Schedules

Schedule B Special Conditions

(A) Performance Guarantee:

The Developer towards due performance of its obligations as per the Terms of this Agreement shall provide to the Municipal Body a Performance Guarantee (in the form of a Fixed Deposit in a nationalised bank or a Bank Guarantee from a Nationalised Bank acceptable to the Municipal Body) equivalent to Rs___/= (Rupees _____ only) {equal to at least 10% of the estimated project cost} valid for the tenure of the Concession Period.
The Performance Guarantee shall be released by the Municipal Body in the event of early Termination of this Agreement subject to the Termination not being as a result of Developer's Event of Default and payment of all dues payable to the Municipal Body by the Developer prior to Termination.

(B) Monitoring of Project Facility

1. Construction phase:

(i) Review the Specifications/ details of the assets that are proposed to be deployed by the Developer for the performance of obligations as per the provisions of this Agreement.
- ( ) The Developer shall make available the Specifications, at own cost, for the construction/ procurement/ commissioning of the Project Facility to the Committee and Municipal Body within 15 days from the Commencement Date.
- ( ) Within 7 days of provision of Specifications by the Developer, the Committee and Municipal Body shall review the same.
- ( ) The Municipal Body shall, within 15 days from the date of submission of Specifications as detailed above, inform in writing the Developer of its approval/ denial to the modifications proposed by the Developer with adequate reasons. The Developer shall accordingly accommodate the observations of the Municipal Body.
- ( ) If the Developer does not receive any communication, with regards to the proposed Specifications within 15 days from the date of submission of Specifications to the Municipal Body, then Municipal Body shall be deemed to have accepted the Specifications and the Developer is entitled to proceed with the Procurement/ Commissioning works thereafter.

(ii) Monitoring the Procurement/ Commissioning of the Project Facility and commenting on the compliance of the same with the Procurement Requirements and bring any deviations to the attention of the Municipal Body.

(iii) Conduct such tests as warranted to ensure the efficacy of the Project Facility and make note of the same and submit reports on a fortnightly basis to the Municipal Body

(iv) Verify and approve issuance of Provisional Commissioning Certificate/ Final Commissioning Certificate to the Developer, upon satisfying that the Project Facility is capable of catering to the Procurement Requirements as per the provisions of this Agreement. In the event of approval of issuance of the former by the Municipal Body, a list of items pending for procurement shall be appended thereto. ("Punch List Items")

(v) Verify and approve issuance of Final Commissioning Certificate upon completion of procurement of the Punch List Items.

(vi) Inform the Municipal Body as soon as reasonable on the occurrence of any Event of Default/ Force Majeure (as laid down later in the document) or any event that may have the potential to have a Material Adverse Effect on the Project Facility.

(vii) To monitor the implementation plan with respect to the original implementation schedule (required to be submitted by the Developer) and submit to the Municipal Body a report on a fortnightly basis.

2. Operations and Maintenance phase:

The Committee shall undertake following activities related to the operations and maintenance of the Project Facility.

(i) Collect information on a daily basis on the quantum of waste brought to the Project Facility from the Weighment Facility.

(ii) Conduct calibration test of the Weighment Facility at least once in a period of six months.

(iii) The Municipal Body through its sanitary inspector(s) may engage NGO's or other community groups for help in monitoring the activities at municipal ward levels and for gathering feedback and complaints from such locality and from the grievance cell. The above gathered information shall be used for measuring the Performance of the Developer as per the prescribed format detailed in Schedule.

(iv) Compile the Performance Standard measurement results to determine the penalty to be recovered from the Developer for non-performance.

(v) Identify and enter into a firm Annual Maintenance Contract (AMC) with a garage for undertaking regular inspections i.e. such repairs that are routine in nature as well major periodic repairs. The principles underlying such an arrangement are given herein below:

  (a) The Municipal Body along with the Developer shall provide a list of vehicles with details like age of vehicle and make available the vehicles for inspection purposes to identified and willing AMC parties.

  (b) The interested parties would then offer two quotes to the Municipal Body and the Developer for: - firstly the routine quarterly repairs and secondly for periodic repairs dependent on life of individual vehicles.

  (c) The offers would then be evaluated by the Municipal Body and the Developer and presented to the Committee for approval purposes.

  (d) The routine repairs and maintenance expenses shall be payable by the Municipal Body and recovered from the Developer. The periodic maintenance repairs shall be payable by the Developer to the selected AMC Developer.

  (e) The AMC, in addition, shall make the Developer responsible to submit a quarterly report on the condition of the vehicles utilised for collection,

segregation and transportation of the Waste from individual households to the designated treatment facility or the designated disposal facility.

(f) The quarterly report shall compile detailed records of every vehicle, related to the routine and periodic repairs undertaken from time to time. The details shall include the date, corresponding mileage reading, parts replaced or repaired, observations of routine repairs undertaken, major repairs undertaken and the reasons thereof.

(vi) Conduct such tests to ensure conformance of the operations of the Project Facilities with the standards prescribed in prevalent Law/ Rules/ Statutes.

(vii) Ensure that the end product that is generated is disposed by the Developer in an environmentally safe manner whereas the rejects are transported to the designated disposal facility in a timely manner.

