತು ನಿಭಾವಣೆ) ನಿಯಮಗಳು 2011ರ ನಿಯಮ 3 (ಬಿ)ರಲ್ಲಿ ನೀಡಿರುವ ವ್ಯಾಖ್ಯಾನವನ್ನು ಯಶಾವತ್ತಾಗಿ ಬಳಸುವುದು. ಈ ವ್ಯಾಖ್ಯಾನದಲ್ಲಿ ಯಾವುದೇ ಸಾಮಗ್ರಿಗಳನ್ನು ಬಳಸುವುದಕ್ಕೆ ಮೊದಲು ಪ್ಯಾಕ್ ಮಾಡಿ ಸೀಲ್ ಮಾಡಿರುವ ಪ್ಯಾಕೇಜಿಂಗ್ ಪ್ಲಾಸ್ಟಿಕ್‌ಗಳು ಸೇರಿರುವುದಿಲ್ಲ.

ವಿವರಣೆ 3 - ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಲಿಯು ಪ್ಲಾಸ್ಟಿಕ್ ತ್ಯಾಜ್ಯ (ನಿರ್ವಹಣೆ ಮತ್ತು ನಿಭಾವಣೆ) ನಿಯಮಗಳು 2011ರ ನಿಯಮ(4)ರ ಷರತ್ತು (ಎ) ನಲ್ಲಿ ಪಟ್ಟಿಮಾಡಲಾಗಿರುವ ಕಾರ್ಯಗಳನ್ನು ಜಾರಿಗೊಳಿಸುವ ಅಧಿಕಾರವನ್ನು ಒಂದುದಿದ್ದು ಇನ್ನೊಂದು ಸ್ಥಳೀಯ ಸಂಸ್ಥೆಗಳು ನಿಯಮ (4)ರ ಷರತ್ತು (ಬಿ)ನಲ್ಲಿ ಪಟ್ಟಿಮಾಡಲಾಗಿರುವ ಕಾರ್ಯಗಳನ್ನು ನಿರ್ವಹಿಸುವ ಅಧಿಕಾರವನ್ನು ಹೊಂದಿರುತ್ತವೆ.

ವಿವರಣೆ 4 - ಭಾರತ ಸರ್ಕಾರವು ಹೊರಡಿಸಿರುವ ಅಧಿಸೂಚನೆ ಸಂ:ಎಸ್.ಒ.394(ಇ), ದಿನಾಂಕ:16.04.1987ರಲ್ಲಿ ಹಾಗೂ ಕಾಲಕಾಲಕ್ಕೆ ಆಗುವ ತಿದ್ದುಪಡಿಗಳ ಅನುಸಾರ ಪಟ್ಟಿಮಾಡಲಾಗಿರುವ ಎಲ್ಲಾ ಅಧಿಕಾರಿಗಳು ಈ ಅಧಿಸೂಚನೆಯನ್ನು ಉಲ್ಲಂಘಿಸದವರ ವಿರುದ್ಧ ಸಂಬಂಧಪಟ್ಟ ನ್ಯಾಯಾಲಯದಲ್ಲಿ ಪರಿಸರ (ಸಂರಕ್ಷಣೆ) ಕಾಯಿದೆ, 1986ರ ಸೆಕ್ಷನ್ 19ರಡಿ ದೂರುಗಳನ್ನು ದಾಖಲಿಸುವ ಅಧಿಕಾರವನ್ನು ಹೊಂದಿರುತ್ತಾರೆ.

ಕರ್ನಾಟಕ ರಾಜ್ಯಪಾಲರ ಆದೇಶಾನುಸಾರ ಮತ್ತು ಅವರ ಹೆಸರಿನಲ್ಲಿ

ಮಹೇಂದ್ರ ಜೈನ್

ಸರ್ಕಾರದ ಅಪರ ಮುಖ್ಯ ಕಾರ್ಯದರ್ಶಿ
ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆ.

**FOREST, ECOLOGY AND ENVIRONMENT SECRETARIAT
NOTIFICATION**

No. FEE 17 EPC 2012, Bangalore, Dated: 11.03.2016

Whereas, plastic carry bags and other plastic items used in daily life cause short term and long term environmental damage and health hazard;

And whereas, Article 48-A of the Constitution of India, inter alia, envisages that the State shall endeavor to protect and improve the environment;

And whereas, it has come to the knowledge of the Government that, the use of plastic carry bags, banners, buntings, flex, plastic flags, plastic plates, plastic cups, plastic spoons, cling films and plastic sheets used for spreading on dining table and items that are made of thermocol are causing serious environmental hazards and affects health of human beings as well as animals;

And whereas, it is observed that the plastic wastes is also causing blockage of gutters, sewers and drains apart from resulting in pollution of water bodies in urban areas;

And whereas, with a view to prevent the recurrence of such problems, the State Government in exercise of the powers conferred under Section 5 of the Environment (Protection) Act, 1986, issues the following directions imposing ban on manufacture, supply, sale and use of plastic carry bags, plastic banners, plastic buntings, flex, plastic flags, plastic plates, plastic cups, plastic spoons, cling films and plastic sheets used for spreading on dining table including the above items made of thermocol and plastic which use plastic micro beads in the state. This notification comes into effect from the date of its publication in the Official Gazette.

DIRECTION

1. No person including shopkeeper, vendor, wholesaler, retailer, trader, hawker or salesmen shall use plastic carry bags, plastic banners, plastic buntings, flex, plastic flags, plastic plates, plastic cups, plastic spoons, cling films and plastic sheets used for spreading on dining table irrespective of thickness including the above items made of thermocol and plastic which use plastic micro beads. Further, no industry or person shall manufacture, supply, store, transport, sale and/or distribute plastic carry bags, plastic banners, plastic buntings, flex, plastic flags, plastic plates, plastic cups, plastic spoons, cling films and plastic sheets used for spreading on

dining table irrespective of their thickness including the above items made of thermocol and plastic which use plastic micro beads in the State.

Provided that, the plastic used for the following purposes and circumstances are exempted from this notification;

- a) The plastic carry bags manufactured exclusively for export purpose against any export orders in a plastic industry located in Special Economic Zone (SEZ) and Export Oriented Units (EOU).
 - b) The plastic bags which constitute or form an integral part of packaging in which goods are sealed prior to use at manufacturing/processing units.
 - c) The plastic bags and sheets used in Forestry and Horticulture nurseries against the orders from the Govt Departments or from the firms concerned.
 - d) The plastic used for packing of milk and milk products (dairy products).
2. That the following Officers shall enforce this direction in exercise of power conferred on them by law in their jurisdiction.
- a) The Commissioner, Joint Commissioners, Revenue Officers, all Health Officers and all Engineers of BBMP.
 - b) All Deputy Commissioners of the districts.
 - c) All Commissioners of City Corporations, Chief Officers, Health Officers and all Engineers of Urban Local Bodies.
 - d) All Assistant Environmental Officers, Deputy Environmental Officers, Environmental Officers and Senior Environmental Officers of KSPCB.
 - e) All Assistant Commissioners of Revenue Sub Divisions.
 - f) Tahsildars of all Taluks.
 - g) All officers of Commercial Tax Department.
 - h) All officers of Department of Food and Civil supplies.
 - i) The Controller, Deputy Controller and Regional Officers of Legal Metrology Department.
3. That the following officers shall take cognizance of offences and initiate legal action in case of noncompliance of this direction as per the powers conferred on them under section 19 of the Environment (Protection) Act, 1986 and to file complaint in the jurisdictional court of law on all violators.
- a) Secretary to Government (Ecology & Environment), Forest, Environment and Ecology Department.
 - b) Chairman and Member Secretary, KSPCB.
 - c) Deputy Commissioners of the Districts.
 - d) Assistant Commissioners of Revenue Sub Divisions.
 - e) Regional Officers of KSPCB.

Explanation 1- "Plastic" means any of the items mentioned in this direction made out of poly propylene (PP), non-woven poly propylene, multi layered co extruder poly propylene, poly ethylene (PE), poly vinyl chloride (PVC), high and low density poly ethylene (HDPE & LDPE), poly styrene (PS) which is also called thermocol, poly amides (Nylon), poly terephthalate (PT), poly methyl methacrylate (PMM) and plastic micro beads.

Explanation 2- The word "carry bag" will have the same meaning that is provided in Rule 3 (b) of the Plastic Waste (Management and Handling) Rules, 2011. In this definition exemption is provided for plastic bag that constitute or form an integral part of packaging in which goods are sealed prior to use.

Explanation 3- Karnataka State Pollution Control Board shall be responsible for enforcement regarding the functions specified in clause (a) of Rule 4 of the Plastic Waste (Management and Handling) Rules, 2011 and Urban Local Bodies shall be responsible for enforcement regarding the functions specified in clause (b) of rule 4 of the said Rules;

Explanation 4- Officers as mentioned in Government of India's Notification No.S.O.394 (E) dated 16.04.1987 amended from time to time are authorized to file complaints against violation of directions included in this Notification under Section 19 of the Environment (Protection) Act, 1986.

By Order & in the name of the Governor of Karnataka,

Mahendra Jain
Additional Chief Secretary to Government,
Forest, Ecology and Environment Department

ANNEXURE V.

PENALTY AND FINES FOR SWM



ಕರ್ನಾಟಕ ರಾಜ್ಯಪತ್ರ

ಅಧಿಕೃತವಾಗಿ ಪ್ರಕಟಿಸಲಾದುದು

ವಿಶೇಷ ರಾಜ್ಯ ಪತ್ರಿಕೆ

ಭಾಗ - IV-A	ಬೆಂಗಳೂರು, ಮಂಗಳವಾರ, ಆಗಸ್ಟ್ ೨೦, ೨೦೧೩ (ಶ್ರಾವಣ ೨೯, ಶಕ ವರ್ಷ ೧೯೩೫)	ನಂ. ೧೦೨೦
Part - IV-A	Bangalore, Tuesday, August 20, 2013 (Shravana 29, Shaka Varsha 1935)	No. 1070

ಸಂಸದೀಯ ವ್ಯವಹಾರಗಳು ಮತ್ತು ಶಾಸನ ರಚನಾ ಸಚಿವಾಲಯ

ಅಧಿಸೂಚನೆ

ಸಂಖ್ಯೆ: ಸಂವ್ಯಾಇ 23 ಶಾಸನ 2013, ಬೆಂಗಳೂರು, ದಿನಾಂಕ: 20-08-2013

The Karnataka Municipal Corporations (Amendment) Bill, 2013ಕ್ಕೆ 2013ರ ಆಗಸ್ಟ್ ತಿಂಗಳ ಹತ್ತೊಂಬತ್ತನೇ ದಿನಾಂಕದಂದು ರಾಜ್ಯಪಾಲರ ಒಪ್ಪಿಗೆ ದೊರೆತಿದ್ದು, ಸಾಮಾನ್ಯ ತಿಳುವಳಿಕೆಗಾಗಿ ಇದನ್ನು 2013ರ ಕರ್ನಾಟಕ ಅಧಿನಿಯಮ ಸಂಖ್ಯೆ: 55 ಎಂಬುದಾಗಿ ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪತ್ರದಲ್ಲಿ ಪ್ರಕಟಿಸಬೇಕೆಂದು ಆದೇಶಿಸಲಾಗಿದೆ.

KARNATAKA ACT NO. 55 OF 2013

(First published in the Karnataka Gazette Extra-ordinary on the 20th day of August, 2013)

THE KARNATAKA MUNICIPAL CORPORATIONS (AMENDMENT) ACT, 2013

(Received the assent of the Governor on the 19th day of August, 2013)

An Act further to amend the Karnataka Municipal Corporations Act, 1976.

Whereas it is expedient further to amend the Karnataka Municipal Corporations Act, 1976 (Karnataka Act 14 of 1977), for the purposes hereinafter appearing;

Be it enacted by the Karnataka State Legislature in the sixty-fourth year of the Republic of India as follows, namely:-

1. Short title and commencement.- (1) This Act may be called the Karnataka Municipal Corporations (Amendment) Act, 2013.

(2) It shall come into force at once.

2. Amendment of section 58.- In the Karnataka Municipal Corporations Act, 1976 (Karnataka Act 14 of 1977) (hereinafter referred to as the principal Act), in section 58, after sub-section (20), the following shall be inserted, namely:-

"(20-A) removal of unauthorized cable including Optical Fibre Cables laid under, over, along, the across, in or upon any streets or property vested in the corporation"

3. Amendment of section 255.- In section 255 of the Principal Act, in sub-section (1), after clause (ii), the following shall be inserted, namely:-

"(ii-a) make necessary arrangement for collection of solid waste from owners or occupiers as the case may be;"

4. Substitution of section 256.- For section 256 of the principal Act, the following shall be substituted, namely:-

"256. Public notice ordering deposit of rubbish and filth by occupier.- (1) The Commissioner may, by public notice, direct that all rubbish and filth accumulating in any premises in any street or quarter of the city specified in the notice shall be collected by the owner or occupier of such premises, and after segregating it, hand it over to the concerned collector of solid waste or dispose it in such manner as may be specified in the notification, different manner may be specified in respect of different kind of solid wastes.

(2) The Commissioner may cause solid wastes are collected and disposed at suitable intervals and in proper and convenient situation in respect of which no notice issued under sub-section (1) is for the time being in force, and may by public notice direct that all rubbish and filth accumulating in any premises, are segregated and handed over or disposed off in accordance with such rules or bye-law as may be made in this regard."

5. Substitution of section 257.- For section 257 of the principal Act, the following shall be substituted, namely:-

"257. Removal of rubbish and filth accumulating in large quantities on premises.- When any premises are used for carrying on any manufacture, trade or business or in any way so that rubbish or filth or any solid waste is accumulated in quantities which are, in the opinion of the Commissioner, too considerable to be segregated and deposited or handed over to concerned in any of the methods specified, by a notice issued under section 256, the Commissioner may,-

(a) by notice require the owner or occupier of such premises to collect all rubbish and filth or any solid waste after segregation accumulating thereon, and to remove the same at such times, in such carts or receptacles, and by such routes as may be specified in the notice to a depot or place provided or appointed under section 255; or

(b) after giving such owner or occupier notice of his intention, cause all rubbish and filth or solid waste accumulated in such premises to be segregated and removed and charge the said owner or occupier for such removal such periodical fee as may, with the sanction of the standing committee, be specified in the notice issued under clause (a)."

6. Amendment of section 258.- In section 258 of the principal Act, in clause (b), in sub-clause (ii), after the words "all things", the words "collected or" shall be inserted.

7. Amendment of section 262.- In section 262 of the principal Act, for sub-section (2), the following shall be substituted, namely:-

"(2) Any person who contravenes the provisions of sub-section (1) shall be punished with fine which may extend to five hundred rupees and with further fine which may extend to fifty rupees for every day on which such offence is continued, after the date of the first conviction and if any person is convicted for the fifth time of an offence for the contravention of the provisions of sub-section (1) he shall be punished with imprisonment for a term which may extend to three months or with fine which may extend to one thousand rupees, or with both."

8. Amendment of section 421.- In section 421 of the principal Act, in sub-section (5), for the words "one hundred rupees", the words "one thousand rupees" shall be substituted.

9. Amendment of section 423.- In section 423 of the principal Act,-

(a) In sub-section (7), after clause (b), the following shall be inserted, namely:-

"(bb) for the regulation of the laying of any cable including Optical Fibre Cables and imposing the conditions thereof and levying of such fees or annual track rent on the cable including Optical Fibre Cables so laid "

(b) after sub-section (29), the following shall be inserted, namely:-

"(30) manner of segregation and disposal of solid waste including bulk generation of solid waste and bio-medical solid waste and penalty for contravention of the same."

10. Substitution of section 424.- For section 424 of the principal Act, the following shall be substituted, namely:-

"424. Power to give retrospective effect to certain bye-laws and penalties for breaches of bye-laws.- (1) Bye-laws with regard to the drainage of, and supply of water to, buildings and water-closets, earth closets, privies, ash-pits, solid waste management and cess-pools in connection with buildings and the keeping of water-closets supplied with sufficient water for flushing may be made so as to affect buildings erected before the making of bye-laws under this Act.

(2) In making any bye-law under sections 423 and this section the corporation may provide that a breach thereof shall be punishable.-

(a) with fine which may extend to one thousand rupees, and in case of a continuing breach, with fine which may extend to three hundred rupees for every day during which the breach continues after conviction for the first breach, or

(b) with fine which may extend to two hundred rupees for every day during which the breach continues after receipt of notice from the Commissioner to discontinue such breach."

11. Insertion of new section 431-A and 431B.- After section 431 of the principal Act, the following shall be inserted, namely:-

"431-A. Penalties for failure to comply with the Solid Waste Management Scheme.- (1) It shall be the duty of every owner or occupier generating of solid waste to comply with any notification issued by the State Government, Bye-laws framed by the Corporation, Order, Circular or Public notice issued by the Commissioner or other authority regarding the manner of ensuring cleanliness, sanitation, handling, Transport, processing and disposal of Solid Wastes.

(2) Whoever commits any act of commission or omission which is likely to obstruct, impair or fails to comply with the provisions of sub-section (1) or the Solid Waste Management Scheme for the time being in force or commits any offence specified in column (2) of Schedule XIII shall on conviction be punished with fine as specified column (3) of the schedule XIII and on continued offence with fine as specified in column (4) thereof or which may extend to rupees one thousand.

(3) The Corporation may by making bye-law alter, amend or vary any of the entries in Schedule XIII.

Explanation:- For the purpose of this section "Solid Waste Management Scheme" means a series of measures taken by the Corporation for the purpose of effective handling, collection, transport, processing and disposal of Municipal Solid Wastes for discharge of its obligations enumerated under the Municipal Solid Wastes (Management and Handling) Rules, 2000 issued by the Central Government under the Environment Protection Act, 1986 (Central Act 29 of 1986) or any other provisions of law as may be applicable for management of Municipal Solid Wastes.

431-B. Compounding of offence.- Any officer authorized by the Commissioner not below the rank of Group-B officer may accept, in the prescribed manner, from any person who has committed or it reasonably suspected of having committed an offence punishable under sub-section (1) and (2) of section 431-A, such sum of money specified in Schedule XIII or any sum of money as may be prescribed, by way of composition of the offence which such person has committed or is reasonably suspected of having committed and on the payment of such sum of money to the authorized officer such person, if in custody, shall be set at liberty and no further proceedings shall be taken against such person with reference to the same act."

12. Amendment of Schedule XI.- In Schedule XI to the principal Act, entries pertaining to sections 256(1), 256(2), 257(b), 263 (1), (2), (3), (4) and (5) shall be omitted.

13. Insertion of new Schedule XIII.- After Schedule XII of the principal Act, the following shall be inserted, namely:-

"Schedule-XIII
(see section 431 -A)

Sl. No.	Act of Commission or Omission	Penalty for the first offence	Penalty for the second and subsequent offence
01	Littering, spitting, urinating, open defecating or committing other acts of nuisance on Road, Bus Station, Railway Station, Street, Playground, Park and other Premises of Public Utility.	Rs. 100/-	Rs. 200/-
02	Failure to segregate Dry Waste from Wet Waste and hand over the same separately to collector of waste in accordance with the Notification, Bye-laws, Public Notice or circular issued by the competent authority from time to time. (i) by any domestic occupier (ii) by any bulk Generator or commercial complex	Rs. 100/- Rs. 500/-	Rs. 500/- Rs. 1000/-
03	Failure to comply with any lawful directions issued by the Commissioner to ensure cleanliness and hygiene of Road, Bus Station, Railway Station, Street, Playground, Park and other Premises of Public utility.	Rs. 100/-	Rs. 200/-
04	Failure to segregate and hand over garden waste, inert waste, sanitary, non-Bio degradable and Bio-medical waste or any other category Waste separately to the Corporation for the purpose of handling and transportation of the Wastes in the manner specified by the Corporation.	Rs. 500/-	Rs. 1000/-
05	Irregular deposit of rubbish or filth or any solid waste	Rs.100/-	Rs.200/-
06	Allowing filth to flow in streets	Rs.100/-	Rs.200/-
07	Depositing carcasses of animals or filth in improper place	Rs.100/-	Rs.200/-
08	Dumping of building waste irregularly	Rs.1000/-	Rs.5000/-

By Order and in the name of the Governor of Karnataka

K. S. MUDAGAL

Secretary to Government (i/c)

Department of Parliamentary Affairs and Legislation



BRUHATH BANGALORE MAHANAGARA PALIKE

Office of the Commissioner, N.R. Square, Bangalore-02

NO: C/PSR/p29/14-15

DATE: 19-05-2014

NOTIFICATION

Whereas, to enable effective implementation of SolidWastes Management Scheme, the necessary amendments have been brought to Karnataka Municipal Corporations Act, 1976 by Karnataka Act No. 55 of 2013 with effect from 20-08-2013.

