

5/8/15
at 3:05 PM

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

AT NEW DELHI

OA NO. 199/2015

IN THE MATTER OF

ALMITRA H PATEL AND ANR

Applicant

V

UNION OF INDIA AND ORS

Respondents

NDOH 20.8.2015

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BIRAJA MAHAPATRA
ADVOCATE FOR DPCC
CHAMBER NO 12
DELHI HIGH COURT
NEW DELHI

9871523663 (Rajbir)

5/8/15 New Delhi
5/8/2015
for CPCB

AB- we do not have copy of petition
and the list of names of parties.
However, the petition copy is being
supplied to the Applicant's CPCB.



11304

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
AT NEW DELHI

OA No. 199/2015

In the matter of :

Almitra H Patel &anr.

.....Applicant

Vs.

Union of India and Others.

.....Respondents

**STATUS REPORT ON BEHALF OF THE SECRETARY
(ENVIRONMENT AND FOREST, GNCTD) AND DELHI
POLLUTION CONTROL COMMITTEE IN COMPLIANCE
WITH THE ORDER'S OF THIS HON'BLE TRIBUNAL
DATED 13.07.2015**



I Sanjiv Kumar, Secretary, Environment, Govt. of Delhi, 6th Level, Delhi Secretariat, Delhi-110002, and Chairman, Delhi Pollution Control Committee do hereby solemnly affirm and declare as under:

1. That I am presently working as Secretary (Environment), GNCTD & Chairman, DPCC and thus, I am competent and authorized to depose and swear in the present affidavit on the basis of official records.
2. That this Hon'ble Tribunal vide order dated 13.07.2015 in OA No. 199 of 2014 in the matter of Almitra H. Patel Vs. Union of India & Others directed Secretary (Environment), GNCTD to file affidavit personally within three weeks with regard to the collection, storage and disposal of Municipal Solid Waste in the entire state. Further, it should be clarified that if any MSW disposal plant either RDF or Waste to Energy or any other more plants have been provided in the state or they are in the proposal stage in that behalf.

In view of the above, a meeting was convened with all Municipal Bodies in the office of Pr. Secretary, UD, Govt. of Delhi on

22/07/2015 and again a letter was sent to the all Municipal bodies on 27/07/2015 for obtaining action plan for safe management of MSW.

All the Municipal Bodies have submitted their action plan. Copy of the action plan submitted by all the five Municipal Bodies are collectively annexed herewith as **Annexure-I (colly)**.

3. Brief extract of the action plan are here under:-

(i) **New Delhi Municipal Council**

- Fix population: 2.0 Lakhs
- Floating population: 25-30 Lakhs.
- Area: 42.76 Sq Km.
- MSW generated: 250-300 MT/day.
- Number of Circles :14

Primary Collection System:-

- (a) Auto Tipper Trucks fitted with public address system : 26
- (b) Small Mechanical Compactors : 07
- (c) Big Mechanical Compactors:04
- (d) Private Tipper Trucks:10

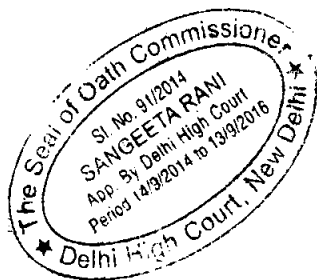
Secondary Collection System: - Door to Door Garbage collection carried out under the new PPP project for collection and transportation of garbage.

- (a) Garbage System / Pucca Machinery Dustbin : 116
- (b) New Garbage Iron Trolleys of capacity 1100 litres : 1275
- (c) Old Garbage Iron Bin Trolleys : 203
- (d) High capacity Garbage Collection Bin: Proposed.
- Transfer Station at Old Arjun Das Camp, Raj Nagar & Sarojini Nagar is under process and will be constructed within six month.

Transportation of Garbage:-

- (a) Garbage Collection Points: Garbage lifted from the hot points twice or thrice a day and from the other point's daily basis.
- (b) Tricycle Rickshaws: 144.

Disposal of Garbage:-



(a) Garbage is transported at Waste to Energy Plant at Okhla and compost plant at Okhla for generation of electricity and manure respectively.

(b) Horticultures Waste Management Plants at Gardens- Decentralized approach.

- Horticulture waste is converted into Bio-fuels by grinding, steaming to remove the tar, compacting and converting fuel pallets having less than 08% moisture content. Fuel pallets can be used in designed smokeless cook stoves as a replacement of LPG at 50% cost and also converts wet de-composed waste to compost through aerobic micro organism assisted process.
- 2 ton horticulture waste processing per day, which yields 40 to 50 % compost.
- Installed at 04 major gardens in NDMC- Nehru Park, Lodhi Garden, Talkatora, India Gate.

Proposal for MSW management:-

i.) Waste to Energy plant at West Kidwai Nagar

- Area: 1000 Sqm.
- Capacity of the plant: 70 tones MSW per day
- Electricity generation: 1.4 MW
- Technology & Process: Based on Hybrid gasification techniques burning with hot with high temperatures gases.
- Construction work in progress at site and likely to be commissioned by September 2015 after obtaining necessary environmental clearance.

ii.) Waste to Energy plant at Okhla

- Area: 3000Sqm.
- Capacity of the plant: 170 tones MSW
- Electricity generation: 4 MW
- Technology & Process: Based on pyrolytic gasification technology- this is high temperature thermal de-composition of wet MSW in oxygen free environment to produces syngas to generate electricity.

iii.) Methanisation plant at Okhla

- Capacity: 100 MT MSW



- Microbes incubated bio-reactors patented technology: Anaerobic reaction which converts organic waste to crude gas rich in methane.
- The gas produced will be fed into IGL pipeline
- 40% non-biodegradable will be processed further for use as road aggregates and some will go to landfill.

Comments: - Twin bins distributed for collection of dry and wet waste separately in some colonies. NGO Chintan has also been involved for collection of Biodegradable and non- biodegradable waste separately. MSW is being sent to WTE Plant and horticulture waste to compost plant at Okhla.

(ii) **Delhi Cantonment Board:-**

- Population: 1,10,351
- Area: 43.67 Sq Km.
- MSW generated: 60 MT/day.
- Number of Wards :08

Primary Collection System:-

- Door to Door Collection of garbage, which is segregated into Biodegradable and non-Biodegradable.
- Un-segregated garbage is segregated at Tigris Road. An agency has been engaged for this purpose.
- Dustbin Collection Points : 545
- Tippers and Compactors:26
- Transportation and Disposal: At landfill site Okhla. No waste processing plant.



Comments of DPCC: - Dry and wet waste collected separately, however, the same is sent to the Okhla Landfill site rather than to send it for processing.

(iii) **North Delhi Municipal Corporation :-**

- Population: 64 Lakhs
- Area: 604.8 Sq Km.
- MSW generated: 3100 MT/day.
- Number of Wards :104
- Processing: - 63 % of the waste processed at Bawana (1500 MT/day) and Waste to Energy Plant at Okhla (400 MT/day).

The plant at Bawana operated by Delhi Municipal Solid Waste Services Ltd.

- Sanitary landfill site Bhalswa:-
 - (a) MSW : 1200 MT/day
 - (b) Malba: 100 MT/day
 - (c) Silt: 300 MT/day.
- C&D Waste:-
 - (a) C&D generated: 2000 MT/day. 100 MT is being sent at SLF, Bhalswa and 1900 MT processed at C&D Waste processing plant at Burari.

Landfill sites

Bhalswa Sanitary landfill site has approx. 40 acres of land and present height about 45 mts above ground level. Continued at the risk of human life and property as alternate land is not available as per the statement recorded by Municipal Corporation.

Waste to Energy plant

Integrated Waste Processing/Disposal Facilities is setup at Narela-Bawana. The capacity of this plant is to handle 2500 MT per day. The plant is under installation.

Construction and Demolition (C&D) waste processing plant at Burari.

Construction and Demolition (C&D) Waste processing plant has been installed at Burari near Jahangir Puri. This C&D Waste Plant having capacity of 2000 MT of C&D Waste/Malba/Debris per day for processing/recycling of the same. This plant is being operated by M/s ILFS.

Primary Collection System:-

- (a) Dhalaos/Dust Bins/Receptacles/community bins (486 nos.) at different location in the colonies/areas for collection and storage of municipal waste.

• Secondary Collection System:-

- (a) Transfer Station : 06 (Proposed)

Proposal for 2024:-

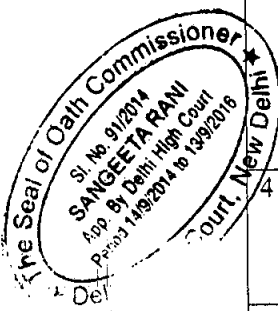
- a. Waste generation : 5000 MTD



Sl. No	Year	2015	2024
1	Waste Generation (MTD)	3100	5000
2	Quantity processed (MTD)	1900	5000
3	Remaining (unprocessed) (MTD)	1200	0
4	Residue (%) from processed	40 %	30%
5	Quantum of Residue(MTD)	760	1500
6	Total to be disposed at Landfill Sites (MTD)	1960	1500

Action plan for year 2024

S. No.	Name of facilities	Disposal/Processing of Waste (per day)				Total MSW capacity (in MT)
		MSW (In MT)	Malba (In MT)	Silt (In MT)*	Ash/Reject (In MT)	
1	Proposed Site Sultanpur Dabas (Bawana) i. Waste to Energy Plant. ii. Compost Plant. iii. Engineered SLF site	1000 500		100	450	1500
2	Proposed Site near Puthkurd. i. C&D Waste Plant		500			
3	Proposed Site behind APMC Compost Plant on GT Karnal Road and near village Hamirpur. (i) Waste to Energy Plant.	500				500
4	Proposed Site on Main Bakhtawarpur Road near Village Palla. (i) Compost Plant	500				500
5	Site near village Rani Khera (i) C&D Waste		1000			
6	Already existing Integrated Waste Processing/Disposal Facilities at Narela-Bawana RDF Plant Compost Plant. Engineered Land Fill	2000 500			625	2500
7	Already existing C&D Waste at Burari		2000			
8	Proposed site near Village Palla near Haryana Border for Engineered landfill for rejects, silt and misc. wastes				300 (Rejects) + 700 (Misc)	
	GRAND TOTAL	5000	3500	100	1325	5000



Comments: - In the absence of availability of land MSW of 1200 MTD & Silt /Malba 400 MTD is being disposed at SLF Bhalswa. Proposal of installation

of processing facilities and Engineering Land-fill site is subject to availability of land. North Delhi Municipal Corporation has requested for allotment of the following lands for development of Sanitary Land fill site/Processing Plant/Waste to Energy Plant in North DMC.

- i) Proposed Site Sultanpur Dabas (Bawana) measuring 95 acres.
- ii) Proposed Site behind APMC compost Plant on GT Karnal Road and near village Hamirpur measuring 27.5 acres.

(iv) **South Delhi Municipal Corporation :-**

- Population: 56 Lakhs
- Area: 656.91 Sq Km.
- MSW generated: Garbage :2700 MTD
- C&D: 600-700 MTD
- Silt: 300 MTD
- Ash: 600- 650 MTD
- Number of Wards :104
- Processing:
- 150MT/day of the waste processed at compost plant Okhla and 1250 MT/day Waste to Energy Plant at Okhla.
- Sanitary landfill site Okhla:-
- (d) MSW : 500 MT/day
- (e) Malba:600 MT/day
- (f) Silt: 200 MT/day.
- (g) Ash/Reject: 600 MT/day.
- Sanitary landfill site Bhalswa (North DMC):-
- (h) MSW : 800 MT/day
- (i) Malba:100 MT/day
- (j) Silt: 100 MT/day.

Note: 1300 MSW without processing going to land fill site.

- C&D Waste:-

C&D generated: 600-700 MT/day. Being sent at SLF Okhla & SLF Bhalswa.

Landfill Site

Sanitary landfill site at Okhla has approx. 32 acres of land and present height about 50mts above ground level. Continued at the risk of human life and property as alternate land is not available as reported by South Municipal Corporation.



Waste to Energy plant at Okhla.

Waste to Energy Plant at Okhla has capacity of 1950 MT of MSW per day to produce 16 MW of power. It is operated by Timarpur Okhla Waste Management Company Private Ltd. After processing the waste at Waste to Energy plant Okhla, about 30-40 % residues is returned back at Sanitary Land Fill site at Okhla Ph-I for disposal.

Compost plant at Okhla.

One Compost Plant Okhla, having capacity of 200 MT of MSW per day for converting into compost is being operated by M/s ILFS.

Primary Collection System:-

Dhalaos/Dust Bins/Receptacles/community bins (1200 nos.) at different location in the colonies/areas for collection and storage of municipal waste.

Secondary Collection System:-

- Transfer Station: 08 (Proposed)

Proposal for year 2024:-

Waste generation: 4500 MTD



Sl. No	Year	2015	2024
1	Waste Generation (MTD)	2700	4500
2	Quantity processed (MTD)	1400	4500
3	Remaining (unprocessed) (MTD)	1300	0
4	Residue (%) from processed	40%	30%
5	Quantum of Residue(MTD)	580	1350
6	Total to be disposed at Landfill Sites (MTD)	1880	1350

Action plan for year 2024

11312

S. No	Name of facilities	Disposal/Processing of Waste (per day)			
		MSW (In MT)	Malba (In MT)	Silt (In MT)	Ash/Reject (In MT)
1	Proposed site at extension of existing SLF site Okhla Phase-I on the land of container depot/CCI. 1. Waste to Energy Plant. 2. Compost Plant 3. C& D Waste Plant 4. Engineered SLF Site	2100 500 0	500	200	600
2.	Proposed site on Takhand Land near SLF Okhla Phase-I. 1. Compost Plant. 2.Engineered land fill for rejects, silt and misc. waste	500			150 (Rejects) + (Misc)
3.	Ghummanhera site. 1. C&D Waste Plant.		1000		
4.	Near village Bakar Wala. i. C&D Waste Plant.		500		
5.	Proposed Site near village Ghitorni .		500		
6.	Site near Jounapur Pahari on Mandi road		1000		
7.	SLF Bhalswa (North DMC)			100	
8.	Already existing Waste to Energy Plant At, Okhla	1200			
9.	Already existing Compost Plant At Okhla	200			
	GRAND TOTAL	4500	3500	300	750



Comments:- In the absence of availability of processing facility, MSW of 800 MTD & Silt /Malba of 200 MTD is being disposed at LFS Bhalswa and MSW of 500MTD & Silt /Malba/ash/reject 1400 MTD is being disposed at SLF Okhla . Proposal of installation of processing facilities and Engineering Land-fill site is subject to availability of land. It has been requested to allot/hand-over the following land for integrated

Waste Management facilities and construction and demolition (C&D) Waste/ inert material/ Silt/ Ash respectively to South Delhi Municipal Corporation in first instance on urgent basis, as there is no land available for these proposes:

- Extension of existing SLF site Okhla Phase-I on the land of CCI/CONCOR/ DDA.
- Site on Tehkhand land near SLF Okhla Ph-I.
- Site near village Ghitorni
- Site near Jounapur Pahari on Mandi road

(v) **East Delhi Municipal Corporation:** - Divided into two zones i.e. Shahadara North & Shahadara South.

- Population: 40 Lakhs
- Area: 105.98Sq Km.
- MSW generated: 2000-2200 MT/day.
- Number of wards :64

Machineries deployed for primary collection

- Wheel barrows : 1364
- Cycle Rickshaw : 320
- Tractor trollys:61
- Auto tippers:302

Secondary collection System:

Dhaloas :300 Nos.

Transportation of Waste:

Daily transportation of Garbage by using:

Tipper Trucks: 140

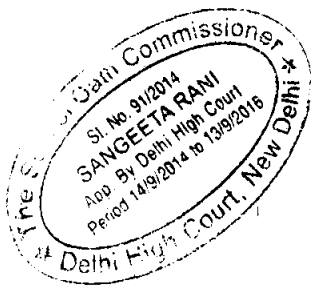
Loaders: 24

Door to door collection of the garbage is not mandatory for EDMC to implement as reported in the action plan. Garbage is collected by deploying the above said vehicles in the areas/lanes.

C&D Waste:-

C&D generated: Generation capacity is not reported. However, EDMC has issued a work order in the month of March, 2013 to M/s IL&FS for setting up a C&D waste processing plant, based on wet processing of waste of 500 TPD capacity at Shastri Park, New Delhi.

Setting up of Automatic Garbage Treatment plant/Waste to Energy Plant at Ghazipur:



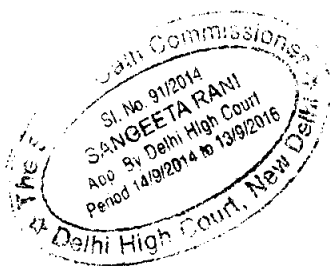
A waste to energy plant for processing 1300MTD of MSW & for generation of 12MW electricity is under installation by M/s East Delhi Waste Processing Co. Pvt. Ltd at a piece of land measuring about 5.7 acres at Ghazipur dairy farm and expected to be started by September 2015. EDMC wants to increase the capacity from 1300 MTD to 2000 MTD.

Landfill site

One sanitary landfill site at Gazipur is already saturated & still utilized for disposal of MSW.

Proposal

- **Garden Waste:** - There are 2058 parks in EDMC area out of which 113 parks are having area above 1 acre. Manure pits are being made in these large size park for making of manure using green waste / leaves. There is also a proposal of processing green waste at two locations to produce manure / bio fuel.
- **Dairy Waste:** - EDMC has planned to put up a 70 MT capacity paunch waste processing unit at Ghazipur which will utilized paunch / animal dung. Tender for the same has already been invited on PPP model. The output of the unit will be in the form of (i) Gas which will be utilized for Power generation and (ii) manure for agriculture purposes. The unit will be ready by the end of this year.
- The biodegradable waste shall be segregated at source and local level composting will be carried out. Mixed waste will be sent to Waste-to-energy plant. Waste containing recoverable material will be segregated and sent to recyclable industry. However, only inert / non process able waste and residue from the treatment of the waste shall be send to land fill.
- It is proposed that in future one waste-to-energy plant and one C&D waste processing plant will be required in Shah. (N) Zone area.



Comments: - EDMC has proposed collection of garbage to door to door system. A direct and separate collection system is recommended to eliminate storage of waste at secondary storage area. However, at present entire 2200 MTD MSW is being disposed of at Ghazipur landfill site. Land required i.e. 198 Acre for Transfer stations, Workshops, C & D waste processing plant, Waste

processing & Waste to Energy and Landfill for MSW ash & rejects has been given in the action plan.

4. That in Delhi there are 5 Municipal Authorities responsible for Municipal Solid Waste generation and management. Total municipal waste generation is 8360 MTD, as per following details :-

Sl. No	Name of Corporation	Quantity (MTD)
1	North Delhi Municipal Corporation	3100
2	South Delhi Municipal Corporation	2700
3	East Delhi Municipal Corporation	2200
4	New Delhi Municipal Council	300
5	Delhi Cantonment Board(excluding the area of	60
	Total	8360

5. That the status of the Landfill Site(s) are as under:-

There are 3 landfill sites namely Bhalswa, Ghazipur and Okhla. Bhalswa landfill site was commissioned in the year 1994, Ghazipur in 1984 and Okhla in 1996. All three landfill sites are not designed as per the schedule 3 of the MSW Rules which came into effect in 2000. DPCC has not granted authorization to all three landfill sites. All the five corporations have informed that they have no other option but to use these sites for disposal of MSW as land is not available in Delhi. Further, South Delhi Municipal Corporation and North Delhi Municipal Corporation have informed that these landfill sites being continued at the risk of human life.



A tabular chart is given under which indicates the pattern of disposal of municipal solid waste.

Sl. No	Name of Corporation	Quantity of the MSW generated (MTD)	Bawana Waste Processing Site (MTD)	Waste to Energy Plant, Okhla (MTD)	Bhalswa Landfill Site (MTD)	Okhla Landfill Site (MLD)	Ghazipur Landfill Site (MTD)	Compost Plant Okhla (MLD)
1	North Delhi Municipal Corporation	3100	1500*	400	1200	-	-	-
2	South Delhi Municipal Corporation	2700	-	1250	800	500	-	150
3	East Delhi Municipal Corporation	2200**	-	-	-	-	2200	-
4	New Delhi Municipal Council	300	-	300	-	-	-	-
5	Delhi Cantonment Board(excluding the area of	60	-	-	-	60	-	-
	Total	8360	1550	2000	2000	560	2200	150

* The capacity of processing will increase to 2500 MTD after commissioning of the Waste to Energy Plant at Bawana which is under installation. Residue of processed MSW is being disposed of at Secured landfill site within the plant itself.

**1300 out of 2200 MTD MSW shall be processed in the upcoming Waste to Energy Plant at Ghazipur. Waste to Energy Plant is likely to be commissioned by September 2015.

6. That following is status of Waste to Energy Plant:-

There are three Wastes to Energy plants at Okhla, Bawana & Ghazipur. Waste to Energy Plant at Okhla is operational and other two are under installation.

Details are as under:

S. No.	Name	Capacity of Electricity Generated (MW)	Capacity of Waste processing (MTD)	Status of operation
1	Timarpur - Okhla Waste Processing Company Okhla Compost Site	16	1950	Operational
2	East Delhi Waste Processing Company Pvt. Ltd. Ghazipur	12	1300	Under Installation
3	Delhi MSW Solutions Ltd. Narela Bawana Road	24	2500	Under Installation.
Total		52	5750	

THE Seal of Oath Commissioner
 St. No. 912014
 SANGHETA RANI
 App. Delhi High Court
 Period: 13/07/2014 to 13/07/2018
 Delhi High Court, New Delhi

7. That, Delhi Cantonment Board is generating about 60 MTD and segregated waste i.e. dry and wet is collected from door step but the same is dumped at Okhla landfill site rather than to send it to processing site at Okhla.

8. That, about 4760 MTD MSW at present is being disposed of at three landfill sites i.e. 2000 MTD at Bhalswa, 2200 MTD at Ghazipur and 560 MTD at Okhla without any processing.

05 AUG 2015

[Signature]
(Deponent)

Verification: CERTIFIED THAT THE DEPONENT

I, the above named Deponent, on the _____ day of July, 2015 that the contents of the above affidavit are true to the best of my knowledge and as borne out of the official records. Nothing material has been concealed therefrom.

05 AUG 2015

SANGHETA RANI
Oath Commissioner, Delhi
Delhi High Court, New Delhi

[Signature]
(Deponent)

ANNEXURE 1 (Copy)
4/13/17 1131;

**HEALTH DEPARTMENT
NEW DELHI MUNICIPAL COUNCIL**

Sub:- Regarding NGT order dt. 13-7-2015

PUC is a letter from Sh. Alok Sharma, Dy. Secretary (MB), Govt. of NCT of Delhi regarding Hon'ble National Green Tribunal passed order "All the state should positively filed their status report with regard to the collection, storage and disposal of municipal Solid Waste in the entire state. Further they should clarify if any MSW disposal plant either RDF or waste to energy or any other more plant have been provided in the state or they are in the proposal in the state in that behalf."

Accordingly, a detailed action plan for management of municipal solid waste in New Delhi Municipal Council area has been prepared which is placed below. If approved, the same along with the status report in respect of waste to energy plant in NDMC area prepared by the project department may be sent to the Urban Development, Govt. of NCT of Delhi for information and necessary action.