(viii) Bring to the attention of the Committee of any potential Event of Default and / or any Force Majeure Event that is likely to have a material adverse impact on the Project Facility.

(ix) Carry out/ assist the Committee for such activities that the Committee may so direct from time to time

(x) Review the O&M Plan submitted by the Developer from time to time and bring to the attention of the Committee deviations, if any from the same.

(xi) In case of any dispute/ disagreement between the designated disposal/ treatment agency and the Developer related to the Waste, then the Committee shall immediately inform the Municipal Body of the same and take steps as deemed necessary to resolve the dispute amicably without affecting the Project Facilities. However, if the resolution involves any financial burden on the part of the Municipal Body then the same shall be approved by the Municipal Body.

(C) Developer's Specific Obligations:

1. Construction Phase:

(i) Provide the Municipal Body with necessary Specification of the assets that are proposed to be deployed by the Developer for the performance of obligations as per the terms of the Agreement within 15 days of the Commencement Date.

(ii) The Developer shall accommodate such remarks/suggestions that the Municipal Body shall have with regards to the Specifications.

(iii) The Developer at its own cost and expense make such arrangements for arranging finances as would be necessary for the development of the Project Facility in a timely manner. The Concessionaire shall submit its financing plan for the procurement of the Project Facility within 15 days of signing of this Agreement to the Committee and the Municipal Body.

(iv) The Developer shall not commence Construction works before the formation of the Committee unless otherwise authorised to do so by the Municipal Body.

(v) The Developer shall within 15 days from the approval/ deemed approval of the Municipal Body as detailed hereinabove, submit to the Municipal Body, the procurement schedule to be adhered to by the Developer for the procurement of the Project Facility.

(vi) The Developer undertakes to adhere to the Procurement Schedule and complete the procurement activities within the stipulated timeframe and achieves COD within the Scheduled Project Completion Date.

(i) The Developer shall on the 15th of every month, during the Procurement Period, submit to the Committee, a progress statement indicating the progress achieved by the Developer over the previous month and the target for the next month as per the activities highlighted in the Procurement Schedule to be submitted to the Municipal Body as per the terms set forth in this Agreement.

(i) The Developer shall before 15 days of the completion of the procurement of the Project Facilities notify the Committee in writing to conduct the requisite Tests required to certify the completion of procurement of the Project Facility.

(i) The notification of the likely completion of procurement by the Developer would not construe as the achievement of Completion of the Procurement and only the Certification by the Municipal Body to that effect would construe the Completion of the procurement works.

(i) All the Tests shall be conducted to ensure compliance with the procurement requirements. If the Tests are successful and the Project Facilities can be safely and reliably opened for operation, the Municipal Body shall issue the Commissioning Certificate upon approval by the Committee.

Provided, notwithstanding that certain works or things forming part of procurement are not complete, if following Tests the Committee determines that the Project Facilities can safely be commissioned and opened for operations, the Committee may approve issuance of Provisional Commissioning Certificate to the Developer. The Provisional Commissioning Certificate shall be accompanied by a list of items yet to be completed ("the Punch List items"). All the Punch List items shall be procured by the Developer within a period of 90 days from the date of issue of the same.

The Municipal Body shall, upon completion of the Punch List items, within 15 days issue the Final Commissioning Certificate to the Developer.

(i) If the Developer fails to complete the procurement of the Punch List items as required under the Provisional Commissioning Certificate, then without prejudice to any other rights that the Municipal Body may have as per this Agreement, the Municipal Body shall have the option to undertake the said procurement by engaging the services of any third party, at the cost of the Developer and claim 130% of the amounts so incurred from the Developer for the same.

(i) The said Project Facility shall be opened and ready for accepting the Municipal Solid Waste from the generators only after securing the Provisional Commissioning Certificate or the Final Commissioning Certificate as stipulated above.

2. Operations and Maintenance Phase:

( ) Door-to-door collection, Segregation and Transportation of Waste

The Developer will have to provide such number of manpower, as specified by him in his Techno-business proposal and adhering to the guidelines set in the work specifications and to the various stipulations, regulations, and laws specified herein and/or otherwise in place and amended thereto from time to time to ensure effective and efficient collection,

segregation & transportation of MSW in accordance with the provisions of this Agreement.

( ) Supply Waste to designated agencies

The Developer shall supply such quantities of Waste as collected from generators to agencies designated by the Municipal Body from time to time. The Developer shall, together with the Municipal Body, devise a plan to collect Waste from generators and supply it to the designated treatment developer or the designated disposal developer.

(iii) Quantity of Waste to be transported

The Developer shall be responsible for collecting, segregating and transporting such quantities of waste as notified by the Municipal Body and indicated in Schedule herein.

The Developer shall be free to supply any quantities of segregated Bio-degradable Waste to the designated Treatment agency or any quantities of Inert Waste to the designated Disposal agency. However, the Developer shall be liable to pay a charge for supply of un-segregated waste to the designated Treatment agency or the designated Disposal agency. ("Tipping Charge")

Such Tipping Charge shall be levied if the total un-segregated waste is 15% in excess or in deficit of the indicative waste quantity as mentioned in Schedule herein.