Whereas, inter-alia. Necessary amendments have been made by the Karnataka Act No. 55 of 2013 provided for insertion of Schedule-XIII to the Karnataka Municipal Corporations Act, 1976. The Karnataka Act No. 55 of 2013 is published in the Karnataka Gazette (Extraordinary) on 20-08-2013 is enclosed.

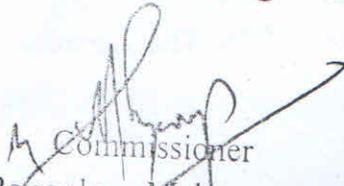
Whereas under Section 66 of the Karnatak Municipal Corporations Act, 1976, the Commissioner. Bruhat Bangalore Mahanagra Palike, is empowered to delegate to any officer of the Corporation subordinate to him, any of his ordinary powers, duties and function including the powers specified in Schedule-III.

Whereas, A Notification dated: 27-08-2013 has been issued to authorize the Assistant Executive Engineer/Assistant Engineer of respective Wards of the Bruhat Bangalore Mahanaga Palike to levy and collect penalty as provided in columns (3) and (4) of Schedule-XIII of the Karnatak Municipal Corporations Act, 1976.

Whereas, the Assistant Executive Engineer/Assistant Engineer of respective Wards are assigned with primary duties of Wards works, enforcements of building byelays etc, along with additional work of implementation of Solid Waste Management. In order to effectively implement the Karnatak Municipal Corporations (Amendments) Act 2013, it has become expedient and necessary for the Commissioner, Bruhat Bangalore Mahangara Palike to authorize the Senior Health Inspector/Junior Health Inspector of respective

Wards in addition to the Assistant Executive Engineer/Assistant Engineer of respective Wards of the Bruhat Bangalore Mahanaga Palike to levy and collect penalty as provided in columns (3) and (4) of Schedule-XIII of the Karnatak Municipal Corporations Act, 1976.

WHEREFORE, in supercession of the Notification dated: 27-08-2013 the undersigned hereby authorize the Assistant Executive Engineer/Assistant Engineer, the Senior Health Inspector/Junior Health Inspector of respective Wards of the Bruhat Bangalore Mahanagara Palike to levy and collect penalty as provided in columns (3) and (4) of Schedule-XIII of the Karnatak Municipal Corporations Act, 1976. Subject to general supervision and control of the Commissioner. Bruhat Bangalore Mahanaga Palike.


Commissioner
Bruhat Bangalore Mahanagara Palike

ANNEXURE VI.

CASE STUDY: COMPOST SANTHE

COMPOST SANTHE

BACKGROUND:

Compost Santhe is an initiative started by the BBMP on 19 February 2017, to engage and educate citizens and especially large (residential/ informal) communities to compost waste at their own houses or community gardens/terraces. Composting organic waste at home keeps majority of our waste out of water bodies and landfills where it will rot and emit poisonous greenhouse gases. It yields rich, nutritious manure that can be used to grow safe food in terrace or backyard gardens.

The BBMP plans to organise Composting Santhes in all 198 wards of the city; 27 Santhes have been organised till date with active support from the SwachaGraha core team, Master trainers, Citizen volunteering groups and the able execution by ward-level citizen leaders. Every Santhe sees participation from the Municipal Commissioner, Mayor, the local MLA and Ward Corporators. Santhes are held every weekend in public places like parks where they attract wide attention and where admission is free. The initiative invites citizens of every ward to educate and inform them about the benefits and easy methods of composting at home.

Since the Compost Santhe's began, they have become a platform to create awareness about Waste segregation, composting, growing food and other sustainable SWM practices: At every Santhe, attendees receive hands-on training on easy composting techniques with demos of various composting and kitchen solutions exhibited by vendors.

There are about 30 to 40 stalls in every compost santhe, few of them are:

- 1. Two bin one bag:** This stall educates the citizens about the importance waste segregation into Dry, wet and sanitary waste.
- 2. Swachha Graha:** This stall teaches citizens how to compost their wet waste at home using easy composting methods at home. There are many alternatives provided to them to help make good quality compost. They are also informed about the different types of composting as per waste and infrastructure available.
- 3. Plastic management:** This stall educates and informs the public about the hazardous

impact of plastic on the environment and encourages recycling and minimising the use of plastic and switching to more eco-friendly products.

4. **Green the red:** This stall educates the women especially to switch from plastic pads to cloth or menstrual cups as it's both eco-friendly and economically viable in the longer run.
5. **Trashonomics:** Trashonomics is a comprehensive book about waste management for school children. This stall is especially aimed at children, where they are taught to manage waste and to avoid littering. SWMRT is trying to make Trashonomics a compulsory school course.

While the Santhes are executed according to a standardised format, each Santhe is lent a unique flavour with the showcasing of relevant local initiatives like street theatre and children's composting and gardening workshops. Apart from stalls there are many vendors attending the compost santhes selling compost wares, coconut peat, other eco-friendly products. The repair cafe, e-waste recycling and upcycling solutions, solar composters, creative products from recycled tetra packs provided an array of solutions to citizens. Eco-friendly sanitary napkins and diapers, disposable plates made from bagasse, pencils from recycled newspapers, khamba pots and a host of gifting ideas attracted residents towards the santhe. During the festival season eco-friendly idols, colours etc is widely available in these stalls. The compost Santhe's especially target Bulk Generators like Apartment complexes and gated communities to compost their waste and demonstrate various ways they could compost their waste in-situ.

Many activities like street plays, skits, music and dance performances by citizens and kids on waste management and composting are another attraction at the Santhe's.



ORGANIZING A COMPOST SANTHE

1. MOBILISING TEAM:

- **AEE:** To spearhead the initiative and provide for the necessary capital and infrastructural requirements.
- **HI:** To assist the AEE's to get work done on the ground and help create awareness about the Santhe's.
- **Master Trainers:** To create awareness about the santhe's by having door to door campaigns.
- **RWAs :**RWA and apartment representatives should take advantage of the Santhe in their localities to understand composting and waste management and carry the information back to their communities. Since it is now mandatory for bulk generators and apartments above 20 units to install in-situ wet waste management solutions, this platform gives RWA representatives a clear understanding of options available.
- **Municipal Corporator/ Mayor/ MLA:** To have representation from ULB is important as it's a platform for interaction between the corporators and citizens, it also acts like a crowd puller.
- **SWMRT core team :**Solid Waste Management Round Table, Bengaluru (SWMRT) is a voluntary group of individuals, bringing their expertise as SWM practitioners , waste management solution & service providers, representatives of waste-pickers & waste workers, and individual activists,and collectively working towards the cause of sustainable decentralised waste management in Bangalore,since 2009. They have been actively involved in conducting compost santhe's.
- **Bangalore Eco team:** Bengaluru Eco Team', which comprises representatives of active residents' welfare associations, members of Solid Waste Management Expert Committee, the civic body's officials including those in the Solid Waste Management Department and zonal commissioners. They too are actively involved in organising Compost Santhe's.
- **Stall Vendors and Trainers/ Experts :** Can provide information and trials on products.
- **Public or Government schools (Not mandatory)**

2. PLANNING AND SCHEDULING:

- Planning is done by the AEE of the ward. The date, time and Venue needs to be fixed. It is carried out on a weekend, usually sundays, from 7:30 am to 12:30 A.M in BBMP public parks/ open ground with high footfall.
- Invite potential and vendors and provide them with necessary infrastructure and resources (this is done through volunteers).
- Invite RWA representatives, Mayors/Counsellors.
- Encourage schools/ teachers/ children and citizens to perform skits, music and dance performances to create awareness about waste segregation and composting.
- Creating a schedule for the day of the event.
- Making food arrangements. (BBMP provides breakfast only for the vendors for coming to santhe and showcasing different styles and technologies with which organic waste can be converted into manure.)
- Budgeting: -varies-

3. IEC & AWARENESS

- Using Master Trainers to create awareness on field.
- Earlier they used newspaper and radio jingles to inform the public about the compost santhe's and give brief information about the event, but that was getting expensive.
- Now they use autos with announcement speakers and handbills to disseminate information about the event.

ANNEXURE VII.

CASE STUDY: BLACK SPOT CLEANING

BLACK SPOT CLEANING

Black Spots are undesignated spots for dumping garbage. These spots block the visual cleanliness of the city no matter how efficiently civic body has been doing its task. Its daunting to deal with recurring black spots, but few anonymous individuals have taken up on themselves to free the city from black spots one by one.

Some Chronic Black spots are shown in the images below:



Collaborators: BBMP and The Ugly Indian / Other Citizen Collectives

Status: Start- 2010

BACKGROUND:

The Ugly Indian (TUI) is an anonymous body of citizens who share a belief that a street, a corner, a neighbourhood, a city and a country can be fixed by fixing one ugly spot at a time. Their motto is “*Kaam Chalu Mooh Bandh*” and focus on fixing black spots for clean public spaces. They have successfully eliminated chronic black spots present in the Kasa Muktha wards and upscaled the same at city level. Black spot cleaning by The Ugly Indian started in the year 2010 as a social experiment in Church Street with an ideology to understand people from point of view of their culture and behavioural psychology. They believe that ‘Broken windows theory’ and ‘Tragedy of the Commons’ is applicable to Indian mentality which says that if a place is ugly

it will become uglier and people care for their private places and not public places, respectively. They say that if people who are rich, powerful and have social influence can not fix a spot then there is something wrong with the common people.

The reason for them being anonymous is that it doesn't reveal their age, gender, caste, religion, language or political views and hence work in peaceful manner without much talking as people won't be able to judge on these matter. Ugly Indian has worked only because it has focused on its work and results and not on people's judgement.





PROCESS:

- The elimination of black spots was done in a planned manner by addressing the root cause of the problem - the inefficient Garbage Collection System. These were not symbolic one-time clean-up drives for the media – rather, they were real solutions that permanently eliminated the need for open garbage dumps. This involved detailed observations, discussions with all stakeholders (public and BBMP), smart design interventions and silent direct hands-on action (called SPOT FIXES).
- Either they identify and clean a spot themselves or any other person can mail them name and location of a particular place which they wish to see clean and can also suggest on how to clear that spot. They clear out the space and then work on beautification as this might prevent people from dumping or dirtying the place further. They paint the area and add flower pots to make the place look beautiful and neat.



MATRIX

<i>TYPE OF BLACK SPOT</i>	<i>COMMON AREAS</i>	<i>CAUSALITY</i>	<i>SOLUTION</i>
Open Dumps	Slums and low income areas	Lack of collection coverage & services (erratic pick up)	Consistent pickup and proper coverage of the area
	Commercial Areas	Lack of bins and timing issues	Placing bins at right places and clarity on pickup timing of waste
	Lorry Points and DWCC sites	Transfer of waste	Structured Transfer Stations, proper receptacles and sign boards
	Vacant plots, railway tracks, etc.	Chronic black spots or out of habit	Warning sign boards, fencing, cleaning and facilitating an alternative
Filth on Footpath	Corner of a street or a broken footpath	litter from pedestrians walking by, habit	Cleaning, repainting and fixing the broken footpath and beautification by planting pots.
Paan stains and Cigarette litter	Near Paan and Cigarette shops	Lack of proper bins where users can spit/throw the waste and cigarette butts specially without causing any fire.	Bins that do not catch fire such as waste pipes and repainting the stained wall
Public Urination	Untidy corners, garbage dumps, filthy spots	Lack of public toilets, urgency of the need	Cleaning and removal of garbage, painting the walls and placing pots for visual cleanliness
Broken and displaced Footpath Slabs	Omnipresent	Repair of wires or pipes by telecom, electricity, water and sewerage companies and not placing the slabs back in position	Fix responsibility on the companies to put the slab back , citizens can take charge on their own as well

Source: The Ugly Indian Website; http://www.theuglyindian.com/traps_3.html

O&M EXPENDITURE AND FUNDING:

Earlier it was done by The Ugly Indians, free of cost to BBMP and entirely funded by citizens, working in partnership with local corporators and BBMP garbage collectors. The cost of fixing a spot ranged from Rs 5,000-15,000 – mainly for materials like paint, cement, bricks and plants – while all the labour was done for free by citizens and BBMP employees. Now BBMP has taken first step in partnering with citizen movement which is unprecedented in India. BBMP has taken out a budget of ₹1 Crore for 1000 black spots cleaning.

SUPPORT FROM CIVIC BODY:

They do not require any support from BBMP or government as they believe that responsibility of a citizen doesn't end just by paying taxes and voting. It is their responsibility as well to keep their surrounding clean and healthy. Although if any BBMP employee and minister wants to join and fix a spot, they are welcome to do so as an ordinary citizen.

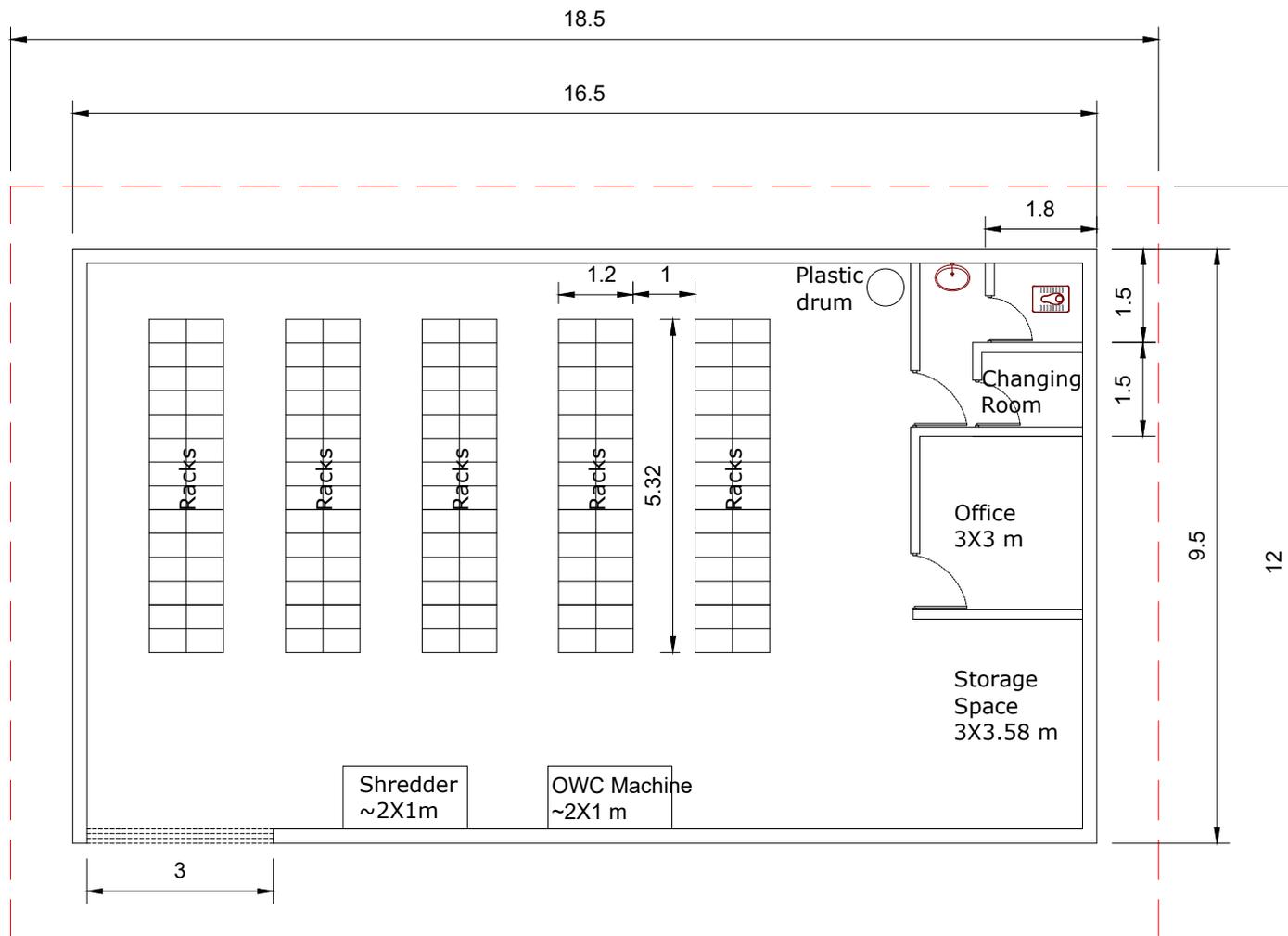
CONTACT DETAILS:

The Ugly Indian

Email ID: theuglyindian@gmail.com

ANNEXURE VIII.

LAYOUTS OF DECENTRALISED FACILITIES

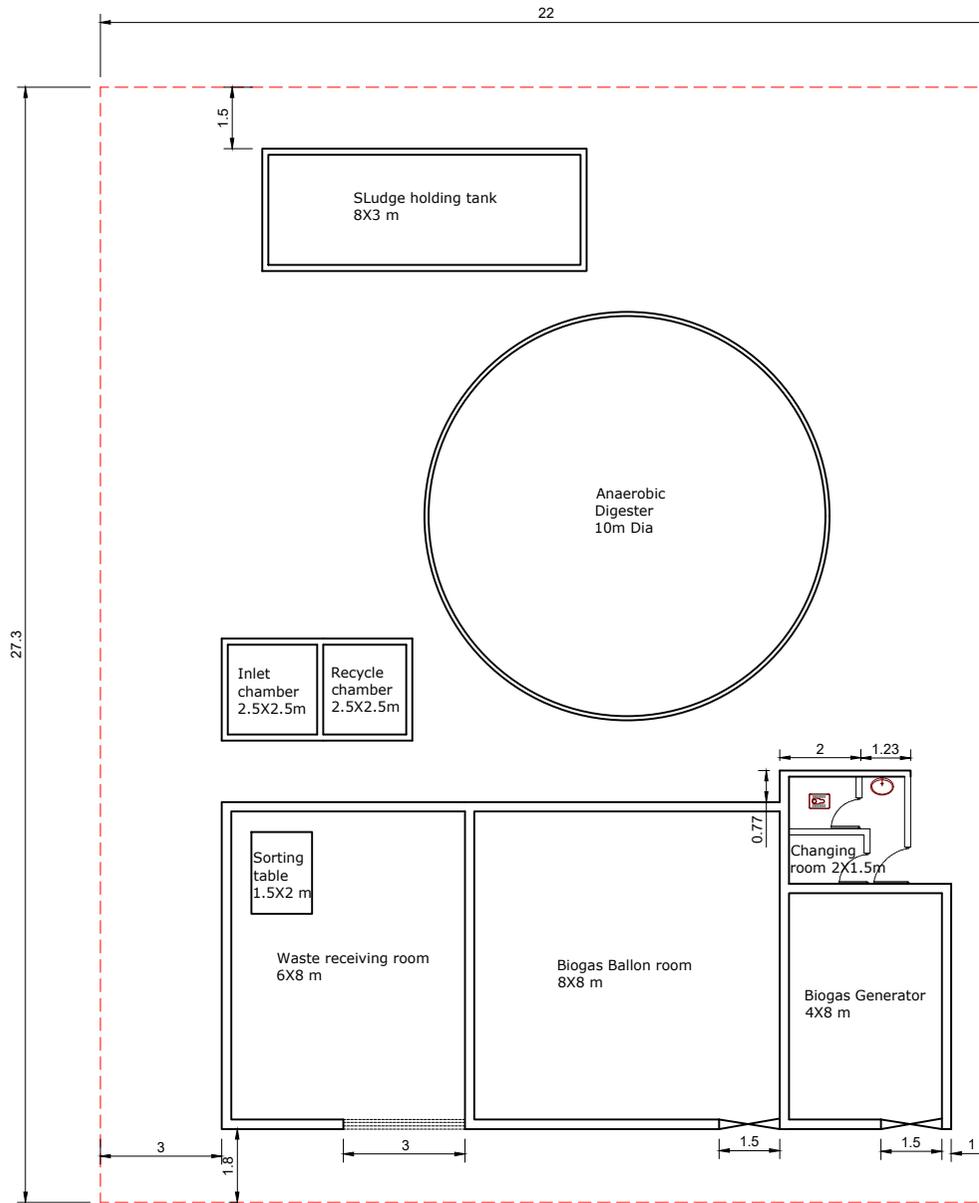


Organic Waste Converter (OWC)
220 sq.m.