~~M.O.H.~~ *[Signature]*
22/7

[Signature]
22/7/17
CMO(N)
Dr. Ramesh Kumar
CMO(N)

URGENT
NGT MATTER

GOVERNMENT OF NCT OF DELHI
URBAN DEVELOPMENT DEPARTMENT
10TH LEVEL, C-WING, DELHI SECRETARIAT
I.P. ESTATE, NEW DELHI-02

F. No. 13/15/CC/MB/UD/5/4885-4896 Dated:- 20.7.15
MEETING NOTICE

A meeting has been convened in the conference Hall of Pr. Secretary (PWD/UD), Govt of NCT of Delhi at 5th level, Delhi Secretariat, New Delhi on 22.7.2015 at 3.30 PM in compliance of order of National Green Tribunal order dated 13.7.2015 in the matter of O.A. No. 199/2014 titled as Almitra H. Patel & Anr. Vs Union of India & Ors regarding disposal of Municipal Solid Waste.

Hon'ble Tribunal has ordered " All the state should positively filed their status report with regard to the collection, storage and disposal of municipal Solid Waste in the entire state. Further they should clarify if any MSW disposal plant either RDF or waste to energy or any other more plant have been provided in the state or they are in the proposal in the state in that behalf.

Pr. Secretary (UD) has desired that comprehensive action taken report with respect to the above orders of Hon'ble NGT be brought in the meeting positively.

Chairman
Secy.
MB
20/7/15

Immediately Pls.
21/07/15

20/7/15
(Alok Sharma)
Deputy Secretary (MB)

F. No. 13/15/CC/MB/UD/2015V 4885-4896 Dated:- 20.7.2015

MOH
20/7/15

- 1. The Chairman, INDMC, Palika Kendra, New Delhi.
- 2. Secretary, Environment, Govt of NCT of Delhi, Delhi Secretariat, New Delhi.
- 3. The Commissioner, North Delhi Municipal Corporation, Civic Centre, Jawaharlal Nehru Marg, New Delhi
- 4. The Commissioner, South Delhi Municipal Corporation, Civic Centre, Jawaharlal Nehru Marg, New Delhi
- 5. The Commissioner, East Delhi Municipal Corporation, Udyog Sadan, Patparganj, Delhi-92
- 6. Engineer in Chief, North/South/East/ Delhi Municipal Corporation, New Delhi.
- 7. Member of Administration, DUSIB, Punarvas Bhawan, I.T.O. New Delhi.
- 8. Member of Engineer, DUSIB, Punarvas Bhawan, I.T.O, New Delhi.
- 9. Chief Executive officer, Delhi Cantonment Board, Delhi.

Copy for information to:-

- 1 OSD to Chief Secretary, Govt. of NCT of Delhi, Delhi Secretariat, New Delhi.
- 2 PS to Secretary (UD), Urban Development Department.

20/7/15
(Deputy Secretary (MB))

Secretary's Office
I.D.M.C.
Dy. Secy. 6220
Dated: 21/7/15

4/13/74

**DETAILED ACTION PLAN FOR
MANAGEMENT OF MUNICIPAL SOLID WASTE
IN NEW DELHI MUNICIPAL COUNCIL AREA**

CHAPTER - 1: INTRODUCTION

New Delhi Municipal Council has a fix population of around 2.0 lacs and floating population of around 25-30 lacs. The total area covered by NEW DELHI MUNICIPAL COUNCIL is around 42.76 sq. km. The Public Health Department, NEW DELHI MUNICIPAL COUNCIL is responsible for cleaning, sweeping, collection and transportation of the garbage from the roads, lanes, by-lanes, market, residential and other areas within its jurisdiction.

MISSION

The Health Department, New Delhi Municipal Council is providing green and clean environmental sanitation in its area and making utmost efforts to provide best possible standards of hygiene and sanitation.

Objectives/ Scope of DPR:

New Delhi Municipal Council has taken the following initiatives in regard to solid waste management:-

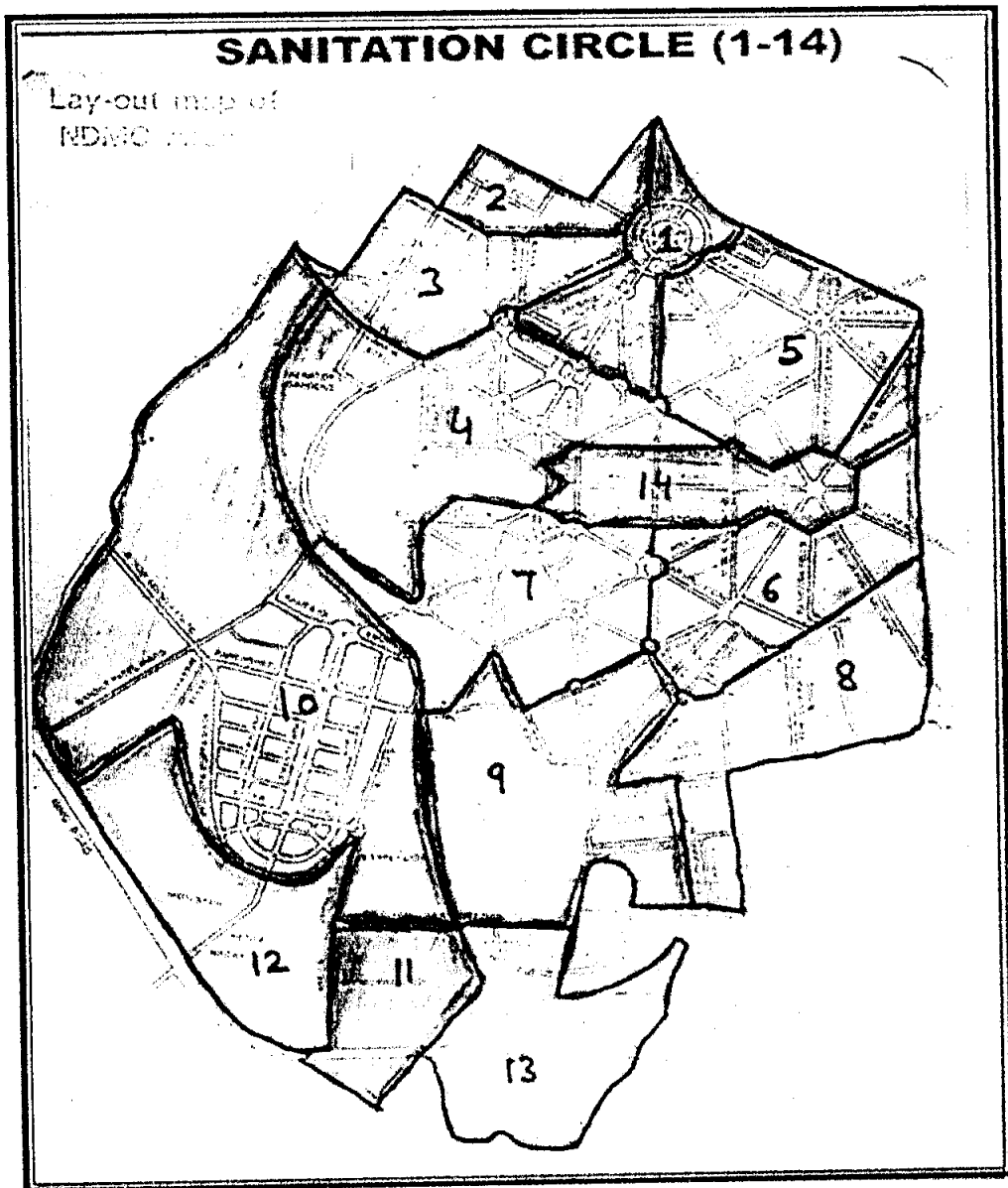
- a. Provide an 'end to end' solution to waste management as Integrated Solid Waste Management System.
- b. Increase efficiency and effectiveness of Solid Waste Management activities.
- c. Complying with Municipal Solid Waste (Management and Handling) Rules, 2000.
- d. Reduce the burden on landfills by recovering reusable and other resources.

4/1373

11320

CHAPTER - 2: CITY PROFILE

2.1 New Delhi Municipal Council area is divided into 14 sanitation circles which are outline in the NDMC map given below:



SANITARY CIRCLES

CIRCLE NO. 1	CONNAUGHT PLACE
CIRCLE NO. 2	MANDIR MARG
CIRCLE NO. 3	GOLE MARKET
CIRCLE NO. 4	PT. PANT MARG
CIRCLE NO. 5	BENGALI MARKET
CIRCLE NO. 6	PANDARA ROAD
CIRCLE NO. 7	PM HOUSE
CIRCLE NO. 8	LODHI COLONY
CIRCLE NO. 9	JOR BAGH
CIRCLE NO. 10	CHANAKYA PURI
CIRCLE NO. 11	SAROJINI NAGAR
CIRCLE NO. 12	MOTI BAGH
CIRCLE NO. 13	KIDWAI NAGAR
CIRCLE NO. 14	CENTRAL VISTA

2.2 Historical Profile:

In 1911 the British Government decided to shift the capital of India from Calcutta to Delhi. On 12th December 1911, it was announced that Delhi would be the place of residence of the Viceroy and the new administrative centre. A Committee was constituted to select the site for the new capital.

The construction of the new capital was a task of great magnitude which resulted in the formation of the constitution of the Imperial Delhi Committee on 25th March, 1913. This was the beginning of the New Delhi Municipal Committee.

In the year 1932, the New Delhi Municipal Committee became a 1st class municipality. In the year 1916, this municipality was discharging the responsibility to cater only to the sanitation requirements of the workers engaged in the construction of the new capital. From 1925 onwards, the functions of the municipality increased manifold.

Thereafter an Administrator headed it till the introduction of new Act in May 1994. In May 1994, the NDMC Act 1994 replaced the Punjab Municipal Act 1911 and the Committee was renamed as the New Delhi Municipal Council. The Act has been passed by the Parliament. The Central Government appointed a Special Officer under Section 418 of NDMC Act 1994 till the nomination of the Members. The 1st meeting of the Council took place on 23rd Dec. 1995.

2.3 **Tourist, religious or any other specific Profile of the city:** In NDMC area lot of visitors from not only from different states of India but also from other countries to see historical places like India Gate, President

House of India, Parliament House, Vijay Chowk, Safdarganj Tomb, Lodhi Garden, National Museum, Birla Mandir, Connaught Place, etc. Because of easy accessibility of the transport system like metro, lot of public visit in NDMC area.

2.4 Area and Population:

New Delhi Municipal Council has a fix population of around 2.0 lacs and floating population of around 25-30 lacs. The total area covered by NEW DELHI MUNICIPAL COUNCIL is around 42.76 sq. km.

2.5 Slum Population (no. of slum pockets and approximate population, ward-wise list of slums and the area occupied by them, population)

Total no. of JJ Cluster in NDMC area is 26 in numbers. The areas occupied by these slums various from as big as 31200 sq. mtr. at Sanjay Camp part-I, Chankya Puri to small 400 sq. mtr. at Talkatora Park Lane. The total population of the 26 JJ Clusters of NDMC area are about 40000.

2.6 Main tourist, religious spots:

In NDMC area lot of visitors from not only from different states of India but also from other countries to see historical places like India Gate, President House of India, Parliament House, Vijay Chowk, Safdarganj Tomb, Lodhi Garden, National Museum, Birla Mandir, Connaught Place, etc. Due to easy accessibility of the transport system and its central location lot of public visit in NDMC area. In NDMC area almost all the courtiers have their embassy so that lot of public visit for obtaining their visa / immigration etc.

2.7 Climate - There is a diurnal variation in the generation of the garbage in the NDMC area. The leaf falling seasons started in the end of February and its continued till July and during rainy season lot of grass cutting / pruning of the trees are being carried out by the horticulture department. Because of that lot of horticulture waste which is voluminous in nature are collected and transported to Okhla Compost Plant.

The organization structure of municipal solid waste in NDMC :-

The Municipal Solid Waste Management under New Delhi Municipal Council is headed by Medial Officer of Health. Under the Medical Officer of Health, two Chief Medical Officers (North and South), Sanitation Officer, Dy. Sanitation Officer, Chief Sanitary Inspectors, 14 Sanitary Inspectors and about 65 Assistant Sanitary Inspectors and approx. 2880 Safai Karamcharis are working.

Municipal Solid Waste Management Department: (health officer, assistant health officers, details of Supervisory staff etc.)

Total no. of sanitation circle	No. of Municipal health officer	No. of CMO	No. of supervisors (SO, DSO, CSI)	No. of sanitary inspectors	No. of Assistant Sanitary Inspectors	No. of safai karamchari	Total area
14	1	2	7	20	58	2880	42.76 Sq. KM

CHAPTER - 3: PRESENT PRACTICES OF SOLID WASTE MANAGEMENT IN NEW DELHI MUNICIPAL COUNCIL

- A. COLLECTION OF GARBAGE
- B. TRANSPORTATION OF GARBAGE
- C. DISPOSAL OF GARBAGE

A. COLLECTION OF THE GARBAGE

a. Primary Collection -

- Door to Door Garbage Collection carried out under the new PPP project for collection and transportation of garbage

At present, twenty six auto tipper trucks, seven small mechanical compactors, four big size mechanical compactors and ten private tipper trucks are being deployed for collection and transportation of garbage / horticulture waste from NDMC area. These 26 auto tipper trucks are deployed for carrying out work of door to door garbage collection from the residential colonies / market areas of NDMC. The residential colonies / market areas where door to door garbage collection is being carried out under the new system are, viz Rabinder Nagar, Kaba Nagar, Bapa Bagar, Prithvi Raj Market and Resident Flats, Prithvi Raj Lane NDMC Flats, CPWD Type-I Quarter P R Lane, Aurangzeb Road(Kothi No. 1 to 12) Prithvi Raj Road Kothis, Jam Nagar House CPWD Type-I Flats behind UPSC, Dhobi Ghat Darbhanga Lane, 40 quarters NDMC type-I Pandara Park, Pandara Road Flats A&B Block, C-I & Central Revenue Department Flat Pandara Park, MS Flats Pandara Park CGHS Dispensary, Dr. Zakir Hussain Marg Complex, Lodhi Estate bungalows, Lodhi Road Quarters, Shahjahan Road Kothis, B. K. Dutt Colony, Karbala, Connaught Place and its surrounding area, Hanuman Mandir Complex, Hanuman Mandir Residential Complex, Sarojini Nagar Residential areas, Sarojini Nagar Market, Naroji Nagar Quarters, Nauroji Nagar Market, Pillanji Village, Moti Bagh Quarters, Netaji Nagar Quarters, Basrurkar Market Moti Bagh, Begam Zaidi Market Moti Bagh, Mandir Marg residential colony, Gole Market area, Whole of DIZ Gole Market area, Baird Lane Market, Babar Road residential area, Railway Line residential area, Bengali Market, big kothies of Circle No.5, Malcha Marg Market, Diplomatic area, Chanakya Puri Residential area, Vinay Marg residential area, Momo Market, Yashwant Place Market, West Kidwai Nagar residential area, Laxmi Bai Nagar residential area and market, East Kidwai Nagar Market

(both), Tilak Marg residential area, Tilak Lane residential area and market, Tilak Marg police quarters.

These auto tipper trucks are fitted with Public Address System for carrying out awareness/announcement and informing the residents / market or the servant of the big kothies to deposit their household garbage directly into the auto tipper trucks so that there should not be any littering of garbage in above mentioned residential colonies. One helper along with driver for one auto tipper truck has also been deployed for smooth functioning of the door to door garbage collection system from these residential areas.

A team of health education unit has also been deployed along with the health education vehicle to carry out Information Education and Communication (IEC) activities at the above mentioned residential colonies / market areas. They start their activities in the morning and create awareness to the general public about not to litter the garbage and deposit the garbage directly into the auto tipper trucks. The appeal and other health education material have also been distributed to the households / shop owners of above mentioned residential colonies / market areas where door to door garbage collection has been started under the new system of collection and transportation of the garbage / horticulture in NDMC area.

SEGREGATION OF GARBAGE -

Under the scheme of Door to Door garbage collection, NDMC has also distributed twin bins to the residents of some of the identified residential colonies in NDMC area to keep dry and wet garbage separately in the year 2007-2008. In this scheme, NGO Chintan has been involved who employed sanitation volunteers who were previously working as rag pickers. NDMC has also given tricycle rickshaws to the said NGO which is having two compartment for keeping biodegradables and non-biodegradable garbage separately. They are charging some nominal fee in consultation with Resident Welfare Association from the residents for sustaining the door to door garbage collection scheme.

For removal of the dry leaves / horticulture waste, dedicated garbage vehicles have also been deployed for transportation of such green waste (horticulture waste) to the Okhla Compost Plant.

Health Education Unit of Health Department is also carrying out awareness activities by vehicle mounted PA System and organizing health talks / field meetings with the Resident Welfare Association / Market Traders Associations on the subject segregation of garbage into biodegradable and non-biodegradable separately at their houses / shops.

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Auto Tipper Trucks who are engaged for door to door garbage collection are also involved in the collection of dry and wet waste separately from the resident / shopkeepers.

Shopkeepers are also been directed to keep two twin bins for dry and wet waste separately.

The Central Public Works Department (CPWD) is also being requested time to time to construct compost pit inside the big bungalows in the Lytuen area for IN SITU Composting.

NDMC has installed four DECENTRALIZED ORGANIC WASTE REPROCESSING UNIT at Lodhi Garden, Nehru Park, Talkatora Garden and NDMC nursery Purana Quila Road. These machines will convert horticulture waste/green leaves into cooking fuel pellets in an eco-friendly way.

- Cleaning & sweeping -
All the roads, lanes, by lanes, streets and other public areas are cleaned and swept every day by the NDMC. The garbage so evolved by this, is immediately taken to the nearest garbage collection points.
- Manpower -
Manpower for cleaning, sweeping and transportation of garbage to the nearest collection point has been increased as per the demand of the area.
- Conservancy Articles / Aprons -
Adequate stock of conservancy article are being maintained at Sanitary Store as well as adequate articles are being provided to the various sanitation circles.
The fluorescent aprons and caps are provided to the safai karamchari. Green colored aprons with NDMC logo and fluorescent strip have been provided to all the safai karmacharis for their identification, protection and safety. The fluorescent strips preventing any roadside accidents during the execution of cleaning work.
- Roadside twin bin set:-
The Blue and Green colour twin bins have been provided on the sides of the roads, market areas and other busy places to check littering by the general public.
- Medical Facilities -
Medical and treatment facilities have been provided to the safai karmacharis to increase their efficiency.
- Complaint Redressal/ Feedback Mechanism -
The complaints related to Solid Waste Management being received at Central Control Room at Palika Kendra, Sanitation Circle Offices (Circle 1 to 14), CMOs Offices, MQH Office, through telephone, online to higher officer of NDMC. The complaints received attended promptly with utmost efficiency.

- Legal Action -
All the SIs, CSIs, DSOs and SO have been empowered to challan the offenders. Municipal Magistrates are available to prosecute the offenders produced in their court through challans by various inspectorate staff and action is taken against officers as per the NDMC Act.
- Mechanical Road Sweepers -
NDMC has procured two nos. mechanical road sweepers for efficiently clean the surface of roads, lanes etc. This mechanical sweeper sweeps with the help of rotating brushes located underneath or behind the chassis and can suck dry, wet, solid and semi solid waste through high pressure suction system even from road side gutters.
- Evening / Night Sweeping-
The Health Department is carrying out evening / night sweeping in the commercial areas by deploying adequate number of safai karamcharis. At present this activity is being carried out in Connaught Place, Khan Market, Bengali Market, Sarojini Nagar Market, Gole Market, Delhi Haat, Gandhi Smriti, Tees January Marg, Indira Gandhi Museum Safdarjung Road, Nehru Taramandal, Race Course Road, Prime Minister House and other busy places of NEW DELHI MUNICIPAL COUNCIL area.

b. Secondary collection

- Garbage station/ pucca masonry dustbin- a survey by the inspectorate staff has been carried out and found that about 116 masonry dustbin / garbage station are situated at various locations in NDMC area for collection and deposition of the garbage.
- Deployment of New Garbage Iron Trolleys - The NEW DELHI MUNICIPAL COUNCIL area is divided into 14 sanitation circles for effective supervision and monitoring. About 1275 new garbage iron trolleys of 1100 liter capacity have already been placed at various locations of 14 sanitation circles at the identified garbage collection points. In addition to 1275 above mentioned trolleys, about 203 old garbage iron bin trolleys are also placed for deposition of the garbage at various locations in NDMC area.
- Deployment of high capacity garbage collection bin:- The high capacity bin are to be deployed at the hot points where huge amount of the garbage comes like market areas, JJ Clusters etc in NDMC area. In such bins a whole are there to drain the leached or for cleaning purpose.
- Washing of the Garbage Iron Trolleys - The cleaning and washing of the garbage iron trolleys of 1100 ltr. capacity with insecticide soap and water are being regularly carried out. Water jet machines and permitted chemical and soap are being used for thorough cleaning of garbage iron trolleys.

- **Transfer Station at Old Arjun Das Camp, Raj Nagar, Sarojini Nagar:-** Under the new system of collection and transportation of municipal solid waste in NDMC area, the concessionaire will built a transfer station having a ramp for the vehicle coming to climb and Silo, under which the large haulers would be placed, into which the vehicles would directly discharge the garbage for transfer to the Waste to Energy Plant/ Disposal site identified by NDMC. This transfer station will be having static compactors, receiving hooper, hook loaders and roll on roll off container.

These transfer stations will be mainly use for waste to be fed by the mini auto tipper trucks which will be deployed for door to door garbage collection and removal of small small dheries from the road side / indiscriminate garbage collection points. This transfer station not only increase the frequency of trips of small auto tipper trucks but also save a lot of cost on account of maintenance / diesel so this will reduce the air pollution level. Because small auto tipper trucks will not dispose their garbage to the okhla plant/ land fill site.

The construction of the transfer station at Old Arjun Dass Camp Raj Nagar is under process and will be constructed within six months.

B. TRANSPORTATION OF GARBAGE

- The collection and transportation of the garbage from all the 14 sanitation circles of NEW DELHI MUNICIPAL COUNCIL has been carried out by fleet of auto tipper trucks/ mechanical compactors and open tipper trucks on daily basis. From the hot garbage collection points, the garbage has been lifted out twice or thrice in a day to keep the area spic and span.
- In NDMC area on an average 250MT-300 MT. of garbage are being collected and transported to Waste to Energy Plant
- The auto tipper trucks are engaged for door to door garbage collection from residential / market of NDMC area. Once the auto tipper trucks (engaged for door to door garbage collection and removal of indiscriminate garbage) completely filled up with the garbage, it will directly transfer the garbage into the big size mechanical compactor which is compatible with the auto tipper trucks. Once the compactor completely filled up with garbage, it will go directly into the Waste to Energy (TOWMCL) Plant, Okhla.
- The department has already purchased 144 tricycle rickshaws for collection and removal of small-small dharies / garbage on the main road / lane / by-lane, market areas etc.

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C. DISPOSAL OF GARBAGE

The NDMC is disposing garbage at **Integrated Waste to Energy (TOWMCL) Plant, Okhla** by fleet of garbage vehicles. On an average about 250-300 MT of garbage per day are being disposed at Waste to Energy Plant, Okhla by New Delhi Municipal Council. This plant is having capacity of 1300 Mt. MSW (950 mts. from MCD and 200-400 mts. from New Delhi Municipal Council) to generate 16 mega watts of power. NDMC is also disposing horticulture waste at MCD Compost Plant at Okhla. New Delhi Municipal Council is also doing local composting in all the big gardens such as Lodhi Garden, Nehru Park, Talkatora Garden, NDMC horticulture nurseries. This has been done in view of IN SITU composting of horticulture waste.