(iv) Recyclable Waste

The Developer shall engage requisite people directly or by way of NGO's to separate recyclable waste from the waste collected from the generators. The Developer shall support such initiatives, which involves people from Below Poverty Line/ women in the recycling of waste from the waste collected from households.

(v) Liability to pay for segregation charges

The Developer shall reimburse such charges that the Municipal Body might have to incur on account of non-segregation of the Waste by the Developer. The Municipal Body shall recover such charges from the Developer's payments upon produce of a supporting bill.

(A) Payments to the Developer

6.0 Payment Terms

(i) The Municipal Body hereby undertakes to pay the Developer an amount as calculated herein below in lieu of services rendered towards collection, segregation and transportation of the Waste from the generators;

$$A = R_P * (100-P) - (T_C * Q_{Exc})$$

Where;

A: Amount payable as per the terms of the Agreement

R_P: Rate per Day/ Week/ Fortnight/ Month (as agreed between the Developer and the Municipal Body subsequent to the bidding process)

P: Performance Parameter as determined by the procedure laid down in Schedule

T_C: Tipping Charge payable by the Developer for supplying non-segregated waste in excess or in deficit of the notified quantity of waste as per Schedule

T_C = Rs.___/= per tonne

Q_{Exc}: Quantity in excess of the indicated quantities as per (C) 2. (iii) herein above.

(ii) The Municipal Body shall make available the requisite funds to the credit of the Developer as per the Payment Mechanism detailed in Clause 7.1

Schedule C Work Specifications- Procurement Requirements and O&M Requirements

The work specification outlines work coverage, quantum of work, timing & frequencies of work, method of work, vehicles, equipment, accessories, systems & materials to be used, methodology of work plan & its implementation, and process of measuring performance of the work, for carrying it out in an integrated manner.

0. Details of the municipality

Population	
Residential units	
Commercial Establishments	
Other agencies/Institutions	
Service Area	
Road length (classified by width)	
Road Maps of the municipality	
Other data as suitable	

0. The coverage of work – basic concept and scope of the work

The work coverage include classification / identification of categories of solid waste generated for ease of collection, segregation, transportation, processing & disposal, identification of categories of waste generation centres for assigning appropriate transportation system

0. Classification

The SWM shall be classified into the following four categories.

( ) Biodegradable
( ) Recyclable
( ) Green waste (leaf litter and tree trimmings)
( ) Debris and silt
( ) Municipal Body specific waste category e.g. Textile waste, slaughterhouse waste etc.

The scope of the Developer's work only covers the collection, segregation & transportation of the biodegradable waste, recyclable waste, green waste and debris and silt as defined herein.

The Developer may refuse to collect biomedical and industrial hazardous waste on becoming aware of it and shall immediately bring it to the notice of the Project Engineer.

Each class of the waste will require different approach for collection and transportation. The system of transportation shall have to be designed and offered by the bidder for the following classes:

( ) Biodegradable
( ) Recyclable
( ) Green waste
( ) Debris and silt.
( ) Municipal Body specific waste category e.g. Textile waste, slaughterhouse waste etc.

0. Segregation of MSW

The Developer is obliged to ensure collection and transportation of municipal solid waste in segregated form from households, commercial establishments and other agencies or collection points in categories mentioned in point 1 herein above.

( ) Phase in period for segregation:

Under the prevailing Indian situation, the practice of waste segregation by waste generators is almost non-existing. Nevertheless, the long -term aim is to move forward in this direction. To enable this, the following steps shall be adopted, which shall constitute the Phase in period:

( ) Creating awareness and educating the citizens

It shall be the responsibility of the Developer to create awareness among the citizens and to educate them about the need for and the benefits of providing segregated waste. He shall work towards the objective of spreading awareness by the use of media including but not limited to television (local channels), radio, newspapers, hoardings, pamphlets etc.

It shall also be binding upon him to conduct society meetings for each ward atleast once a month during the phase in period. The objective of the meetings shall be to educate the citizens and to solve any reservations and queries they may have.

All the above activities viz. meetings, awareness campaigns etc are to be mandatorily followed for a period of <<enter number of months here>> from the date of COD.

The costs incurred for such activities shall be borne by the Developer.

Beyond this stipulated period, the Developer shall have no binding responsibility to carry on these activities but may continue to do so at their convenience and expense.

( ) Incentives for segregation during the phase in period

During the phase-in period, the Developer may provide services on a privilege basis, to households that provide segregated waste. Such privilege may include, priority service, immediate redressal of grievance or any such priority service deemed fit by the Developer. Such incentive shall however be limited to the phase-in period only.

( ) Segregation by the Developer during the phase in period:

It shall be the Developer's obligation to segregate any mixed waste provided by the households, commercial establishments, and any other agencies/institutions at his own cost, but limited only to the period of the phase in. The phase in period shall be as follows for the different waste generator categories:

( ) <<Enter number of months here>> from the date of COD for commercial establishments and institutions
( ) <<Enter number of months here>> from the date of COD for residential units

He can do so at the point of collection or at the transfer station or at any other place of his convenience but within the O&M stipulations of this Agreement provided that he does not create public nuisance or hinder with the day to day activities of the citizens. For this purpose the Owner may indicate areas where such segregation can be undertaken. He can however refuse to collect waste of a category not explicitly covered under this contract.