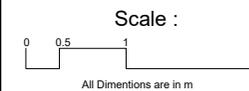
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All Dimentions are in m



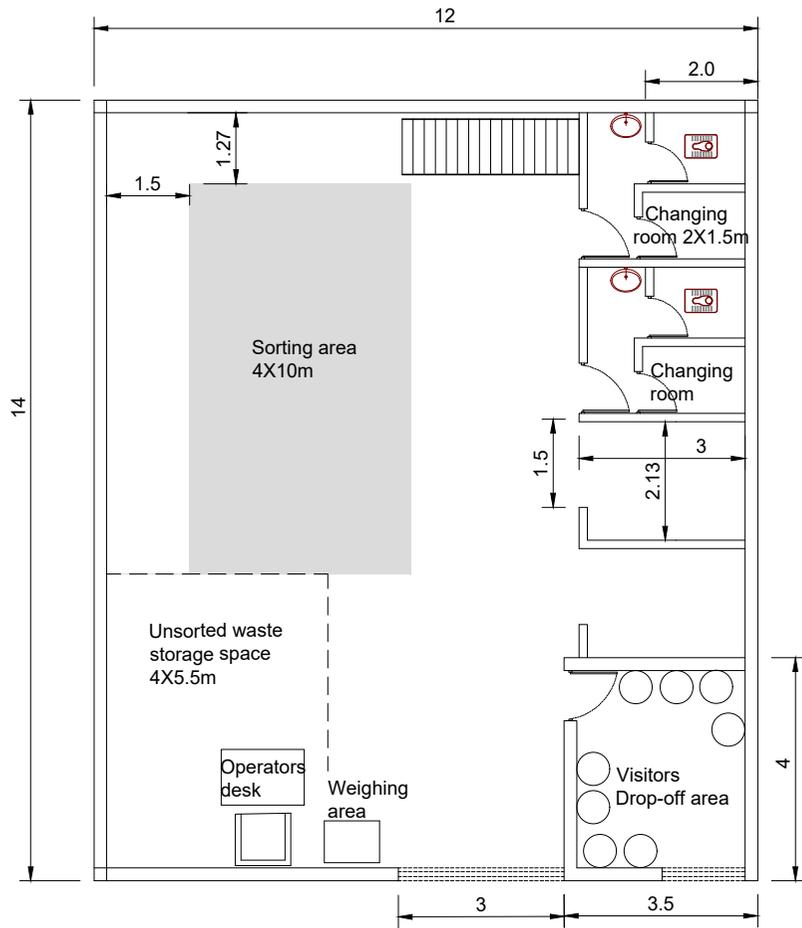
Bruhat Bengaluru Mahanagara Palike
N R Road, Bengaluru-560 002



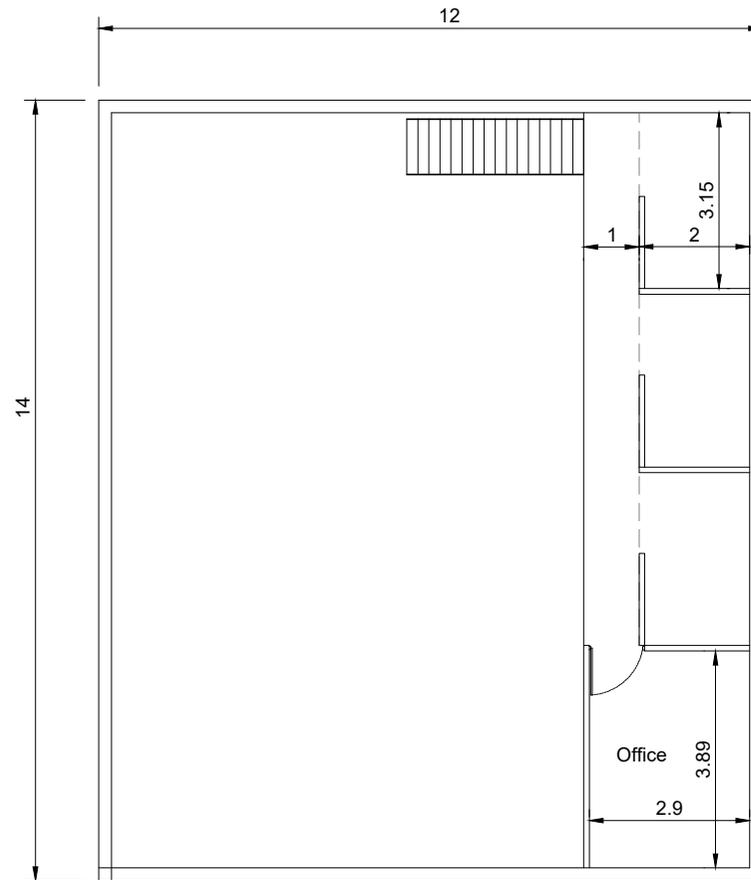
Bio-Methanation Unit (BMU)
600 sq.m.



Bruhat Bengaluru Mahanagara Palike
N R Road, Bengaluru-560 002



Plan GF



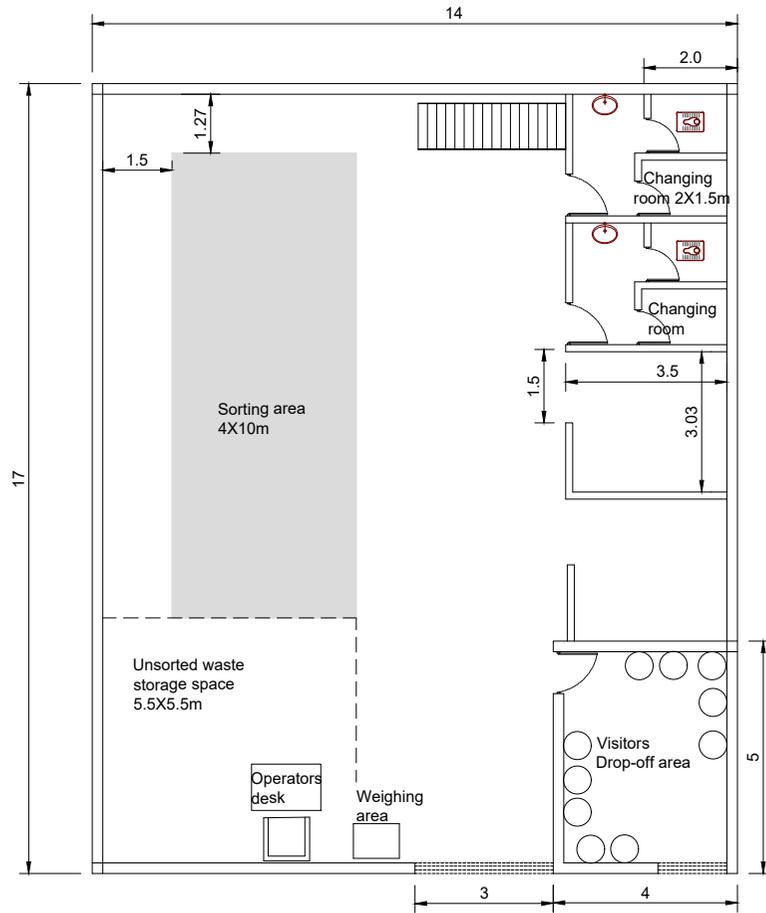
Plan FF

Dry Waste Collection Centre (DWCC)-1
240 sq.m.

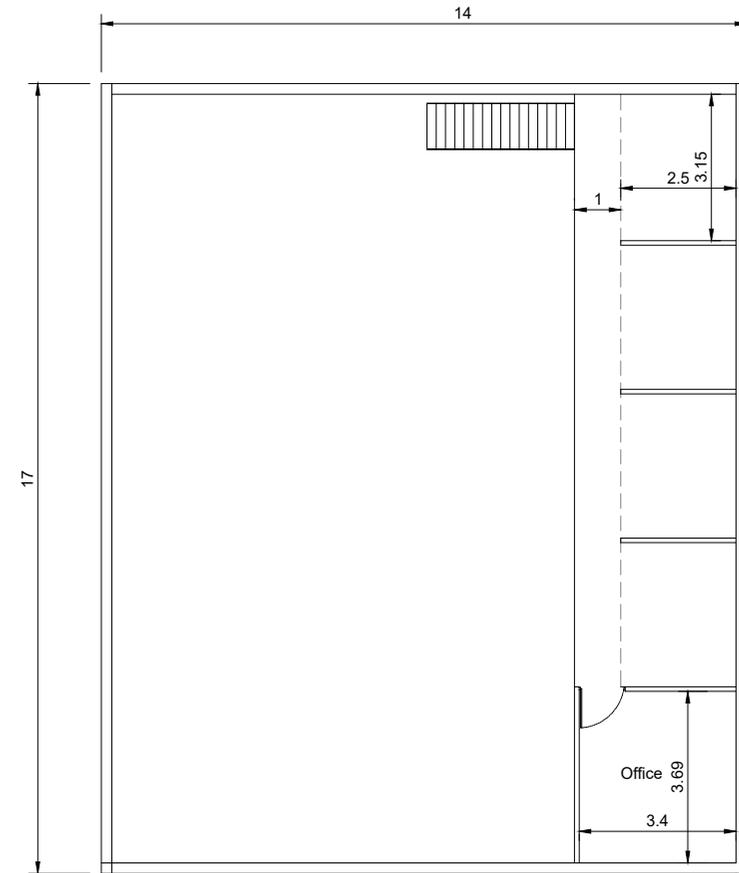
Scale :
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All Dimensions are in m
Note: Builtup area drawing



Bruhat Bengaluru
Mahanagara Palike
N R Road, Bengaluru-560 002



Plan GF



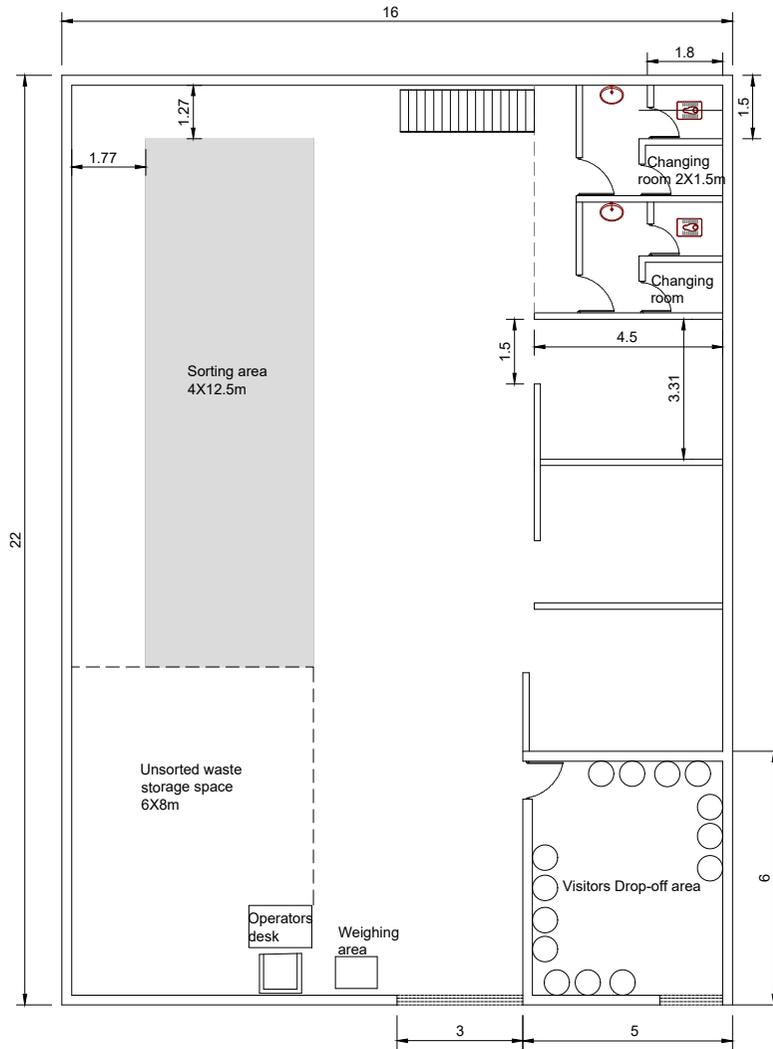
Plan FF

Dry Waste Collection Centre (DWCC)-2
320 sq.m.

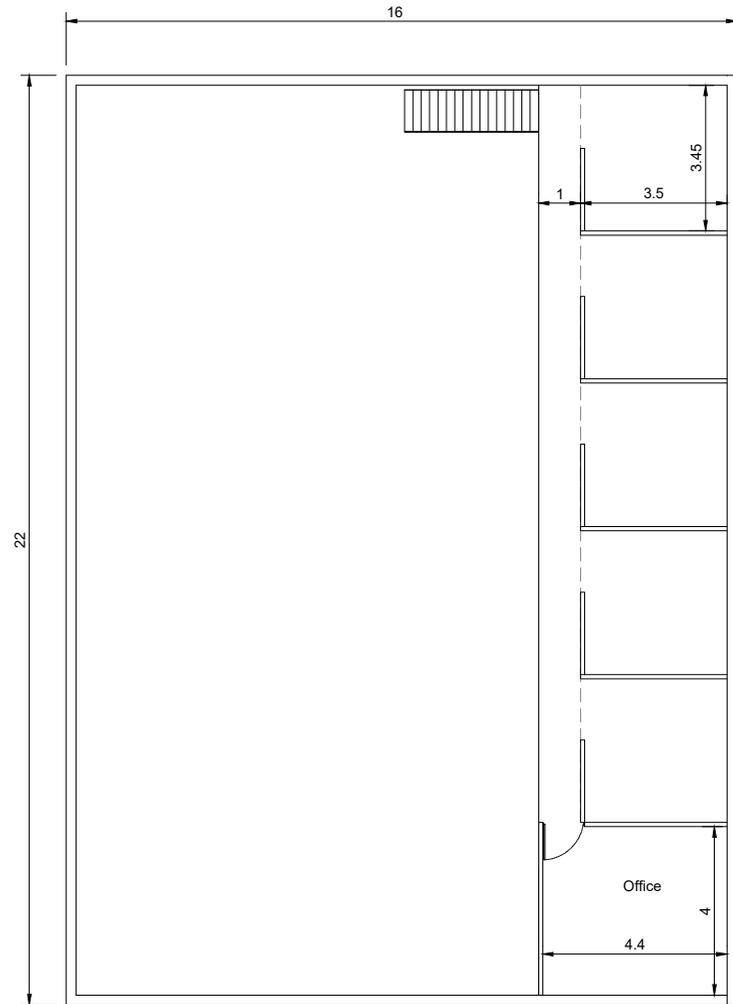
Scale :
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All Dimensions are in m
Note: Builtup area drawing



Bruhat Bengaluru
Mahanagara Palike
N R Road, Bengaluru-560 002



Plan GF



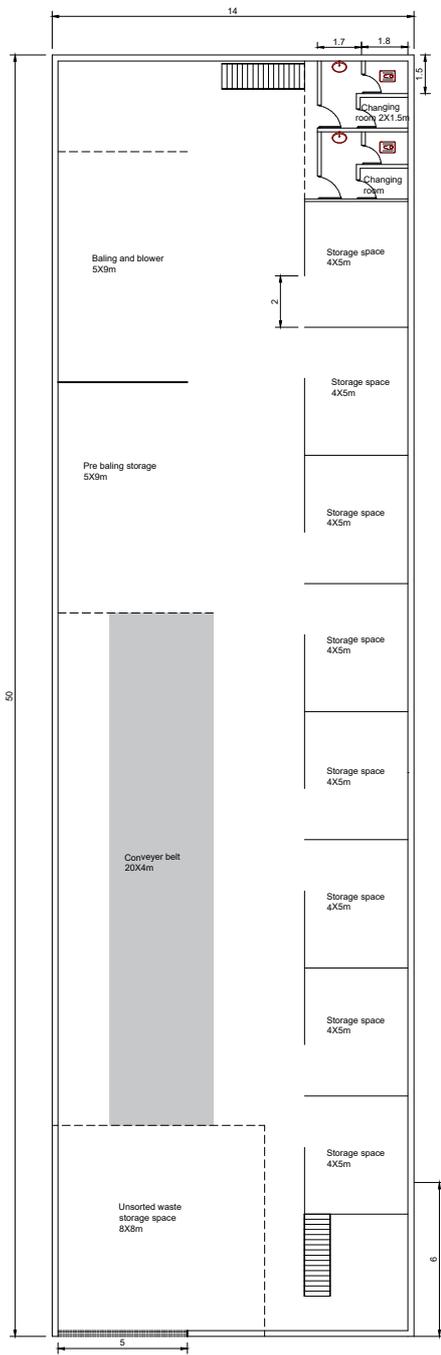
Plan FF

Dry Waste Collection Centre (DWCC)-3
480 sq.m.

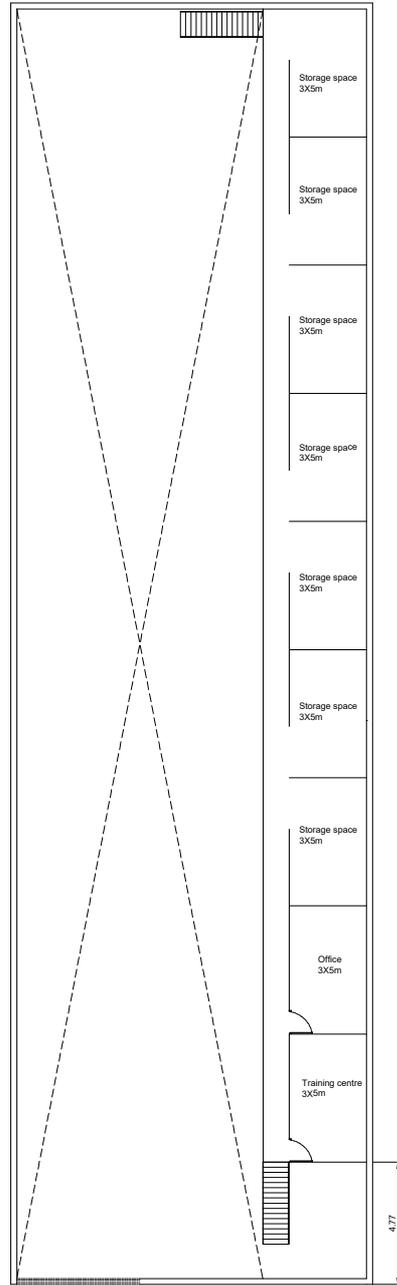
Scale :
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All Dimensions are in m
Note: Builtup area drawing



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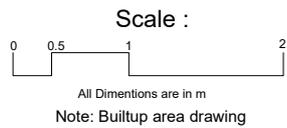


Plan GF

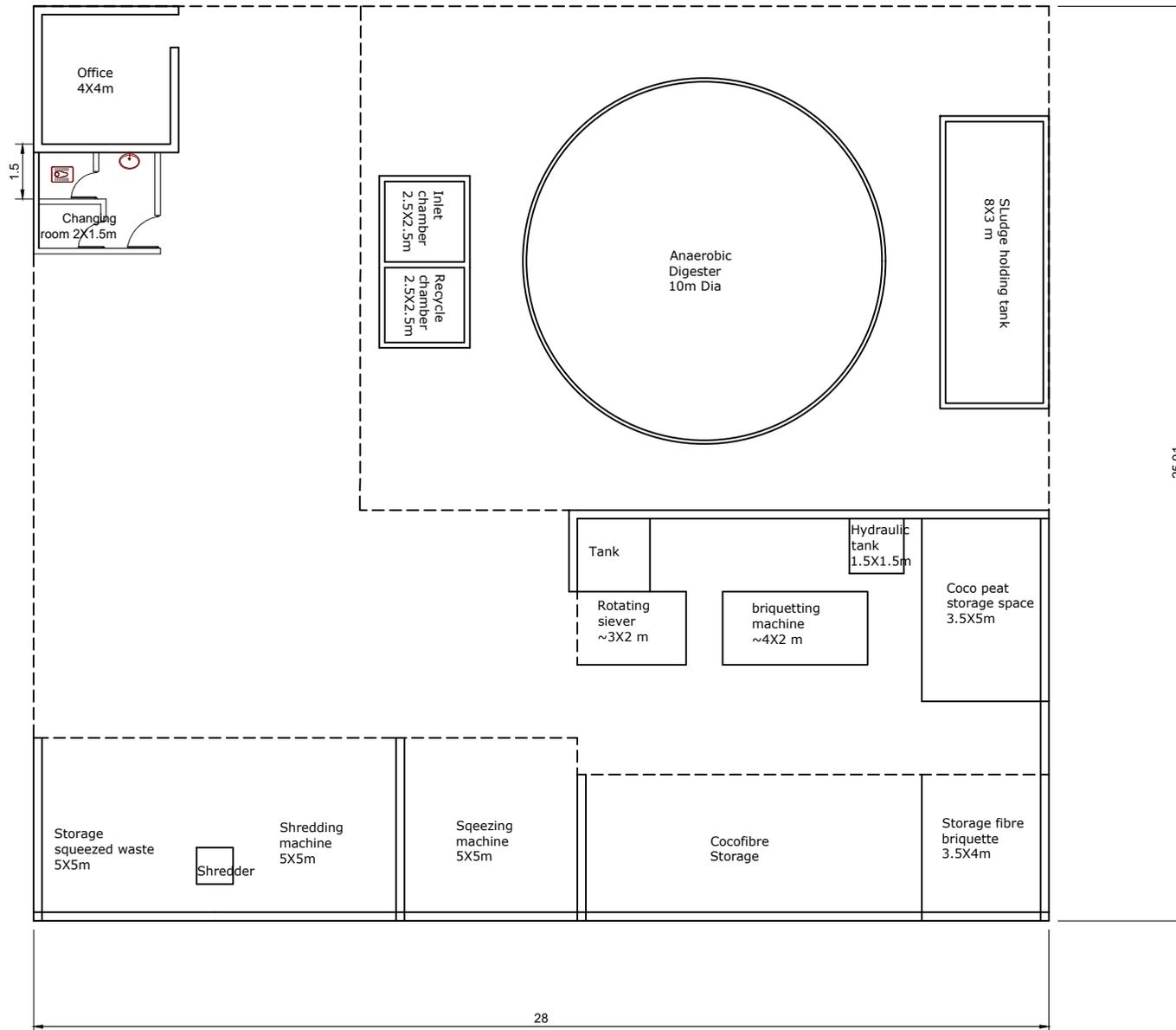


Plan FF

Aggregator
1200 sq.m.