OTHER ACTIVITIES:-

- The inspectorate staffs of Health Department are regularly interacting with officials of Resident Welfare Associations and Market Trade Associations of NDMC area and sorted out their grievances related to sanitation.
- Nukkad natak / Awareness through Vehicle Mounted PA System / Health Talks and other IEC activities on the subject "No Littering / No Spitting / Door to Door Garbage Collection" are being carried out by the health department.
- Since 15-9-2014 the health department is organizing Sanitation Drive in NDMC area and is still continuing.
- Monitoring and supervision has been intensified by the Chief Sanitary Inspector, Dy. Sanitation Officer, CMOs, MOH. 14 Zonal officers of the rank of Director are also carrying out regular inspection of their concerned circles areas, who will monitor all the activities / work related to sanitation, civil, horticulture, enforcement department etc.
- New Delhi Municipal Council is also planning to convert the existing garbage stations / pucca masonry dustbins in a phase manner into the public toilet utilities for the general public and roll call shelters for the sanitation staff.

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WASTE TO ENERGY PLANTS IN NDMC

National policy on Waste-to-Energy (WTE) is being drafted by GOI. It has been decided that all discoms NDMC should procure at least 0.25% of energy through WTE plants. In this direction, NDMC has acted ahead of all others and envisaged establishing a chain of waste-to-energy plants of small sizes in various localities of NDMC using latest global technologies. NDMC going to not only have maximum recycling of our waste in ecofriendly manner, but will be offering a bouquet of WTE (Waste-to-Energy) Plants of various technologies, available to all the municipal bodies of the country, to choose from with following objectives :

- To achieve sustainable waste management:
- Waste segregation at source/process plant for recycling by:
- No fresh waste to landfills
- Waste should be diverted from existing landfills
- Recovering recyclables
- Processing plant of Compost/RDF for smaller clusters
- Waste-to-Energy plants with decentralised approach i.e. smaller compact plants within the colonies.
- Construction material from inert/ash

2. MUNICIPAL SOLID WASTE IN NDMC

- Delhi generates about 8000 to 9000 MT waste per day
- NDMC generates between 260 to 300 MT waste per day
- NDMC MSW : 30 to 40% horticulture waste
- Traditional Dhaloas are being done away (being changed to PTUs) and Door to Door collection of Garbage in place .
- The recyclable and re-usable materials segregated and removed at the source point. Approx. 20-25 MT recyclable garbage segregated on daily basis. Garbage segregated happens at source point through NGO-CHINTAN deploying rag-pickers.
- Inert waste disposed at land fill site

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- Door to Door collection of segregated MSW through private party engaged through contract.
- Door to Door garbage collection system involves collection directly from residents (after informal segregation). Deployed 28 auto tippers, 15 tippers, 1300 garbage trolleys, 30 high capacity bins of 5-6 cu mtr capacity compacting at collection sites by 15 compactors, washing bins and transport to Okhla plant @ Rs 2223/. Ton of MSW.
- Bulk MSW now treated at Okhla at Waste To Energy (WTE) Plant along with MSW of other Municipal corporations. No cost to NDMC

3. NEW TECHNOLOGIES EXPLORED TO MANAGE SOLID WASTE

- Methanization
- Pyrolytic gasification
- Plasma gasification
- Aerobic composting

4. WASTE TO ENERGY PLANT AT WEST KIDWAI NAGAR

- Compact plant on 1000 sqm area
- Utilization of 70 tonnes MSW per day
- Will generate 1.4 MW/hr
- Based on hybrid gasification techniques burning with hot with high temperature gases
- Project Period 25 years
- Public Private Partnership Model (PPP), land of NDMC
- Energy to be purchased by NDMC at the DERC determined tariff
- Successful bidder is G-20 Energy Solution Group Pvt. Ltd., a Singapore based company working through Indian Company M/s. Elephant Energy
- Concessionaire to establish fully equipped laboratory to monitor the quality of water, air, soil and impact of the project
- Letter of intent issued in July 2014
- Pollution / air emission controlled system to meet standards and approvals and guidelines of DPCB

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- Concessionaire shall install, operate and maintain the facility in accordance with applicable laws and approvals. Project to be commissioned within 08 months of the signing of the agreement.

**5. About Technology and the process :
Hybrid gasification technology**

- The process to convert MSW to wet RDF involves material size reduction, removal of the inert recyclable materials being metals, aluminium and glass, as well as the removal of the non-recyclable dirt, rocks and free liquids.
- The Wet RDF is converted to Synthesis Gas (Syngas) through the application of hybrid gasification techniques (with burning of hot gases at high temperature) and a tri-stage thermal conversion process.
- The primary thermal conversion stage boils off the excess moisture drying the material to less than 10% (from Wet RDF to Dry RDF). The secondary thermal conversion stage begins to break the material down into simple hydrocarbon gases whilst the tertiary thermal conversion stage converts these gases into syngas.
- All three stages occur in fully enclosed environments that are starved of oxygen. By conducting this process in such an oxygen-starved environment and by applying an in-direct heat source, the dioxins and furans are not formed or released into the atmosphere (validated as part of the ETV process).
- The syngas provides the fuel source for the energy generation plant to create electricity that is supplied to the grid.
- The system can operate successfully on "wet waste of low calorific value".

CURRENT STATUS

- Power Purchase Agreement being finalised and yet to be signed.
- Construction work in progress at site and likely to be commissioned by September 2015 after obtaining necessary environmental clearances.

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6. WASTE TO ENERGY PLANT AT OKHLA

- 4 MW PLANT AT OKHLA, on NDMC land allotted by DDA for the purpose of waste management (cont.)
- Based on pyrolytic gasification technology – which is high temperature thermal de-composition of wet MSW in oxygen free environment to produce syngas to generate electricity
- The waste combusts, producing a hot gas that is directed to the secondary chamber where the gas is super heated to temperatures of approximated 1200°C for a few seconds. There is no external fuel source required to operate the combustor at optimal temperatures.
- The inert – about 5% to be utilized as aggregate for road construction
- NDMC floated open tender during December 2014
- Compact plant to come on 3000 sqm area
- MSW utilization of 170 tonnes
- Project is on the basis of BOO – build, own and operate
- Project period is 25 years
- Concessionaire to generate 4 MW per hour electricity
- Localized power generation to be grid fed
- Electricity to be purchased by NDMC from the concessnaire at DERC determine tariff or the quoted rate of Rs. 8.37 per unit whichever is less.
- Successful bidder is M/s. Seebury Green Energy Pvt. Ltd., Mysore, an associate of Sychoroma Waste Management Pvt. Ltd., S.A. in association with Consutech Technology, USA
- Letter of acceptance issued on 1st April 2015
- Project to be commissioned within 1.5 years of the signing of the agreement. Agreement not yet signed
- Expected project cost Rs. 75 Cr as per the concessionaire.
- Pollution / air emission controlled system to meet WHO/EU/US EPA standard
- Installation of all emission & odour control measures as per guidelines of DPCC & other population control norms

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CURRENT STATUS :

Work yet to take off, agreement for Power Purchase is being drafted

7. METHANISATION PLANT AT OKHLA

At conceptualization State :

- Planned at OKHLA on NDMC allotted land
- Utilization of 100 MT MSW
- Microbe incubated bio-reactors patented technology: Anaerobic reaction which converts organic waste to crude gas rich in methane
- The gas produced will be fed into IGL pipeline
- 40 % non-biodegradable will be processed further for use as road aggregates and some will go to land fill

8. Horticulture Waste Management Plants at Gardens- Decentralised approach.

- On site Horticulture Waste Management.
- Horticulture Waste Management converts horticulture waste into Bio-Fuels by grinding, steaming to remove the tar, compacting it and converting fuel pallets having less than 08% moisture content – can be used in designed smokeless cook stoves as a replacement of LPG at 50% cost and also converts wet de-compost waste to compost through aerobic micro organism assisted process.
- 2 ton horticulture waste processing per day yield is 40 to 50% compost.
- Installed at 04 major gardens in NDMC – Nehru Park, Lodhi Garden, Talkatora, India Gate.
- Machine cost is about 30 lacs per unit.
- No Opex cost to NDMC.
- The products are sold by the concessionaire in the open market.
- Decentralized Organic waste reprocessing units with
 - No emission
 - No burning
 - No chemical treatment

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[Signature]
22/7/15

Telephone No.25693837

DCB/32/SN-1/NGT/2014-15
Office of the Delhi Cantonment Board
Delhi Cantt.10

Dated _____ July, 2015

To

Sh. Alok Sharma
Deputy Secretary (MB)
Govt. Of NCT of Delhi
Urban Development Deptt.
10th Level, C- Wing, Delhi Secretariat
I.P. Estate. New Delhi-2

SUB:- Compliance of order of Hon'ble NGT dated 13.7.15 OA No. 199/2014 in the matter of Almitra H. Patel & Another V/s Union of India & Others regarding disposal of municipal solid waste.

Sir,

Reference your letter No. 13/15/CC/MB/UD/2015V 4885-4896 dt. 20.07.15.

The report in respect of Delhi Cantonment Board in Compliance of order to Hon'ble NGT dated 13.07.15 is forwarded here with for your perusal and submission before the Hon'ble NGT.

(B. Reddy Sankar Babu)
Chief Executive Officer
Delhi Cantonment Board

Copy to:

(Sh. B.L. Chawla)
Delhi Pollution Control Committee
Department of Environment,
Govt. Of NCT of Delhi
4th Floor, ISBT Building Kashmere Gate,
Delhi-6.

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SUB : COMPLIANCE OF ORDER OF HON'BLE NGT DATED 13.7.2015 IN THE MATTER OF O.A NO 199/2014 TITLED AS ALMITRA H.PATEL & ANR VS UNION OF INDIA & ORS:

Chapter 1: Introduction

Delhi Cantonment Board is a management of Municipal solid Waste of Delhi Cantonment area. Delhi Cantonment Board is giving due care in handling Municipal Solid Waste using best practices and Ministry of Urban Development, Govt. of India in December, 2014 Cantonment as Fifth cleanest city in India.

Objectives/Scope of DPR (Detailed project report)

As regards implementation of MSW processing/ treatment techniques are concerned, it is brought out that Delhi Cantonment is a small municipality and total population of Delhi Cantonment as per 2011 census is only **1,10,351** which comprises of both Army and Civilian population in almost equal proportion. Out of total area of Delhi Cantonment i.e. **10791 .988** acres the area under the management of the Board is only **265.951** acres. There are primarily two notified civil areas in Delhi Cantonment i.e. Sadar Bazar and Shastri Bazar and six urban villages. The rest of the area in Delhi Cantonment is under the control of local military authorities and these areas are restricted area for stay of troops. Delhi Cantonment Board is providing conservancy services for both civilian pockets and Army pockets. There is well established storage system in place for Municipal solid waste management including collection and storage in Army pockets and it is quite disciplined. The daily quantum of Municipal solid waste generation in Delhi Cantonment is quite less about fifty MT. Presently Delhi Cantonment not maintaining any trenching ground or landfill sites and Municipal waste of Delhi Cantonment being transported to Govt. of NCT of Delhi Approved land fill site at Okhla. Since the Quantum of Municipal solid waste Generated in Delhi Cantonment is quite less therefore, the scope for adopting MSW processing/ treatment techniques will neither be technically feasible nor economical.

Chapter – 2 : City Profile

2.1 & 2.2 : General profile and historical profile.

The Delhi Cantonment is spread over in 10791.988 acres located in South-West Delhi. The Delhi Cantonment was established in 1914 by the then British Government to house the British Troops. In 1924 the Cantonment Act was enacted for Civic Administration of the Cantonment. Since the Cantonments are established for the purpose of housing troops, the civilian population in the Cantonment is always remains very less. The Cantonments are not growing townships as the limits are fixed and no new lands are included in the Cantonments. The entire land in the Cantonment is owned by Ministry of Defence, Govt of India. However two notified civil areas are there namely Gopinath Bazar (Shastri Bazar) and Sadar Bazar, in which land is allotted to the civilians on lease for residential as well as commercial purposes. The notified bazaar areas are never extended due to which the growth of population is very minimal.

2.3 Tourist Religious or Any Other Specific Profile Of The City

There are no tourist places in the Cantonment worth mentioning. However there are small temples, Mosque and few Churches. There is a Gurudwara located in Sadar Bazar, a religious place of Sikh community, which is quite popular and number of devotees visit this place. Also Sanatan Dharma Mandir is located in Sadar Bazar where number of pilgrims keep visiting. Both Gurudwara and SD Mandir managements are running two Schools.

2.4 Area and Population: - 10791.99 acre area and population as per 2011 census 1,10,351.

Census year	Population			Projected Population
	1981	1991	2001	2011
Population	85166	94393	124917	110351
Decadal Growth	-	(+)9227	(+)30524	(-)14566

- 2.5 Slum population (No. of slum pockets and approximately population, ward-wise list of slum and the area occupied by them, population).

Details of JJ Clusters:-

S. No.	New Cluster Code	Location	No. of Jhuggies	C. No.	Land owning Agency	Area of JJ Cluster in Sqm
1	79	Barar Square Railway Station	500	38	Cantt Board	15881
2	80	CB Area Naraina	300	38	Cantt Board	3809
3	81	Dhobi Ghat Kirby Place	1500	38	Cantt Board	12851
4	82	Village Jharera Delhi Cantt	1275	38	Cantt Board	81314
5	83	Kandhar Line Delhi Cantt	18	38	Cantt Board	2461
6	84	Behind General Hospital Sadar Bazar	18	38	Cantt Board	403
7	85	Sadar Bazar behind 32 staff Qtrs	145	38	Cantt Board	5625

- 2.6 **Main tourist spots in the city:**

There is no tourist spots in Delhi Cantonment Area worth mentioning.

- 2.7 **Climate:**

The mercury touches 42° C in peak summer and 3° C in the peak winter in Delhi Cantonment. It is submitted that the temperature in the Cantonment always remains 2 to 3 degree less in comparison with neighboring city.

- 2.8 **Political set up of local body (no. of election ward etc.)**

The entire Delhi Cantonment is divided into 8 Wards. One member from each ward is Elected to represent in the Cantonment Board. For the purpose of Conducting Elections a separate Cantonment Electoral Rules-

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2007 are made under the Cantonment Act, 2006. Elections to the wards are conducted once in five years in accordance with CER-2007. The Cantonment Board prepares Electoral Rolls ward wise for the purpose of conducting the elections. Every year draft Electoral Rolls are published on 1st July and final rolls are published on 15th September. The Cantonment Act provides for nomination of three Army officers to the Board, one officer from the Jurisdictional District Magistrate, Station Commander, Chief Executive Officer, Executive Engineer and Senior Executive Medical officer are Ex-officio Members of the Board. The Station Commander is designated as Ex-officio President of the Cantonment Board. The Chief Executive Officer is the Ex-officio Member-Secretary of the Board. Therefore the Cantonment Board is headed by President Cantonment Board having 15 Members in all (16 including President, Cantt Board).

Recently Elections were conducted and the Board has been re-constituted in Feb, 2015.

2.9 Administrative set up of the local body

The Administration is headed by the Chief Executive Officer who is posted from Indian Defence Estates Service which is organized Civil Service. The Chief Executive Officer is posted by the Ministry of Defence, Govt of India. There are sections namely General Section, Engineering Section, Sanitary Section, Revenue Section, Tax Section, Establishment Section, Store Section and Account Section which are headed by Section Heads who directly report independently to the CEO. The Office Supdt who heads the General Section co-ordinates among all the Sections. The Cantonment Board also runs 8 Schools and 01 General Hospital. Out of 8 Schools one School is exclusively run for Special Children.

2.9 Municipal Solid Waste Management Department (health officer, assistant health officer, details of Supervision staff etc.)

Name of the Circle/ward	No. of AHOs	No. of Sanitary Inspectors	No. of supervisors	No. of Sweepers	Ward Area	Population
	1	2	21	1045	8	1,10,351
Total						

2.10 GENERAL INFORMATION TO BE COLLECTED AND UPDATED FROM TIME TO TIME.

1. Area of the Delhi Cantonment :- 43.67 sq km
2. Population of the Cantonment - 1,10,351
3. Decadal of growth of population: - (-)14566
4. Number of wards their area and population: - 08 Wards

The Cantonment is divided into Eight Wards

Ward Number	Population	Area in sq km	Density
I	4816	1.595	3019.43
II	3218	4.543	708.34
III	41825	4.240	9864.38
IV	17900	7.657	237.73
V	10028	5.849	1714.48
VI	17133	11.534	1485.43
VII	7603	3.868	1965.61
VIII	7828	4.386	1784.76

Note: the above data of population is as per the 2011 census. However actual population in the Cantonment is being ascertained during the current year by conducting a thorough survey.

5. Ward wise information in regard to:

Number of Households	1494
Shops and Establishments	85
Vegetables/Fruit market	01
Meat/Fish Market	Nil (one small slaughter house and 3 retail meat shops are in the Cantonment)
Number of Hotels	01
Number of Restaurants	16
Number of Hospitals	03
Number of Nursing Homes	Nil
Number of Industries	Nil
Road area (Width/Length) being maintained by both Cantt Board, MES & PWD	The total roads in the Cantonment are being maintained by the Cantt Board and MES. The area under Cantt Board is 166 acres, the area under Army (MES) is 385 acres and under PWD is 71 acres.
Percentage of area covered with Under- Ground sewage system	95%
Percentage of area having surface Drains:-	100%
Percentage of area having no drainage facility	Nil
Number of slaughter houses	01
Total number of Public Toilets	15
Number of Toilet Seats	272
Number of Nuisance spots	Nil

Chapter – 3: PRESENT PRACTICES OF SOLID WASTE MANAGEMENT IN THE CITY

- 3.1 Waste generation rate (MSW generated in MT per day).
The Cantonment generates only 60 MT of Garbage daily.
- 3.2 Break-up of waste generation (Domestic, Markets, Industrial etc.)
Domestic waste- 50 MT
Market waste-10 MT
Industrial Waste- Nil (No industries waste are existing in the Cantonment)
- 3.3 Storage of Domestic Waste at Source (existing system of storage and segregation of waste at source at the household level)

Domestic Waste is being collected from the door to door in the morning and transported to the landfill site being maintained by the MCD. Door to door collection of garbage is being collected which is segregated into biodegradable and non-biodegradable at source itself. There are 545 number of dustbins constructed for collection of garbage. Some of the un-segregated garbage which is collected by the Sanitary Department is brought to a segregation point at Tigris Road. An agency has been engaged to segregate the garbage at this point before being transported to the landfill maintained by MCD.

- 3.4 Storage of market and trade waste at source: (existing system of storage and segregation of waste in vegetable, fruit meat or fish market)

:- There is only one very small vegetable/fruit market in Sadar Bazar, which generates very minimal waste. This waste is collected by the Safai Karamcharies through wheel barrows and handover to the nearest garbage point which will be collected by the garbage transporting trucks. This waste finally is transported to landfill being maintained by MCD in Okhla. The Cantonment Board maintains one small slaughter house in Old Nangal. The Meat waste generated in the slaughter house is being collected by an agency called the Best Meat Shop which has been engaged for this purpose by the

Cantonment Board. The meat waste is being transported to MCD landfill at Ghazipur by the agency.

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3.5 Storage at slum:- Nil

There are two notified slums in the Cantonment. The Garbage is being collected from the slums on day to day basis.

3.6 Segregation of Recyclable waste

:- The segregation of garbage into Bio-degradable and Non-Biodegradable is being done by engaging an NGO, at Tigris Road. The garbage being collected from door to door is being segregated at source itself.

3.7 Primary collections of Domestic Trade institutional Wastes (existing system of door to door collection, adequacy of community bin facilities etc.

:- The entire Cantonment is being cleaned by deploying sufficient number of Safai Karamcharies by sweeping the roads. The garbage collected through sweeping is being dumped properly in the nearby dustbins. The garbage collection vehicles which are deployed for collecting the garbage collect from the dustbins. A time schedule and route map has been fixed for the garbage vehicles. The Cantonment has been provided with 545 dustbins which are adequate.

3.8 Hospital and Nursing Home Waste: (no of hospitals and nursing homes, estimated bio-medical wastes generation, existing processing and disposal system).

:- The Cantonment Board maintains a 100 bedded multi-specialty Hospital in Sadar Bazar. The Hospital waste generated in this Cantonment is being collected by Synergy Waste Management Company Pvt Ltd which has been engaged for this purpose. The Army maintains two Hospitals namely Research and Referral Hospital and

Base Hospital. Both the Hospital have their own systems to dispose off the Medical waste as per the established guidelines.

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3.9 Hotels and Restaurants waste (nos. of hotels and system of primary collection)

:- There are only two notified civil areas in which commercial activities are allowed. There are only 16 small restaurants/sweet shops/eating establishments in the Cantonment. The Hotel waste is collected from door to door from each hotel and transported to the designated landfill maintained by MCD.

3.10 Construction Waste (system of storage and its primary collection)

:- Most of the constructions in the Cantonment are done by the Ministry of Defence, Govt of India through contracts. The contractors are responsible to dispose off the construction waste. However there are some unauthorize constructions taking place in the civilian pockets. The unauthorized dumps off construction waste is being collected from time to time by the Cantonment Board and is being dumped in the low lying/unused areas within the Cantonment. However efforts are being made to streamline the proper disposal of construction waste.

3.11 Street Sweeping: (Work norms and frequently of street sweeping circle/ward wise road length)

Frequently Of Street Cleaning	Ward Covered or % of Street Sovered
Daily	100%
Alternate day	Not applicable
Once a week	Not applicable
Occasionally	In notified slum areas

3.12 Tools used: (Available of traditional containerized handcrafts, long handled brooms etc.)

:- Tools used for sanitation is as under :

1. brooms

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2. spades

3. kantas

4. kolchies

5. Wheel barrows

3.13 Waste storage Depots; (circle ward wise nos. of waste storage depots mode of transmission of waste upto depots, condition of depots, nos. of litter bins provided etc.)

:- There are no waste storage depots in the Cantonment. The garbage from all the dustbins is being picked up on daily basis and transported to the designated landfill maintained by MCD. However one garbage collection point is there at Tigris Road for the purpose of segregating the garbage into bio-degradable and non-biodegradable. From this point also the segregated garbage is being transported on daily basis.

3.14 Transportation of Waste: (frequency of transportation, mode of loading manual/ mechanized loader, vehicles-tractor, trucks, autos etc).

Name of the Circle/Ward	Frequency of lifting	Types of vehicles	No. of vehicles		
			Total	Function	Out of Order
1 to 8	Daily	Tippers and compactors	26	26	Nil

3.15 Waste processing and Disposal Facilities: Details of waste processing and disposal facility like – year of commissioning, designed life, design capacity (MT/day), operation capacity (MT/Day), Scientifically operated or haphazard dumping in low lying areas, daily soil coverage provided or not, availability of weigh bridge facility, buffer zone, road facilities, status of authorization from SPCB Etc.)

:- Delhi Cantonment Board is not having any waste processing plant. The garbage generated is being transported on daily basis to the landfill being maintained by the MCD. The necessary charges for this purpose is being made to the MCD.