( ) After the phase in period:

The Developer shall not be obliged for segregation of MSW (segregated as per the classification mentioned earlier) beyond the stipulated period of

- ( ) <<enter number of months here; 3-6>> for commercial establishments and institutions
- ( ) <<enter number of months here; 3-6>> for residential units,

After the date of COD (i.e. the completion of the phase in period). However, he shall be responsible for collection and transportation of waste in segregated form as per the categories mentioned in para 16.2 a.

The end of the phase in period is ideally characterized by 100% compliance with waste segregation by waste generators eventually. If however, this does not happen, the Developer may refuse to collect waste from such generators who do not provide waste in segregated form after the phase in period is over.

3. Engagement of NGO's & community participation:

The Developer should try and engage NGO's for the purpose of community education and community participation to spread the culture of litter free streets and neighbourhoods and also the benefits of providing segregated waste.

4. Engagement of Rag Pickers

The Developer can engage rag pickers or make use of the services of rag pickers association for the purpose of segregation of MSW and/or disposal of recyclable material. Such use of services shall solely be at the discretion of the Developer and he is under no obligation to do so.

5. Mode of Collection

As the waste generated by households, commercial centres etc are predominantly of biodegradable and recyclable nature, the Developer shall provide for two closed bins one for biodegradable (green in colour) and one for recyclable (white in colour) for waste collection. The Developer may engage a separate collection protocol for collection and transportation of debris and green waste as deemed fit by it as long as it complies with the MSW Rules, 2000 and other provisions of this Agreement.

( ) The Developer is free to choose different timing and frequency for collection of different types of waste, but adhering to the following stipulations
  - ( ) Bio-degradable waste has to be collected on a daily basis
  - ( ) Recyclable waste has to be collected on a frequency not exceeding 3 days;
  - ( ) Debris collection from households and other establishments has do be done on a call basis. I.e. only when asked for collection, should such waste be collected. The Developer is obliged to collect such waste when asked to do so. However such

period shall not exceed 2 days from the time of request. Such collection shall be charged to the individual household or establishment by the Developer.

( ) Dead Animals shall be collected at the earliest on being reported, or in any case not later than the next working day.

( ) Street litter (of the above types) shall be collected by the Developer en route. He shall bring to the notice of the Project Engineer such instances of street litter, to enable further action.

( ) During the phase in period, the attitudinal change of the masses towards 100% compliance with waste segregation will be a gradual process. Thus the waste may be in a partially segregated form. To that extent , the Developer shall provide a collection and transportation system/bins for the mixed waste along with the bins for biodegradable and recyclable waste in segregated form during the phase in period.

( ) The covered bins full with refuse shall be carried from the front yard or from the nearest approachable gate of the building/houses/residential societies to the collection vehicle and kept back at the same place after unloading in to the compactor/hand cart/tricycle/any other collection, segregation vehicle as decided.

( ) The ground at the place where the vehicle stops for loading shall be clean-swept if there are any dropping of the refuse from the container while loading and it should be disinfected by an approved disinfectant liquid spray.

( ) In case of the roads totally closed for renovation/reconstruction or laying utility etc, the Developer shall convey the situation to Sanitary Inspector in writing. The work shall be carried out by parking the vehicle at the nearest accessible place by carrying wheeled containers up to the point and back.

( ) The Developer shall establish routes for collection of SWM, area wise, along with the timing of each route (start time of collection and projected end time) and also the collection points and likely timing for each collection point for each route. These routes and collection points shall be clearly defined and specified in the micro plan. Any change in the routes and/or collection points shall be notified to the Owner, who may recommend changes if required, but only after discussions with the Developer.

( ) Specification of vehicle type & other technical inputs on collection, segregation equipment & transport infrastructure that will/should be deployed for each collection centre/ward etc.

The following tables shall serve as a guideline for selection of vehicles and covered bins for different road types:

Vehicle specification table

0. Models for Biodegradable and Recyclable waste collection

Satellite vehicles that may be used for doorstep collection

Model	**Distance To Unloading Place**	**Width Of Roads On Collection Route**	**Primary Collection, Separate ,Bio And Recycle**
Hand Cart (HC)	Up to 2 kilometres	Less than 2 meters	120 kg capacity, Hand Cart with min two covered bins of max 120 litres capacity,4 trips /shift
Tricycle	Up to 2 kilometres	Below 3meters	Tricycle Twin Compartment average 120 kg per trip , 4 trips per shift

Mechanical vehicles that may be used for primary and/or secondary collection

Model	**Distance To Unloading Place**	**Width Of Roads On Collection Route**	**Primary Collection, Separate ,Bio And Recycle**
Tractor trailer	Up to 5 kilometres	more than 3 meters	Trailer container 2500-3000 litres capacity hauled by Tractor 50-60HP,
Tractor Container Carrier	Up to 7 kilo meters	more than 3 meters	Carrier container 2500-3000 litres capacity , lifted by Tractor carrier 50-60HP, two covered bins at a time

Skip Loader SL)	Up to 10 kilo meters	more than 3 meters	Skip bins 2500 litres capacity lifted by 12 GVW skip Loaders Two containers at a time
Auto Rickshaw	Up to 7 Kms	More than 3 meters	
Compactor COM)	Up to 15 kilo meters	more than 4 meters	2500-5500 litres HDPE Injection Moulded Compactor bins Lifted by 12 GVW, 4-6 cubic meters load body compactors 4-6 t/trip.