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Coconut Waste Processing Unit (CWPU)
880 sq.m.

Scale :

 All Dimensions are in m
 Note: Builtup area drawing



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 N R Road, Bengaluru-560 002

ANNEXURE IX.

DATA SHEETS FOR LAND IDENTIFICATION

Data sheet-1: I. Land feasibility check

Data sheet-1: I. Land feasibility check	
LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Converter (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	Basavanagudi	154	481.57507	DWCC 3_S	Basavanagudi				
South	Basavanagudi	155	325.83728	DWCC 2_S	Hanumanth Nagar				
South	Basavanagudi	156	486.1969	DWCC 3_S	Srinagar				
South	Basavanagudi	162	484.55273	DWCC 3_S	Girinagar				
South	Basavanagudi	163	481.98193	DWCC 3_S	Katriguppe				

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DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Bommanahalli	Bengaluru South	184	249.5918	DWCC 1_B	Uttarahalli				
Bommanahalli	Bengaluru South	184	327.41638	DWCC 2_B	Uttarahalli				
Bommanahalli	Bengaluru South	185	224.53455	OWCC_B	Yelchenahalli				
Bommanahalli	Bengaluru South	185	481.3147	DWCC 3_B_1	Yelchenahalli				
Bommanahalli	Bengaluru South	185	484.8949	DWCC 3_B_2	Yelchenahalli				
Bommanahalli	Bengaluru South	191	223.2821	OWCC_B	Singasandra				
Bommanahalli	Bengaluru South	191	240.38904	DWCC 1_B	Singasandra				
Bommanahalli	Bengaluru South	191	320.92896	DWCC 2_B	Singasandra				
Bommanahalli	Bengaluru South	192	326.97754	DWCC 2_B	Begur				
Bommanahalli	Bengaluru South	192	482.75537	DWCC 3_B	Begur				
Bommanahalli	Bengaluru South	194	243.68347	DWCC 1_B	Gottigere				
Bommanahalli	Bengaluru South	194	324.34522	DWCC 2_B	Gottigere				
Bommanahalli	Bengaluru South	194	883.49365	CWU_B	Gottigere				
Bommanahalli	Bengaluru South	195	242.61975	DWCC 1_B	Konankunte				
Bommanahalli	Bengaluru South	195	322.8761	DWCC 2_B	Konankunte				
Bommanahalli	Bengaluru South	196	222.02649	OWCC_B	Anjanapura				
Bommanahalli	Bengaluru South	196	247.8396	DWCC 1_B_2	Anjanapura				
Bommanahalli	Bengaluru South	196	248.06445	DWCC 1_B_1	Anjanapura				

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LEGEND	
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Bommanahalli	Bengaluru South	196	1235.7269	AGGR_B	Anjanapura				
Bommanahalli	Bengaluru South	196	97433.223	IWPP_B	Anjanapura				
Bommanahalli	Bengaluru South	197	243.80017	DWCC_1_B	Vasanthpura				
Bommanahalli	Bengaluru South	197	323.35107	DWCC_2_B	Vasanthpura				

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Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Bommanahalli	Bommanahalli	174	222.88086	OWCC_B	HSR Layout				
Bommanahalli	Bommanahalli	174	243.88074	DWCC 1_B	HSR Layout				
Bommanahalli	Bommanahalli	174	329.51758	DWCC 2_B	HSR Layout				
Bommanahalli	Bommanahalli	174	1218.0369	AGGR_B	HSR Layout				
Bommanahalli	Bommanahalli	175	223.63062	OWCC_B	Bommanahalli				
Bommanahalli	Bommanahalli	175	244.54431	DWCC 1_B	Bommanahalli				
Bommanahalli	Bommanahalli	175	325.55042	DWCC 2_B	Bommanahalli				
Bommanahalli	Bommanahalli	186	485.53711	DWCC 3_B	Jaraganahalli				
Bommanahalli	Bommanahalli	187	242.70557	DWCC 1_B_1	Puttenahalli				
Bommanahalli	Bommanahalli	187	243.0813	DWCC 1_B_2	Puttenahalli				
Bommanahalli	Bommanahalli	188	240.54565	DWCC 1_B	Bilekahalli				
Bommanahalli	Bommanahalli	188	321.69141	DWCC 2_B	Bilekahalli				
Bommanahalli	Bommanahalli	189	243.36816	DWCC 1_B	Hongasandra				
Bommanahalli	Bommanahalli	189	322.88416	DWCC 2_B	Hongasandra				
Bommanahalli	Bommanahalli	190	248.71045	DWCC 1_B	Mangammapalya				
Bommanahalli	Bommanahalli	190	322.07227	DWCC 2_B	Mangammapalya				
Bommanahalli	Bommanahalli	193	225.32373	OWCC_B	Arakere				
Bommanahalli	Bommanahalli	193	245.3717	DWCC 1_B	Arakere				
Bommanahalli	Bommanahalli	193	325.90015	DWCC 2_B	Arakere				

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DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	BTM Layout	151	242.64148	DWCC 1_S	Koramangala				
South	BTM Layout	151	326.19861	DWCC 2_S	Koramangala				
South	BTM Layout	152	227.26062	OWCC_S	Suddagunte Palya				
South	BTM Layout	152	329.3794	DWCC 2_S	Suddagunte Palya				

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LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Yelahanka	Byatarayanapura	5	224.20239	OWCC_YH	Jakkuru				
Yelahanka	Byatarayanapura	5	487.16773	DWCC 3_YH	Jakkuru				
Yelahanka	Byatarayanapura	5	1201.9174	AGGR_YH	Jakkuru				
Yelahanka	Byatarayanapura	5	84896.359	IWPP_YH	Jakkuru				
Yelahanka	Byatarayanapura	6	243.24768	DWCC 1_YH	Thanisandra				
Yelahanka	Byatarayanapura	6	320.67139	DWCC 2_YH	Thanisandra				
Yelahanka	Byatarayanapura	7	241.69653	DWCC 1_YH	Byatarayanapura				
Yelahanka	Byatarayanapura	7	327.29199	DWCC 2_YH	Byatarayanapura				
Yelahanka	Byatarayanapura	8	323.78687	DWCC 2_YH	Kodigehalli				
Yelahanka	Byatarayanapura	8	481.23767	DWCC 3_YH	Kodigehalli				
Yelahanka	Byatarayanapura	9	225.18115	OWCC_YH	Vidyaranyapura				
Yelahanka	Byatarayanapura	9	242.60999	DWCC 1_YH_1	Vidyaranyapura				
Yelahanka	Byatarayanapura	9	244.5271	DWCC 1_YH_2	Vidyaranyapura				

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LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Chamarajpet	138	221.56311	OWCC_W	Chalavadipalya				
West	Chamarajpet	138	486.54907	DWCC 3_W	Chalavadipalya				
West	Chamarajpet	140	321.29346	DWCC 2_W	Chamarajpet				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	Chickpete	145	227.29236	OWCC_S	Hombegowda Nagar				
South	Chickpete	145	484.38684	DWCC 3_S	Hombegowda Nagar				
South	Chickpete	145	1200.6049	AGGR_S	Hombegowda Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	CV Raman Nagar	50	242.4458	DWCC 1_EA	Benniganahalli				
East	CV Raman Nagar	50	323.5636	DWCC 2_EA	Benniganahalli				
East	CV Raman Nagar	57	321.80298	DWCC 2_EA	CV Raman Nagar				
East	CV Raman Nagar	58	222.85498	OWCC_EA	New Tippasandra				
East	CV Raman Nagar	58	245.6759	DWCC 1_EA	New Tippasandra				
East	CV Raman Nagar	58	325.04126	DWCC 2_EA	New Tippasandra				
East	CV Raman Nagar	58	1214.4426	AGGR_EA	New Tippasandra				
East	CV Raman Nagar	80	226.0957	OWCC_EA	Hoysala Nagar				
East	CV Raman Nagar	80	320.57678	DWCC 2_EA	Hoysala nagar				
East	CV Raman Nagar	80	485.2721	DWCC 3_EA	Hoysala Nagar				
East	CV Raman Nagar	88	321.11377	DWCC 2_EA	Jeevanbhima Nagar				
East	CV Raman Nagar	113	322.45996	DWCC 2_EA	Konena Agrahara				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
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IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Dasarahalli	Dasarahalli	12	220.30908	OWCC_D	Shettihalli				
Dasarahalli	Dasarahalli	12	481.87732	DWCC 3_D	Shettihalli				
Dasarahalli	Dasarahalli	12	600.71277	BM_D	Shettihalli				
Dasarahalli	Dasarahalli	12	880.03418	CWU_D	Shettihalli				
Dasarahalli	Dasarahalli	12	1202.5692	AGGR_D	Shettihalli				
Dasarahalli	Dasarahalli	14	224.65942	OWCC_D	Bagalgunte				
Dasarahalli	Dasarahalli	14	248.36731	DWCC 1_D	Bagalagunte				
Dasarahalli	Dasarahalli	14	327.13684	DWCC 2_D	Bagalgunte				
Dasarahalli	Dasarahalli	39	223.60596	OWCC_D	Chokkasandra				
Dasarahalli	Dasarahalli	39	244.43115	DWCC 1_D	Chokkasandra				
Dasarahalli	Dasarahalli	39	320.58252	DWCC 2_D	Chokkasandra				
Dasarahalli	Dasarahalli	41	326.1582	DWCC 2_D	Peenya Industrial Area				
Dasarahalli	Dasarahalli	41	484.87695	DWCC 3_D	Peenya Industrial Area				
Dasarahalli	Dasarahalli	70	221.57459	OWCC_D	Rajagopal Nagar				
Dasarahalli	Dasarahalli	70	244.96179	DWCC 1_D	Rajagopal Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Gandhinagar	94	222.45581	OWCC_W	Gandhi nagar				
West	Gandhinagar	94	243.34949	DWCC 1_W	Gandhi nagar				
West	Gandhinagar	94	320.21497	DWCC 2_W	Gandhi nagar				
West	Gandhinagar	94	1209.062	AGGR_W	Gandhi nagar				
West	Gandhinagar	95	323.0072	DWCC 2_W	Subhash nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Govindraj Nagar	103	322.97192	DWCC 2_W	Kaveripura				
West	Govindraj Nagar	104	229.41016	OWCC_W	Govindarajanagara				
West	Govindraj Nagar	104	481.03735	DWCC 3_W	Govindarajanagara				
West	Govindraj Nagar	105	321.83179	DWCC 2_W	Agrahara dasarahalli				
West	Govindraj Nagar	105	1212.0054	AGGR_W	Agrahara Dasarahalli				
West	Govindraj Nagar	106	243.552	DWCC 1_W	Dr.Rajkumar ward				
West	Govindraj Nagar	106	325.68091	DWCC 2_W	Dr.Rajkumar ward				
West	Govindraj Nagar	125	481.80249	DWCC 3_W	Marenahalli				
West	Govindraj Nagar	126	244.43811	DWCC 1_W	Maruthi mandir				
West	Govindraj Nagar	126	322.42688	DWCC 2_W	Maruthi mandir				
West	Govindraj Nagar	128	226.44458	OWCC_W	Nagarbhavi				
West	Govindraj Nagar	128	241.56299	DWCC 1_W	Nagarbhavi				
West	Govindraj Nagar	128	326.48303	DWCC 2_W	Nagarbhavi				
West	Govindraj Nagar	131	482.36768	DWCC 3_W	Nayandahalli				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
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AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	Hebbal	18	241.05408	DWCC 1_EA	Radhakrishna temple				
East	Hebbal	18	323.96277	DWCC 2_EA	Radhakrishna Temple				
East	Hebbal	19	220.03699	OWCC_EA	Sanjay Nagar				
East	Hebbal	19	322.0719	DWCC 2_EA	Sanjay Nagar				
East	Hebbal	19	487.6062	DWCC 3_EA	Sanjay Nagar				
East	Hebbal	20	322.29431	DWCC 2_EA	Ganga Nagar				
East	Hebbal	22	220.21448	OWCC_EA	Vishwanatha Nagenahalli				
East	Hebbal	22	327.4198	DWCC 2_EA	Vishwanatha Nagenahalli				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
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IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	Jayanagar	168	221.96545	DWCC 1_S	Pattabiramnagar				
South	Jayanagar	168	320.8501	DWCC 2_S	Pattabiramnagar				
South	Jayanagar	170	320.0448	DWCC 2_S	Jayanagar east				
South	Jayanagar	178	222.31262	OWCC_S	Sarakki				
South	Jayanagar	178	240.10864	DWCC 1_S	Sarakki				
South	Jayanagar	178	322.40588	DWCC 2_S	Sarakki				
South	Jayanagar	179	425.51416	DWCC 3_S	Shakambari nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Mahadevapura	KR Puram	25	223.21741	OWCC_MH	Horamavu				
Mahadevapura	KR Puram	26	1206.0486	AGGR_MH	Ramamurthy Nagar				
Mahadevapura	KR Puram	51	487.78894	DWCC 3_MH_1	Vijinapura				
Mahadevapura	KR Puram	51	489.79089	DWCC 3_MH_2	Vijinapura				
Mahadevapura	KR Puram	52	323.24854	DWCC 2_MH	K.R.Puram				
Mahadevapura	KR Puram	52	484.40088	DWCC 3_MH	K.R.Puram				
Mahadevapura	KR Puram	53	224.31006	OWCC_MH	Basavanapura				
Mahadevapura	KR Puram	53	485.58179	DWCC 3_MH	Basavanapura				
Mahadevapura	KR Puram	55	327.2124	DWCC 2_MH	Devasandra				
Mahadevapura	KR Puram	55	483.0304	DWCC 3_MH	Devasandra				
Mahadevapura	KR Puram	56	226.09033	OWCC_MH	A Narayanapura				
Mahadevapura	KR Puram	56	486.44116	DWCC 3_MH	A Narayanapura				
Mahadevapura	KR Puram	81	483.0592	DWCC 3_MH	Vignana nagar				
Mahadevapura	KR Puram	87	483.15186	DWCC 3_MH_1	H A L Airport				
Mahadevapura	KR Puram	87	485.83411	DWCC 3_MH_2	H A L Airport				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
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IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Mahadevapura	Mahadevapura	54	482.24207	DWCC 3_MH_1	Hudi				
Mahadevapura	Mahadevapura	54	484.25159	DWCC 3_MH_2	Hudi				
Mahadevapura	Mahadevapura	82	243.10071	DWCC 1_MH	Garudachar palya				
Mahadevapura	Mahadevapura	82	321.98145	DWCC 2_MH	Garudachar Palya				
Mahadevapura	Mahadevapura	82	608.50391	BM_MH	Garudachar palya				
Mahadevapura	Mahadevapura	82	1234.8142	AGGR_MH	Garudachar palya				
Mahadevapura	Mahadevapura	83	487.21851	DWCC 3_MH	Kadugodi				
Mahadevapura	Mahadevapura	84	222.39526	OWCC_MH	Hagadur				
Mahadevapura	Mahadevapura	84	241.72009	DWCC 1_MH	Hagadur				
Mahadevapura	Mahadevapura	85	482.77246	DWCC 3_MH_1	Dodda Nekkundi				
Mahadevapura	Mahadevapura	85	488.99268	DWCC 3_MH_2	Doddanekkundi				
Mahadevapura	Mahadevapura	149	248.29224	DWCC 1_MH	Varthur				
Mahadevapura	Mahadevapura	149	323.1228	DWCC 2_MH	Varthur				
Mahadevapura	Mahadevapura	150	226.71985	OWCC_MH	Bellandur				
Mahadevapura	Mahadevapura	150	246.2467	DWCC 1_MH	Bellanduru				
Mahadevapura	Mahadevapura	150	322.75378	DWCC 2_MH	Bellanduru				
Mahadevapura	Mahadevapura	150	887.43543	CWU_MH	Bellanduru				
Mahadevapura	Mahadevapura	150	1227.6982	AGGR_MH	Bellanduru				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Mahalakshmi Layo	43	225.28003	OWCC_W	Nandini layout				
West	Mahalakshmi Layo	43	324.69519	DWCC 2_W	Nandini layout				
West	Mahalakshmi Layo	43	485.82532	DWCC 3_W	Nandini Layout				
West	Mahalakshmi Layo	44	329.18359	DWCC 2_W	Marappana Palya				
West	Mahalakshmi Layo	44	487.49902	DWCC 3_W	Marappana palya				
West	Mahalakshmi Layo	67	325.64954	DWCC 2_W	Nagapura				
West	Mahalakshmi Layo	67	489.89954	DWCC 3_W	Nagapura				
West	Mahalakshmi Layo	68	241.13416	DWCC 1_W	Mahalakshmipura				
West	Mahalakshmi Layo	68	328.34851	DWCC 2_W	Mahalakshmipura				
West	Mahalakshmi Layo	74	321.65356	DWCC 2_W	Shakthi ganapati nagar				
West	Mahalakshmi Layo	75	225.62878	OWCC_W	Shankar mutt				
West	Mahalakshmi Layo	75	324.33191	DWCC 2_W	Shankar mutt				
West	Mahalakshmi Layo	75	483.12805	DWCC 3_W	Shankar Mutt				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
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IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Malleswaram	35	221.48633	OWCC_W	Aramane nagar				
West	Malleswaram	35	244.19434	DWCC 1_W	Aramane nagar				
West	Malleswaram	35	326.4895	DWCC 2_W	Aramane nagar				
West	Malleswaram	35	1232.14	AGGR_W	Aramanenagar				
West	Malleswaram	36	320.04431	DWCC 2_W	Mattikere				
West	Malleswaram	45	323.31799	DWCC 2_W	Malleswaram				
West	Malleswaram	64	324.21814	DWCC 2_W	Rajamahall guttahalli				
West	Malleswaram	65	483.34863	DWCC 3_W	Kadu malleshwara				
West	Malleswaram	66	489.31384	DWCC 3_W	Subramanya Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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AGGR	Aggregators (50 TPD @ 1200 sq.m.)
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IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	Padmanabh Nagar	165	221.8346	OWCC_S	Ganesh mandir				
South	Padmanabh Nagar	165	242.88037	DWCC 1_S	Ganesh mandira				
South	Padmanabh Nagar	165	325.85901	DWCC 2_S	Ganesh mandir				
South	Padmanabh Nagar	180	481.125	DWCC 3_S	Banashankari temple ward				
South	Padmanabh Nagar	181	220.17236	OWCC_S	Kumarswamy layout				
South	Padmanabh Nagar	181	320.04919	DWCC 2_S	Kumarswamy layout				
South	Padmanabh Nagar	181	1206.9529	AGGR_S	Kumaraswamy layout				
South	Padmanabh Nagar	182	321.28565	DWCC 2_S	Padmanabhanagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
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DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	Pulakeshi Nagara	31	486.50879	DWCC 3_EA	Kushal Nagar				
East	Pulakeshi Nagara	47	224.50769	OWCC_EA	Devara Jeevanahalli				
East	Pulakeshi Nagara	47	322.94019	DWCC 2_EA	Devara Jeevanahalli				
East	Pulakeshi Nagara	47	604.23401	BMU_EA	Devara Jeevanahalli				
East	Pulakeshi Nagara	47	884.104	CWU_EA	Devara Jeevanahalli				
East	Pulakeshi Nagara	60	224.79187	OWCC_EA	Sagayarapura				
East	Pulakeshi Nagara	60	485.03198	DWCC 3_EA	Sagayarapura				
East	Pulakeshi Nagara	61	486.43994	DWCC 3_EA	S K Garden				
East	Pulakeshi Nagara	78	243.05725	DWCC 1_EA	Pulakeshi Nagar				
East	Pulakeshi Nagara	78	327.5022	DWCC 2_EA	Pulakeshi Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
West	Rajaji Nagar	99	222.53711	OWCC_W	Rajajinagar				
West	Rajaji Nagar	99	322.02795	DWCC 2_W	Rajajinagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
RR Nagara	RR Nagar	69	484.87671	DWCC 3_RR	Laggere				
RR nagara	RR Nagar	73	223.92957	OWCC_RR	Kottigepalya				
RR Nagara	RR Nagar	73	243.302	DWCC 1_RR	Kottigepalya				
RR Nagara	RR Nagar	73	325.49426	DWCC 2_RR	Kottigepalya				
RR Nagara	RR Nagar	129	480.96167	DWCC 3_RR_1	Jnanabharathi				
RR Nagara	RR Nagar	129	485.8125	DWCC 3_RR_2	Jnana Bharathi				
RR Nagara	RR Nagar	129	486.0979	DWCC 3_RR_3	Jnanabharathi				
RR Nagara	RR Nagar	160	222.79919	OWCC_RR	Rajarajeshwari Nagar				
RR Nagara	RR Nagar	160	241.63379	DWCC 1_RR	Rajarajeshwari Nagar				
RR Nagara	RR Nagar	160	327.6864	DWCC 2_RR	Rajarajeshwari Nagar				
RR Nagara	RR Nagar	160	1201.7402	AGGR_RR	Rajarajeshwari Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
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IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	Sarvagna Nagar	23	486.6593	DWCC 3_EA	Nagawara				
East	Sarvagna Nagar	24	223.68652	OWCC_EA	HBR Layout				
East	Sarvagna Nagar	24	484.41492	DWCC 3_EA	HBR Layout				
East	Sarvagna Nagar	24	1203.9961	AGGR_EA	HBR Layout				
East	Sarvagna Nagar	27	245.86462	DWCC 1_EA	Banaswadi				
East	Sarvagna Nagar	27	320.35608	DWCC 2_EA	Banaswadi				
East	Sarvagna Nagar	28	227.80017	OWCC_EA	kamanahalli				
East	Sarvagna Nagar	28	325.67114	DWCC 2_EA	kamanahalli				
East	Sarvagna Nagar	59	243.27564	DWCC 1_EA	Maruthi Seva Nagar				
East	Sarvagna Nagar	59	325.01465	DWCC 2_EA	Maruthi Seva Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
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	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	Shanthi Nagar	89	222.33777	OWCC_EA	Jogapalya				
East	Shanthi Nagar	89	480.81213	DWCC 3_EA	Jogapalya				
East	Shanthi Nagar	112	487.91821	DWCC 3_EA	Domlur				
East	Shanthi Nagar	114	320.86401	DWCC 2_EA	Agara				
East	Shanthi Nagar	115	243.40161	DWCC 1_EA	Vannarpete				
East	Shanthi Nagar	115	326.10913	DWCC 2_EA	Vannarpete				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Converter (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
East	Shivajinagar	63	482.22864	DWCC 3_EA	Jayamahar				
East	Shivajinagar	91	226.22998	OWCC_EA	Bharathi Nagar				
East	Shivajinagar	91	483.80518	DWCC 3_EA	Bharathi Nagar				
East	Shivajinagar	93	221.23706	OWCC_EA	Vasanth Nagar				
East	Shivajinagar	93	480.71753	DWCC 3_EA	Vasanth Nagar				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
AGGR	Aggregators (50 TPD @ 1200 sq.m.)
BMU	Bio-methanation Unit (5 TPD @ 600 sq.m.)
CPU	Coconut Waste Processing Plant (20 TPD @ 880 sq.m.)
IWPU	Integrated Waste Processing Plants (500 TPD @ 97125 sq.m.)
IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
South	Vijayanagar	124	225.71314	OWCC_S	Hosahalli				
South	Vijayanagar	124	481.61328	DWCC 3_S	Hosahalli				
South	Vijayanagar	132	220.15076	OWCC_S	Attiguppe				
South	Vijayanagar	132	241.40796	DWCC 1_S	Attiguppe				
South	Vijayanagar	132	326.5271	DWCC 2_S	Attiguppe				
South	Vijayanagar	133	323.84424	DWCC 2_S	Hampinagar				
South	Vijayanagar	158	482.74365	DWCC 3_S	Deepanjali				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
OWCC	Organic Waste Convertor (1 TPD @ 220 sq.m.)
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IWPU_2	Integrated Waste Processing Plants (200 TPD @ 41527 sq.m.)
	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
RR Nagara	Yeashwanthpur	16	224.30908	OWCC_RR	Jalahalli				
RR Nagara	Yeashwanthpur	16	481.76953	DWCC 3_RR_1	Jalahalli				
RR Nagara	Yeashwanthpur	16	482.4386	DWCC 3_RR_2	Jalahalli				
RR Nagara	Yeashwanthpur	17	484.27856	DWCC 3_RR_1	JP Park				
RR Nagara	Yeashwanthpur	17	486.396	DWCC 3_RR_2	JP Park				
RR Nagara	Yeashwanthpur	37	487.53394	DWCC 3_RR	Yeshwanthapura				
RR Nagara	Yeashwanthpur	38	226.21668	OWCC_RR	HMT				
RR Nagara	Yeashwanthpur	38	325.33484	DWCC 2_RR	HMT				
RR Nagara	Yeashwanthpur	38	482.70837	DWCC 3_RR	HMT				
RR Nagara	Yeashwanthpur	40	482.69434	DWCC 3_RR_1	Doddabidirakallu				
RR Nagara	Yeashwanthpur	40	487.22473	DWCC 3_RR_2	Doddabidirakallu				
RR Nagara	Yeashwanthpur	40	1206.5549	AGGR_RR	Doddabidirakallu				
RR Nagara	Yeashwanthpur	42	481.19959	DWCC 3_RR	Lakshmidivinagara				
RR Nagara	Yeashwanthpur	72	221.83997	OWCC_RR	Herohalli				
RR Nagara	Yeashwanthpur	72	241.49182	DWCC 1_RR	Herohalli				
RR Nagara	Yeashwanthpur	72	325.85474	DWCC 2_RR	Herohalli				
RR Nagara	Yeashwanthpur	130	222.59705	OWCC_RR	Ullalu				
RR Nagara	Yeashwanthpur	130	246.20252	DWCC 1_RR	Ullalu				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
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	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
RR Nagara	Yeashwanthpur	130	321.55505	DWCC 2_RR	Ullalu				
RR Nagara	Yeashwanthpur	159	241.11188	DWCC 1_RR	Kengeri				
RR Nagara	Yeashwanthpur	159	327.20563	DWCC 2_RR	Kengeri				
RR Nagara	Yeashwanthpur	198	329.06897	DWCC 2_RR	Hemmigepura				
RR Nagara	Yeashwanthpur	198	488.15564	DWCC 3_RR	Hemmigepura				
RR Nagara	Yeashwanthpur	198	601.36194	BMU_RR	Hemmigepura				
RR Nagara	Yeashwanthpur	198	886.58228	CWU_RR	Hemmigepura				
RR Nagara	Yeashwanthpur	198	97142.904	IWPP_RR	Hemmigepura				