3.16 Financial Aspects

Years	Actual Receipt including grant	Actual expenditure	Expenditure incurred on MSW management department	
			Expenditure on salary	Expenditure on infrastructure
2001-2002	Nil	13,74,14,768-	3,54,68,289-	
2002-2003	Nil	17,22,16,754-	4,32,87,377-	
2003-2004	Nil	19,09,74,432-	4,89,13,590-	

Note: Since the expenditure required pertains to 2001-2004, the break-up on salary and infrastructure could not be reflected.

3.17 General Information of MSW to be collected and updated from time to time.

The General information required to be updated under this head will be compiled from time to time as per the directions of the Hon'ble NGT.

Chapter 4: Proposed action plan for MSW management (in accordance with Municipal Solid Wastes (Management and Handling) Rules, 2000):

The guidelines/instructions under this chapter will be followed in handling the management of Solid Waste as provided in the Municipal Solid Waste (Management and Handling) Rules, 2000.

Further it is clarified that MSW disposal plant either RDF or waste to energy or any other plants have not yet been set up by Delhi Cantonment Board. This office is using MCD Sanitary landfill Okhla, New Delhi, for disposal of MSW.

B. Reddy Sankar Babu (IDES)
Chief Executive Officer
Delhi Cantonment

STATUS REPORT WITH REGARD TO THE COLLECTION, STORAGE AND DISPOSAL OF MUNICIPAL SOLID WASTE IN THE MATTER OF DAVINDER KUMAR Vs UNION OF INDIA & ORS AND ALMITRA H PATEL & ANR. Vs UNION OF INDIA ORS, O.A NO. 21 OF 2013 AND 199 OF 2014 IN PURSUANCE OF THE ORDERS OF THE HON'BLE NATIONAL GREEN TRIBUNAL NEW DELHI DATED 13.7.2015, IN NORTH DELHI MUNICIPAL CORPORATION (North DMC).

In the aforesaid matter the Hon'ble court vide orders dated 13.7.2015 has directed are as under:-

"... All the states should positively file their status report with regard to the collection, storage and disposal of Municipal Solid Waste in the entire state. Further they should clarify, if any, MSW disposal plant either RDF or Waste to Energy or any other more plants have been provided in the state or they are in the proposal stage in that behalf.

Let the Secretary, Environment and Secretary, Urban Development of each state of each state to file their affidavits personally and if not filed within three weeks from today, the Secretary concerned shall personally be liable for payment of cost, which will be imposed and the amount would be the extent of Rs. 50,000/- each....."

The status report with regard to the collection, storage and disposal of Municipal Solid Waste on behalf of North Delhi Municipal Corporation (North DMC) are as follow:-

1. COLLECTION/STORAGE OF MUNICIPAL SOLID WASTE (MSW).

At present about 3100 MT of MSW is collected daily from about 486 Nos. of Storage/Receptacles/Collection Centres (Dhalaos/Dustbins/ steel bins /Open sites) existing at different places in all six zones of North DMC, Namely City Zone, Sadar Pahar Ganj Zone, Karol Bagh Zone, Civil Line Zone Rohini Zone and Narela Zone . This MSW does not include waste picked up by Rag pickers/kabariwala at the door step and Collection Centers. This waste generated by the citizens is deposited in the receptacles either by the citizens themselves or through private 'waste collectors' and the same is taken to Sanitary Land Fill site at Bhalswa, Integrated Waste Processing/Disposal Facilities at Narela-Bawana, Waste to Energy Plant Okhla and

Compost Plant Okhla for processing/disposal. Details of collection of above said MSW is as under:-

S. No.	Name of Zone	Dhalaos / Dustbins/ Open sites (In nos.)	Collection of garbage per day (Approx.) (In MT)
1.	Narela Zone	50	400
2.	Civil Line Zone	135	750
3.	Rohini Zone	121	800
4.	Sadar Pahar Ganj Zone	42	400
5.	Karol Bagh Zone	101	450
6.	City Zone	37	300
Total		486	3100

The additional waste comprising of 2000 MT of C&D Waste (Malba) is generated every day, out of which about 100 MT is being sent at SLF Bhalswa and about 1900 MT is sent to C&D Waste Processing Plant, Burari for processing/recycling. In addition to the above about 300 MT of silt everyday is also being sent at SLF Bhalswa daily for disposal.

2. TRANSPORTATION OF MUNICIPAL SOLID WASTE.

That North DMC has outsourced the work of Municipal Solid Waste of three zones namely City Zone, Sadar Pahar Ganj Zone and Karol Bagh Zone through Concessionaires for collection, segregation, transportation and disposal from receptacles to Sanitary Land Fill sites and compost/processing plants. The work of Collection & Transportation of Municipal Solid Waste of Narela Zone is being carried out by departmental staff and machinery.

That North DMC has also outsourced through concessionaire the work of door to door collection, segregation and transportation of MSW in Civil Line Zone and Rohini Zone. Under this project the concessionaire has set up compost plant, and Engineered Sanitary Land Fill site at Narela-Bawana. This project is in operation.

The RDF material is also being Segregated from Solid Waste and the same is storage for further converting into RDF and its utilization at Plant Narela Bawana.

DISPOSAL OF MUNICIPAL SOLID WASTE

Presently about 3100 MT of garbage, 2000 MT of C&D Waste/Malba and 300 MT of Silt are collected daily and the same is disposed/processed at the following facilities.

S.No	Name of facilities	Disposal/Processing of Waste		
		MSW (In MT)	Malba (In MT)	Silt (In MT)
1.	Sanitary Land Fill Bhalswa, North DMC.	1200	100	300 = (100+200) 100 MT and 200 MT of silt is being received at SLF Bhalswa daily from North DMC and PWD respectively.
2.	Integrated Waste Processing/ Disposal Facilities at Narela-Bawana, North DMC.	1500	Nil	Nil
3.	Waste to Energy Plant, Okhla (SDMC).	400	Nil	Nil
4.	C&D Waste/Malba/Debr is Plant, at Burari.	Nil	1900 (350+1550) About 350 MT and 1550 MT of Malba is being received at C&D Waste Plant, Burari daily from	Nil

			City Zone, Sadar Pahar Ganj Zone, Karol Bagh Zone and PWD, DMRC, CPWD etc respectively.	
--	--	--	--	--

From the chart given above it is evident that out of 3100 MT of MSW about 63% is processed at Integrated Waste Facility Narela-Bawana and Waste to Energy Plant Okhla and about 37% is dumped at Sanitary Land Fill site Bhalswa.

STATUS OF EXISTING FACILITIES:-

SANITARY LAND FILL SITE BHALSWA

North Delhi Municipal Corporation has only one Sanitary Land Fill site Bhalswa is situated near Mukarba Chowk and has an area of approximately 40 acres. This site was started during the year 1994 whereas the Municipal Solid Waste (Management & Handling) Rules 2000 came into force during the year 2000. Basically, the Sanitary Land Fill Bhalswa is a dumping site and is not a secured Sanitary Land Fill site. The operation includes disposal of waste, leveling and providing cover over it with inert material. This Sanitary Land fill site though got exhausted long time back and the height of fill at present is about 45mtr above the general ground level, but due to non availability of any other alternative site, the present site is being continued, by raising the level of filling above the general ground level. Things have now come to such a pass that it is now getting difficult with each passing day to operate the present land fill site but having no other option this site has to be continued even at the risk of loss of human life and property.

Due non-availability of land for disposal of waste, efforts are being made to use this site by increasing the height of filling above general ground level and to develop this site in the shape of a Hillock. The methodology used for this type of filling is that first working cells are earmarked and all around these cells and embankment is created by excavating the stabilized garbage. Over this garbage filling of Malba/Debris or any hard material is done and once the surface gets hard enough, Water Bound Macadam (WBM) road is laid for movement of Refuse Removal Vehicles. Once the cell is ready filling of garbage can be started and each time a cell gets filled up to the built up road level; again the embankments height is

raised and filling of garbage taken up. The kachha open drains on periphery of SLF site is also constructed for collection of waste water of SLF site for disposal. The process is repeated several times till the gradient from the approach road permits. By adopting this method, the life of land fill site is gets enhanced.

b). INTEGRATED WASTE PROCESSING / DISPOSAL FACILITIES AT NARELA-BAWANA.

Integrated Waste Processing/Disposal Facilities is setup at Narela-Bawana. The capacity of this plant is to handle 2500 MT of Fresh Waste per day. The plant capacity is being gradually increased according to the waste generation time to time and at present daily in take average is around 1500 MT per day. The plant is being operated by M/s Delhi Municipal Solid Waste Services Limited.

c). CONSTRUCTION AND DEMOLITION (C&D) WASTE /DEBRIS/ MALBA PLANT AT BURARI.

Construction and Demolition (C&D) Waste plant has been installed at Burari near Jahangir Puri. This C&D Waste Plant having capacity of 2000 MT of C&D Waste/Malba/Debris per day for processing/recycling of the same. This plant is being operated by M/s ILFS at their own cost.

FUTURE PLAN FOR MANAGEMENT AND HANDLING OF MUNICIPAL SOLID WASTE USING MODERN TECHNOLOGIES.

FUTURE GENERATION OF MSW.

It is estimated that by 2024 the total quantum of waste collected shall be 14300 MT per day, out of which North DMC shall collect approx 5000 MT per day. Forecast for increase in Population and Municipal Solid Waste, in Delhi during 2015-2024 is as follows, to give an overview:

Year	2015	2020	2024
Population of the state of Delhi	198,50,240	223,16,664	245,08,689

MSW Collected (TPD)	9,427	11,883	14,302
MSW Collected per capita (Kg per day)	0.475	0.532	0.584

Source:- Master Plan report for Delhi by COWI (April 2004)

From the above forecast it is evident that the MSW generation in Delhi shall grow at a very fast rate, whereas due to rapid urbanization of the city the availability of land for setting up MSW processing plants [within the urban limits] is of utmost importance.

In addition to the above, additional facilities for future disposal/processing of MSW, C&D Waste and Ash is proposed to cope up with the increase in MSW generation is as under:-

S. No.	Name of facilities	Disposal/Processing of Waste (per day)				Total MSW capacity (in MT)
		MSW (In MT)	Malba (In MT)	Silt (In MT)	Ash/ Reject (In MT)	
1.	Proposed Site Sultanpur Dabas (Bawana)					
	i. Waste to Energy Plant.	1000				
	ii. Compost Plant.					
	iii. Engineered SLF site.	500		100	450	1500
2.	Proposed Site near Puthkurd.					
	i. C&D Waste Plant.		500			
3.	Proposed Site behind APMC					

	Compost. Plant on GT Karnal Road and near village Hamirpur. (i) Waste to Energy Plant.	500				500
4.	Proposed Site on Main Bakhtawarpur Road near Village Palla. (i) Compost Plant	500				500
5.	Site near village Rani Khera (i) C&D Waste		1000			
6.	Already existing Integrated Waste Processing/Disposa l Facilities at Narela-Bawana RDF Plant Compost Plant. Engineered Land Fill	2000 500			625	2500
7.	Already existing C&D Waste at Burari		2000			
8.	Proposed site near Village Palla near Haryana Border for Engineered landfill for rejects, silt and misc. wastes				300 (Rejects) + 700 (Misc)	
GRAND TOTAL		5000	3500	100	1325	5000

CONSTRCUTION AND DEMOLITION (C&D) WASTE.

At present about 2000 MT per day of Debris /C&D Waste/Malba generated in all six zones of North DMC due to either renovation or construction of house/shop etc. The C&D waste generated is likely to increase to 3500 TPD in 2024. About 100 MT per day debris/C&D Waste is presently being collected transported and disposed at Sanitary Land Fill (SLF) site Bhalswa. This debris is used to cover already filed up waste and for making approaches into SLF site for movement of Refuse Removal Vehicles and remaining about 1900 MT per day of C&D Waste is being processed at Burari Plant by M/s. IL&FS.

A successful experiment of processing and recycling of C&D waste has been constructed at Burari. The North DMC proposes to create similar facilities for processing/ disposal of C&D Waste at following locations:-

- i. Site near Rani Khera – 1000 TPD capacity.
- ii. Site near Puth Khurd – 500 TPD Capacity.

COMPOST PLANTS:-

Compost Plant at Bhalswa, having capacity of 500 MT of MSW per day for converting into compost was being operated by M/s Excel India Private Ltd. Now this plant has been closed by Delhi Pollution Control Board (DPCC) since April 2014 on accounts that the plant was not following the norms of MSW Rules 2000. North DMC proposes to have similar composting facilities created in decentralised manner so that the recovery can be made and utilised at local level. These small composting units can be created in the decentralised facility centres.

In addition, Centralised composting plants are proposed at following locations as land for decentralised plants may not be available at all places:-

- (a) One compost plant proposed at Sultanpur Dabas (Integrated) – 500 TPD Capacity.
- (b) Proposed Compost Plant at Bakhtawarpur Road near Village Palla.– 500 TPD Capacity.

WASTE TO ENERGY/RDF PLANT:-

Integrated Waste Processing/Disposal Facilities is setup at Narela-Bawana. The capacity of this plant is to handle 2500 MT of Waste per day. The plant capacity is being gradually increased according to the waste generation time to time and at present daily in take average is around 1500 MT per day. The plant is working and is being operated by M/s Delhi Municipal Solid Waste Solution Limited.

North DMC proposes to establish additional processing and Waste to Energy Plants for disposal of MSW at following locations:

- i. Site near Sultanpur Dabas Integrated Waste Facility Capacity – 1000 TPD W2E + 500 TPD CP.
- ii. Proposed Site behind APMC Compost Plant on GT Karnal Road and near village Hamirpur – 500 TPD.

DISPOSAL OF REJECT/ RESIDUE:-

Considering the quality of MSW generated in Delhi and the socio-cultural aspects of generation, it is estimated that initially, about 40% of the total quantum of MSW shall be the residue required to be disposed at SLF. However, with proper Information & Education Campaign, Regulations and enforcements, the citizen need to be educated about their duties and responsibilities regarding segregation and management of waste. Thus, it may take some time to improve the quality of waste leading to lower percentage of residue. Eventually, it is targeted that the residue generated from MSW in Delhi to be brought to less than 30% by 2024.

The requirement of land for disposal of Residue/ reject is estimated as follows:

Year	2015	2024
Waste Generation (MT Per day)	3100	5000
Quantity processed (MT Per day)	1950	5000
Remaining (Unprocessed) (MT Per day)	1150	0

Residue (%) from processed	40%	30%
Quantum of Residue (MT Per day)	780	1500
Total to be disposed at Land Fill Sites (MT Per day)	1930	1500

For disposal of Residue and MSW the following land/ sites are proposed:-

- a. Engineered Land fill site at Sultanpur Dabas (Bawana) Capacity – 450 TPD
- b. Proposed site near Village Palla near Haryana Border for Engineered landfill for rejects, silt and misc. wastes Capacity – 1000 TPD.

STATUS OF AVAILABILITY OF LAND FOR DEVELOPMENT OF SLF SITES AS WELL AS SETUP OF PLANT FOR PROCESSING OF MSW AND DEBRIS/C&D WASTE/MALBA.

To implement the aforesaid Action Plan, the requirement of the land is absolutely essential for North DMC. While the North DMC is trying its utmost to get the lands allotted from DDA/GNCTD not much progress has been made. The status as on date is as under:-

i. **RULE POSITION:-**

As per rules it is the responsibility of DDA to select / identify, acquire the land for land fill sites and to take clearance from Delhi Pollution Control Committee, Central Pollution Control Board, Ridge Management Board, Environment Department and Central Empowered Committee, appointed by the Apex Court etc for disposal/ processing of MSW and handover the same to North DMC free of cost and free from all encumbrances.

ii. **ORDERS OF THE HON'BLE SUPREME COURT OF INDIA**

In the Writ Petition CWP No. 888/1996 in the matter of Almitra H. Patel and Anr Vs U.O.I. & others; relating to Solid Waste Management in India, the Hon'ble

Supreme Court of India in its decision dated 15.2.2000 gave directions to this effect that:

"We direct that sites for landfills will be identified bearing in mind the requirement of Delhi for the next twenty years within a period of four weeks from today by the exercise jointly conducted by Union of India through the Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner, MCD, and Chairman, NDMC and other heads of statutory authorities like the DDA etc. These sites will be identified keeping in mind the environmental considerations and in identifying the same Central Pollution Control Board's advice will be taken into consideration. The sites so identified shall be handed over to the MCD and or NDMC within two weeks of the identification, free from all encumbrances and without MCD or the NDMC having to make any payment in respect thereof.

*We further direct Union of India through Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner, MCD, Chairman, NDMC and other statutory authorities like DDA etc. to identify and make available to the MCD and NDMC within four weeks from today sites for setting up compost plants. Initially considering the extent of solid waste, which is required to be treated by compost plants, the number of sites, which should be made available, will be eight. **Such sites shall be handed over to the MCD/NDMC free of cost and free from all encumbrances within two weeks of identification.** MCD and NDMC shall thereupon take appropriate steps to have the compost plants/processing plants established or caused to be established and to be in operation by 30th September, 2000"*

iii. LANDS ALLOTTED BY DDA/GNCTD.

In compliance of the aforesaid directions the following lands were allotted/handed over by the Delhi Development Commissioner and Delhi Development Authority to erstwhile MCD for development into SLF sites and for setting up Compost/Processing plants against the requirement of 1500 acres land for the next 20 years, out of which the requirement of land of North DMC is about 500 Acres. Status of land is as under:-

Sl. No.	Name of site	Area (in Acre)	Present status comments
1.	On Narela Bawana Road in North Delhi	150	This site has been handed over by DDA to erstwhile MCD. The project of processing /disposal of waste at this site is in operational.
	Total	150	Effective land made available to North DMC for processing/disposal of MSW is 150 acres against the requirement of land 500 Acres.

In addition to the above the following two sites have been allotted/ handed over to North DMC by DDA 16.6.2014. Details of the same are as under:-

S.No.	Location of site	Approx. area (in acres)	Purpose
1.	Site no. 1-4 Industrial area near Rani Khera, Rohini Phase-IV, Delhi.	3.55	It is proposed that this site will be used for setting up plant for processing /disposal of Construction and Demolition (C&D) Waste/Malba.
2.	PVC Bazar Project, Tikari Kalan, Rohtak Road, Zone-L.	4.00	It is proposed that this site will be used for setting up of plant for processing/disposal of Horticulture Waste, processing/recycling of Plastic Waste and E-Waste.

TRANSFER OF ISSUE OF ALLOTMENT OF LAND FROM HON'BLE SUPREME COURT TO HON'BLE DELHI HIGH COURT.

- i. In the matter of Almitra H. Patel and Anr Vs U.O.I. & others W. P. (C) No. 888 of 1996, the issue pertaining to allotment of land for SLF sites for Municipal Corporation of Delhi (MCD) was transferred to Hon'ble High Court of Delhi by the Hon'ble Supreme Court of India on 19.7.2000 with the request to expeditiously hear and dispose of the matter preferably within three months.
- ii. The Hon'ble High Court in the said matter bearing W. P. (C) No. 5236 of 2010 constituted a committee under the chairmanship of Secretary (UD) GNCTD comprise of a senior officer each from DDA, MCD, Ministry of Urban Development, Land & Building Department, Ministry of Environment GNCT of Delhi. The committee has recommended 31 sites for Solid Waste Management Facilities, out of these 31 sites, 18 sites fall in SDMC jurisdiction, 8 sites fall in North DMC jurisdiction and 5 sites fall in EDMC jurisdiction. List of these 31 sites is annexed herewith as Annexure-"A" (Colly).

Out of 8 sites falling in North DMC following 2 sites are best suited for processing/disposal of Municipal Solid Waste under the jurisdiction of North Delhi Municipal Corporation. The details of the same are as under:-

S. No	Name of Site	Approx. Area of land (In Acres)	Ownership of land	Purposes	Jurisdiction of Corporation	Remarks
1.	Site near Sultanpur Dabas (Bawana)	95	Gaon Sabha	Integrated Waste Processing/ Disposal Facilities	North DMC	GNCTD should hand over the land to North DMC.
2.	Site behind APMC compost Plant on GT Karnal Road and near village Hamirpur	27.5	Private	Processing/ Disposal of MSW	North DMC	Land be acquired by DDA/GNCTD and the same be handed over to North DMC.

In view of above, it is humbly requested the Hon'ble Court to may kindly direct the DDA/GNCTD to allot/hand-over the following two sites to North Delhi Municipal Corporation for Solid waste Management facility in first instance on urgent basis, as there is no land available for development of Sanitary Land fill site/Processing Plant/Waste to Energy Plant in North DMC.

- i) Proposed Site Sultanpur Dabas (Bawana) measuring 95 acres.
- ii) Proposed Site behind APMC compost Plant on GT Karnal Road and near village Hamirpur measuring 27.5 acres.

Executive Engineer(SLF)
Bhalswa, North DMC

11360

SOUTH DELHI MUNICIPAL CORPORATION
OFFICE OF THE DIRECTOR (DEMS)
2ND LEVEL CIVIC CENTRE MINTO ROAD NEW DELHI-110002

No. 983 /Dir. (DEMS)/2015/

Dated 27/7/15

To,

The Pr. Secretary (UD)
Govt. of NCT of Delhi
Urban Development department
10th level, C-wing, Delhi Secretariat
I.P. I.P.Estate, New Delhi-110002

The Secretary, Environment
Govt. of NCT of Delhi
Department of Environment
6th Level C- Wing, Delhi Secretariat
I.P. Estate, New Delhi-110002

Sub:- STATUS REPORT WITH REGARD TO THE COLLECTION, STORAGE AND DISPOSAL OF MUNICIPAL SOLID WASTE IN THE MATTER OF DAVINDER KUMAR Vs UNION OF INDIA & ORS AND ALMITRA H PATEL & ANR. Vs UNION OF INDIA ORS, O.A NO. 21 OF 2013 AND 199 OF 2014 IN PURSUANCE OF THE ORDERS OF THE HON'BLE NATIONAL GREEN TRIBUNAL NEW DELHI DATED 13.7.2015, IN SOUTH DELHI MUNICIPAL CORPORATION (SDMC).

Sir,

In the aforesaid matter the Hon'ble National Green Tribunal vide its orders dated 13.7.2015 inter-alia directed are as under:-

"... All the states should positively file their status report with regard to the collection, storage and disposal of Municipal Solid Waste in the entire state. Further they should clarify, if any, MSW disposal plant either RDF or Waste to Energy or any other more plants have been provided in the state or they are in the proposal stage in that behalf.

Let the Secretary, Environment and Secretary, Urban Development of each state to file their affidavits personally and if not filed within three weeks from today, the Secretary concerned shall personally be liable for payment of cost, which will be imposed and the amount would be the extent of Rs, 50,000/- each....."

In this regards a meeting was held on 22.7.2015 at 3:30 PM under the chairmanship of Pr. Secretary (PWD/UD) Govt. of NCT Delhi at 5th Level, Delhi Secretariat New Delhi-110002. This meeting was attended by the officers of all concerned department. During the course of the meeting it was decided that the status report with regard to the collection, storage and disposal of Municipal Solid Waste be sent to the office of Pr. Secretary and Secretary Environment by South Delhi Municipal Corporation.

Accordingly the status report with regard to the collection, storage and disposal of Municipal Solid Waste as prevailing in the South Delhi Municipal Corporation (SDMC) is enclosed herewith for taking further necessary action please.