The vehicles mentioned above may be used in combination or isolation to get the desirable collection and transportation efficiency depending upon the waste quantity to be collected, hauling distance, land pattern, population density, width of the roads etc.

0. Bin & Miscellaneous equipment specification

The covered bins, containers and large containers shall be of standardized design conforming to international standards for covered garbage bins / containers used for automatic loading in to vehicles.

Specification in general shall be as below:

( ) Produced by injection moulding or roto moulding from high density polythene (PE-HD), according to EN 840/EN 840-1 regulation.
( ) The material shall be UV stabilized, cold, heat and chemically resistant.
( ) Heavy duty rubber wheels
( ) Hardened galvanized steel wheel axle.
( ) Colour to be selected at the time of execution of job.
( ) Conforming to shape, size, lid arrangement (90 litres to be stackable), or equivalent for standard loading devices.
( ) Number of covered bins required shall be worked out by the bidder with extra margin of 20% for future use or replacement.
( ) The covered bins shall be of standard international design conforming to DIN standard: 30700/1 or its equivalent, used all over the world for loading/off loading solid waste in to compactor vehicles by standardized lifting system conforming to DIN/COMB system.

( ) Number of covered bins required shall be worked out by the tenderer with extra margin of 20% for future use or replacement.
( ) These covered bins are to be used for large generation garbage points or for debris collection, silt collection etc.
( ) The shape, size, length and breadth of the container should be such that it can be carried by 16 GVW chassis loaded with 800 – 1000 kgs/cubic meter
( ) Loading height when on ground should not be more than approximately 900 – 1100 mm.
( ) The skip container should be closed lid in two half, if on sides and with spring loaded / pneumatic cylinder mechanism to keep the container lid open for loading.
( ) Common to All covered Bins for Sweeping Carts, Community Bins for Large Generation Centres
  ( ) R.C.C. Platforms for covered community bins for garbage, at large generation centres is to be provided essentially by the Concessionaire.
  ( ) Locking system of the covered bins shall also be provided.
  ( ) The covered bins of international standards specifications are preferable, however the bidder may provide covered bins of the same type, design, dimensions, thickness of body & lid, materials of construction and quality finish indigenously manufactured by ISO 9000/9001 Company engaged in manufacture of such covered bins.

0. Covered Bins for Storage & Collection, segregation at cooperative Society, building, bungalow Level and automatic lifting by Compactors

	Feature	Loading	Materials	Capacity	Lifting	Application	Category of

		Height			Device		Waste
TWO WHEELED BINS							
	Two wheeled Bins with Lid, International Standard Design	Maximum Loading Height not exceeding 1300mm	High Density Polyethylene Injection Moulded bins	Available from 35 litres to 340 litres for individual Generators- Building ,Bungalow , Shops etc	Standard Auto lifting device, however bins can be manually emptied in to the auto lifting vehicle	Collection of waste House To House, The bins up to 120 litres capacity can be used on hand cart and tricycle specially designed for higher productivity and ease of handling	The bins are to be used for Biodegradable and Recyclable waste storage and collection.

FOUR WHEELED BINS							
	Four wheeled Bins with Lid, International Standard Design, Loading Height –	Maximum Loading Height not exceeding 1300mm	High Density Polyethylene Injection Moulded bins	Available from 660/770 litres to 1350 litres for individual Generators- Building, Bungalow, and for bulk individual generators	Standard Auto lifting device by compactors or crane type lifting	Collection of waste House To House, The bins designed for higher productivity and ease of handling	The bins are to be used for Biodegradable and Recyclable waste storage and collection

The Bins for storage & collection at transfer point and institutional/community level are generally known as containers and these are to be used as Community collection, segregation and storage device for large Generators.

	Feature	Loading Height	Materials	Capacity	Lifting Device	Application	Category of Waste
FOUR HEELED BINS FOR COMMUNITY COLLECTION							
	design, Four wheeled bins , Top lid for keeping the bin close	Maximum Loading Height not exceeding 1300 mm	Density Polyethylene Injection Moulded bins or Steel or GI Bins with polyethylene lid of the same type and functional capability as above	660/770 litres to 1350 litres	Auto lifting by compactors or Crane mounted on the collection vehicle	Suitable for Community collection and large generation points.	The bins are used for Biodegradable and Recyclable waste

Secondary Storage and Transportation

Skip Containers							
	Mild .Steel , Lid Type Skip containers			2500 To 7000 Litres	The type of containers are known as skip Containers (Off loader Placer Containers)) which are auto lifted by hydraulic lifting device on the vehicle known as skip loader	For Bulk Collection at Large Commercial Places, as Community Bins and at transfer points where hand carts or tricycles bins are unloaded	Biodegradable , Recyclable , Debris and Green Waste