Data sheet-1: I. Land feasibility check

LEGEND	
DWCC_1	Dry Waste Collection Centre (3 TPD @ 240 sq.m.)
DWCC_2	Dry Waste Collection Centre (4 TPD @ 320 Sq.m.)
DWCC_3	Dry Waste Collection Centre (5 TPD @ 480 Sq.m.)
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	Absented DWCC

Zone	Division	Ward No	AREA (sqm)	Type	Ward_Name	Ownership (Private/Govt.)	Enchrochment (Yes/No)	Feasibility (Yes/No)	Remarks
Yelahanka	Yelahanka	1	246.13342	DWCC_1_YH	Kempegowda				
Yelahanka	Yelahanka	1	322.40222	DWCC_2_YH	Kempegowda				
Yelahanka	Yelahanka	2	227.11328	OWCC_YH	Chowdeshwari				
Yelahanka	Yelahanka	2	609.88867	BMU_YH	Kuvempunagar				
Yelahanka	Yelahanka	2	886.24573	CWU_YH	Chowdeshwari				
Yelahanka	Yelahanka	2	1212.7559	AGGR_YH	Chowdeshwari				
Yelahanka	Yelahanka	3	224.78101	OWCC_YH	Atturu				
Yelahanka	Yelahanka	3	482.26453	DWCC_3_YH	Atturu				
Yelahanka	Yelahanka	4	485.65772	DWCC_3_YH	Yelahanka Satellite Town				
Yelahanka	Yelahanka	11	220.40857	OWCC_YH	Kuvempu Nagar				
Yelahanka	Yelahanka	11	246.5979	DWCC_1_YH	Kuvempu Nagar				
Yelahanka	Yelahanka	11	324.21533	DWCC_2_YH	Kuvempu Nagar				

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
SOUTH	Basavanagudi	155	HANUMANTHANAGAR	kempegowda Swimming pool, BBMP park, Lakshmipura, Bengaluru-560019	77.558509,12.949382,0.0		
SOUTH	Basavanagudi	156	SRI NAGAR	Narehalla park, Srinagara, Bangalore-560019	77.553112,12.948302,0.0		
SOUTH	Basavanagudi	162	GIRINAGAR	7th Cross, chamundeshwari nagar, Near Sundar Mahal choultry, Bengaluru-560097	77.539583,12.935685,0.0		
SOUTH	Basavanagudi	163	KATRIGUPPE	Behind 163 ward office, Katreguppe, Benagaluru-560085	77.553432,12.933988,0.0		
SOUTH	Basavanagudi	164	VIDYAPEETA	Behind BBMP office, C.T.Bed, Chennamma kere, Atchukattu, Bengaluru-560085	77.56331,12.932375,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
BOMMANAHALLI	Bengaluru South	184	UTTARAHALLI	6th Main Road, Near Vishnuvardhan Circle down road, Uttarahalli, Bangalore	77.539487,12.903408,0.0		
BOMMANAHALLI	Bengaluru South	191	SINGA SANDRA	CK Nagara, Hosarod Junction, Bangalore - 100	77.652488,12.872498,0.0		
BOMMANAHALLI	Bengaluru South	192	BEGUR	No.50, Post Office Road, Yalachenahalli, Kanakapura Road, Bangalore	77.626696,12.872932,0.0		
BOMMANAHALLI	Bengaluru South	194	GOTTIGERE	Gottigere, Near Nandi Park App, BG Road, Bangalore-83	77.594837,12.856662,0.0		
BOMMANAHALLI	Bengaluru South	195	KONANKUNTE	Gottigere, Near Nandi Park, BG Road, Bangalore-83	77.594837,12.856662,0.0		
BOMMANAHALLI	Bengaluru South	196	ANJANAPURA	Sy.No.81, Havalahalli, BDA Layout, Bangalore	77.563386,12.86823,0.0		
BOMMANAHALLI	Bengaluru South	197	VASANTHPURA				

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
BOMMANAHALLI	Bommanahalli	174	HSR LAYOUT	Bangalore One Park, 24th Main, 14th Cross, 1st Sector, HSR Lyaout	77.649028,12.912637,0.0		
BOMMANAHALLI	Bommanahalli	175	BOMMANHALLI	Nyanappaahalli Bande	77.615624,12.883281,0.0		
BOMMANAHALLI	Bommanahalli	187	PUTTENAHALLI	Near Meenakshi Temple, BG Road, Banglaore	77.601993,12.869606,0.0		
BOMMANAHALLI	Bommanahalli	188	BILKEHALLI	Nyanappanahalli Bande	77.615636,12.883304,0.0		
BOMMANAHALLI	Bommanahalli	189	HONGASANDRA	Nyanappanahalli Bande	77.615611,12.883258,0.0		
BOMMANAHALLI	Bommanahalli	190	MANGAMMA PALYA	Hosapalya main road, Muneshwara layout, Behind KCDC.	77.646174,12.894352,0.0		
BOMMANAHALLI	Bommanahalli	193	ARAKERE	2nd Main, Nyanappanahalli Village, Arakere	77.61578,12.876577,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
SOUTH	BTM Layout	146	LAKKASANDRA				
SOUTH	BTM Layout	147	ADUGODI				
SOUTH	BTM Layout	148	EJIPURA	80 feet Road koramangala, 560047	77.620897,12.949942,0.0		
SOUTH	BTM Layout	151	KORAMANGALA	Below High tension line, 5th block Industrial area, Koramangala, Bengaluru-560095	77.61465,12.934294,0.0		
SOUTH	BTM Layout	152	SUDDAGUNTE PALYA	Tavarekere Park, Bengaluru-560029	77.601585,12.927168,0.0		
SOUTH	BTM Layout	172	MADIVALA	Maruthi Nagara Main Road, beside storm water drain, Bengaluru-560076	77.614484,12.923406,0.0		
SOUTH	BTM Layout	176	BTM LAYOUT	Under the flyover, Silkboard Signal, Hosur road, Bengaluru-560076	77.622582,12.917631,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
YALAHANKA	Byatarayanapura	5	JAKKUR	Palanahalli lake yelahanka bangalore-560064	77.616378,13.117996,0.0		
YALAHANKA	Byatarayanapura	6	THANISANDRA	4th and 5th Cross, Hegdenagara, Thanisandra, Bangalore-560077	77.631953,13.069064,0.0		
YALAHANKA	Byatarayanapura	7	BYATRAYANAPURA	Near Gundanjaneya Temple, Sahakaranagar, Bangalore	77.591178,13.058874,0.0		
YALAHANKA	Byatarayanapura	8	KODIGEHALLI	Ranga Mandira Ground, Sahakaranagara, bangalore	77.583674,13.064147,0.0		
YALAHANKA	Byatarayanapura	9	VIDYARANYAPURA	Veeranna Layout, Thindlu Main Road, Vidhyaranyapura, Bangalore-560097	77.563741,13.068939,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
EAST	C.V.Raman Nagar	50	BENNIGANAHALLI	1st H-main,kasturi nagar, bengalore-560043	77.662536,12.999968,0.0		
EAST	C.V.Raman Nagar	57	CV RAMANNAGAR	5main, mallesh palya, near kaggadapura lake,560093	77.672857,12.976781,0.0		
EAST	C.V.Raman Nagar	58	NEW TIPPASANDRA	Jeevan bheem nagar main road, CV raman nagar, bengalore-560075	77.658657,12.967361,0.0		
EAST	C.V.Raman Nagar	79	SARVAGNANAGAR	Assya road, ner bengali association building, 560005	77.614996,12.9931,0.0		
EAST	C.V.Raman Nagar	80	HOYSALANAGAR	3rd main, Defence colony,Bengalore-560038	77.6444846,12.9752335,0.0		
EAST	C.V.Raman Nagar	88	JEEVANBHIMANAGAR	Near domlur flyover, old Airport road, Bengalore-560071	77.6431489,12.9607426,0.0		
EAST	C.V.Raman Nagar	113	KONENAGRAHARA	Near old Airport road, leela palace, Bengalore-560008	77.64633,12.959846,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
WEST	Chamarajpete	135	PADARAYANAPURA	9th cross, Padarayanapura	77.550205,12.963166,0.0		
WEST	Chamarajpete	136	JAGAJIVANARAM NAGAR	HBG main road, near Crematorium	77.552131,12.960403,0.0		
WEST	Chamarajpete	137	RAYAPURAM	Sangam Circle, JJR Nagara	77.554676,12.964509,0.0		
WEST	Chamarajpete	138	CHELVADI PALYA	Chaluvadi Palya Main Road	77.567195,12.965464,0.0		
WEST	Chamarajpete	139	K R MARKET	KR MARKET	77.576196,12.966504,0.0		
WEST	Chamarajpete	140	CHAMRAJAPET				
WEST	Chamarajpete	141	AZAD NAGAR	Back side of Kanaka Bhavan, Kasthuri Baa Nagar, Pipe line road, Bangalore	77.551614,12.952006,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
SOUTH	Chikpete	118	SUDHAM NAGAR				
SOUTH	Chikpete	142	SUNKENAHALLI	K R Road, behind Basavanagudi Swimming pool, Bengaluru-560004	77.573519,12.952211,0.0		
SOUTH	Chikpete	143	VISHVESHWARA PURAM	K R Road, Opposite to V V Puram Degree College, Bengaluru-560004	77.573867,12.952791,0.0		
SOUTH	Chikpete	144	SIDAPURA	Chinnayana palya, Bande slum, Bengaluru-560030	77.60047,12.94393,0.0		
SOUTH	Chikpete	145	HOMBEGOWDANAGAR	Chinnayana palya, Bande slum, Bengaluru-560030	77.600469,12.943915,0.0		
SOUTH	Chikpete	153	JAYANAGAR	Chinnayana palya, Bande slum, Bengaluru-560030	77.60047,12.94391,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
DASARAHALLI	Dasarahalli	12	SHETTYHALLI	Near gangamma gudi police station, Abbigere, Bengalore.	77.531312,13.0721,0.0		
DASARAHALLI	Dasarahalli	13	MALLASANDRA	Mallasandra gutte, Uchhangi temple road, Dasarahalli, Bengalore.	77.512969,13.055549,0.0		
DASARAHALLI	Dasarahalli	14	Bagalagunte				
DASARAHALLI	Dasarahalli	15	T.DASARAHALLI	Mallasandra gutte, Ravindra nagar, Dasarahalli, bengalore.	77.512992,13.055796,0.0		
DASARAHALLI	Dasarahalli	39	CHOKKASANDRA	Nagasandra circle, Near rockline studio, Bengalore	77.496474,13.041545,0.0		
DASARAHALLI	Dasarahalli	41	PEENYA INDL AREA	Shanimahatma temple cross, near water purifier plant, Rajgopal nagar main road, bengalore.	77.515071,13.014623,0.0		
DASARAHALLI	Dasarahalli	70	RAJAGOPALANAGARA	Near Bramha temple, Pillappana katte, Annapurneshwari nagar, Rajgopal nagar, bengalore.	77.515324,12.999503,0.0		
DASARAHALLI	Dasarahalli	71	HEGGANAHALLI	5th cross, Maruthi nagara, Hegganahalli, Bengalore.	77.503097,13.005883,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
WEST	Gandhi Nagar	77	DATTATREYA TEMPLE	Nagappa Street, Sheshadripuram, Bangalore-20	77.571786,13.002378,0.0		
WEST	Gandhi Nagar	94	GANDHINAGAR	Freedom Park Campus, Kalidasa Circle, Bangalore	77.580544,12.977134,0.0		
WEST	Gandhi Nagar	95	SUBHASH NAGAR	Freedom Park Campus, Kalidasa Circle, Bangalore	77.58051,12.977087,0.0		
WEST	Gandhi Nagar	96	OKALIPURAM	Burial Ground, Behind ward office, RC Puram, Bangalore-21	77.566352,12.985989,0.0		
WEST	Gandhi Nagar	109	CHICKPETE	FREEDOM PARK	77.580951,12.977127,0.0		
WEST	Gandhi Nagar	120	COTTONPETE	Tank Bund Road, Near Mysore Road	77.564303,12.968166,0.0		
WEST	Gandhi Nagar	121	BINNIPETE	#1, Tank Bund Road, Markendeshwara Nagar, Opp. Metro Mall, Bangalore-23	77.563584,12.967463,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
WEST	Govindaraj Nagar	103	KAVERIPURA	4th main road, BDA Layout, Bangalore	77.52675,12.978669,0.0		
WEST	Govindaraj Nagar	104	GOVINDRAJA NAGAR	Vijayanagar water tank, service road, near vivekanada park, Bangalore-40	77.539117,12.973265,0.0		
WEST	Govindaraj Nagar	105	AGRAHARA DASARAHALLI	Manuvana Stop, Opp to SBM Bank, Near Metro Railway staion, Vijayanagar, Bangalore-40	77.546608,12.976266,0.0		
WEST	Govindaraj Nagar	106	DR RAJKUMAR WARD	Industrial town, west of Chord service road, Beside JD bar, 6th Block Rajaji Nagar, Bangalore.	77.548512,12.98377,0.0		
WEST	Govindaraj Nagar	125	MARENAHALI	17th Cross, MC layout, Beside Vijayanagar metro Station, Vijayanagar, Bangalore-40	77.536998,12.970312,0.0		
WEST	Govindaraj Nagar	126	MARUTHI MANDIR	5th cross anubhav nagar, Bangalore	77.526477,12.965517,0.0		
WEST	Govindaraj Nagar	127	MUDALAPALYA	BDA Layout, 8th Cross, Kalyana Nagar, Bangalore	77.518269,12.965721,0.0		
WEST	Govindaraj Nagar	128	NAGARBHAVI	11th Cross Chandra Layout, 1st stage, 2nd Phase, Bangalore-72	77.524947,12.958388,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
EAST	Hebbal	18	RK TEMPLE	Dollers colony, Near Storm water drain, Hebbal, bengalore-560024	77.561765,13.037673,0.0		
EAST	Hebbal	19	SANJAYNAGAR	1st cross, central excise layout, sanjay nagar, bengalore-560094	77.582168,13.040691,0.0		
EAST	Hebbal	20	GANGANAGAR	HBH layout, ganganagar, Bengalore-560032	77.586098,13.024084,0.0		
EAST	Hebbal	21	HEBBAL	560032	77.590921,13.031725,0.0		
EAST	Hebbal	22	V NAGENAHALLI	8main, Near SWD drain Lotte Gollahalli, Dollers Colony, 560094	77.561771,13.037636,0.0		
EAST	Hebbal	34	Gangenahalli				