Encl. As above

Murthy
Director (DEMS) SDMC 27/7/15

Bohler
28/07/15

EE-SH. M/S

STATUS REPORT WITH REGARD TO THE COLLECTION, STORAGE AND DISPOSAL OF MUNICIPAL SOLID WASTE IN THE MATTER OF DAVINDER KUMAR Vs UNION OF INDIA & ORS AND ALMITRA H PATEL & ANR. Vs UNION OF INDIA ORS, O.A NO. 21 OF 2013 AND 199 OF 2014 IN PURSUANCE OF THE ORDERS OF THE HON'BLE NATIONAL GREEN TRIBUNAL NEW DELHI DATED 13.7.2015, IN SOUTH DELHI MUNICIPAL CORPORATION (SDMC).

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Let the Secretary, Environment and Secretary, Urban Development of each state to file their affidavits personally and if not filed within three weeks from today, the Secretary concerned shall personally be liable for payment of cost, which will be imposed and the amount would be the extent of Rs, 50,000/- each....."

The status report with regard to the collection, storage and disposal of Municipal Solid Waste as prevailing in the South Delhi Municipal Corporation (SDMC) is as given below :-

1. COLLECTION/STORAGE OF MUNICIPAL SOLID WASTE (MSW)/GARBAGE.

At present about 2700 MT of garbage (MSW), about 600-700 MT of Construction & Demolition (C&D) Waste/malba, 300 MT of silt and 600-650 MT of Ash (received from Waste to Energy Plant, Okhla) is collected daily. About 2700 MT of garbage/MSW is collected from about 1200 Nos. of Storage/Receptacles/Collection Centers (Dhalaos/Dustbins/ steel bins /Open sites) existing at different places in all four zones of SDMC namely Central Zone, South Zone, West Zone and Najafgarh

Zones. This MSW does not include waste picked up by the Rag pickers/kabariwala at the door step and Collection Centers. The waste generated by the citizens is deposited in the receptacles either by the citizens themselves or through private 'waste collectors' and the same is taken to i) Sanitary Land Fill site at Okhla ii) Waste to Energy Plant Okhla iii) Compost Plant Okhla iv) Sanitary Land Fill Site Bhalswa (North DMC) for processing/disposal.

2. TRANSPORTATION OF MUNICIPAL SOLID WASTE.

SDMC outsourced the work of Municipal Solid Waste of three zones namely Central Zone, South Zone, and West Zone through Concessionaires for collection, segregation, transportation and disposal from receptacles/Storage to Sanitary Land Fill sites and compost/processing plants.

The work of Collection and Transportation of Municipal Solid Waste of Najafgargh Zone is being carried out by departmental staff and machinery.

3. DISPOSAL OF MUNICIPAL SOLID WASTE

Presently about 2700 MT of Municipal Solid Waste(MSW) /garbage, 600/700 MT of Construction & Demolition Waste (C&D), about 300 MT of silt and about 600 MT of Ash are collected daily and the same is disposed/processed at the following facilities.

S. No	Name of facilities	Disposal/Processing of Waste			
		MSW (In MT)	Malba (In MT)	Silt (In MT)	Ash (In MT)
1.	Sanitary Land Fill Okhla.	500	600	200	600
2.	Waste to Energy	1250	Nil	Nil	Nil

	Plant, Okhla.				
3.	Compost Plant Okhla	150	Nil	Nil	Nil
4.	Sanitary Land Fill Bhalswa, (North DMC)	800	100	100	Nil
	Total=	2700	700	300	600

From the chart given above it is evident that out of 2700 MT of MSW about 54% is processed at the Waste to Energy Plant Okhla, Compost Plant Okhla and about 46% is dumped at Sanitary Land Fill site Okhla and Sanitary Land Fill Site Bhalswa (North DMC).

STATUS OF EXISTING FACILITIES:-

a. SANITARY LAND FILL OKHLA PHASE-I.

SDMC has only one Sanitary Land Fill site Okhla Phase-I situated at Maa Anand Mai Road spread over an area of approximately 32 acres. This site was started during the year 1996 whereas Municipal Solid Waste (Management and Handling) Rules 2000 came into force during the year 2000. Basically, the Sanitary Land Fill, Okhla is a dumping site and is not a secured Sanitary Land Fill Site. The operation includes disposal of waste, its leveling and providing cover over it with inert material. This Sanitary Land fill site though got exhausted long time back and the height of fill at present is about 50mtr above the general ground level, but due to non availability of any alternate site, the present site is being continued, by raising the level of filling above the general ground level. Things have now come to such a pass that it is now getting difficult with each passing day to operate the present land fill site. Since there is no other option this site has to be continued even at the risk of loss of human life and property.

Due non-availability of land for disposal of waste, efforts are being made to use this site by increasing the height of filling above general ground level and to develop this site in the shape of a Hillock. The methodology used for this type of filling is that first working cells

are earmarked, around these cells and embankment is created by excavating the stabilized garbage. Over this garbage filling of Malba/Debris or any hard material is done and once the surface gets hard enough, Water Bound Macadam (WBM) road is laid for movement of Refuse Removal Vehicles. Once the cell is ready filling of garbage can be started and each time a cell gets filled up to the built up road level; again the embankments height is raised and filling of garbage taken up. The kachha open drains on periphery of SLF site is also constructed for collection of waste water of SLF site for disposal. The process is repeated several times till the gradient from the approach road permits. By adopting this method, the life of land fill site is gets enhanced.

b. WASTE TO ENERGY PLANT OKHLA.

There is only one Waste to Energy Plant at Okhla having capacity of 1950 MT of MSW per day to produce 16 MW of power is being operated by Timar Pure Okhla Waste Management Company Private Ltd. (Managed by M/s Jindal Urban Infrastructure Ltd under the administrative control of Power Department of GNCTD). It is also submitted that after processing the waste at Waste to Energy plant Okhla, about 30-40 % residues is returned back at Sanitary Land Fill site Okhla Ph-I for disposal.

c. COMPOST PLANT OKHLA.

One Compost Plant Okhla, having capacity of 200 MT of MSW per day for converting into compost is being operated by M/s ILFS at their own cost.

FUTURE PLAN FOR MANAGEMENT AND HANDLING OF MUNICIPAL SOLID WASTE USING MODERN TECHNOLOGIES.

FUTURE GENERATION OF MSW AND PROPOSED DISPOSAL

It is estimated that by 2024 the total quantum of waste collected shall be 14300 MT per day, out of which SDMC shall collect approx 4500 MT per day. Forecast for increase in Population and Municipal Solid Waste, in Delhi during 2015-2024 is as follows, to give an overview:

Year	2015	2020	2024
Population of the state of Delhi	198,50,240	223,16,664	245,08,689
MSW Collected (TPD)	9,427	11,883	14,302
MSW Collected per capita (Kg per day)	0.475	0.532	0.584

Source: - Master Plan report for Delhi by COWI (April 2004)

From the above forecast it is evident that the MSW generation in Delhi shall grow at a very fast rate, whereas due to rapid urbanization of the city the availability of land for setting up MSW processing plants has decreased. For the processing of the projected quantities of wastes that would be generated and other types of wastes, it is proposed to set up processing facilities which are given below:-

S.No	Name of facilities	Disposal/Processing of Waste (per day)			
		MSW (In MT)	Malba (In MT)	Silt (In MT)	Ash/ Reject (In MT)
1.	Proposed site at extension of existing SLF site Okhla Phase-I on the land of container depot/CCI. 1. Waste to Energy Plant. 2. Compost Plant 3. C & D Waste Plant 4. Engineered SLF Site	2100 500 0	500	200	600

2.	Proposed site on Takhand Land near SLF Okhla Phase-I. 1. Compost Plant. 2. Engineered land fill for rejects, silt and misc. waste	500			150 (Rejects)+ (Misc)
3.	Ghummanhera site. 1. C&D Waste Plant.		1000		
4.	Near village Bakar Wala. i. C&D Waste Plant.		500		
5.	Proposed Site near village Ghitorni .		500		
6.	Site near Jounapur Pahari on Mandi road		1000		
7.	SLF Bhalswa (North DMC)			100	
8.	Already existing Waste to Energy Plant At Okhla	1200			
9.	Already existing Compost Plant At Okhla	200			
GRAND TOTAL		4500	3500	300	750

WASTE TO ENERGY PLANT:-

On account of scarce availability of land, there is a need to set up Waste to Energy Plant which can consume large amounts of garbage as well as generates electricity also. The only Plant at Okhla consumes approx. 2000 MT of garbage on a daily basis which amounts to approx. 25% of total waste generated in the city. Out of 2000 MT of garbage about 1300 MT of garbage per day is received at

Waste to Energy Plant, Okhla from SDMC. In addition the setting up of more Plants would be able to consume large amounts of garbage.

i) SDMC is evaluating the possibility of setting up another Plant somewhere in Najafgarh area which can take care of the garbage generated in the two zones namely Najafgarh and West Zones of SDMC. Setting up of such a project in Najafgarh Zone area would do away with large distances that have to be covered by the trucks such as the lead from Najafgarh, West Zones to landfill site at Okhla or the Sanitary Landfill site at Bhalswa. The to and fro movement of trucks results in air pollution which can very well be avoided in case the Waste to Energy Plant is set up in Najafgarh Zone. Setting up of the Plant would be subject to necessary clearances from the concerned departments involved such as Airport Authority, Central Pollution Control Board etc.

ii) SDMC also proposes to establish additional Waste to Energy Plant on the proposed site adjoining existing SLF site Okhla Phase-I on the land of CONCOR/CCI/Railway/DDA.

DISPOSAL OF REJECT/ RESIDUE:-

During the course of incineration of garbage at the Waste to Energy Plant, the residue which amounts to approx. 30-40% of the total garbage consumed is required to be dumped on secured sanitary landfill site. For the present the inerts generated at the Waste to Energy Plant, Okhla are dumped at the SLF, Okhla. The existing landfill site at Okhla is approx. 150' high as stated in para above.

The requirement of land for disposal of Residue/ reject is estimated as follows

Year	2015	2024
Waste Generation (MT Per day)	2700	4500
Quantity processed (MT Per day)	1450	4500
Remaining (Unprocessed) (MT Per day)	1250	0
Residue (%) from processed	40%	30%
Quantum of Residue (MT Per day)	580	1350
Total to be disposed at Land Fill Sites (MT Per day)	1250	1350

For disposal of Residue and MSW the following land /sites are proposed:-

- i. Engineered Land-fill site at proposed site extension of existing SLF site Okhla Phase-I on CONCOR/CCI land. (Capacity 780 MTD);
- ii. Engineered Land-fill site at proposed site on Takhand Land near SLF Okhla Phase-I. (Capacity 150 MTD + MISC).
- iii. Engineered Land-fill site at proposed site near jouna pur pahari on Mandi road for rejects, silt and misc. waste and for C&D Waste. (Capacity 1000 MTD + MISC).

STATUS OF AVAILABILITY OF LAND FOR DEVELOPMENT OF VARIOUS FACILITIES FOR SOLID WASTE MANAGEMENT

To implement the aforesaid Action Plan, the requirement of the land is absolutely essential for SDMC. While the SDMC is trying its

utmost to get the lands allotted from DDA/GNCTD not much progress has been made. The status as on date is as under:-

i. RULE POSITION:-

As per rules it is the responsibility of DDA to select / identify, acquire the land for land fill sites and to take clearance from Delhi Pollution Control Committee, Central Pollution Control Board, Ridge Management Board, Environment Department and Central Empowered Committee, appointed by the Apex Court etc for disposal/ processing of MSW and handover the same to SDMC free of cost and free from all encumbrances.

ii. ORDERS OF THE HON'BLE SUPREME COURT OF INDIA

In the Writ Petition CWP No. 888/1996 in the matter of Almitra H. Patel and Anr Vs U.O.I. & others; relating to Solid Waste Management in India, the Hon'ble Supreme Court of India in its decision dated 15.2.2000 gave directions to this effect that:

*"We direct that sites for landfills will be identified bearing in mind the requirement of Delhi for the next twenty years within a period of four weeks from today by the exercise jointly conducted by Union of India through the Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner, MCD, and Chairman, NDMC and other heads of statutory authorities like the DDA etc. These sites will be identified keeping in mind the environmental considerations and in identifying the same Central Pollution Control Board's advice will be taken into consideration. The sites so identified shall be handed over to the MCD and or NDMC within two weeks of the identification, **free from all encumbrances and without MCD or the NDMC having to make any payment in respect thereof.***

We further direct Union of India through Ministry of Urban Development, Government of National Capital Territory of Delhi, Commissioner, MCD, Chairman, NDMC and other statutory authorities like DDA etc. to identify and make available to the MCD and NDMC within four weeks from today sites for setting up compost plants. Initially considering the extent of solid waste, which is required to be treated by

compost plants, the number of sites, which should be made available, will be eight. **Such sites shall be handed over to the MCD/NDMC free of cost and free from all encumbrances within two weeks of identification.** MCD and NDMC shall thereupon take appropriate steps to have the compost plants/processing plants established or caused to be established and to be in operation by 30th September, 2000"

LANDS ALLOTTED BY DDA/GNCTD

In compliance of the aforesaid directions, the following lands were allotted/handed over by the Delhi Development Commissioner and Delhi Development Authority to erstwhile MCD for development into SLF sites and for setting up Compost/Processing plants against the requirement of 1500 acres land for the next 20 years, out of which the requirement of land of SDMC is about 500 Acres. Status of land is as under:-

Sl. No.	Name of site	Area (In Acre)	Present status comments
1.	On Jaitput/Tajpur road behind Badarpur Thermal Power House in Central Zone.	24.60	This site had been handed over by Development Commissioner, Delhi to erstwhile MCD but could not be put to use for SLF, because of high density of population in the vicinity. Now this site is to be utilized for disposal/ processing of C&D Waste/ Malba/ Inert/ Silt/ Ash.
2.	Near village Ghumman Hera, in Najafgarh Zone.	140.00	This site has been handed over by Development Commissioner, Delhi to erstwhile MCD, but this site falls in the Air Funnel and as such cannot be used for disposal of MSW. However this site is proposed to be utilized for setting up of plant for processing/ disposal/ recycling of Construction and Demolition (C&D) Waste /Malba.
3.	Near Village Bakkarwala in	10.00	This site has been handed over by DDA to erstwhile MCD but the site

West Zone		cannot be put to use for processing of MSW because of high density of human habitation in the vicinity. However this site is proposed to be utilized for processing/recycling of C&D Waste/Malba.
Total	174.60	Effective land made available to SDMC for processing/ disposal of MSW is NIL against the requirement of land 500 acres.

In addition to the above the following two sites have been allotted/handed over to South Delhi Municipal Corporation (SDMC) by DDA on 16.6.2014. Details of the same are as under:-

S.No.	Location of site	Approx. area (in acres)	Purpose
1	Site at Location-A, Sector-24 Dwarka.	5.0	It is proposed that this site will be used for setting up of Zero Waste Management.
2.	Site at Location-B, Sector-29, Dwarka	5.0	It is proposed that this site will be used for setting up plants for processing/ disposal/re-cycle of Horticulture waste, Plastic Waste and Crematorium for small animals.

TRANSFER OF ISSUE OF ALLOTMENT OF LAND FROM HON'BLE SUPREME COURT TO HON'BLE DELHI HIGH COURT.

i In the matter of Almitra H. Patel and Anr Vs U.O.I. & others W. P. (C) No. 888 of 1996, the issue pertaining to allotment of land for SLF sites for Municipal Corporation of Delhi (MCD) was transferred to Hon'ble High Court of Delhi by the Hon'ble Supreme Court of India on

19.7.2010 with the request to expeditiously hear and dispose of the matter preferably within three months.

In spite of the fact that the Committee constituted under the Chairmanship of Secy.(UD), GNCTD in the matter of Almitra H. Patel and anr. Vs UOI and others WPC No. 5236 of 2010, identified 31 sites spread all over Delhi to set up various Solid Waste Management facilities. Out of these total 18 sites fall in areas catered to by the SDMC, 08 by North Delhi Municipal Corporation and 05 by EDMC. List of these 31 sites is annexed herewith as Annexure 'A' (Colly).

In compliance of the orders of the Hon'ble Supreme Court of India dated 19.07.2010 and the directions of the Hon'ble Delhi High Court dated 19.11.2013 persistent efforts have been made in requesting the DDA and the GNCTD for allotment of suitable parcels of land for setting up of the facilities required for scientific disposal of the Municipal Solid Waste. In case, the requisite lands are handed over to the SDMC.

Out of 18 sites with SDMC, presently the two sites as shown in the TABLE NO.1 and two sites as shown in the TABLE NO.-2 given below are best suited for processing/disposal of Municipal Solid Waste and for processing/disposal of Construction and Demolition (C&D) Waste/ inert/ Silt/ Ash under the jurisdiction of South Delhi Municipal Corporation. The details of the same are as under:-

TABLE NO.-1

S. No	Name of Proposed land/sites	Approx. area of land (in acres)	Ownership of land	Purpose	Remarks
1.	Proposed site extension of existing SLF site Okhla Phase-I on the land of CCI/CONCOR / DDA	(About 14.2+18.15+9 7.0) = 129.35 acres	DDA	Integrated Waste Management facilities	DDA should hand over the site to SDMC.

2.	Proposed site on Tehkhand land near SLF Okhla Ph-I	About 36.0 acres	DDA	Integrated Waste Management facilities	DDA should hand over the site to SDMC.
----	--	------------------	-----	--	--

It is also submitted that another important aspect which goes in favor, to continue with the present site is that to open any new Sanitary Land Fill site it is seen that there had been public resistance and in most of the cases new sites could not be started. In the present case since there exists a Sanitary Land Fill site, its extension in the area occupied by DDA may not invite much public resistance and as such the present site could be extended.

In this regard, an appropriate policy decision is required to be taken to shift Inland Container Depot (ICD) from Okhla/Tuglakabad to an alternate location, some of the possible locations in NCR can be Dadri, Manesar, Bawal


Brief note on these sites is annexed herewith as annexure-"B" (colly):-

TABLE NO.-2

S. No	Name of Site	Approx. Area of land (In Acres)	Ownership of land	Purpose	Jurisdiction of Corporation	Remarks
1.	Site near village Ghitorni	184	Forest Deptt.	Processing/ disposal of C&D Waste/ Malba/ Inert Material/ Silt/Ash.	SDMC	GNCTD should hand over the site to SDMC.
2.	Site near Jounapur Pahari on Mandi road	100	Gaon Sabha	Processing/ disposal of C&D Waste/ Malba/ Inert Material / Silt/Ash.	SDMC	GNCTD should hand over the site to SDMC

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In view of above, it is humbly requested that the Hon'ble Court may kindly be directed the DDA and GNCTD to allot/hand-over the above two sites as shown in TABLE NO.1 and two sites shown in TABLE NO.-2 for integrated Waste Management facilities and construction and demolition (C&D) Waste/ inert material/ Silt/ Ash respectively to South Delhi Municipal Corporation in first instance on urgent basis, as there is no land available for these proposes.


Executive Engineer(SLF)
Okhla, SDMC

Annexure-'A' (Colly)

Sub: - BEFORE THE HON'BLE HIGH COURT FOR DELHI TITLED
AS ALMITRA H. PATEL AND ANR. V/S UNION OF INDIA &
OTHERS, CWP NO. 5236/2010.


S. No	Name of Site	Approx. Area of land (In Acres)	Ownership of land	Purpose	Jurisdiction of Corporation	Remarks
1.	Site near village Ghitorni	184	Forest Deptt.	Processing/di sposal of inert material/ C&D Waste	SDMC	GNCTD should hand over the site to SDMC.
2.	Site near village Mandi/ Jounapur	59	Forest Deptt.	Processing/di sposal of inert material/ C&D Waste	SDMC	GNCTD should hand over the site to SDMC
3.	Site near Jounapur Pahari on Mandi road	100	Gaon Sabha	Processing/di sposal of inert material/ C&D Waste.	SDMC	GNCTD should hand over the site to SDMC
4.	Bhatti Mines	2500	Forest Deptt.	Processing/di sposal of MSW/Inert Material	SDMC	About 500 acres of land be allotted/handed over to SDMC by GNCTD.
5.	Site extension of existing SLF site Okhla Ph-I on the land of CONCOR and CCI.	129.35	CONCOR/ Northern Railway	Most suitable for Integrated Waste Processing/ Disposal Facilities	SDMC	DDA should hand over the land to SDMC.

6.	On Takhand land near SLF Okhla Ph-I	36	DDA	Most suitable for Integrated Waste Processing/ Disposal Facilities	SDMC	DDA should hand over the land to SDMC.
7.	Site near Metro Station (under construction) opposite Kalandi Kunj	32	DDA	Processing /disposal of C&D Waste/inter material • •	SDMC	DDA should hand over the land to SDMC.
8.	Near Chatter Pur Phari	05	DDA	Processing/di sposal of C&D Waste/Inert material	SDMC	DDA should hand over the land to SDMC.
9.	Site near resettlement colony Madan Pur Khadar	200	Private	Integrated Waste Processing/ Disposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
10.	Site near Sewage Treatment Plant in Sector-16-D, Dwarka Phase-II.	10	DDA	Setting up of Compost Plant.	SDMC	Pending for future
11.	Site near IGNOU Back of Maidan Garhai	20	DDA	Decentralizati on of MSW Management.	SDMC	Pending for future
12.	Site near Rang Puri	20	Forest Depart ment	Decentralizati on of MSW Management	SDMC	Pending for future
13.	Site between Chawala Village and Najafgarh	10	DDA	Decentralizati on of MSW Management.	SDMC	Pending for future

	Drain					
14.	Site near village Neelwal	Chunk Land	Private	Integrated Waste Processing/Di sposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
15.	Site near village Hiran Kudna	Chunk Land	Private	Integrated Waste Processing/Di sposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
16.	Site near village Nilothi	Chunk Land	Private	Integrated Waste Processing/Di sposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
17.	Site near village Bakkarwala	Chunk Land	Private	Integrated Waste Processing/Di sposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
18.	Site near village Saffidpur Ranholla	Chunk Land	Private	Integrated Waste Processing/Di sposal Facilities	SDMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to SDMC.
19.	Site near Sultanpur Dabas (Bawana)	95	Gaon Sabha	Integrated Waste Processing/ Disposal Facilities	North DMC	GNCTD should hand over the land to North DMC.
20.	Site near	145	Private	Integrated Waste	North DMC	Land be acquired by

	Puthkurd			Processing/ Disposal Facilities		DDA/GNCTD and the same be handed over to North DMC.
21.	Site behind APMC compost Plant on GT Karnal Road and near village Hamirpur	27.5	Private	Processing/ Disposal of MSW	North DMC	Land be acquired by DDA/GNCTD and the same be handed over to North DMC.
22.	Site on the Main Bhaktawar pur road near Palla Village	42.5	Private	Processing/ Disposal of C&D Waste	North DMC	Land be acquired by DDA/GNCTD and the same be handed over to North DMC.
23.	Site located near village Palla and Haryana Border	62.5	Private	Processing/ Disposal of MSW	North DMC	Land be acquired by DDA/GNCTD and the same be handed over to North DMC.
24.	Site near village Sadpur and Nizampur	Chunk Land	Private	Integrated Waste Processing/ Disposal Facilities	North DMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to North DMC.
25.	Site near PVC Godown on Tikri Road near village Mundka	Chunk Land	Private	Integrated Waste Processing/ Disposal Facilities	North DMC	About 100 acres of land be acquired by DDA/GNCTD and the same be handed over to North DMC.
26.	Site near village Bajitpur near Auchandi Road	08	Gaon Sabha	Processing of C&D Waste	North DMC	GNCTD should hand over the land to North DMC.
27.	Near Shastri Park (2	02	DDA	Processing of	EDMC	This land has been handed

	Acres)			C&D Waste		over to EDMC by DDA.
28.	In front of DTC Bus Depot Yamuna Vihar	10	DDA	Solid Waste Management facility	EDMC	DDA should hand over the land to EDMC.
29.	Site near Delhi Police Training Complex, Sonia Vihar (large chunk of land)	50	DDA	Integrated Waste Processing/ Disposal Facilities	EDMC	DDA should hand over the land to EDMC.
30.	Near Collage on Wazirabad Road (a large chunk of land)	10	DDA	Solid Waste Management facility	EDMC	DDA should hand over the land to EDMC.
31.	Site near Khichari Pur	2.5	DDA	Solid Waste Management facility	EDMC	DDA should hand over the land to EDMC.