Stationary Bulk Containers							
	**Bulk Containers** Standard Design containers , closed top Lid Type		MS / Special Steel Containers	10000 Litre To 30000 litres, Capacity for Transfer Points and Transfer Station	Auto Loaded and Unloaded By Hook Lift Truck	Skip loaders can unload directly in to these containers, Multi purpose use	Biodegradable, Recyclable ,Debris & Silt and Green Waste, separately
Stationary Compacting Containers							
	Standard Design, Closed ,Lid Type		MS / Special Steel Containers	3000 Litres to 22000 litres, Power Compacting	Auto Loaded and Unloaded By Hook Lift Truck	For Transfer Points and Transfer Station	Used for Biodegradable and Recyclable Waste

For Primary Collection, Temporary Storage, and Bulk Storage systems should satisfy the following parameters for selection. The Models suggested are based on the following

( ) Adequate Volumetric Capacity should be provided to hold the quantity generated and stored for a period of 36-48 hours, considering fluctuations of load, daily & seasonally.
( ) Quantity and Category of waste shall decide the strength of the covered bin materials and its capacity.
( ) Bins should be covered and as light as possible and suitable for easy manual shifting and mechanical handling.
( ) Separate covered bins should be used /provided for all categories of waste for separate collection at source
( ) Bins shall be with covered and colour of the bins or their lids should conform to the colour code specified in the MSW rules 2000.
  ( ) Biodegradable Waste – Green Colour;
  ( ) Recyclable – White Colour;
  ( ) Other waste – Black colour.
( ) The Concessionaire shall make available covered bins for sale to households & other establishments.

The Concessionaire shall, for its own convenience make available covered community bins to large residential complexes/ societies/ apartments/ institutions/ other large establishments, for use by them, at no cost what so ever.

0. Primary Collection

House To House Collection of Biodegradable and Recyclable waste can effectively be achieved by using hand carts and Tricycles

Hand Cart with Covered Bins 	▪ House To House From Generators of Waste ▪ Roads below 3 meters of width and low generation houses ▪ **Light weight Hand Cart** & H D P E two wheeled bins with lid, 2 No.'s, of 120 litres each ▪ 4 Trips per Shift will have an out put of minimum 400 kgs. ▪ Un loading at transfer point mobile or stationary with in 2 kilo meters Hand cart body fabricated out of FRP, steel tube Frame work and handle , M S fabricated wheels with bush bearing ,Wheel axle special steel case hardened. ▪ These light weight , high durability carts are Used for Biodegradable and Recyclable waste

Tricycle with Covered Bins 	▪ House To House From Generators to Waste ▪ Roads 3 meters of width ▪ Tricycle & H D P E Two wheeled bins with lid , 2 No.'s, of 120 litres each ▪ 5 Trips per Shift will have out put of minimum 600 kgs. Un loading at transfer point , mobile or stationary with in 3 kilo meters ▪ Used for Biodegradable and Recyclable waste, collecting waste in separate bins or compartment.

0. Secondary Collection

From Transfer Points & Covered Community Collection Bins

Skip Loaders for Lifting Skip Containers 	▪ 12-16 G V W Skip loaders for lifting skip containers, from community collection, bulk generators or transfer point or institutional waste ▪ Size 2500 litres to 7000 litres per trip. ▪ The vehicles will travel directly to the processing & disposal site with in 10 kilometres.

0. Primary & Secondary Collection of Biodegradable and Recyclable

Mobile Compactor Vehicles 	▪ 12 to16 G V W Compactor, Closed body , auto loading & Unloading ▪ Normal Capacity 6 to 10-12 cubic meters load body, 6 to 8-9 Mt per trip ▪ Available in capacity starting from 5 cubic meters load body carrying compacted waste up to 4 –5 t /trip ▪ The Compactor vehicle directly goes to the processing site. ▪ Community bins, bins from large generators, bins of institutional waste will be directly collected by these compactors.

0. Bulk haulage Vehicles

From Transfer Points/ Station to Disposal Sites

Hook lift Truck & Container 	▪ These are the vehicles for bulk haulage ▪ 16-25 GVW Hook lift truck for lifting large skip containers of 10000 litres to 30000 from the transfer points or transfer stations. (Biodegradable ,Debris , Silt) ▪ The vehicles are used for lifting containers of all category waste brought to the transfer point or transfer station ▪ The stationary compactors of capacity 3000 litres to 14000 litres load body, carrying Biodegradable waste are also lifted by these vehicles. ▪ The vehicles will travel directly to the processing & disposal site from 20 kilometres to 25-30 kilometres economically.

0. Bin Washing Service

In order to provide hygienic service periodic bin washing service shall be planned and implemented by the service provider for all the covered bins provided by them at the community centres.

( ) An appropriate vehicle with installation of bin washing facility shall deployed for this service.
( ) Bins provided by the Developer shall be washed and disinfected once in a week.
( ) Similar service shall be given to the bins in the custody of the users on charge basis.

0. Need for storage:

Wherever required, the Developer shall provide temporary storage arrangements like skip loader bins or refuse compactor bins for temporary storage of MSW collected by satellite vehicles till such time when the bulk haulage vehicles are available for the MSW to be off loaded into them.

Such temporary storage shall be covered at all times and in no way shall cause any public nuisance.

0. Need for Transfer Station or Transfer Point and its Operations.

( ) Need for Transfer Station / Point.