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
SOUTH	Jayanagar	168	PATTABHINAGAAR	4th main, 25th cross Jayanagar 3rd Block (Near old nanda theatre)	77.580471,12.932281,0.0		
SOUTH	Jayanagar	169	BYRASANDRA	4th Main 25th Cross Jayanagar 3rd Block (Near Old Nanda Theatre)	77.580471,12.932328,0.0		
SOUTH	Jayanagar	170	JAYANAGAR EAST	NO-6,gd mara,bannergatta road,opp to jaya deva hospital	77.599874,12.916517,0.0		
SOUTH	Jayanagar	171	GURAPPANA PALYA	Jayadeva hospital opposite under flyover	77.599874,12.916517,0.0		
SOUTH	Jayanagar	177	JP NAGAR	NO-6,gd mara,bannregatta road, opp to jayadeva hospital under fly over	77.599874,12.916517,0.0		
SOUTH	Jayanagar	178	SARAKKI	near sindur choutry, 14th cross, opposite KEB office, JP nagar 2nd phase,	77.576818,12.906964,0.0		
SOUTH	Jayanagar	179	SHAKAMBARI NAGAR	4th main 5th block near metro station	77.580910,12.920752,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
MAHADEVPURA	K.R.Puram	25	HORAMAVU	Jayanthi nagar, Bengalore.	77.680775,13.037843,0.0		
MAHADEVPURA	K.R.Puram	26	RAMAMURTHYNAGAR	Near Riches garden, Manjunath nagar, Bengalore-16	77.680788,13.037824,0.0		
MAHADEVPURA	K.R.Puram	52	K R PURAM	KR Puram market, KRpura Bengalore.	77.695358,13.007409,0.0		
MAHADEVPURA	K.R.Puram	53	BASAVANAPURA	Santhe Maidana, KR pura, Bengalore	77.695318,13.007396,0.0		
MAHADEVPURA	K.R.Puram	55	DEVASANDRA	KR Puram market, KRpura Bengalore.	77.695304,13.007315,0.0		
MAHADEVPURA	K.R.Puram	56	A NARAYANAPURA	A narayana pura main road, beside BWSSB office, Bengalore-16	77.676121,12.995356,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
MAHADEVPURA	Mahadevapura	82	GARUDACHARPALYA	#82, Garuda chari palya, BBMP ward office, RHB Colony, mahadevpura post, Bengalore-48	77.695889,12.994739,0.0		
MAHADEVPURA	Mahadevapura	84	HAGADUR	near shivakuntamma temple, nagondanahalli, white field,bengalore	77.761751,12.974677,0.0		
MAHADEVPURA	Mahadevapura	149	Varthur				
MAHADEVPURA	Mahadevapura	150	Bellanduru				

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
WEST	Mahalakshmi Layou	43	NANDINI LAYOUT	BWSSB Water tank road	77.536539,13.015228,0.0		
WEST	Mahalakshmi Layou	44	MARAPANNAPALYA	Ward Pack Road	77.550344,13.015599,0.0		
WEST	Mahalakshmi Layou	67	NAGAPURA	14th Cross, Behind Nandini theatre, Pipeline road, Nagapura	77.54288,13.003727,0.0		
WEST	Mahalakshmi Layou	68	MAHALAKSHMIPURAM				
WEST	Mahalakshmi Layou	74	SHAKTHI GANAPATHI NAGAR	Near shankarnag bus stop	77.525576,12.994857,0.0		
WEST	Mahalakshmi Layou	75	SHANKAR MATT	Near by Anjaneya Gudda, Pipe Line Road	77.528548,12.99883,0.0		
WEST	Mahalakshmi Layou	102	VRUSHABHAVATHI NAGAR	Near ward office, BEML Park, Bangalore	77.529096,12.992338,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
WEST	Malleswaram	35	ARAMANENAGAR				
WEST	Malleswaram	36	MATTIKERE	BBMP office road, Near SWD Nethaji Nagar, Bangalore-27	77.560974,13.039426,0.0		
WEST	Malleswaram	45	MALLESHWARAM	Opp. to Metro Cash and Carry, Near Yeshwanthpur Circle, Bangalore	77.555484,13.015774,0.0		
WEST	Malleswaram	64	RAJAMAHAL GUTTAHALLI	4th Cross, Swimming pool Extension, Opp. Dattatreya Temple, Malleshwaram, Bangalore	77.574108,12.999254,0.0		
WEST	Malleswaram	65	KADUMALLESHWARA	Vyalikaval Slum, Near Jalagangama Temple Road, Malleshwaram Bangalore	77.574318,13.007218,0.0		
WEST	Malleswaram	76	GAYITHRINAGAR	harishchandra ghat, MKK	77.560711,12.996398,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
SOUTH	Padmanabh Nagar	161	HOSAKEREHALLI	Near Gowdnapalya Kere (in 182 ward)	77.556546,12.90675,0.0		
SOUTH	Padmanabh Nagar	165	GANESH MANDIRA	5th main, 17th B cross, Banashankari 2nd Stage	77.570166,12.927297,0.0		
SOUTH	Padmanabh Nagar	166	KANISANDRA	Behind BBMP Samudaya Bhavan, 9th Main road, Banashankari 2nd stage	77.56951,12.918245,0.0		
SOUTH	Padmanabh Nagar	167	YEDIYUR	Near Yediyur lake park, Yediyur	77.577196,12.93261,0.0		
SOUTH	Padmanabh Nagar	180	BANASHANKARI TEMPLE	Near Tamil government school, 13th Main, Bhavani Nagara, Banashankari	77.564882,12.91758,0.0		
SOUTH	Padmanabh Nagar	181	KUMARASWAMY LAYOUT	71st Cross, K.S. Layout	77.560707,12.902914,0.0		
SOUTH	Padmanabh Nagar	182	PADMANABHANAGAR	7th Main, BHBCS Layout	77.550767,12.905947,0.0		
SOUTH	Padmanabh Nagar	183	CHIKKALA SANDRA	Kakathinagar Bus Stand premises	77.546548,12.919933,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m ²
EAST	Pulikeshi Nagar	31	KUSHALNAGAR	Near railway track. LR bande, bengalore-560032	77.616148,13.027757,0.0		
EAST	Pulikeshi Nagar	32	KAVALBYRASANDRA	LR bande main Road, Bengalore-560032	77.616167,13.0278,0.0		
EAST	Pulikeshi Nagar	47	DEVARA JEEVANA HALLI	5th cross, Modi garden, DJ halli, bengalore-560045	77.602798,13.013715,0.0		
EAST	Pulikeshi Nagar	48	MUNESHWARANAGAR	Near railway track, LR bande, Bengalore-560032	77.616189,13.02785,0.0		
EAST	Pulikeshi Nagar	60	SAGAYA PURAM	opposite to St.charls School, Hennur main road, Bagaluru layout, Bengalore-560064	77.631889,13.006518,0.0		
EAST	Pulikeshi Nagar	61	SK GARDEN	near Potry town, Bore bank Road, bengalore-560045	77.610533,13.001141,0.0		
EAST	Pulikeshi Nagar	78	PULAKESHINAGAR	Assaye Road, bengalore-560042	77.619658,12.988929,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
WEST	Rajajinagar	97	DAYANANDA NAGAR				
WEST	Rajajinagar	98	PRAKASH NAGAR	gyatridevi park, Prakash nagar, Bangalore.	77.55719,12.996051,0.0		
WEST	Rajajinagar	99	RAJAJI NAGAR	26th Cross, Rajajinagar, 2nd stage, Near BBMP Ward Office, Bangalore-10	77.551682,12.995855,0.0		
WEST	Rajajinagar	101	KAMAKSHIPALYA	Magadi main road, Kamakshiplya lake ground, Bangalore.	77.529628,12.983834,0.0		
WEST	Rajajinagar	108	SRIRAMAMANDIR	Gayathri Devi Park	77.557308,12.997778,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
RR NAGAR	Rajarajeshwari Nag	73	Kottigepalya				
RR NAGAR	Rajarajeshwari Nag	160	R.R.NAGAR	#1st Cross, Near Akkamma Devi Kalyana Mantappa, RR Nagara, Bengaluru-560098	77.513681,12.933274,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
EAST	Sarvajna Nagar	23	NAGAWARA	Hennur main road, Bengalore-560043	77.641867,13.042533,0.0		
EAST	Sarvajna Nagar	24	HBR LAYOUT	Hennur main road, Bengalore- 560043	77.64188,13.042564,0.0		
EAST	Sarvajna Nagar	27	banaswadi				
EAST	Sarvajna Nagar	28	kamanahalli				
EAST	Sarvajna Nagar	29	KACHRAKANAHALLI	HRBR 2nd block, kittur Rani chennamma park, behind Hindu Asian Acadamy, Bengalore-560043	77.638077,13.024874,0.0		
EAST	Sarvajna Nagar	30	KG HALLI	1st main, 7th cross, Near Hindu burrial ground, Pillanna garden, KG halli, Bengalore-560045	77.618808,13.00957,0.0		
EAST	Sarvajna Nagar	49	Lingarajapuram				
EAST	Sarvajna Nagar	59	Maruthi Seva Nagar				

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
EAST	Shanti Nagar	89	JOGUPALAYA	Jogupalya, bengalore-560008	77.631229,12.971464,0.0		
EAST	Shanti Nagar	111	SHANTHALANAGAR	Near chaithanya hotel, Pam grove main road, Austing town, Bengalore	77.614506,12.964772,0.0		
EAST	Shanti Nagar	112	DOMLUR	Domlur flyover, old Airport Road, bengalore-560008	77.6401,12.96108,0.0		
EAST	Shanti Nagar	114	AGARAM	Rudrappa garden, Channel Road, Next to storm Water Drain, Bengalore-560047	77.617322,12.956234,0.0		
EAST	Shanti Nagar	115	VANNIGARAPET	BDA park, Near Austin town post office, Channel Road, Neelasandra, Bengalore-	77.618399,12.953358,0.0		
EAST	Shanti Nagar	116	NEELASANDRA	Near Dobhi Ghat, Near Storm Water Drain, Neelsadra, Bengalore-560047	77.617547,12.950486,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
EAST	Shivaji Nagar	62	M RAMASWAMY PALYA	Chinnappa garden link Road, Nandidurga road, JC nagar bengalore.	77.601453,13.001626,0.0		
EAST	Shivaji Nagar	90	HALASUR	gangadarshetty road, ulsoor, Bengalore-560008	77.619750,12.976667,0.0		
EAST	Shivaji Nagar	93	VASANTHAGAR	near Gandhi bhavan, Madavanagar, bengalore-560001	77.5797495,12.98803,0.0		
EAST	Shivaji Nagar	110	SAMPANGIRAMNAGAR	Tasker town shivaji nagar ground, Bengalore	77.601827,12.983856,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
SOUTH	Vijay Nagar	123	VIJAYNAGARA	Service Road , Vijayanagara	77.545374,12.973891,0.0		
SOUTH	Vijay Nagar	132	ATTIGUPPE	ward 132 Attiguppe, near Chandra layout water tank	77.529238,12.956283,0.0		
SOUTH	Vijay Nagar	133	HAMPINAGAR	Venkateshpura slum, 3rd cross, near rishabavati river, deepanjali metro station, Maruthinagara	77.537867,12.950772,0.0		
SOUTH	Vijay Nagar	157	GALI ANJANEYA	10 cross muneshwara block	77.548455,12.946102,0.0		
SOUTH	Vijay Nagar	158	DEEPANJALI	50 feet road, girinagar bda park opposite post office down bangalore 26	77.543603,12.943183,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
YALAHANKA	Yelahanka	1	KEMPEGOWDA	5th Phase, Near Shruti Collage, Yelahanka, Bangalore-560064	77.576778,13.109289,0.0		
YALAHANKA	Yelahanka	2	CHOWDESHWARI	5th Phase, Near Shruti Collage, Yelahanka, Bangalore-560064	77.576493,13.10949,0.0		
YALAHANKA	Yelahanka	3	ATTURU	NES Stop, Near Royal Orched, Yelahanka New Town, Bangalore	77.584508,13.090537,0.0		
YALAHANKA	Yelahanka	4	YELAHANKA SATELLITE TOWN	Near Janapriya Apts Allalassandra Yelahanka New Town bangalore	77.589344,13.089166,0.0		
YALAHANKA	Yelahanka	10	DODDABOMMSANDR A	Veeranna Layout, Thindlu Main Road, Vidhyaranyapura, Bangalore-560097	77.563879,13.068949,0.0		
YALAHANKA	Yelahanka	11	KUVEMPUNAGARA	Sy No 109, Singapura Village, Bangalore-560097	77.540406,13.084899,0.0		

Data sheet -2: Land availability adjacent to existing facilities and data ratification

Zone	Division	Ward Number	Ward Name	Location of DWCC (Address)	Geo Coordinates	Survey Number	Is additional land available adjacent to Unit? If Yes, How much area in m²
RR NAGAR	Yeshwanthpura	38	HMT	behing Prabhakar Kore Convention hall, peenya.	77.529643,13.031239,0.0		
RR NAGAR	Yeshwanthpura	72	HEROHALLI	Muddayyana palya, Bengalore.	77.486795,12.963895,0.0		
RR NAGAR	Yeshwanthpura	130	ULLALU	Shivanapalya, Valgere halli, kengere Upanagar, Ullala, Bengalore.	77.491462,12.931562,0.0		
RR NAGAR	Yeshwanthpura	159	KENGERI	1st main Railway pallellel Road, kengeri.	77.481763,12.914776,0.0		
RR NAGAR	Yeshwanthpura	198	HEMMIGEPURA	balaji Lyout, Near park, kanakapura Road, Thalagattapura.	77.541751,12.878483,0.0		



BBMP - SOLID WASTE MANAGEMENT

Data sheet 3: Details of any additional land

Sl. No.	Ward No.	Geo location	Site dimensions (L*B in ft)	Does this site next to main road? (Yes/No)	Survey no. and address of land
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

ANNEXURE X.

MOA FORMAT FOR DWCCS

MEMORANDUM OF AGREEMENT

(MOA)

between

Bruhat Bengaluru Mahanagara Palike (“BBMP”)

acting through

its authorised Officer on this behalf

and

(Dry Waste Collection Centre Operator)

for

Collection and Transportation of Dry waste and its

disposal

Ward Number

-----Zone

INTERIM MEMORANDUM OF AGREEMENT

The proposal for door to door collection of dry waste from the residential households and small commercial establishments, except bulk generators by the Dry waste collection center (DWCC) located in _____ ward, _____ zone, located at _____

The Dry waste Collection Centre hereinafter operating under this Agreement will be named as **“Kartavya Dry Waste Collection Centre”**.

This **Memorandum of Agreement** is made and executed on _____ day of _____ at Bengaluru for a period of 04 months.

BY AND BETWEEN

Bruhat Bengaluru Mahanagara Palike, statutory corporation established under the provision of the Karnataka Municipal Corporation Act, having its office at Bengaluru and represented by Mr. _____, **“the Executive Engineer, -----Division----- ---Zone” BBMP**, Bengaluru, herein after referred to as “BBMP”,

AND

_____ (*insert the name of the entity / person in whose name the MOA for running the DWCC exist*), represented by its Authorized Signatory, Mr. _____, vide Authorization Letter dated _____, hereinafter referred to as the **Operator** of the DWCC and

BBMP is desirous of encouraging the DWCC operators to collect door to door dry waste at the ward level, in the ward in which the Centre is located, as a measure to reduce the

quantum of waste to be transported to the scientific waste processing facilities and to assist in recovering precious recyclable resources at the source

OR

BBMP is desirous of encouraging the DWCC operators to collect door to door dry waste at the ward level, and linked to the designated Centre, as an interim measure till such time that the Ward sets up its own Dry waste collection centre, as a measure to reduce the quantum of waste to be transported to the scientific waste processing facilities and to assist in recovering precious recyclable resources at the source.

Whereas, _____ (*insert the name of DWCC operator.*) is keen to take up the collection of dry waste , for the aforesaid period , and

Whereas, _____ (*insert the name of the DWCC operator*) is already having an agreement with the BBMP to run the Dry waste Collection centre

Whereas, the parties have negotiated the terms and accordingly, the parties have entered into this Memorandum of Agreement (MOA) defining their respective roles and responsibilities:-

NOW THEREFORE, THIS MEMORANDUM OF AGREEMENT WITNESSETH AS HEREUNDER:-

1. Agreement Period

BBMP hereby entrusts the DWCC with the task of carrying out the activities set out in Clause 4.2 of this Agreement for a period of 04 (Four) months from the Agreement Date (the “**Agreement Period**”).

After the Agreement Period subject to the decision of the BBMP, to continue such door to door collection by the DWCC, the BBMP may decide to extend the contract period on mutually agreed terms.

After the Agreement Period also, the term of this MOA will be automatically extended if BBMP does not explicitly give in writing to terminate this MOA.

2. Obligations of the OPERATOR _____ commonly referred to as the Dry waste Collection Centre or DWCC:-

- a. Within 7 days of the date of this Agreement, the DWCC shall submit to BBMP for its approval an **Implementation Plan** indicating in sufficient details the following
 - i. DWCC shall be required to submit a chart setting out the process flow for the activities envisaged and indicated in the **Task A Activities**.
 - ii. Detailed information of the Vehicles, Manpower proposed to be deployed; along with attested copies of relevant documents as proof of making them available for the Assignment.
 - iii. Training for Manpower deployed by the DWCC in the course of collection
 - iv. Mechanism for Grievance Redressal
- b. The DWCC shall latest within a period of 7 (seven) days from the date of this Agreement, or such extended period as granted by BBMP commence the activity of door to door collection of dry waste as envisaged in this Agreement.