Ex. Engineer (SLF)
S DMC

Annexure-"B"(colly)

SUB:-BRIEF NOTE ON TWO SITES.

1. SITE EXTENSION OF EXISTING SLF SITE OKHLA PHASE-I ON THE LAND OF CCI/ CONCOR/NORTHERN RAILWAY.

This site is located adjoining existing SLF site Okhla Phase-I, SDMC on the land of Cement Corporation of India Ltd. (CCI) and Container Corporation of India (CONCOR)/Northern Railway having area of about 129.35 acres on Maa Anand Mai Road.

The present site of CCI/CONCOR/Northern Railway can be patent site to continue use as Sanitary Land Fill site and for setting up of plant for processing/disposal of MSW in this area and as such our endeavor should be get the possession of entire 129.35 acres of land from CCI/CONCOR/Northern Railway.

Another important aspect which goes in favor to continue with the present site is that to open any new Sanitary Land Fill site it is seen that there had been public resistance and in most of the cases new sites could not be started. In the present case since there exists a Sanitary Land Fill site, its extension in the area occupied by CCI/CONCOR/Northern Railway may not invite much public resistance and as such the present site could be more viable.

It is also pertinent to mention here that it is observed that access of CONCOR is congested and most of the time there is traffic jam on the Maa Anand Mai Road due to plying of Containers Vehicles, resulting inconvenience not only to them, but also to the public at large.

Even from planning angle it is advisable that the CONCOR activities be setup out of the city/congested area, hence the CONCOR activities and its operation can be shifted to any other locations preferably in the NCR Borders/Delhi- Bombay Freight Corridor. This, more will defiantly avoid movement of Heavy Containers on congested road and will also check the pollution level within the city. Besides this will also be for the benefits of public at large/local residents residing within the city.

It is also pertinent mention to here that the Secretary (Environment) Cum Chairman DPCC, GNCTD has sent a letter to the Chairman & Managing Director Container Corporation of India Ltd. vide his D. O. No. F10(176)/Env./ 2014/12410-12415 dated

1.8.2014 wherein it was mentioned that High Powered Committee under Chief Secretary is looking at various steps to reduce air pollution levels in Delhi. During one of the meetings it was informed that Hon'ble Supreme Court has passed orders to stop non destined traffic from entering Delhi. Traffic Police has also reported that location of ICD at Tuglakabad is promoting such traffic by movement of containers. It was also requested that necessary steps be taken for shifting of Inland container Depots (ICDs) from Okhla/ Tuglakabad and Ghazipur to NCR region and an action taken report may kindly be sent to his Department.

It is also pointed out that Additional Secretary to Hon'ble LG informed that minutes of the meeting under the Chairmanship of Hon'ble Lt. Governor on 1.8.2014 at 11:30 AM at Raj Niwas to discuss on the suggestions of made by High Power Committee on Air & Water Pollution through letter no. U.O. No. 20(3)/14-RN/251/20248-65 dated 6.8.2014.

"Hon'ble Lt. Governor advised to encompass rain water harvesting and the imposition of a congestion tax on vehicles in crowded areas, into Committee's suggestions. Hon'ble Lt. Governor instructed PWD to explore the feasibility of providing U-turn and underpass near borders to turn back the non-d destined vehicles trying to enter the city and the Committee to examine the Law to force Container Corporation of India Ltd. (CONCOR) to shift the Inland Container Depots outside Delhi".

It is also pertinent to mention that in the matter of Vardhaman Kaushik Vs. Union of India & Ors, O.A. No. 21 of 2014, the Hon'ble National Green Tribunal, Principal Bench, New Delhi vide its order dated 4.12.2014 and 19.1.2015 had issued various Directions, Vehicular Pollution and General directions. Out of General directions the direction no. 25 pertaining to the NCR Delhi, DDA, Railway Boards and SDMC and the same is reproduced below:-

i ".... The NCR Delhi, DDA and Railway Boards shall consider shifting and / or bifurcating of three sites meant for Cargo containers i.e. Tughlakabad, Okhla and area close to Anand Vihar, where heavy containers depot have been located, 10 or 12 wheeler heavy trailers come to these areas and thus, cause serious traffic jams obstructing free flow of traffic, besides directly causing pollution I the air, If these

sites are shifted or bifurcated at least in the area in the outskirts of NCR in consultation with the other States will help greatly in improving the air quality of NCR Delhi..."

ii.....No Report has been submitted with regard to our directions relating to Tughlakabad, Okhla and area closed to Anand Vihar. Compliance report in this behalf has also not been submitted.

DDA is directed to file its report positively before the next date of hearing"

Let Notice be issued to the Northern Railway to be present on the next date of hearing.

The proposal can be implemented if CCI/CONCOR/Northern Railway can be persuaded to part with the land in exchange of any other suitable piece of land, for which DDA can be requested.

2. SITE ON TEKHAND LAND NEAR SLF OKHLA PHASE-I.

This site is located near existing SLF site Okhla Phase-I on Maa Anand Mai Road having area about 36 acres. The present site on Tekhand Land can be patent site to continue use as Sanitary Land Fill site and for setting up of plant for processing/disposal of MSW in this are and as such our endeavor should be get the possession of entire 36 acres of land from DDA.

Another important aspect which goes in favor to continue with the present site is that to open any new Sanitary Land Fill site it is seen that there had been public resistance and in most of the cases new sites could not be started. In the present case since there exists a Sanitary Land Fill site, its extension in the area occupied by DDA may not invite much public resistance and as such the present site could be extended.

The plot in question measuring 14.3 hect. at Tehkhand was auctioned by DDA for construction of 3500 EWS houses and 750 houses under higher income category under Public Private Partnership model to M/s. Kenneth Builders & Developers Ltd. and the physical possession of the same was handed over to them in the year 2006. The developer could not take up the construction work due to not getting all the necessary clearances from the concerned departments. As on date, the SLF no. 35374/2010 is pending before Hon'ble Supreme Court of India.

The above said scheme now has been closed. The matter of payment of compensation remains which can be decided by the court and irrespective of which the land can be utilized for public facilities as stated above for which DDA can take appropriate steps before Hon'ble Court if require.



Ex. Engineer (SLF)
Okhla SDMC

41384



East Delhi Municipal Corporation
Office of the Superintending Engineer (HQ)
1st Floor, Plot No. 419, Udyog Sadan,
Patparganj Industrial Area,
Delhi-110092



MSJ 15113
27/7

No. SE/EMS/2015-16/D- 47

Dated: 22.07.2015

To,

The Principal Secretary
Urban Development, Govt. of Delhi
9th Level, Delhi Secretariat
New Delhi

Delhi Pollution Control Committee
Dairy No. ... 177/3 ...
27 JUL 2015
MS
Sign. of Receiving Official

Subject:- Action Plan for Management and Handling of Municipal Solid Waste Using Modern Technologies in East Delhi Municipal Corporation (EDMC) for submission before the Hon'ble National Green Tribunal at Delhi in the matter of Almitra, H. Patel & Anr. Vs Union of India and Ors. O.A. No. 199 of 2014.

Ans 28/7/15
SES/EMC/II

Please find enclosed herewith Action Plan for Management and Handling of Municipal Solid Waste Using Modern Technologies in East Delhi Municipal Corporation (EDMC) for submission before the Hon'ble National Green Tribunal at Delhi in the matter of Almitra. H. Patel & Anr. Vs Union of India and Ors. O.A. No. 199 of 2014.

Encl. As above

sd

Superintending Engineer (EMS)

Copy to:-

- ✓ 1. Member Secretary, Delhi Pollution Control Committee (DPCC), Department of Environmental, Govt. of NCT of Delhi, 4th Floor, ISBT Building, Kashmiri Gate, Delhi-110006
2. CE (EMS)
3. O/c

sd

Superintending Engineer (EMS)

Subject:- Almitra H. Patel & Anr Vs UOI & Ors O.A. No. 199/2014 (NGT Case).

Action Plan for Municipal Solid Waste.

CHAPTER - 1: INTRODUCTION

The task of managing Municipal Solid Waste (MSW) collection, transfer and transportation in EDMC as per MSW (M&H) rules 2000, is proving to be cumbersome for EDMC due to its densely populated and a lack of civic sense among the residents.

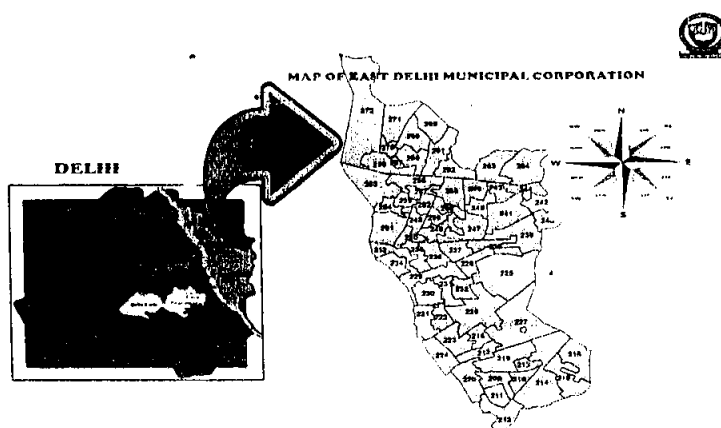
The Solid Waste Management comprises of collection, transportation and disposal of Municipal Solid Waste. Safai Karamcharies deployed by the EDMC do the sweeping, desilting of small drains (4' or below in Width & Depth) and collect the garbage/silt from various roads, side-lanes etc. and bring the same to the municipal receptacles. Garbage from dhalao is loaded to tipper truck through a loader. From these dustbins/dhalaos the garbage is transported to the SLF site situated at Ghazipur. The garbage is transported by tipper trucks from different parts, and the same is dumped and leveled at the SLF site. In addition EDMC also does construction and cleaning of community toilets complexes and public urinals. Street sweeping work is carried out manually and the swept material is deposited in dhalao located at different places under jurisdiction of EDMC.

OBJECTIVE

- The Ideal objective is to achieve 100% segregations at household level and zero garbage at ward level
- Decentralize Solid Waste Management
- Reduce Transportation Cost & Environmental Degradation
- Avoid dumping of Garbage at Landfills to reduce GHG Emission
- Minimize Requirement of Land for waste handling

CHAPTER - 2: CITY PROFILE

2.1 General Profile (including city map):



EDMC is an eastern suburb of Delhi. It forms a part of both East and Northeast Delhi. It is divided in two Zones, namely, Shahdara North & Shahdara South. Shahdara North has a total area of approx. 46.06 sq. km with a population around 17 lacs (1.7 million), whereas, Shahdara South has a total area of 59.92 sq. km. with the population around 22 lacs (2.2 million). The population density is over 37000 per sq.km.

- 2.2 Historical Profile: EDMC bounded by river Yamuna on one side and UP on other side. Part of the city is very old and haphazardly developed. This is thickly populated area having narrow lanes etc.
- 2.3 Tourist, religious or any other specific Profile of the city:

Akshardam Temple located near Noida Crossing :- The Swaminarayan Akshardham Temple, a 100 acre complex of Indian Art, culture and heritage is made of pink sandstone and white marble. Entry to the temple is free, but a ticket is charged if one wants to visit the exhibition halls and take the boat ride.

Commonwealth Games Village:- The 2010 Commonwealth Games Village was the athletes' residence for the 2010 Commonwealth Games in New Delhi. The village is spread over an area of 63.5 hectares

Yamuna Sport Complex :- The Yamuna Sports Complex is a sports complex located in New Delhi, India. Inaugurated in 1999, it hosts table tennis, Rugby 7's, Boxing, Wrestling. It is owned by the Delhi Development Authority. It was a venue for the 2010 Commonwealth Games

Sanjay Lake:- Long before the trans yamuna (now known as East Delhi) area, thus called because it lied across the Yamuna River from the main city of New Delhi, was colonized by the government, this was natural low-lying area, land depression where rainwater collected, which was also fed by excess run-off from a cut in the Hindon River.

The area had a number of villages like Patparganj in the floodplains of Yamuna and vast agricultural lands.

Initially the lake spread over 89 acres and together with the surrounding park it covered an area of 178 acres. However it was greatly shrunk after DDA started developing the area for its housing colonies, as colonies like Mayur Vihar, Indraprasta Extension (I.P. Extn.), and Patparganj DDA colonies started coming up in the 1980s and its catchment area was largely built over. Similarly, when National Highway 24 (NH 24) was built to connect the national capital to Capital of Uttar Pradesh state, Lucknow, which cut through the lake, and the Nizamuddin bridge was built over the Yamuna and its northern portion was lost and lake was reduced to present 69 hectares (170 acres). In the following decades, as land pressure increased in East Delhi, the lake further shrunk due to unauthorised construction, encroachment and sewage from near by slums.

2.4 Area and Population:

S.	Organisation	Area (in Sq Km) ^a	Population (in Lacs)	Population Density (No.Per sq. km.)
1	NCT DELHI	1484.46	168[Approx]	11317
2	MCD	1399.26 (94%)	161.2 (96%)	11520
3	EDMC	105.98 (7%)	40.0 (24%)	37743*
4	SDMC	656.91 (44%)	59.2 (35%)	9012
5	NDMC	636.37 (43%)	62.0 (37%)	9743

Area of the city/ town (under the jurisdiction of the local body) in Sq. Km.

Details of Population

Census Year	Population			Projected population
	1981	1991	2001	2011
Population	10.5 Lacs	16.6 Lacs	26.00 Lacs	40.00 Lacs
Decadal growth	-	6.1 Lacs	9.4 Lacs	14.00 Lacs

2.5 Slum Population (no. of slum pockets and approximate population, ward-wise list of slums and the area occupied by them, population)

S.No.	Asmbly No.	Asmbly Name	Ward No.	Location (Cluster Name)	Revenue Distt.	Nos Jhugis	Land Owning Agency
1	55	Trilok Puri (Reserved)	211	Indira Camp Surrounded By Block-28, 29 & 19 Trilok Puri Site-I	East	1200	DUSIB
2	55	Trilok Puri (Reserved)	209	Sanjay Camp Block-27 Trilok Puri	East	300	DUSIB
3	55	Trilok Puri (Reserved)	209	Indira Nagar Block-22, 23 Trilok Puri	East	19	DUSIB
4	55	Trilok Puri (Reserved)	210	Sanjay Shakha Camp Block-15, 16 Trilok Puri	East	105	DUSIB
5	55	Trilok Puri (Reserved)	210	Shastri Camp Block-6, 7 & 8 Trilok Puri	East	58	DUSIB
6	55	Trilok Puri (Reserved)	210	Indira Camp Block-1, 2 & 3 Trilok Puri	East	215	DUSIB
7	55	Trilok Puri (Reserved)	209	Rajiv Camp Block-26 Trilok Puri	East	79	DUSIB
8	55	Trilok Puri (Reserved)	211	Harijan Camp Block-31 Trilok Puri	East	67	DUSIB
9	55	Trilok Puri (Reserved)	211	Ambedkar Camp Block-32 & 34 Trilok Puri	East	950	DUSIB
10	55	Trilok Puri (Reserved)	209	Block-24 Trilok Puri	East	29	DUSIB
11	56	Kondli (SC)	213	Block-17 & 21 Kalyan Puri	East	1300	DUSIB
12	56	Kondli (SC)	213	Block-19, 20 Kalyan Puri	East	341	DUSIB
13	56	Kondli (SC)	213	Indira Camp Block-11, 12 Kalyan Puri	East	167	DUSIB
14	56	Kondli (SC)	213	JJC Block-18 Indira Camp Kalyan Puri	East	1019	DUSIB
15	56	Kondli (SC)	213	Block-1, 6, 7 Khichripur near Gaji Pur Drain-II	East	150	DUSIB
16	56	Kondli (SC)	213	Bus Stand Khichripur Block-13, 14	East	94	DDA
17	56	Kondli (SC)	216	Mulla colony, Village Gharoli	East	287	DDA
18	56	Kondli (SC)	213	JJ Cluster Gazipur adjoining NH24	East	650	DDA
19	57	Patparganj	220	Pandit Bismil Camp Shashi Garden Patpar Ganj	East	1159	DDA
20	57	Patparganj	217	NH-24, Patpar Ganj (Nehru Camp)	East	603	PWD
21	57	Patparganj	219	Indira Jhugie Jhompri Camp Kalyanvas Khichripur	East	50	DDA

22	57	Patparganj	217	Sangarsh Morcha, Ravidas Camp Pandav Nagar Mother Diary	East	177	DDA
23	57	Patparganj	219	Jai Bharti Camp East Vinod Nagar	East	250	DDA
24	57	Patparganj	219	J-Block, East Vinod Nagar	East	166	DDA
25	57	Patparganj	213	Block 6,7,8 Khichri Pur Near Gazi Pur Drain Phase-II	East	482	DUSIB
26	57	Patparganj	220	Hr. Sec. School behind Patpar Ganj	East	1624	DDA
27	57	Patparganj	219	D-Block, West Vinod Nagar.	East	33	DDA
28	58	Laxmi Nagar	224	Sonia Camp near Dispensary Mandavali	East	357	DDA
29	58	Laxmi Nagar	221	Sayed Peerwala ki Mazar, Ramesh Park Laxmi Nagar	East	184	DDA
30	58	Laxmi Nagar	221	Indira Camp Flood Deptt. Office Kishan Kunj Extension	East	307	DDA
31	58	Laxmi Nagar	224	Harizan Samiti Near Dispensary Mangal Bazar Mandavali	East	200	DDA
32	59	Vishwas Nagar	227	Mazboor Camp Near Police Chowcki Mandavli Fazalpur	Shahadar a	248	DDA
33	59	Vishwas Nagar	227	Indira Camp Madhu Vihar Phase-II	Shahadar a	221	DDA
34	59	Vishwas Nagar	227	Madhu Vihar Phase-I behind Patpar Ganj Depot	Shahadar a	345	DDA
35	59	Vishwas Nagar	228	AGCR Shahdara	Shahadar a	35	DDA
36	59	Vishwas Nagar	228	Rajiv Gandhi Camp Chitra Vihar	Shahadar a	375	DDA
37	59	Vishwas Nagar	228	EAST GURU ANGAD NAGARD, NEAR RADHU PLACE	Shahadar a	177	DDA
38	59	Vishwas Nagar	228	C-Block, Jaina Tower Preet Vihar	Shahadar a	63	DDA
39	59	Vishwas Nagar	226	New Sanjay Amar Colony Vishwas Nagar	Shahadar a	3309	DDA
40	59	Vishwas Nagar	226	18 Quarters Vishwas Nagar.	Shahadar a	67	DDA
41	59	Vishwas Nagar	225	Jhuggies Adjoining Railway Line Anand Vihar	Shahadar a	528	DDA
42	60	Krishna Nagar	230	Rani Garden Opposite Hr. Sec. School Shastri Nagar	East	935	DDA
43	60	Krishna	230	Infront of Block-12 Geeta	East	130	DDA

		Nagar		Colony			
44	60	Krishna Nagar	229	JJ Indira Camp Budh Bazar Block-B Geeta Colony	East	135	DDA
45	60	Krishna Nagar	229	Shakar Pur Chungi Thokar 16 Lalita Park, Laxmi Nagar & Shamshan Ghat Thokar No.16 (For Pocket at Thokar No.16)	East	593	DDA
46	61	Gandhi Nagar	236	Block-G Gurdawra Park New Seelampur	East	283	DUSIB
47	61	Gandhi Nagar	234	Chander Puri Railway Lines Old Seelam Pur	East	445	RLY
48	61	Gandhi Nagar	234	Along Railway Lanes Kailash Lanes Gali No.-17	East	929	RLY
49	61	Gandhi Nagar	236	Ajit Nagar Old Seelampur	East	604	RLY
50	61	Gandhi Nagar	233	Pusthta Buland Masjid	East	2500	DDA
51	61	Gandhi Nagar	233	Block-C Shashtri Park, New Seelampur	East	400	DDA
52	61	Gandhi Nagar	233	Syamli Chirga, Near Police Check Post, Bihari Building Yaumna Bridge	East	87	DDA
53	61	Gandhi Nagar	236	Taj Colony G.T. Road Railway Line New Seelam Pur	East	173	DDA
54	62	Shahdara	240	Old Seema Puri near Cremation Ground & Sun Light Colony	Shahdara	545	DUSIB
55	62	Shahdara	240	Pushta between Old Seemapuri, DIF Dilshad Garden (Indira Nehru Camp Part-I)	Shahdara	333	DDA
56	62	Shahdara	240	Pushta Between Old Seemapuri, DLF Dilshad Garden (Indira Nehru Camp Part-II)	Shahdara	0	PWD
57	62	Shahdara	239	Aradhik Nagar, Dehi U.P. Border G.T. Road Shahdara	Shahdara	365	DDA
58	62	Shahdara	238	Behind Krishna Market Jhilmil Colony	Shahdara	1108	DUSIB
59	62	Shahdara	239	Block-B Jhilmil Colony (Balmiki Basti)	Shahdara	125	DUSIB
60	62	Shahdara	239	A&B-Block Jhilmil Industrial Area Raj Nagar Sonia Colony (Sonia Camp)	Shahdara	509	DDA

61	62	Shahdara	239	A&B-Block Jhilmil Industrial Area Raj Nagar Sonia Colony (Rajiv Camp)	Shahdara	295	DDA
62	62	Shahdara	239	A&B-Block Jhilmil Industrial Area Raj Nagar Sonia Colony (Dr. Ambedekar Camp)	Shahdara	713	DDA
63	62	Shahdara	239	Deepak Colony Dilshad Garden Behind D.D.A. Office	Shahdara	195	DDA
64	62	Shahdara	239	H-Block Kalender Colony, Dilshad Garden Part-I	Shahdara	3500	DDA
65	62	Shahdara	239	H-Block Kalender Colony, Dilshad Garden Part-II	Shahdara	0	DDA
66	62	Shahdara	239	Dilshad Vihar Julfi Bengal Dilshad Garden Shahdara	Shahdara	219	DDA
67	62	Shahdara	239	Dr. Rajinder Parsad Colony at Dilshad Garden	Shahdara	110	DDA
68	62	Shahdara	239	Dilshad Garden E-120 Near Gurudwara	Shahdara	77	DDA
69	62	Shahdara	239	E-39, Jhugiee Colony Dilshad Garden	Shahdara	250	DDA
70	63	Seema Puri	242	E-Block Seema Puri	Shahdara	175	DUSIB
71	63	Seema Puri	242	D-Block New Seema Puri (Part-1)	Shahdara	470	DUSIB
72	63	Seema Puri	242	D-Block, New Seema Puri Part-II	Shahdara	0	DUSIB
73	63	Seema Puri	242	Sarhad Puri Road No.64 (Near Shanti Samiti) Opposite New Seema Puri Part-II	Shahdara	0	DDA
74	63	Seema Puri	242	Sarhad Puri Road No.64 Near Shanti Simiti Opposite New Seema Puri Part-I	Shahdara	239	PWD
75	63	Seema Puri	242	New Janta Quaters New Seemapuri (Shanti Samiti)	Shahdara	320	DDA
76	63	Seema Puri	242	Road No.64 Tahir Pur (Leprosy Camp)	Shahdara	1517	DDA
77	63	Seema Puri	242	Opposite OSPD-Block, New Seema Puri	Shahdara	488	DDA
78	63	Seema Puri	242	Jain Mandir Block-B-1/35 Dilshad Garden	Shahdara	841	DDA
79	63	Seema Puri	242	Block-F New Seema Puri	Shahdara	1107	DDA
80	63	Seema Puri	241	Gram Khera Mansarover Park	Shahdara	557	MCD