The bulk carriers collecting garbage shall directly report to the processing or disposal sites since they will carry more than 15 m3 . In case of the use of small satellite vehicles, the system shall need a transfer point where they can unload in to bulk carriers for further transportation.

( ) Operations of the Transfer Station / Points. (if any)

Specifications for operation & maintenance of transfer station:
The transfer station shall be owned and maintained by the Developer. It shall adhere to the O&M specifications mentioned hereto:

(iv) It shall comply with all the environmental laws in place and any additions/amendments thereto in the future.
(iv) It shall have the necessary permits/clearances for operations from the various agencies.
(iv) It shall ensure clean and sterilized surroundings, and should use appropriate disinfectants and employ labour for the same.

0. Work/collection timing/no. of trips; time & frequency

This is a part of the micro plan. If it is provided by the Developer, then most of the details can be skipped here. Else requirements need to be specified here

( ) Prime objective of the work defined is to see that solid waste (covered under this Agreement) generated in the municipal limits of the Owner is separately collected and transported to the final processing or disposal sites with in the stipulated time without any backlog.
( ) The entire collection, segregation and transportation work defined earlier shall be carried out generally during the work timings as below

  ( ) The collection & segregation of SWM shall be done between <<enter time here>> and <<enter time here>> everyday. The Developer is free to choose a starting time for each route and the collection point timing as per his convenience provided that
  ( ) The timing so fixed is specified in advance and is adhered to.
  ( ) Any changes in this timing can be bought about only after consultation with the Owner
  ( ) Such timing is announced at least a week prior to its implementation, to the residents, commercial establishments, institutions affected by this change.

( ) After gaining experience in the field, the timings may have to be readjusted for most effective cleaning work which shall be done in consultation with the Owner.
( ) The service provider shall give the specified services on all 365 days of the year.

0. Preparing work plan and organizing the work

  ( ) The plan shall be prepared for deployment of men, vehicles and equipment, infrastructure.
    ( ) A supervisor capable of understanding work plan, organizing the work accordingly, and capable of directing, disciplining and controlling work force shall be appointed before commencing the work.
    ( ) Minimum one supervisor per administrative area is essential in each shift including that required for the transfer station operations if any.

( ) The driver/operators and supervisors shall keep all records and submit all reports desired to operate the plan and as suggested by the Owner/Project Engineer.

( ) The Developers supervisors shall keep close liaison with the Project Engineer who is in charge of the work of organizing joint inspection daily as desired for ascertaining work performance.

( ) Regular work shall start then with in 40 days of signing of this Agreement.

( ) There after Delay in starting the regular work shall attract a penalty of Rs. <<enter amount here>> per day, which shall be recovered from the Performance Guarantee.

15. Quality of Disinfectant

Disinfectant for spraying at the spots of collection, or segregation should be Eco-friendly, non-toxic, non acidic, oil based deodorant and disinfectant. The herbal based liquid shall be preferred. The liquid to be used shall be approved by the Owner and it shall be standardized, including dilution ratio in water for various applications. Every lot of the liquid shall be inspected by the Sanitary Inspector and it shall be certified as ok before use, indicating dilution ratio.

16. Facilities and Benefits for the Work Force Employed

(i) The successful tenderer shall furnish the details of the workers below the line of supervision before commencing the work.

(ii) Each person (including Supervisor) deployed on this work shall be provided the following personal facilities

( ) A set of Uniform – Pant, apron, cap - two sets per annum of approved design and colour, (visible distinctly at night)

( ) The name of the person and level shall be either knitted on pocket of the apron or name embossed on plastic badge.

( ) A set of Hand Gloves, Mask and safety shoes will be given to all employees up to supervisors – durable mask once in three months, hand gloves once in six months and safety shoes once in 12 months.

( ) A set of gum Boots and rain wear shall be provided every year in the rainy season.

( ) Change rooms, wash rooms & rest rooms, shall be provided by the Developer for the benefit of the personnel employed. Such facilities shall be provided by the Developer at the duty deporting place as detailed below, or at any other place, but at its own cost in either case.

(iii) A duty reporting place will be established on the place given by the Owner. The Owner will give a separate place where the vehicles can be parked and the bin carts can be stationed. Such designated place can be provided ward wise and/or at a centralised location, at the discretion of the Owner.

(iv) Such place shall be provided by the Owner to the Developer, till the time this Agreement is in place at a nominal lease of Rs. 1 per year.

(v) Separate meters for water supply and electricity will be provided by the Owner under domestic category. The water supply and electrical charges of the regular bills from respective agencies shall be paid by the Developer.

( ) It will be the total responsibility of the Developer to maintain requisite documents, registers, wage cards, daily attendance muster, and service records including P.F., Gratuity etc where applicable and submit returns regularly to the statutory authority if necessary.

( ) The Developer shall also be responsible for obtaining any factory licence required for the transfer station and adhering to all the rules and regulations provided under the act

( ) The Developer is free to choose a place to his convenience for the purpose at his cost & expense.

0. Operational Records and Operations Control

( ) The Developer shall keep all the statutory documents and registers duly recorded for inspection by the Owner before commencement.