A. Task A Activities

- i. The DWCC shall carry out the door to door collection from the residential areas & non commercial establishments block wise, as detailed out in the BBMP ward micro-plan
- ii. A minimum of 3 blocks comprising 1750 households & non bulk commercial establishments shall be covered in a single trip and one vehicle shall do 2 to 3 trips per day.
- iii. Collection of the dry waste from each individual houses and small commercial establishments shall be carried out twice a week.
- iv. All dry waste shall be collected. Dry waste shall include recyclable items like paper, plastic, metal, glass and non recyclable items like multi layer packaging. It shall also include bulky items like mattresses, thermocole, cloth, leather items, furniture, broken glass but excluding construction debris items like ceramic items like sanitary fittings like bath tubs, wash basins and commodes

B. Task B Activities

The DWCC

- i. The collection vehicle shall have in blue colour, with a banner/sticker prominently displayed as “COLLECTION OF DRY WASTE ONLY”.
- ii. shall ensure that a driver and helper is hired for the same
- iii. shall ensure that only waste pickers are employed while deploying workers for collection and sorting. BBMP has already issued ID card to 7500 Waste pickers for integrating them into SWM activity.
- iv. shall ensure that vehicles have been maintained properly and in case of break down, have standby vehicles ready
- v. Shall ensure continuous outward movement of graded sorted and stored material to keep the DWCC in readiness to be ready to receive all dry waste every day from the MSW dry waste stream that is collected from the Ward.
- vi. shall create continuous awareness programmes on segregation of waste at source to the residents, small commercial establishments and other waste generators around the Dry waste collection centers with the support of the Link workers and the RWA
- vii. shall ensure that all non recyclable, non saleable bulky dry waste is dropped off by the DWCC, to the Aggregation Centres as specified by BBMP from time to time

C. Specific Obligations

- i. Carry out the Task A Activities in accordance with the Operations Plan submitted to the BBMP
- ii. Ensure that the dry waste collected from the generators under Task A activities are not mixed with general MSW at any stage of collection, transportation or disposal Ensure that the dry waste collected is not burnt, dumped on the roads / areas outside the Ward or transported to other locations except Designated Locations

- iii. Ensure that any of the activities carried out under Task A do not hinder traffic movement within the Package area and on the way to the Designated DWCC;
- iv. Report to BBMP non-compliance of MSW management practices by generators to the Junior Health Inspector and in persistent cases to the Assistant Executive Engineer;
- v. Maintain daily records of the quantum of the dry waste collected, transported, time schedule of performance of the activities and other such relevant information, and provide the same to BBMP in the prescribed format.
- vi. Attend any training and workshops that are organised by the BBMP
- vii. Maintain a complaint register / voice recorders to register the grievances of generators and other stakeholders concerned with the MSW management
- viii. Not assign any of its rights or obligations under this Agreement without the express written consent of BBMP;
- ix. Not engage any sub-contractor to undertake any of the DWCC obligations;
- x. Pay the salary costs of the Driver and Helper on time and as per the agreed terms of this Agreement
- xi. shall take due care in establishing and maintaining storage facilities in such manner as they do not create overloading, unhygienic and unsanitary conditions around it and ensure fire safety is installed in the centers.
- xii. Safety/Security of DWCC is the responsibility of the Operator
- xiii. shall utilize the Dry waste Collection Center only for the said purpose and shall not collect waste from bulk generators from the date of signing this agreement
- xiv. Shall record details of individual residents who are handing over dry waste and shall report those who do not provide the same to the ward Health Inspector/ Engineer/Assistant Executive Engineer on a daily basis.
- xv. Shall report to the ward Health Inspector/Engineer/Assistant Executive Engineer, where the percentage of rejects in the dry waste MSW handed over by the residents, exceeds 5% of the daily volume, for a continuing period of a fortnight.

- xvi. Shall carry out such Audits as required by the BBMP, for establishing compliance on Standard Operating Procedures, by such empanelled Auditors as advised by the BBMP from time to time. The cost of such audit shall be borne by the Dry waste collection Centre only
- xvii. Nominate contact persons to interact with BBMP.
- xviii. Statistics of waste collected, through an inward Log, will be documented and report will be put in the public domain periodically or when BBMP ask the operators
- xix. Statistics of waste sold / dispatched for processing, through an Outward Log will be documented.

D. General Obligations

- i. Operators shall collect e-waste and dispose it according the law. Tube lights and CFLs collected may be handed over to the Aggregation centre
- ii. Operators shall allow for storage of sanitary waste which is dropped off at the DWCC till it is collected by the authorized dealer the same day. The storage containers will be provided by the BBMP,
- iii. shall adhere to the safety measures prescribed in the SWM Rules and shall be solely responsible for the safety and health of the workers and any claim arising out of the breach. shall adhere to the safety measures prescribed in the SWM Rules and shall be solely responsible for the safety and health of the workers and any claim arising out of the breach.

2. Obligation of the BBMP

- i. The BBMP agrees to provide monthly vehicle hire charges of Rs.43685/- per vehicle/month which includes the cost of one driver and one helper to aid door to door collection of dry waste at the rates specified in the Financial Schedule as provided for the relevant period.
- ii. BBMP agrees to make monthly timely payments within the 10th of every month.
- iii. BBMP to have provided the Ward Block maps at the time of signing of the Agreement.

- iv. BBMP is responsible to provide the signage for collection vehicles and also for the Dry waste Collection Centre.
- v. BBMP agrees to mediate in case of resistance from contractors.
- vi. BBMP or the contractors under no circumstances will unload any wet waste or rejects on the DWCC premise.
- vii. BBMP shall ensure that a completed DWCC with electricity, toilets, water , gates , secured with a paved approach for use by the vehicle and complete in all respects is provided to the DWCC operator at the signing of the agreement.,
- viii. In the case of already established DWCCs the BBMP shall undertake any repairs that are required on a priority basis and ensure its completion within a fortnight of signing the Agreement.
- ix. BBMP shall make all effort to publicise the intended dry waste collection program and advise the residents on segregating the dry waste and handing over the same only to the Dry waste collection vehicle.
- x. The BBMP mandates inclusion of the waste pickers in the functioning of the DWCC.
- xi. The BBMP will take action in accordance with the fining and penalty clauses of KMC Act to those residential units who are not handing over dry waste to the DWCC operator.
- xii. The BBMP shall advise the list of Empanelled Auditors who will carry out the Audit checks for ensuring compliance on operational Standard Operating Procedures by the Dry waste Collection centres.
- xiii. The BBMP may, in addition to clause (2.14), reserve the right to inspect and supervise the functioning of the DWCC and ensure that the operations are consistent with the MSW Rules and in accordance with the terms of this Agreement.
- xiv. BBMP will assist in providing necessary security measures like gate for the compounded area, and necessary beautification like sapling plantation, leveling of the ground.
- xv. Nominate officers as the contact person to interact with the DWCC.

- xvi. BBMP shall have no legal liability in case of any accident to any person or persons resulting in injury or death for any reasons in Dry Waste Collection Centers.
- xvii. At the time of renewal of this Agreement, where the DWCC is performing well and has been found to be discharging its various obligations, the DWCC operator will be given first preference for renewal of the Agreement for operating the DWCC and carrying out the Dry waste collection. Where it is sought to allot the DWCC to another operator, such matter shall be brought to the notice of the Zonal Joint Commissioner , to be resolved by him. . In case the decision favours the other party then a detailed report justifying the move will be given by the Zonal Joint Commissioner.
- xviii. BBMP shall have the right to inspect and ascertain whether the **Operator** are executing the work in terms of this agreement or not and if any breach of the terms of the agreement by the **Operator**, the BBMP has the right to terminate the agreement.

3. PAYMENT TERMS:-

- 1. Ward Number----consists of -----number of Households including small commercial Establishments. So -----number of Autotippers shall be used to collect Dry Waste from the Ward.
- 2. The Amount of Rs.43,685/-(forty three thousand six hundred and eighty five rupees only) shall be paid per vehicle per month which includes hire charges and operation and maintenance cost , fuel cost, salary of driver, helper along with ESI,PF, uniform and safety equipments benefits a as per the terms of this Agreement .
- 3. The operator shall ensure that the auto tipper driver and workers employed will get the wages not less than the Minimum wages prescribed by the Karnataka labour department.

7.2 Penalties

- 1. Root deviation by auto tippers leading to unattended area -0.15 % of the service fee per instance.

2. Non collection of dry waste- per day value of the amount.

3. If the Dry waste is not collected for a period of 5 days or more period, the DWCC operator shall be liable for termination.

4. TERM AND TERMINATION:-

4.1 This MOA is valid for a period of four months from the ----- day of -----month of 2017 to the ----- day of -----month of 2017. This Agreement may be extended, on the same terms and conditions, for successive additional terms as mutually agreeable and such intent must be conveyed in writing not less than 15 days prior to the expiration of the initial term.

4.2 This MOA shall stand terminated on the expiry of the term subject to extension as above.

4.3 BBMP has the right to terminate the MOA with one month's notice if _____ does not observe the spirit and letter of this MOA and based on the Environment Auditors report.

4.4 _____ has the right to with draw from the MOA with one month's notice if BBMP fails to fulfill its obligations or fails to act on genuine and reasonable complaints on violations reported by _____.

4.5 Any disputes arising between the BBMP and the operator will be dealt by the Commissioner, BBMP.

5. NOTICES

All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given when either personally served or mailed by certified or registered mail, return receipt requested, addressed as follows:

a. BBMP

[Insert address and contact person details]; and

b. Operator

[Insert address and contact person details].

6. MODIFICATION OF THIS AGREEMENT

This Agreement may be modified by the Parties only by a written supplemental Agreement executed by all the Parties.

7. INDEMNITY:-

The Operator agrees to indemnify, defend and save BBMP harmless from and against any and all liability which the Operator may be responsible for or pay out as a result of bodily injuries (including death), property damage, or any violation or alleged violation of law, to the extent caused by the Operator's breach of this Agreement or by any negligent act, negligent omission or willful misconduct of the Operator or its employees, which occurs (1) during the collection or transportation of Customer's Waste by the Operator, or (2) as a result of the disposal of Customer's Waste, or any violation or alleged violation of law, to the extent caused for breach of this Agreement, or by any negligent act, negligent omission or willful misconduct of the Operator or its employees, agents or contractors in the performance of this Agreement.

8. INSURANCE

The Operator shall maintain, during the Term of Contract/MOA, at its own expense, appropriate and adequate insurance policies towards its employees, agents, workers etc.

9. ASSIGNMENT:-

This Agreement may not be assigned by the Operator to any other party without the express consent of the BBMP. This Agreement shall be binding on and shall inure to the benefit of the parties and their respective successors and assigns.

10. TIME IS OF THE ESSENCE

Time is of the essence of this MOA with respect to the obligations of the Operator mentioned under this MOA.

11. RECITALS

The parties hereto acknowledge and agree that the “whereas” recitals set forth above are accurate, true and correct and, by this reference are made a part hereof and are incorporated herein.

12. ENTIRE AGREEMENT

This Agreement is binding on all the Parties and contains the entire understanding of the Parties with respect to the subject matter hereof and supersedes all prior agreement or understandings amongst the Parties in respect of the subject matter of this Agreement.

Further this Agreement shall be governed by the laws of the State of Karnataka. It may be executed in several counterparts and constitutes the entire agreement for the service described. If any provision in this contract is held by any court to be invalid, void, or unenforceable, the remaining provisions shall continue in full force.

IN WITNESS WHEREOF, the parties hereto have affixed their respective signatures to this Memorandum of Agreement on the day, month and year first mentioned hereinabove.

Witnesses:

1.

**For Bruhat Bengaluru Mahanagara Palike
Bengaluru**

2.

For OPERATOR

ANNEXURE XI.

BULK GENERATOR FAQ

BG PROGRAM NEW FEATURES OVERVIEW

1. **BULK GENERATOR CLASSIFICATION:** The BBMP Bulk Generator Notification very broadly classifies the Bulk Generators as Domestic and Commercial. Also, other than BBMP, the KSPCB and FSSAI also monitor and regulate the solid waste management requirements of the Generators. Therefore recognizing the registration regulations across authorities, a comprehensive Bulk Generator classification has been elaborated to clearly define all the various types of Bulk Generators and the multiple registration regulations relevant to waste management, cleanliness and hygiene, that are applicable.

The four broad categories and the Excluded category are

(1) RESIDENTIAL (2) INSTITUTION	BBMP Bulk Generator Notification (2013) has to be read along with the KSPCB Notification (2006) for Residential , Institutions and Campuses exceeding 5000sq mtrs
(3) COMMERCIAL – TRADE LICENCE APPLICABLE (over 12 lakhs turnover per annum) (4) PETTY FOOD BUSINESS OPERATORS (less than 12 lakhs turnover per annum)	BBMP Bulk Generator Notification (2013) has to be read along with the Food Safety & Standard (FSS) Act (2006) applicable to Food Business operators
The EXCLUSIONS from the Bulk Generator category are also clearly identified , in order to clarify the jurisdiction of regulation both for the BBMP officials and for the Generators. Natural Market areas, APMC yards, HOPCOMS, Street Vendors, Poultry and Cattle , Slaughter house , Timber and horticulture (Yards, Nursery, Gardens, Flower bouquet stalls, shops) , Tender coconut dealers, sellers will not be required to manage their own waste like the Bulk Generators even though the waste generated is more than 10 kgs since their waste is almost completely agricultural produce and special streams	BBMP Bulk Generator Notification (2013) has to be read along with the Street Vendors Act (2014), Slaughter House Act

2. **IN SITU REQUIREMENT :** Based on the new classification Residential more than 100 units ,Private Institutions- Campuses, some Commercial Bulk Generators (Company, Hotels, Malls, educational institutions, Clubs) (who fall in the > 5000sq mtrs category) will be required to mandatorily manage their own waste in situ, based on the year of construction. Once the proof of in situ is uploaded on the BBMP BG Net platform the Bulk Generators will become eligible for SWM Cess Rebate. A cut off date will be issued , within which period the Bulk generator must comply with the in situ requirement.
3. **CESS REBATE APPLICABLE :** Effective from April 2018, the Residential , Private Institutions –Campuses and Commercial categories (Company, Hotels, Malls, educational institutions, Clubs) of the Bulk Generators who have to mandatorily carry out the in situ management of their waste. will be eligible for a rebate of 50% of the SWM Cess . The remaining categories also be eligible for the SWM Cess rebate if they show proof of operations . Such Cess Rebate will be based on Proof of operations and subsequent compliance certificate by the BBMP SHI and by a Self Declaration made by the Managing Committee of the Residential category that organic waste is being managed either through the common facility on site or through individual home composting units. (See detailed Note)

4. EMPANELMENT OF BG DESTINATIONS

The empanelment of BG Destinations who have processing capacity for organic, garden ,horticulture, sanitary, animal waste, C&D or who carry out secondary operations like sorting and grading of dry waste and who are able to carry out the Collection and transportation either with own or their appointed service providers , will be done on an ongoing basis. Applications received from such empanelled Destinations will be screened and approved by the SWM Expert Committee on an ongoing basis.

5. PUBLIC NOTICE : (1)The Notice will intimate the Bulk Generators of the requirement to register online .Every Bulk Generator will be required to have a BG Code. Non compliance of which will attract Penalty. (2)The Notice will specify the Cut off date for showing Proof of operations of the in situ management. Once such Proof of operations is provided the eligible Bulk Generators will be eligible for the Rebate of the SWM Cess in the Property tax payable April 2018.

6. IDENTIFYING AND MAPPING THE BULK GENERATORS: Though the Bulk Generators are required to voluntarily register for the BG Code, the SHI will identify and map the details of the Bulk generators in every Ward. The SHI will be assisted in this activity with the support of students from the BBMP colleges, who will used in this field activity for a period of one month, to complete the mapping process on the BG NET App (and allotment of BG Code) which can be downloaded on their smart phones. A certificate of appreciation from the BBMP will be issued to the participating students. A STICKER prominently displayed, identifying the premises as a Bulk Generator will also be affixed by the SHI.

7. BG OUTREACH : In order to assist the Bulk Generators to understand the requirements of segregation and to provide information Bulk Generator practices , a team of 2 BG Supervisors will be assigned per ward , reporting to the SHI. The total requirement of 400 BG Supervisors will be assigned out of the existing 4000 permanent Pourakarmikas, on the rolls of the BBMP. These BG Supervisors will also carry a Feedback and Complaint register to record the actual on ground situation and requirements.

8. BBMP ASSIGNED OFFICERS : The SHI assigned to the sub division will be responsible for the maping, carrying out the inspection, issuing of Notices, enforcing fines and penalties . The SHI will through the BG supervisors review of the outreach activities carried out by them along with the Link workers. It will be the responsibility of the Assigned officers to ensure that the segregation requirements, good hygienic practices (GHP), in situ management and collection and transportation to the designated locations is carried out as per the prescribed process. The office of the JC SWM and Health will be responsible for the process of empanelment of the designated locations. However on an ongoing basis the BBMP Assigned Officers will also co ordinate and co operate with the KSPCB officials and the Food Safety Officers for a comprehensive regulation enforcement.

9. APPLICABLE NORMS OF THE OTHER REGULATING AUTHORITIES:

KSPCB(2006) : Prescribes the method of solid waste management (segregation at source, storage and in situ management) of all properties exceeding 5000sq mts

FSSAI (2006) : The Food Safety Security Act prescribes the registration and compliance requirements of the Food Business Operators (FBO)(who manufactures or sells any article of food himself) and

Petty Food Business Operators (Petty FBO) (retailer, hawker, itinerant vendor or temporary stall holder with annual turnover not exceeding Rs. 12 lakhs)
The FBOs are required to register for a Food licence

Street Vendors Act (2014) defines and prescribes their registration and the setting up of Vending zones

(1) Mobile vendors- means street vendors who carry out vending activities in designated area by moving from one place to another place vending their goods and services

(2) Natural market - means a market where sellers and buyers have traditionally congregated for the sale and purchase of products or services and has been determined as such by the local authority on the recommendations of the Town Vending Committee

(3) Street vendor- means a person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, side walk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words “street vending”

The Street Vendors are required to be issued an ID which is to be reviewed every 5 years by the Town Vending Committee.