81	63	Seema Puri	241	Tahir Pur Road No.64	Shahadara	0	DDA
82	63	Seema Puri	244	Block.G-3,G-5 Sunder Nagri	Shahadara	999	DUSIB
83	63	Seema Puri	244	F2 Block Sunder Nagari	Shahadara	188	DDA
84	63	Seema Puri	244	E-2 Block Nand Nagri	Shahadara	93	DUSIB
85	63	Seema Puri	244	F1 Block, Sunder Nagari	Shahadara	290	DDA
86	63	Seema Puri	243	Block-D 1&2 Nand Nagari	Shahadara	492	DUSIB
87	64	Rohtas Nagar	247	Lal Bagh Shriram Nagar, A-Block G.T Road Shahdara	North East	346	RLY
88	64	Rohtas Nagar	245	C-Block, Nand Nagri	North East	168	DUSIB
89	64	Rohtas Nagar	245	Railway Quarters Colony Mandoli Road Delhi	North East	0	DDA
90	65	Seelam Pur	250	CPJ-Block New Seelam Pur	North East	753	DUSIB
91	65	Seelam Pur	250	Along With Pushta EIJ Block, New Seelam Pur	North East	0	DUSIB
92	65	Seelam Pur	250	Block.3/4K Brahampuri Road New Seelampur	North East	0	DUSIB
93	65	Seelam Pur	250	Block-D, Seelampur	North East	1000	DUSIB
94	65	Seelam Pur	250	Block C-1 Imbira Pushta New Seelm Pur Market.	North East	107	DUSIB
95	67	Babarpur	259	Janta Mazdoor Camp Zafrabad Part-I	Shahadara	3943	DDA
96	67	Babarpur	259	Janta Mazdoor Camp Zafrabad Part-II	Shahadara	5000	DDA
97	68	Gokalpur	262	Block-C Sanjay Camp Gokal Puri-I	North East	735	DDA

2.6 Main tourist spots in the city:-

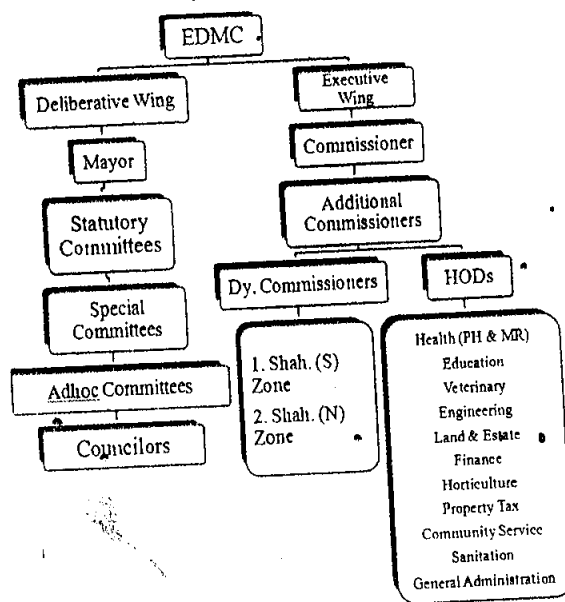
- I. Akshardham Temple
- II. Common Wealth Village
- III. Yamuna Sport Complex
- IV. Sanjay Lake

2.7 Climate:

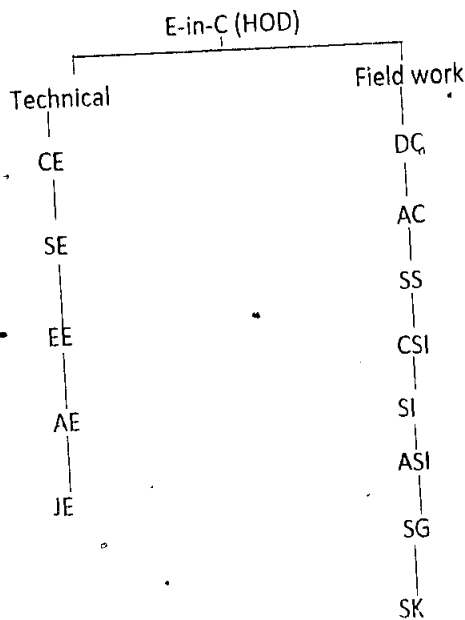
In general, the climate in Delhi is extreme. During the summer months of April, May & June temperature can rise to 40-45 Degree Celsius; winters are typically cold. The mean rainfall in Delhi is 784.5mm. May is the hottest months with average maximum temperature touching 39.5 degree Celsius. Most humid

conditions are found in the monsoon, followed by winter, post monsoon and summer in that order. Wind directions vary with season.

2.8 Political & Administrative Set up of EDMC



2.9 Administrative Set up for Solid Waste Management of EDMC:



Supervisory staff:-

SS :-04

CSI :- 02

SI:- 60

ASI :-181

SG:- 174

Ward wise detail of area, population, number of SKs and Garbage generation;

Sr.No	WARD No	Ward Name	Area (Sq Km)	Population	SKs	Garbage generation (kg per day)
1	209	Mayur Vihar Phase-I	1.250	43532	321	24400
2	210	Dallupura	0.881	34826	249	19520
3	211	Trilok Puri	0.940	60945	175	34160
4	212	New Ashok Nagar	1.954	60945	133	34160
5	213	Kalyan Puri	0.645	43532	202	24400
6	214	Khichripur	5.235	52239	213	29280
7	215	Kondli	2.143	60945	168	34160
8	216	Gharoli	2.134	43532	194	24400
9	217	Vinod Nagar	1.017	87065	132	48800
10	218	Mandawali	0.834	52239	183	29280
11	219	Mayur Vihar Phase - II	2.630	69652	216	39040
12	220	Patpar Ganj	2.602	121891	210	68320
13	221	Kishan Kunj	1.544	87065	211	48800
14	222	Laxmi Nagar	0.930	182837	194	102480
15	223	Shakarpur	1.600	104478	241	58560
16	224	Pandav Nagar	1.563	56592	210	31720
17	225	Anand Vihar	5.567	69652	254	39040

18	226	Vishwash Nagar .	1.259	69652	299	39040
19	227	I.P. Extention .	5.238	87065	179	48800
20	228	Preet Vihar .	4.019	30472	293	17080
21	229	Krishna Nagar .	1.979	60945	325	34160
22	230	Geeta Colony .	1.402	104478	217	58560
23	231	Ghondli .	1.054	56592	217	31720
24	232	Anarkali .	1.061	78358	274	43920
25	233	Dharam Pura .	1.451	87065	270	48800
26	234	Gandhi Nagar .	1.064	87065	361	48800
27	235	Azad Nagar .	0.996	130597	260	73200
28	236	Raghubar Pura .	1.178	52239	299	29280
29	237	Shahdara .	1.126	87065	285	48800
30	238	Jhilmil .	1.268	104478	337	58560
31	239	Vivek Vihar .	2.847	130597	389	73200
32	240	Dilshad Colony .	1.012	60945	235	34160
33	241	Dilshad Garden .	2.370	78358	260	43920
34	242	New Seema Puri .	1.065	78358	213	43920
35	243	Nand Nagri .	0.679	43532	331	24400
36	244	Sunder Nagari .	0.879	65298	253	36600
37	245	Durga Puri .	0.905	60945	281	34160
38	246	Ashok Nagar .	1.002	78358	231	43920
39	247	Ram Nagar .	1.809	69652	489	39040
40	248	Welcome Colony .	1.083	78358	356	43920
41	249	Chauhan Bangar .	0.679	34826	279	19520

42	250	Zaffrabad .	0.696	34826	193	19520
43	251	New Usmanpur .	2.192	78358	256	43920
44	252	Mauj Pur .	0.709	34826	283	19520
45	253	Bhajanpura .	2.693	52239	193	29280
46	254	Brahampuri .	0.672	60945	182	34160
47	255	Ghonda .	0.463	52239	208	29280
48	256	Yamuna Vihar .	1.292	26119	281	14640
49	257	Subhash Mohalla .	0.559	121891	239	68320
50	258	Kardampuri .	1.341	34826	248	19520
51	259	Janta Colony .	0.659	69652	221	39040
52	260	Babar pur .	0.727	26119	151	14640
53	261	Jiwanpur .	1.748	34826	182	19520
54	262	Gokalpur .	1.182	30472	274	17080
55	263	Saboli .	1.851	13059	180	7320
56	264	Harsh Vihar .	2.636	17413	224	9760
57	265	Shiv Vihar .	1.703	21766	198	12200
58	266	Karawal Nagar East	1.505	26119	200	14640
59	267	Nehru Vihar .	0.225	34826	176	19520
60	268	Mustafabad .	1.198	43532	174	24400
61	269	Khajoori Khas .	1.536	34826	179	19520
62	270	Tukhmir Pur .	0.533	26119	280	14640
63	271	Karawal Nagar West	2.050	8706	254	4880
64	272	Sonia Vihar .	7.217	13059	182	7320

2.10 GENERAL INFORMATION TO BE COLLECTED AND UPDATED FROM TIME TO TIME

1. Area of the city :- 105.98 sq km
2. Population of the city:- 40 Lacs
3. Decadal growth of population :- 14.00 Lacs
4. Number of wards, their area and population:- As above
5. Ward-wise information in regard to:

S. No	Types	Shah (S)	Shah (N)	Total
1	Area	59.92 Sq.Km	46.06 sq km	105.98 Sq. Km.
2	Population	2237772	1720156	3957928
3	No. of Households, shops and Establishments	532939	549991	1082930
4	Vegetable/fruit/meat/fish markets	46	42	88
5	Number of Hotels & Restaurants	757	559	1316
6	Number Of Hospitals and Nursing Homes	182	117	299
7	Nos. of lanes	19498	28472	47970
8	Percentage of area covered with under-Ground sewage system	Mostly covered except unauthorized colonies		
9	Drains	262.5km	242.8km	505.30 Km
10	Number of slaughter houses	1		
11	Public toilets	50	52	102
12	Public urinals	167	122	289

CHAPTER - 3: PRESENT PRACTICES OF SOLID WASTE MANAGEMENT IN THE CITY

- 3.1 Waste generation rate: (MSW generated in MT per day)
2000-2200 MT Per Day
- 3.2 Break-up of waste generation (domestic, markets, industrial etc.)
80% : 10% : 10%
- 3.3 Storage of Domestic Waste at Source:
(existing system of storage and segregation of waste at source at the household level)
- 3.4 Storage of market and trade waste at source: (existing system of storage and segregation of waste in the vegetable, fruit, meat or fish market)

About 300 dhalaos exist

3.5 Storage at slums

3.6 Segregation of Recyclable wastes

The segregation of waste is done in every house hold by the occupier by segregating papers, metals, plastic etc which can fetch some money to them. The next segregation is done by the rag pickers at Dhalao / Dustbins segregating polythene, papers, plastic, metals etc. which are left over by the occupier and earn some money from them. Thus 20 to 30% segregation of the garbage is done before it reaches the sanitary landfill site in the informal way.

Most of the recyclable waste is segregated at household level, which is being collected by kabadiwalas. Further, residence are being educated through workshop, holdings distribution of leaflets, print and electronic media. Segregation of MSW is being done by rag pickers available at dhalaos.

3.7 Primary Collection of Domestic, Trade and Institutional Wastes: (existing system of door-to-door collection, adequacy of community bin facilities etc.)

The EDMC is working in accordance with the section 352 of DMC Act 1957. In order to facilitate the owners and occupiers for dumping their rubbish, garbage, filth in the receptacles provided by the EDMC in their vicinity and near to their premises, the EDMC has deployed 1364 wheel barrows, 320 Cycle Rickshaw, 61 Tractor trolley, 302 Auto Tippers which go in the lanes collecting garbage from the houses / lanes. There is no provision in the DMC Act 1957 for door to door collection of the garbage so it is not mandatory for EDMC to implement this scheme. However, the EDMC is under obligation for efficient collection of the garbage which is being performed by deploying the above said vehicles in the area / lanes.

3.8 Hospital and Nursing Home Waste: (no. of hospitals and nursing homes, estimated bio-medical wastes generation, existing processing and disposal system)
This pertains to DPCC.3.9 Hotels and Restaurants waste (nos. of hotels and system of primary collection)
No separate collection from Hotel & Restaurant is being carried out. However waste is dumped at dhalao by the establishment.

3.10 Construction Waste (system of storage and its primary collection):

Solid Waste Management, which includes management of Construction & Demolition (C&D) Waste, is one of the most challenging issues being faced by a rapidly developing country like India. C&D waste consists of waste that is generated during new construction, remodeling, renovation, repair and alteration of residential, commercial, government or institutional buildings, industrial, commercial facilities and demolition of buildings, roads, bridges, dams, tunnels, railways and airports.

EDMC is in process of setting up a C&D waste processing plant of 500 TPD capacity at Shastri Park. In accordance to the Concession Agreement signed between East Delhi Municipal Corporation (EDMC) and IL&FS Environmental Infrastructure & Services Limited (IEISL) on 28.03.2013, IEISL will set up the Construction and

Demolition (C&D) Waste Processing Facility at Shastri Park, Delhi. The capacity of the project will be 500 Tons per Day (TPD) based on wet processing of C&D waste. Land ownership will be of EDMC. Concession period of the project will be 15 years. EDMC has allocated 2.5 ha. of land (28°40'10.86"N 77° 15'49.37"E) for the project in Shastri Park. Land has been handed over to IEISL on 30.04.2013

This processing plant shall sufficiently reduce the quantity of C&D waste at SLF Ghazipur sites and thus will help in increasing the life of Ghazipur SLF site, which has already out lived its life.

- 3.11 Street Sweeping: (Work norms and frequency of street sweeping, circle/ ward wise road length)

Frequency of street cleaning	Wards covered or % of street covered
Daily	100%
Alternate day	NA
Once a week	NA
Occasionally	NA

- 3.12 Tools Used: (availability of traditional/ containerized handcarts, long handled brooms etc.)
Wheel Barrow, Rickshaw, Auto Tipper, Tractor Trolleys, Belcha, Phawda, LH Brooms, Tokri etc.

- 3.13 Waste Storage Depots: As per annexure-A

- 3.14 Transportation of Waste: (frequency of transportation, mode of loading- manual/ mechanized loader, vehicles- tractor, trucks, autos etc.)

Name. of the Circle/ Ward	Frequency of lifting	Types of vehicle\$	No. of vehicles		
			Total	Functional	Out of order
Shah (N) Zone 240 to 272	Daily	Tipper Trucks & Loaders	70	70	-
			12	12	-
Shah (S) Zone 209 to 239	Daily	Tipper Trucks & Loaders	70	70	-
			12	12	-

- 3.15 Waste Processing and Disposal Facilities:

PHYSICAL COMPOSITION OF MUNICIPAL SOLID WASTE IN DELHI

Parameters	Percentage (%)
Biodegradable	38.6
Paper	5.6

Plastic	6.0
Metal	0.2
Glass and Crockery	1.0
Non-biodegradable (leather, rubber, bones and other synthetic material)	13.9
Inert (stones, bricks, ashes etc.)	34.7

CHEMICAL COMPOSITION OF MIXED MUNICIPAL SOLID WASTE IN DELHI

Parameters	Percentage (%)
Moisture	43.8%
Organic Carbon	20.5%
Nitrogen as N	0.9%
Phosphorus as P2O2	0.3%
Potassium as K2O	0.7%
C/N ratio	24.10
Calorific value	713 kCal/kg

• **Setting up of construction and demolition waste plant**

EDMC has issued a work order in the month of March, 2013 to M/s IL&FS for setting up a C&D waste processing plant of 500 TPD capacity at Shastri Park, New Delhi. The firm after obtaining all environmental clearances shall complete the work of Const. and installation of various machinery in this plant within 8 months period. Thereafter, the firm shall lift the C&D waste lying in various parts of the EDMC area and bring it to the processing plant where this waste shall be processed to produce various useful products. The operation of this plant shall not only result in cleanliness in the area, reduction in quantity of waste to be dumped at SLF Ghazipur but shall also result in saving of our natural resources. The clearance from DPCC has been obtained, work of the setting up the facility is in progress and plant is likely to be put in operation by September 2015.

Setting up of Automated Garbage Treatment Plant

A project to generate power from city garbage was awarded to M/s East Delhi Waste Processing Co. Pvt. Ltd. by Delhi Govt. at a piece of land measuring about 5.7 acres at Ghazipur dairy farm. EDMC is responsible for supplying 1300 TPD Municipal Solid waste at the entry gate of the plant. The trial run of the Waste to Energy plant, a project of Delhi Govt. has

already undertaken. After successful trial, the plant shall start receiving 1300TPD of fresh garbage for its processing. During 1st phase, the garbage shall be processed to produce RDF (refused derived fuel) and will be sold to various industries to use it as a fuel. The work of construction of IInd phase of the plant i.e. production of 12 MW power from RDF is in progress and likely to be started by September 2015. The salient feature of the projects are:-

- The facility will be a totally enclosed facility to process 1300 TPD of MSW per day through RDF route.
- Generation of 12 MW of green electricity using RDF and biogas
- Treated sewage to be used as main source of process water
- Project to meet air quality norms that are even better than applicable statutory norms.

The operation of the plant not only consume 1300 TPD MSW but also result in reduction of MSW to be dumped at landfill as well as reduction in emission of green house gases into ambient environment.

Proper segregation system has been installed at waste to energy plant to ensure that only dry waste is fed into the boiler. EDMC is pursuing for increase of capacity of waste to energy plant from 1300 MT to 2000 MT per day. Green cover has been provided around the waste to energy plant. However, plantation around SLF is being carried out regularly. All the site / plants are centralized in EDMC e.g. SLF at Ghazipur and waste to energy plant.

3.16 Financial Aspects:

Budget Provision 2013-14 = 40133 lacs
Actual Expenditure 2013-14= 36850 lacs.

3.17 GENERAL INFORMATION OF MSW TO BE COLLECTED AND UPDATED FROM TIME TO TIME

Waste generation

1. Average quantity of waste produced each day:- 2000 to 2200
2. Seasonal variations in daily waste generation:- 150 to 200 tonne MT
3. Total quantity of waste produced annually last 2 years.

2013-14	=	708688 MT
2014-15 (Up to 11 th March)	=	727085 MT

Staff Position

1. Number of sanitation workers deployed in the city for the collection of waste :- 15397
2. Number of sanitation workers deployed for the transportation of waste: Appx. 1500
3. Ward wise allocation of sanitation workers :- As above
4. Sweeper population ratio in EDMC :- 1 Sk per 259 persons.

Waste storage depots

1. Number of sites designated/notified for temporary of waste (Dust bins) : 300 Nos.
2. Type and size of Dustbin provided in each ward: Average size 10mtr x 5mtr, height 6mtr
3. Ward-wise Quantum of waste generated each day:- As above

Transportation

1. Number Of vehicles available with the local body for the transportation of waste, their types, size and age:- As above
2. Number of trips made by each vehicle per day. :- 550-600
3. Qty. of waste transported per day :- 2000-2200MT

Waste processing and disposal

1. Number of waste disposal sites in the city:- 01
2. Their distances from the Centre of the city. :- 15km
3. The area of these sites :- 70 acres
4. The qty. of waste disposed of at each site :- 2000-2200 MT
5. The expected life of each land filled site :- Already saturated
6. Processing Unit :- 02 under construction

Financial aspects

1. Operating cost
 - a. Cost of collection per ton :- 1066/-
 - b. Cost of transportation per ton:-1155/-
 - c. Cost of disposal per ton :- 150/-.

CHAPTER-4: PROPOSED ACTION PLAN FOR MSW MANAGEMENT (In accordance with the Municipal Solid Wastes (Management and Handling) Rules, 2000):

4.1 Storage of Waste at Source:

- Present door to door collection of MSW from households will be persisted with in both North and South Zones of EDMC since the performance of door to door system in the existing scenario is observed to be satisfactory.
- EDMC intends to improve the prevailing system of primary MSW collection and transportation to dhalaos in EDMC by improving the required infrastructure such as providing adequate number of vehicles, equipment (cycle rickshaws, wheelbarrows etc) and labour. EDMC intends to revise the current fleet size of vehicles and equipment engaged in collection and transportation of MSW.
- Large area is required for aerobic composting. There is scarcity of space in EDMC. However, efforts shall be made to treat MSW with latest available technology.
- Commercial: The association of markets, shops and establishments should be requested to keep dustbins of adequate capacity deposit their waste in a designated

place in the market area or within the premises of their shop which shall be collected at a fixed time in a day. Since they are bulk generators, they shall be charged a certain amount for collection of waste.

- Religious places, Institutions, Restaurants & Hotels, Community centers: The quantity of MSW generated by Religious places, Institutions, Restaurants & Hotels, Community centers varies on a daily basis. They would be requested to keep a bin within their premises which can be lifted once or twice a day depending upon the quantity of garbage. Since they are bulk generators, they shall also be charged a certain amount.
- Dairies, Daily sweeps, desilting and floating materials, waste from roadside bins: The garbage generated by dairies, daily sweeps, desilting and floating materials and waste in roadside bins is proposed to be collected and transported up to the dhalao on daily basis.
- Un-authorized dumpsites: Un-authorized dumpsites should be kept garbage free; the person/household would be penalised found otherwise.
- Garbage is being regularly lifted through auto tippers, rickshaw and wheel barrows from Jhuggies / colonies and the same is transported to the nearby dhalaos
- Street sweeping: The street sweeping shall be done daily. The street sweeping waste will be collected in 100 L wheelbarrows. In order to improve the system, all the roads and lanes having habitation or commercial activities may be covered on a day to day basis. This may be done by employing one person per 350 m in highly congested areas, 500 m in medium density area and 750 m in low density areas and on an average one man may be allocated for 500 m of road length which will enable the sanitation worker to clean the streets and the drains conveniently. If most of the households, shops and establishments are covered through door to door collection, hardly any domestic waste is expected to be on the streets to be picked by the street sweepers. Street cleaning needs to be undertaken on all days including Sundays and public holidays with special focus on busy centres, markets, Parks & open spaces
- **Direct Collection System:** A direct and separate collection system is recommended for Large and Medium Hotels and Restaurants, Hospitals (non-infectious component of hospital waste only). Waste from these sources should be collected from the source and transported to the treatment/disposal site directly by tractor trolleys, auto tippers. The objective of the system is to eliminate this waste at the secondary storage area.