( ) The Developer should also keep operational records of

. Attendance Cards/ Register of the manpower deployed

. Separate ward wise record of daily operations –

( ) Log Book of vehicles

( ) Register of issue of the disinfectant liquid

( ) Register of Stock of implements, and other materials and their issue

( ) Record of Acceptance of Personnel carriers with registration Numbers & timings.

( ) Register for issue of Uniforms and protective gears defined in the specifications.

( ) Performance Evaluation Record in separate form for each sector.

( ) Maintenance & operations records of all vehicles.

Schedule D Correspondences that may form part of the Agreement

Schedule E Details of Project Site and Project Facility

To be filled in by the respective ULB with the details of the Project Site and the Project Facilties.

Schedule F Indicative Waste Quantities

The Municipal Body shall endeavour to supply the following quantities of waste on an annual basis through out the tenure of the Contract Period:

Year	Waste Quantity (in tonnes)
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Year 1 denotes the period beginning from COD until the corresponding end of the Financial Year i.e. 31st March

Year 2,3,4… denotes the Financial Year beginning 1st April and ending at 31st March unless for Year 10 which denotes the Financial Year beginning 1st April and ending at the Termination Date.

In case of early determination of this Agreement, the interpretation of this clause shall according be modified to read the last year as the year in which the Termination Date falls.

Performance Measurement of MSW Management (Collection and Transportation)	**Municipal Body**	
Time of Inspection From To	Ward /Area	Date
Performance Measured By Name 1 2 3	Designation	Signature
TOATL WEIGHT POINTS		

Schedule G Performance Evaluation Framework

SERVICE LEVEL

Performance Factors	**Total Number**	**Number Cleared**	**Weightage assigned**	**Weightage obtained (% of number cleared to total number)**	**Remarks/Observations**
Community Points Clearance					
	Number to be deployed	**Actual No. deployed**	**Weightage Assigned**	**Weightage obtained**	**remarks**
Street Litter Bins					
	Poor	**Satisfactory**	**Good**	**Total Weightage**	**Weightage Obtained**
Clearance of street litter bins	5	15	25	25	
Disinfectant sprayed at community points and around street litter bins; No nuisance	Acceptable level = Not more than 10% points deficient in service			20	

INFRASTRUCTURE USAGE

Performance Factors		**Total vehicles to be deployed as per work plan**	**Actual vehicles deployed**	**Weightage Assigned**	**Weightage Obtained**	**Additional observation or instructions for payment deduction /Reason for under or over deployment**
Use of infrastructure Vehicles /Equipment & bins;	Type of satellite vehicle used Tricycle/ Auto Rickshaw/Hand cart					
	Skip Loader/ Container Carriers /Compactor/ Truck tipper/Auto rickshaw					
		Equipment planned for deployment	Actually deployed	Weightage assigned	Weightage received	Comments
	Community Bins & street litter bins					

Performance Factors	**Total reporting for the day**	**Total strength**	**Weightage Assigned**	**Weightage Obtained**	**Additional observation or instructions for payment deduction /Reason for under or over deployment**

Manpower – workers, drivers, cleaners etc.			50		

Performance Factors	**To be supplied for the day for the day**	**Actual supplied for the day**	**Weightage Assigned**	**Weightage Obtained**	**Additional observation or instructions for payment deduction /Reason for under or over deployment**
Uniform to workers- Apron, Cap, name on pocket Safety shoes, Hand gloves, Masks			10		
Supply of personnel carrier vehicle for inspection and communication system etc.			10		

Performance factor	**Number of bins washed**	**Total bins specified for use**			
Bin washing – 5% of Bins –All			25		
Disinfectant of Approved Quality & Quantity	Yes/No	10			

Performance factor	Total break downs	Total vehicles in use on day			
Break downs of vehicles of collection			50		

COMPLAINTS REDRESSAL – To be filled up by the Grievance Cell

Present day complaints

	Weightage	Total Units – Residential Units + Establishments	Number of Complaints	% of Complaints	More than 2% - zero weightage; otherwise full weightage
Complaint Level	50				
		Total No. of Community Bins	Number of bins (complained for)	% of Complaints	More than 2% - zero weightage; otherwise full weightage
Complaint Level	50				

Present Day Complaint Redressal level

Total Complaints received	Complaints Addressed	% addressed	Total Weightage	Weightage received
			100	

Complaint Backlog

	Total Weightage	Weightage to be given		
		6-12 hrs	12-24 hrs	>24 hrs
Any backlog pending for more than 6 hours	100	50%	25%	zero
	Total Weightage	Weightage received	%	Payment calculation based on % weightage received

Schedule H Schedule of Rates quoted by the Developer during the bidding stage

Financial Year Beginning	**Amount in Rs. per month**

Schedule I Sampling Procedure

( ) The Waste is first unloaded on to a clean and impervious hard surface.
( ) The Waste is then thoroughly mixed with the help of a spade and a cone is formed of the Waste.
( ) The cone of Waste is then flattened and divided into four quarters.
( ) Remove two opposite quarters and mix together the remaining two quarters.
( ) Repeat the process until a sample having approximately 20% of the original waste volume is obtained.
( ) After such a representative sample is obtained, segregate the waste based on biodegradable, non-biodegradable waste.
( ) Weigh the biodegradable waste and divide it by the total sample weight.