10. PROPOSED CALENDAR OF ROLL OUT

STAGES	REQUIREMENT	PROPOSED DATE
1. NOTICE	BBMP NOTICE to ALL Bulk Generators will be issued NOTICE to be published in print media, online on the BBMP web page Link to BG NET, an ICT Platform , will be provided on the BBMP Web page	
2. RESPONSE	BBMP NOTICE will require the Bulk Generators - Residential / Commercial to respond through the RESPONSE FORMAT posted on BG Net RESPONSE FORMAT is a self declaration and will require Bulk Generators to furnish details of the waste generated and waste management practices as a Bulk generator or proposed to be taken by them for managing their waste BG Code will be issued to all Bulk Generators based on the PID no furnished	
3. EXTENSION	BBMP will allow an EXTENSION period to Bulk Generators EXTENSION will be based on the details furnished by them in the RESPONSE FORMAT and will be communicated to the BG.	
4. PROOF OF OPERATIONS	BBMP will require PROOF OF OPERATIONS from Bulk Generators PROOF OF OPERATIONS to geo tag and upload the visuals of the processing that is operating on their premises	
5. CUT OFF DATE	BBMP will issue CUT OFF DATE BBMP will inspect and penalize for non compliance after the CUT OFF DATE	

BBMP BULK GENERATOR MANAGEMENT PROGRAM NEW FEATURES 2017



	The BG Net will generate list of non compliant Bulk Generators	
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BBMP BULK GENERATOR CLASSIFICATION

Sl no.			JURISDICTION		ELIGIBLE FOR CESS	SWM	
			BBMP	OTHERS	REBATE	REQUIREMENT	
I	RESIDENTIAL (OVER 50 UNITS)				YES		
1	RESIDENTIAL	Any Apartment,Multi dwelling unit, Gated Community	SHI	KSPCB		IN SITU	
II	INSTITUTION / CAMPUS (> 5000SQ MTRS)						
2	GOVT INST (GI)	Any State/Central/Semi Government instution premises to be considered as one unit	DHO	KSPCB	NO	IN SITU	
3	RELIGIOUS INSTITUTION	A complex with or without the Religious sanctum , community gathering and residential facilities	DHO	KSPCB/ F		IN SITU	
4	INSTITUTION CAMPUSES (IC)	Academic, research institution with residential campus attached, Conclaves, Tech Parks	DHO	KSPCB	YES	IN SITU	
5	PUBLIC OUTDOOR EVENTS	Trade fairs, public events, entertainment events-shows, rallies, sporting events	DHO	KSPCB/ F	NO	DESTINATION	
III	COMMERCIAL - TRADE LICENCE (over 12 Lakhs turnover per annum)-				YES		
6	COMPANY (CO)	Any Factory/Company to be considered as one unit	MOH	KSPCB	Excluding Point(19) Firework sales	IN SITU	
7	HOTEL (HO)	A Hotel with Lodging to be considered as one unit	MOH	FSSAI		IN SITU	
8	RESTAURANT (RE)	A Eatery/Restaurant to be considered as one unit	MOH	FSSAI		DESTINATION	
9	CHOULTRY (CH)	A wedding hall, Kalyan mantap , Choultry, Community/banquet/convention Hall to be considered as one unit	MOH	FSSAI		DESTINATION	
10	EDUCATIONAL INST (ED)	A educational institution , gym, sports, training institutes without residential accomadation	MOH	FSSAI		IN SITU	
11	MALL (MA)	Mall to be considered as one unit	MOH	FSSAI		IN SITU	
12	SUPER MARKET (SM)	Super Market, Store, to be considered as one unit	MOH	FSSAI		DESTINATION	
13	Paying Guest House (PG)	A PG dwelling to be considered as one unit	MOH	FSSAI		DESTINATION	
14	CLUB (CL)	A Club to be considered as one unit	MOH	FSSAI		IN SITU	
15	CATERERS	A service provider operating with a kitchen	MOH	FSSAI		DESTINATION	
16	AUDITORIUM	Cinema theatres, Multiplexes, Movie Halls, Auditoriums	MOH	FSSAI		DESTINATION	
17	PETROL BUNKS		MOH			DESTINATION	
18	SERVICE GARAGE	A automative showroom, mechanic repairs, washing	MOH			DESTINATION	
19	FIREWORKS SALES	Sale of fireworks	MOH			DESTINATION	
20	CONSTRUCTION MATERIALS	Sale of Marble , stone, ceramic materials	MOH			DESTINATION	
21	BARBER SHOPS, SALONS	Hair cutting activities	MOH			DESTINATION	
22	SHOP	A whole sale -retail shop, showroom selling/ trading non food merchandise	MOH			DESTINATION	
IV	PETTY FOOD BUSINESS OPERATORS- FOOD SAFETY REGN. APPLICABLE- TRADE LICENCE NOT APPLICABLE					NO	
		(does not exceed 100 kgs a day, not exceeding 12Lakhs turnover per annum)					
		ITINERARANT VENDOR, PETTY RETAILER, HAWKER OR TEMPORARY STALL HOLDER, SMALL SCALE, COTTAGE INDUSTRY					
23	TEMPLES		SHI	FSSAI			DESTINATION
24	BAKERIES- CONFECTIONERS		SHI	FSSAI			DESTINATION
25	JUICE AND LASSI		SHI	FSSAI		DESTINATION	
26	ICE CREAM		SHI	FSSAI		DESTINATION	
27	FAST FOOD- CHAATS		SHI	FSSAI		DESTINATION	
28	TEA AND COFFEE		SHI	FSSAI		DESTINATION	
29	MEALS AND SNACKS		SHI	FSSAI		DESTINATION	
	EXCLUDED FROM BULK GENERATOR CATEGORY (AGRICULTURAL PRODUCE, SPECIAL STREAMS)				NO		
	(waste generation more than 10 kgs a day)						
1	NATURAL MARKETS	Ward level natural markets selling agricultural produce	JHI			DESTINATION	
2	MARKETS	APMC YARD, HOPCOMS selling agricultural produce	DC MARKETS			DESTINATION	
3	STREET VENDOR	vending of articles, goods, wares, agricultural produce or merchandise	JHI			DESTINATION	
4		MOBILE VENDOR , PETTY RETAILER, HAWKER OR TEMPORARY STALL HOLDER, squatter , peddler				DESTINATION	
5	POULTRY & MILK		VETERINAR	FSSAI		DESTINATION	
6	SLAUGHTER HOUSE		VETERINAR	FSSAI		DESTINATION	
7	TIMBER, HORTICULTURE	Yards, Nursery, Gardens, Flower bouquet stalls, shops	HORTICULTURE			DESTINATION	
8	TENDER COCONUT		JHI			DESTINATION	

FAQ

1. Who is a Bulk Generator

The following are notified as Bulk generators -

Domestic Bulk Generator - Any Apartment unit having more than 50 units residential units/flats and includes any residential complex having more than 50 residential units , by whatever name called.

Commercial Bulk Generator - Any Hotel, Restaurant, Factory , Choultry, Mall Shopping Complex, Marraigne Hall , Convention Hall, Place of worship, Institutuion, Office establishment, Railway Station, Bus Stand or any other commercial or Public entity, which generates not less than 10kgs a day.

2. What are the Categories of Bulk Generators

The Bulk Generators are classified into 4 main Categories (1) Residential (2) Institutions- Campuses , covering an area of more than 5000 sq mtrs, which includes all kinds of Government institutions, Religious institutions, Campuses all forms of Public events (3) Commercial establishments who are required to hold a Trade licence (4) Petty Food Business operators who do not fall within the purview of the Trade Licence but are required to have a Food Safety Licence

The following category though generating more than 10kgs of waste a day , fall in the Excluded category- Natural markets, Markets, Street Vendors, Poultry and milk outlets, slaughter houses, Timber depots and Horticulture nurseries, gardens, flower stalls and Tender coconut dealers . The norms of Bulk Generators are not applicable to them ie. they are not required to hand over their waste to Empanelled destinations and can hand it over to the Door to Door collection system.

3. What is a Bulk Generator responsibility for managing the waste

- a. The wastes which are categorized as Dry waste, Wet waste, Sanitary Waste, Garden waste, Inert waste shall be segregated and stored in separate containers.
- b. Such segregated wet wastes shall be processed by the Bulk Generator in-situ , either by own staff or by outside agencies
- c. Where wet waste is not being processed in situ and all other waste types shall also be handed over to Appointed C&T Service Providers of Empanelled Destinations

4. What is considered as non compliance of a Bulk Generator

The following are considered as some instances of non compliance by the Bulk Generators

- a. Where waste is not segregated at source
- b. Where waste is being handed over to the door to door collection system
- c. Where waste is not managed in situ , but handed over to agencies , who are not Empanelled Destinations or their appointed C&T Service Providers
- d. Where Bulk Generators have not procured a BG code

5. What is BG code

Every Bulk Generator per Public Notice-BG Net of the BBMP , now has to procure a BG code for creation of a Disposal Account . This is issued in lieu of a self declaration and assessment of waste generated and waste management practices as a Bulk generator.

6. What is BG Net

An online portal where the details of the Bulk Generator waste management practices are stored in their Disposal account.



7. What is in situ management

Where a facility or process is set up on site/ premises where the waste is generated , to convert the wet waste/ garden waste to be , into compost or Bio gas , the same is considered as in-a management.

8. Who will provide in situ management services

Either the in-house staff can be trained to perform the in –situ management of processing, or an outside agency can be hired to carry out the in situ processing of wet waste/ garden waste of the same .

9. In situ management is mandatory for which types of Bulk Generators

All Bulk Generators falling under the category of Residential and Institutional –Campus , Commercial Generators like Companies, Hotels, Malls, Clubs and Educational Institutions have to mandatorily carry out in situ management of their wet / organic waste . Not managing their waste in situ will be considered as non compliance unless specific exempt permission is obtained in writing from the assigned officer of the BBMP.

Optionally all or partial Garden waste can also be processed on site.

This is not mandatory for the other categories of Bulk Generators like Commercial others and Petty Food Business Operators.

10. What is the benefit of carrying out in situ management

The Bulk Generators falling under the category of Residential and Institutional –Campus , Commercial Generators like Companies, Hotels, Malls, Clubs and Educational Institutions can avail of 50% rebate on their SWM Cess , starting from the period April 2018.

11. How can the Bulk Generator avail the Cess Rebate

The Bulk Generator has to submit the Annual Compliance Certificate issued by the KSPCB on their satisfaction that the Bulk Generator is complying with the in situ organic waste management in accordance with the requirements.

12. What is KVS- Kasa Vilavaari Sevadararu

- a. Kasa Vilavaari Sevadararu, a BBMP Service provider Enlistment Program aims at creating a regulatory framework for Bulk Generator Service provider Empanelment.
- b. The Program will define the criteria within which Empanelled Destinations and their appointed C&T Service Providers are expected to operate. This will include basic norms and standards for performance, as well as ensuring segregation at source and cutting down of MSW(Municipal solid waste) sent to the Landfill
- c. The Program will publish Public Lists of all the Empanelled Destinations and their Appointed C&T Service providers along with the capacity intake for which they are empanelled by the BBMP.

13. What is an Empanelled Destination

BBMP has recognized and listed as Empanelled Destinations, those processing facilities that carry out or processing of organic waste, incineration of sanitary waste, collection centres who carry out secondary grading and sorting of dry waste , recycling facilities of C&D waste and E waste.

These Empanelled Destinations are permitted to receive source segregated waste from the Bulk Generators only, for a fee.

14. What is the responsibility of the Empanelled destination

- a. To receive source segregated waste only from the Bulk Generators. Types of waste are wet waste, garden waste, sanitary waste, Domestic hazardous waste; E waste; C&D waste; Poultry / non vegetarian waste; Inert waste (In –situ Post processing rejects)
- a. To either receive such source segregated waste at their doorstep from the Bulk Generators directly, or to use their own fleet or outside agencies, called appointed C&T service providers, to provide the collection and transportation from the premises of the Bulk Generators.
- b. To carry out the processing of such source segregated waste either into compost or bio gas, to incinerate , to recycle into other products or to grade and sort for trading
- c. To ensure only the post processing inert is landfilled
- d. To provide a list of its Appointed C&T Service providers to the BBMP and ensure that they abide by the stipulated requirements of BBMP for collection and transportation of Bulk Generator waste
- e. To ensure that its list of C&T service providers are compliant with the stated requirements of the BBMP for collection and transportation of Bulk Generator waste.
- f. To limit the intake of waste only to the capacity that it is empanelled for by the BBMP

15. Who is an Appointed C&T Service Provider

Where an Empanelled destination enters into an agreement with outside agencies to provide the collection and transportation services of source segregated waste, from the premises of the Bulk Generators to its facility , such agencies will become their Appointed C&T Service Provider. No further approval from the BBMP of such C&T agency is required.

16. What is the stipulated requirements for Collection and transportation of Bulk Generator waste(either by the Empanelled Destination directly or by the Appointed C&T Service Provider)

- a. Only source segregated waste can be picked up for collection and transportation from the Bulk Generator
- b. Each waste type has to be transported to the Empanelled Destination only
- c. Collection and Transportation fee may be charged from the Bulk Generator at the discretion of the Service Provider
- d. Vehicle to Vehicle transfer permitted only in designated locations as permitted by BBMP
- e. In the case of secondary transfer , No manual loading or unloading of wet waste through garbage on ground is permitted
- f. Only containerized collection of wet waste is permitted . and waste shall not be transported in open vehicles
- g. Vehicles shall be painted as per the stipulated colours for Bulk Generator waste
- h. The signage on the outside of the Vehicle shall indicate that it is a “Appointed Bulk Generator C&T vehicle”.
- i. C& T staff shall wear suitable protective gear like uniform, gloves, shoes and have the Service provider ID card visible at all times.
- j. Staff welfare facilities like changing rooms, Toilet facilities, drinking water facilities shall be made available to the C&T staff.

17. What are the types of waste that a Bulk Generator needs to manage

- b. Wet waste
- c. Dry waste
- d. Garden/ Horticulture waste
- e. Domestic hazardous (including Sanitary waste)

- f. E waste
- g. C&D waste
- h. Poultry / non vegetarian waste
- i. Inert waste (In –situ Post processing rejects)

18. How is wet/garden waste managed in the Bulk Generator system

The most preferred way of managing Source segregated wet/garden waste is by processing it in situ . Where in-situ processing is not possible because of space constraints , the same can be handed over to the Appointed C&T service provider who takes it to the Empanelled Destination which carries out either composting or bio methanation of the wet/garden waste. The frequency of collection of wet waste should be daily , that of garden waste can be twice a week.

19. How is dry waste managed in the Bulk Generator system

Dry waste that is source segregated can be collected and stored for pick up by the Empanelled destination on a weekly basis .

The Empanelled destination, if its a dry waste collection centre will sort and grade the dry waste and the recyclable material will be sold . If the Empanelled destination is a plastic processing facility, the same will be pelletised .

Any non recyclable material- but combustible (like multi-layer packaging wood scrap, broken furniture, cloth) has to be routed through the Dry waste collection centre to the RDF plant

20. How is mixed waste managed in the Bulk Generator system

- a. Unsegregated waste is Mixed waste and is to be avoided at all costs. Where such mixed waste is unavoidable the same can only be sent to an Empanelled destination that can process mixed waste like a MBT (Mechanical biological treatment) composting plant.
- b. However such Empanelled destination receiving mixed waste has to show proof of processing such mixed waste and only the post processing inerts can be landfilled . The non recyclable fraction of such mixed waste , also has to be sent to the RDF plant by the destination.
- c. It must be cautioned that a Bulk Generator found to be handing over mixed waste without adequate attempt at segregation will be liable to be penalized for the same. So also the Appointed C&T Service Provider who is found mostly collecting the mixed waste without emphasis on source segregated collection.

21. How is sanitary waste managed in the Bulk Generator system

Sanitary waste collected in non chlorinated bags have to be handed over to the Empanelled destination or its Appointed C&T Service providers. Those found handling Sanitary waste without such precautions are liable to be penalized for non compliance. The suggested frequency of collection is daily.

Germicide Bins should be provided in all Commercial and Public buildings and institutions In – situ management through Single pad micro incinerators – electric or clay is not permitted

22. How is e-waste managed in the Bulk Generator system

E waste can be collected only by the Empanelled destinations or its appointed C&T Service Providers. Frequency of collection will depend upon the need and quantum generated.

23. How is domestic hazardous waste managed in the Bulk Generator system

This consists of chemicals, paints, tubelights, CFLs, pesticides etc. This can be collected by the Empanelled destinations or its appointed C&T Service providers. Frequency of collection will depend upon the need and the quantum generated.

24. How is Poultry / non vegetarian waste managed in the Bulk Generator system

Poultry waste can be collected only by the Empanelled destinations or its appointed C&T Service Providers. Frequency of collection suggested is daily

25. What is C&D waste

Construction and Demolition items, like sand, brick, concrete, glass, POP (Plaster of Paris), wood and steel items is considered as C&D waste.

Non Combustible items like (broken glass, ceramic ware, china) has to be sent to the C&D facility

All of the above have to be given to the Appointed C&T Service Provider to be delivered to the right destination.

26. What is Reject waste ,

That waste which cannot be recycled or processed any further is called Reject waste.

The following can be broadly called as Reject waste.

Items that do not fall into any of the above categories like Wet / Dry/ Sanitary / E waste/ Poultry/ C&D. Mixed waste is not Reject waste. Mixed waste is unsegregated waste.

Only Post processing residual waste, after completing the process of composting is considered as Reject.

27. How is reject waste managed by a Bulk Generator

Only post processing inerts from in-situ processing can be disposed off as inert to the landfill. Empanelled destinations for wet waste processing can receive in-situ post processing inert to be sent to Landfill, if they have a Landfill attached. If they have no Landfill attached, then to the Landfill site designated by the BBMP

28. What is considered as non compliance of an Empanelled Destination

- a. Where the Empanelled Destination does not carry out the processing / recycling / incineration / sorting grading as the case may be ,
- b. Where the C&T agency does not perform as per the stipulated requirements of the BBMP for collection and transportation
- c. Where the quantity of waste received by the Empanelled Destination is in excess of the quantity empanelled for by the BBMP
- d. Where the waste other than the waste type empanelled for it is received by the Empanelled Destination
- e. Where the Empanelled Destination is found landfilling waste other than inert/ post process reject waste

29. What is the action that the BBMP can take for non compliance by an Empanelled Destination

- a. Can issue a Notice to the Empanelled destination directing that remedial action be taken immediately
- b. Can levy a fine on the Empanelled Destination for non compliance of the stipulated requirements
- c. Can Black list the Empanelled Destination from receiving any Bulk Generator waste, thus automatically annulling the status of the Appointed C&T Service Provider. The

C&T Service provider can also therefore not collect and transport waste from the Bulk Generator.

The above action can be taken by the SHI/ MOH at the Ward level, SE/JC at the zonal level.

30. What is the action that the BBMP can take for non compliance by an Appointed C&T Service provider

- a. Can issue a Notice to the Empanelled destination directing that remedial action be taken immediately in the performance of the Appointed C&T Service Provider
- b. Can levy a fine on the Empanelled Destination for non compliance of the stipulated requirements by the Appointed C&T Service Provider
- c. Can Black list an Appointed C&T Service Provider thus automatically annulling the agreement of the Empanelled Destination and the Appointed C&T Service Provider and that of the Appointed C&T Service provider with the Bulk Generator

The above action can be taken by the SHI/ MOH at the Ward level, SE/JC at the zonal level.

31. What is the action that the BBMP can take for non compliance by a Bulk Generator

- a. Can issue a Notice to the Empanelled destination directing that remedial action be taken immediately in the case of non segregation at source, not using Appointed C&T Service Provider, no BG Code
- b. Can levy a fine on the Bulk Generator for non compliance of the stipulated requirements for source segregation, use of Appointed C&T Service Provider, no BG code
- c. Can cancel the licence of a Commercial Bulk Generator for non segregation at source, not using Appointed C&T Service Provider, no BG Code

The above action can be taken by the SHI/ MOH at the Ward level, SE/JC at the zonal level.

32. Who can the Bulk Generator report to in the case of a problem with the Service provider

The Ward level MOH /SHI is responsible for the Bulk Generator management. Any complaints can be registered with them.

33. Who will provide training/ information awareness on Bulk generator management

Any one of the following can provide training / information awareness on Bulk Generator management

- a. MOH/ SHI of the Ward
- b. Appointed C&T Service Provider
- c. Empanelled Destination
- d. Master Trainers

FAQ – BG NET

1. What is BG Net

An online portal where the details of the Bulk Generator waste management practices are stored in their Disposal account.

2. What is BG code



Every Bulk Generator per Public Notice- BG Net of the BBMP , now has to procure a BG code for creation of a Disposal Account . This Code is issued in lieu of a self declaration and assessment of waste generated and waste management practices as a Bulk generator.

3. What is BG Disposal A/c

Once a BG code is allotted, every Bulk Generator will have a Disposal account which is a running account having the details of their waste generated , if their waste is being processed in-situ; who is the Empanelled Destination that the BG has tied up with for various waste types, who is their Appointed C&T Service Provider. This information will be updated on a ongoing basis and will be available to the BBMP.

4. What is the Public Notice - BG Net

A BBMP Public NOTICE – BG Net to ALL Bulk Generators will be issued informing all Bulk Generators of the requirement to get a BG Code . The Public Notice will be published in print media, and also available online on the BBMP web page with a link to the BG- NET, an ICT Platform.

5. What are the initial requirements that a Bulk Generator needs to fulfill for registering the BG Code

The Bulk Generator will be required to do the following

- i. Fill in their details in the *Response Format* provided.
- ii. Seek an *Extension* , if needed
- iii. Provide *Proof of Operations*

On receiving the duly completed Response Format from the Bulk Generator , a BG code will be received by the Bulk Generator through a SMS message on the phone number registered.

6. When will an Extension date be provided by the BBMP

Where a Bulk Generator is unable to provide details of Proof of operations for managing the wet/ garden waste in situ, they may seek an Extension period to set up the in-situ management in compliance with the requirement for managing their waste.

7. What is the Cut off date

Cut off date is the date stipulated by the BBMP beyond which no further Extension will be allowed or the final date by which all Bulk Generators should have received a BG code. Those who have not , will be considered as non Compliant.

8. What happens to non compliant BGs after the Cut off date

Action will be taken by the BBMP on the Bulk Generators found to have not complied with the requirements of procuring a BG code as on the Cut off date.



CLEAN BENGALURU

'Namma Kasa Namma Javabdhari'

Bruhat Bengaluru Mahanagara Palike

This book was compiled by Sensing Local (www.sensinglocal.in) for BBMP