Section 352 of the Delhi Municipal Corporation Act, 1957 stipulate that the Municipal Corporation shall provide receptacles, depots or places or dustbins for the temporary deposit of the rubbish, filth and shall also provide vehicles or other suitable means for the removal of rubbish. Section 353 of the Delhi Municipal Corporation Act, 1957 makes its mandatory for the owners and occupiers of all the premises to have the premises swept and cleaned and to cause all filth and rubbish to be deposited in public receptacles depots or places provided or appointed under section 352 for the temporary deposit or final disposal thereof.

The EDMC is working in accordance with the section 352 of DMC Act, 1957. In order to facilitate the owners and occupiers for dumping their rubbish, garbage, filth in the receptacles provided by the EDMC in their vicinity and near to their premises, the EDMC has deployed 1364 wheel barrows, 320 Cycle Rickshaw, 61 Tractor trolley, 302 Auto Tippers which go in the lanes collecting garbage from the houses / lanes. There is no provision in the DMC Act 1957 for door to door collection of the garbage so it is not mandatory for EDMC to implement this scheme. However, the EDMC is under obligation for efficient collection of the garbage which is being performed by deploying the above said vehicles in the area / lanes.

d. Segregation of Recyclable/ non-biodegradable Waste:

The segregation of waste is done in every house hold by the occupier by segregating papers, metals, plastic etc which can fetch some money to them. The next segregation is done by the rag pickers at Dhalao / Dustbins segregating polythene, papers, plastic, metals etc. which are left over by the occupier and earn some money from them. Thus 20 to 30% segregation of the garbage is done before it reaches the sanitary landfill site though informal sector.

4.3 Primary collection of waste

Section 352 of the Delhi Municipal Corporation Act, 1957 stipulate that the Municipal Corporation shall provide receptacles, depots or places or dustbins for the temporary deposit of the rubbish, filth and shall also provide vehicles or other suitable

means for the removal of rubbish. Section 353 of the Delhi Municipal Corporation Act, 1957 makes it mandatory for the owners and occupiers of all the premises to have the premises swept and cleaned and to cause all filth and rubbish to be deposited in public receptacles depots or places provided or appointed under section 352 for the temporary deposit or final disposal thereof.

The EDMC is working in accordance with the section 352 of DMC Act, 1957. In order to facilitate the owners and occupiers for dumping their rubbish, garbage, filth in the receptacles provided by the EDMC in their vicinity and near to their premises, the EDMC has deployed 1364 wheel barrows, 320 Cycle Rickshaw, 61 Tractor trolley, 302 Auto Tippers which go in the lanes collecting garbage from the houses / lanes. There is no provision in the DMC Act 1957 for door to door collection of the garbage so it is not mandatory for EDMC to implement this scheme. However, the EDMC is under obligation for efficient collection of the garbage which is being performed by deploying the above said vehicles in the area / lanes.

4.4. Sweeping of Streets and Public Spaces:

The street sweeping shall be done daily. The street sweeping waste will be collected in 100 L wheelbarrows. In order to improve the system, all the roads and lanes having habitation or commercial activities may be covered on a day to day basis. This may be done by employing one person per 350 m in highly congested areas, 500 m in medium density area and 750 m in low density areas and on an average one man may be allocated for 500 m of road length which will enable the sanitation worker to clean the streets and the drains conveniently. If most of the households, shops and establishments are covered through door to door collection, hardly any domestic waste is expected to be on the streets to be picked by the street sweepers. Street cleaning needs to be undertaken on all days including Sundays and public holidays with special focus on busy centres, markets, Parks & open spaces

4.5 Provision of Litterbins:

600 bins of 100 liter capacity are being procured for placing them in market areas under the jurisdiction of EDMC. In addition to this, request has been made to DSII DC for providing dustbins under Corporate Social Responsibility (CSR) Scheme.

Garden Waste :- There are 2058 parks in EDMC area out of which 113 parks are having area above 1 acre. Manure pits are being made in these large size park for making of manure using green waste / leaves. There is also a proposal of processing green waste at two locations to produce manure / bio fuel.

Dairy Waste :- EDMC has planned to put up a 70 MT capacity paunch waste processing unit at Ghazipur which will utilize paunch / animal dung. Tender for the same has already been invited on PPP model. The output of the unit will be in the form of (i) Gas which will be utilized for Power generation and (ii) manure for agriculture purposes. The unit will be ready by the end of this year.

4.6 Temporary Waste Storage Depots for onward transportation of Waste

Garbage is collected from lanes/ roads and transported to nearby dhalao from where it is transported to sanitary landfill site. Being congested area, there is no need of placing large metallic containers.

4.7 Transportation of Waste

Secondary collection and transportation of MSW can be divided into two parts:

- i. Secondary collection of the garbage at dhalaos and its transportation to waste transfer stations (WTS)
 - Construction of dhalao at various location for collection of garbage from the area to the secondary point.
 - Lifting and transportation of garbage from dhalao to transfer station through mechanical means i.e. lifting of garbage through front end loaders and transportation through tipper truck.
 - The waste will be transported from dhalaos to the waste transfer stations. EDMC plans to construct two transfer stations each in Shahdara North and South zones. EDMC shall also operate and maintain these transfer stations.
- ii. Transportation of MSW from transfer stations to designated sanitary landfill/processing site at Gazipur

- EDMC will roll out RFP for transportation of MSW from transfer stations to landfill in the second phase
- MSW from transfer stations would be collected in mobile compactors. The mobile compactors would then transport the garbage to EDMC designated landfill site/ waste processing unit.

4.8 Waste Processing (Composting) and Disposal

It is proposed that suitable technologies or combination of technologies will be adopted for treatment of MSW so as to minimize the burden on land filling. The biodegradable waste shall be segregated at source and local level composting will be carried out. Mixed waste will be sent to Waste-to-energy plant. Waste containing recoverable material will be segregated and sent to recyclable industry. However, only inert / non process able waste and residue from the treatment of the waste shall be sent to land fill. It is proposed that in future one waste-to-energy plant and one C&D waste processing plant will be required in Shah. (N) Zone area.

4.9 Intra-city Activity:

Wireless has been provided to Sanitation Superintendent, Chief Sanitary Inspector, Sanitary Inspector and higher officers for day to day monitoring of garbage lifting and its related issues for redressal without delay.

CHAPTER - 5: REQUIREMENT OF FUNDS FOR SETTING UP OF FACILITIES FOR MSW MANAGEMENT (Indicative equipments/ tools)

Requirement of funds is annexed as Annexure-B

Estimation of requirement of Sanitation workers, drivers etc. (indication)

The requirement of safari karamcharies for solid waste management as well as the sanitation services including road sweeping is 15000 numbers. The requirement of drivers to operate the tipper truck and loader is 150.

Land requirement to implement Aforesaid proposals

Purpose	Locations	Area
Transfer Stations	MSW- 2 zones @ 2 per Zone C&D- 1 per zone	6 sites @ 1 acre = 6 acres
Workshops	1 per zone	2 sites @ 1 acre = 2 acres
C&D processing Plant	1 plant	1 site @ 10 acres = 10 acres
Waste Processing + Waste to Energy Plant	3 plant	3 plants @ 20 acres = 60 acres
Landfill for MSW Ash & Rejects	3 sites	3 sites @ 40 acres = 120 acres
Total		Approx. 198 Acres

Zero Garbage timing of Designated Garbage Collection Sites (DGCS) of Shahdara (South) Zone.

Sr No	WARD	DGCS No	LOCATION
1	209	1	Super Bazar, MV Police strn
2	209	2	13-block Trilok Puri
3	209	3	19-block Trilok Puri
4	209	5	21-block Trilok Puri
5	209	6	24-block Trilok Puri
6	209	7	25-block Trilok Puri
7	209	8	26-block Trilok Puri
8	209	9	Karbala Road
9	209	10	Main Road Kotla Village
10	209	11	Near MCP Schl Kotla Vill
11	210	12	Block-2, Near Gas Agency
12	210	13	6-Block
13	210	14	Block-7, DDA Flats
14	210	15	Block-9, Sanjay Disnsary
15	210	15/A	10 Block
16	210	16	Block-11/12 Sanjay Dispen
17	210	17	Block-15, MCD School
18	210	18	17 Block
19	210	19	Block-18, Main Rd Vasun
20	211	20	28-block, Central Road
21	211	21	28-block, JJ Cluster
22	211	22	29-block, Trilok Puri
23	211	23	31-block, Central Rd, Trilok
24	211	24	35-block, Trilok Puri
25	211	25	Wireless Road
26	211	26	32/33-block Ambedkar Rd
27	211	26/a	35-36 Block Wireless Road (Dustbin)
28	211	27	35/36-block, Wireless Rd
29	211	28	31-block, DDA Janta Flats
30	211	29	Petrol Pump, Pkt-III, M V-I
31	212	30	Chilla Chowk, Chilla Ville
32	212	31	ASN School
33	212	32	Samachar Apptt.
34	212	34	Upkar Apptt.
35	213	37	Block-11, Kalyan Puri
36	213	38	Behind Lal Bahadur Hotal
37	213	39	Block-14, Kalyan Puri
38	213	41	Block-16, Kalyan Puri
39	213	43	Block-17, Kalyan Puri
40	213	44	Block-1B, Ambedkar Park
41	213	45	Blk - 18, JJ Cluster
42	213	48	Block-21, Kalyan Puri
43	213	49	Block-21, Hodi Kalyan Puri
44	213	50	Block-1, Khichri Pur
45	213	51	Block-1, Hodi Khichri Pur
46	213	52	Block-2 Khichri Pur
47	213	53	Block-2 Maig rd Khichri Pur
48	213	54	Block-3 Khichri Pur
49	214	55	Block-5 Khichri Pur
50	214	56	Block-5, Main Rd Khichri Pur
51	214	57	Block-4, Khichri Pur
52	214	58	Budh Singh Marg Dalu Pu
53	215	62	Main Bazar, Shiv mandir
54	215	63	Sulabha shochoyalay, Pkt- A3
55	215	64	Block - B, Nr ss school
56	215	65	Block C2, Nr SS School
57	215	66	Block-D-2, Janta Flats
58	216	67	A-3 LIG Flats DTC MV-III
59	216	70	A-3 14B/A Near MV-III
60	216	71	B-2 Janta Flats Shiv Mndr
61	216	72	B-5 Janta Flats FA, MV-III
62	216	75	Near Bazar Pkt-A/2, Ma Vihar-III
63	216	76	opp. C.R.P Camp A-3 Mayur Vihar
64	216	76/A	A-1 Flat. 73-A. Mayur Vihar
65	217	77	Dhalao Navkala Apptt.
66	217	78	Manglam Hospital
67	217	79	Near Mahesh Hospital,

Zero Garbage timing of Designated Garbage Collection Sites (DGCS) of Shahdara (South) Zone.

Sr No	WARD	DGCS No	LOCATION
68	218	81	Sonia Vihar Open Side
69	218	82	Nr shatabdi park (lakad wala)
70	218	83	SBV Mandawali
71	219	85	Main Rd Khichripur Village
72	219	89	Durga Mndr East VinodNa
73	219	90	Kalyanvas Near Tanki
74	219	91	Main Road Near Kalyanvas Gate
75	219	92	Block-E Mayur Vihar-II
76	219	92/a	Pocket A. MCD School Near Mayur Vihar-2
77	219	93	Block-F Mayur Vihar-II
78	219	94	Block-B Mayur Vihar-II
79	219	95	Block-C Mayur Vihar-II
80	220	35	Parwana Apptt.
81	220	36	Nagarjuna Appt
82	220	96	Despansary Patparganj
83	220	96/A	Near Petrol Pump
84	220	97	Main Road Shashi Garden
85	220	97/B	Shashi Garden
86	220	98	DDA Market Mayur Vihar-I
87	220	99	Mahatma Gandhi cpSasli
88	220	100	Chilla Chowk Mayur Vihar-I
89	220	101	Nr Akash dharshan
90	220	102	Opp. Maa Villa Aptt Pkt-IV
91	220	103	Pocket-4, Mother Dairy
92	221	104	Ramesh Park
93	221	105	Kishan Kunj
94	222	106	Near Radhu Palace
95	223	107	Main Market Shakar Pur Sa
96	223	108	Mother Dairy Open Side
97	224	109	School Blok Shakar Pur O
98	224	110	Ganesh Nagar
99	225	111	Taxi Satnd Karkardooma
100	225	112	Sani Enclave
101	225	113	Anand Vihar
102	225	114	C-block Yojna Vihar
103	225	116	Mahila Collage
104	225	117	D-block Vivek Vihar
105	226	120	60' Road
106	226	121	Shivani Encla Vishwas Nag
107	226	123	Bhikam Singh Cny Open
108	226	124	Kiker Wala
109	226	125	Lehri colony near Zonal Office
110	226	127	Karan Gali Vishwas Nagar, 18 quarter
111	226	122	Nr Rd no 57, Nale ki uppar
112	227	128	Engg Appt, Nr Petrol pump
113	227	129	Milan Appt/ Max
114	227	130	Maitri Appt
115	227	131	Pariwar Appt
116	227	132	Balco Appt
117	227	128/A	Gazipur Open Site
118	227	128/B	Hasanpur Vill. Open Site
119	228	133	AGCR Enclave
120	229	135	Arjun Nagar
121	229	136	C-block Krishna Nagar
122	229	137	Raghu Nath Mandir
123	229	138	D-block Krishna Nagar
124	229	139	Multani Mohalla
125	229	140	B-BLOCK, Geeta colony
126	230	141	5-block, Geeta Colony
127	230	142	12-block Geeta Colony
128	230	143	Rani Garden
129	230	144	Kundan Nagar
130	230	146	Near DJP Office Shiv Puri
131	230	148	SDM chowk
132	231	145	Link road, Chander Nagar
133	231	147	Chawla Dharm Jagta Rasid Market
134	232	149	Parwana Road Jagat Puri (Jitar Nagar)

Zero Garbage timing of Designated Garbage Collection Sites (DGCS) of Shahdara (South) Zone.

Sr No	WARD	DGCS No	LOCATION
135	233	150	Police Station Gandhi Ngr
136	233	151	Bihari Buildg Shastri Park
137	233	152	Buland Masd Shastri Park
138	233	153	DDA Flat Shastri Park
139	233	154	MarjinalBand Ration Office
140	233	155	Metro Station Seelam Pur
141	234	158	Kailash Nagar
142	235	159	Near DJB Office
143	236	160	Jheel Chowk
144	236	161	Mouj Pur Rd Guru Dwara New Seelam Pur
145	236	162	Lal Bati New Seelam Pur
146	237	163	Tikona Park, Jwala Nagar
147	237	164	Babu Ram School
148	237	165	Dalhai Mohalla
149	237	166	Teliwata
150	237	168	DCP Office, Nr Shalimar P
151	238	169	Dhobi Wala, Partap Khand
152	238	170	Mukesh Nagar
153	238	171	Kasturba Nagar
154	238	172	Udiya Mandir
155	238	173	DDA Market
156	238	174	Near ESI Hospital
157	238	175	Dear Park, Jhilmil Colony
158	238	176	Arya Samaj Mandir Jhilmil
159	238	177	C-84 Jhilmil
160	239	178	Jhilmil AUTO Work Shop
161	239	179	Ambedkar Camp Jhilmil In
162	239	180	Nr DDA Office Kalender Colony
163	239	181	B-45 Dilshad Garden
164	239	182	A-block MC Army School
165	239	183	Sonia Camp Indl Area Jhilmil
166	239	184	A-block Vivek Vihar
167	239	185	Deepak Colony Kalender Col
168	239	186	Opp.-I Kalender Colony DG
169	239	187	Friends Colony Indl area Jhilmil
170	239	188	Green Way School DG
171	239	189	B-block Vivek Vihar
172	239	190	Nr ITI Vivek Vihar
173	239	191	Janta Quarter Vivek Vihar
174	239	192	B-block Jhilmil Colony

Zero Garbage timing of Designated Garbage Collection Sites (DGCS) of Shahdara (North) Zone.

Sr No	WARD	DGCS No	LOCATION
1	240	1	G- Block I Old Seemapuri
2	240	2	G- Block II Old Seemapuri
3	240	3	Sunlight Colony Old Seemapuri
4	240	4	J&K Pkt, Dilshad Garden, Nr Mother
5	240	5	J&K Pkt, Dilshad Garden, Nr Kali Maz
6	240	6	L -Pkt Dilshad Garden
7	240	7	M - Pkt, Dilshad Garden
8	240	8	N - Pkt Dilshad Garden
9	240	9	N - Pkt Dilshad Garden
10	240	10	Deer Park, Dilshad Garden
11	240	1/OS	Opp Indra Nehru Camp, Old Seema
12	241	11	2142 GTB Enclave Janta flats, Nr
13	241	12	2142 Janta flats, Nr Stadium
14	241	13	2142 Janta flats, Nr MD School
15	241	14	Opp A Pkt GTB Enclave
16	241	15	2142 Janta flats, Nr SI office
17	241	16	2142 Janta flats, Nr Ambedkar Gate
18	241	17	Village Khera
19	241	18	C- Block Car Mkt, Dilshad Garden
20	241	19	F- Pkt Mkt GTB Enclave
21	241	20	A- Block Opp. Sr. Sec. School Dilsh
22	241	21	D Block, Dilshad garden
23	241	22	D Block, Dilshad garden, Nr. Park
24	241	23	Tahir pur Sarai
25	241	24	CNG Pump Tahir pur Sarai, Nr Flora
26	241	25	Opp R- Block, Dilshad garden
27	241	25/A	Nr. CNG Pump House, Tahir pur
28	242	26	A- block , New Seemapuri
29	242	27	Rd no 70, New Seemapuri
30	242	28	C- Block, New Seemapuri
31	242	29	F- Block, New Seemapuri
32	242	30	E-Block fish Mkt, New Seemapuri
33	242	31	Jain Mandir JJ Cluster
34	242	32	Village Tahirpur, Nr Rajiv Gandhi Hos
35	242	33	B- Block New Seemapuri
36	242	34	B- Block New Seemapuri
37	242	3/OS	Road no 70, S/W Pump
38	243	35	A1-Mkt, District Park
39	243	36	Mandi, New Thana Road
40	243	37	A4-Block Road Nandnagri
41	243	38	B1 block Nr Akhara
42	243	39	B4 Block Behind school

Sr No	WARD	DGCS No	LOCATION
43	243	40	B5 block, Nand nagri
44	243	41	B6 block behind Mkt, Nand nagri
45	243	42	D1 block Main Mandoli Road Nand
46	243	43	D3 block Nr Jhuggi, Nand nagri
47	243	44	E3 block Kachi pura, Nand nagri
48	243	45	E4 block Nr Akhara, Nand nagri
49	244	46	J- block Sunder Nagri
50	244	47	K- block Sunder Nagri
51	244	48	L - block Sunder Nagri
52	244	49	O - block Sunder Nagri
53	244	50	N- block Sunder Nagri
54	244	51	331 Bus stand, Sunder Nagri
55	244	52	F-1 block Sunder Nagri
56	244	53	H - block Sunder Nagri
57	244	54	E1- Nand nagri
58	244	55	E-2 Nand nagri
59	244	56	G- block Shani bazar road, Sunder N
60	244	57	F-2 block Sunder Nagri
61	244	58	VI - block Dhobi ghat, Sunder Nagri
62	244	4 /OS	G - block Sunder Nagri, Nr Mata Man
63	245	59	DDA Flats, Manasarovar Park
64	245	60	Mazjid wala dhalao, C-3 Nand nagri
65	245	61	C-1 Tanga Stand Dhalao
66	246	62	LIG Flats, Nr Jal Board office
67	246	63	MIG Flats
68	246	64	Nathu colony chowk
69	247	65	Rathi mill, Loni Road
70	247	66	Mandoli Road, Nr Shanti Building
71	247	67	Balimiki Basti, Loni Road
72	247	68	Nr Pump house, Loni road
73	247	69	Under fly over, Manasarovar Park
74	248	70	Photo chowk, Welcome
75	248	71	U - block Mkt, Welcome
76	248	72	Ravidass Basti
77	248	73	JB-6, block, Welcome
78	248	74	215 Bus Stand
79	248	6 /OS	65 Ft Road, Panchasheel Garden
80	249	75	Opp. Galli no 27
81	249	76	Opp Galli no 9, Rd no 66
82	250	77	Fruit Mkt, Seelampur
83	250	78	Ghonda mor, Seelampur
84	250	79	ISBT Road opp P.S, Usman pur
85	250	80	Kabari Mkt New Seelampur
86	250	81	Nr P.S, Welcome
87	250	82	N- Block Welocome opp Double stor

Sr No	WARD	DGCS No	LOCATION
88	250	83	L-Block Welcome, Nr Asharam Bapu
89	250	84	O-Block, Welcome
90	250	7 /OS	Chauhan Bangar on Gokul Drain, Se
91	251	85	C- Block MCD Flats, Usmanpur
92	251	86	B- Block MCD Flats, Usmanpur
93	251	87	A- Block MCD Flats, Usmanpur
94	251	88	Bhagat Singh Mohalla, Usmanpur
95	251	89	Shastri park, E- Block
96	251	8/OS	Pandav Shila, Nr Jag Parvesh
97	251	9 /OS	Gautampuri, Nr School
98	252	90	Maujpur Crossing 66 Ft road
99	252	91	Jamalu Ka bagh
100	253	10/OS	5th Pusta, Bhajan pura
101	254	92	Opp Galli no 1 X - BlockNr, Gauta
102	254	11/OS	3 1/2 pusta Kartar Nagar
103	256	93	C-4, Yamuna vihar, Nr, PNB Serv rd
104	257	95	Noor Elahi
105	257	96	C-12 Yamuna vihar 66 Ft road
106	258	97	Loni road, Harijan Basti
107	258	98	Shamshan Ghat, Kabir nagar
108	259	99	New Zafrabad Police Stn
109	259	100	Main Road Janta Colony, Nr Police c
110	259	101	Main Road Janta Colony, Nr Dam 52
111	259	102	Sudhama pur, Nr Drain Gokalpuri
112	262	103	A- Block Gokalpuri
113	262	104	B- - Block Gokalpuri, Nr Ganga vihar
114	262	105	Loni road Nr Transport Authority
115	262	106	Kabristan Amar Colony Fly oWazir
116	263	5/OS	Near Creamation ground
117	264	107	Chaar Khamba Red Light, Wab Rd
118	264	108	Mandoli crossing Chungi
119	265	109	Amar colony Petha Wala Dhalao,
120	266	110	Shiv Vihar Tiraha
121	269	12/OS	Shri Ram Colony, Nr. Thana Khajoori
122	270	111	Delhi Police Camp/CRPF Camp, Nr F
123	271	112	Ankur Enclave Nr Naala
124	272	13/OS	Zero Pusta, Sonia vihar
125	261	113	Drain 1, Opp D blk, Bhagarati vih, johri
126	271	112/A	Tiksha Public school, Sadatpur
127	262	113/A	Nehr rd Ganga vihar, Nr Nagura builder

1/14/15

S. No	Description of resource	Resources required	Resources Available	Gap	rate	Financial Implication amount	Year wise financial requirement					TOTAL	
							Year-1	Year-2	Year-3	Year-4	Year-5		
1	Wheel Barrow	1400*2	1500	1300	5000	6500000	3250000						
2	Tricycle Rickshaw	550*2	500	600	15000	9000000	4500000						
3	LMV's	640	302	338	300000	101400000	20280000	20280000	20280000	20280000	20280000	20280000	20280000
4	Tractor Trolly	55	60	5		0							
5	Tipper Trucks	140	70	70	2100000	147000000	73500000	73500000					
6	Compactors	6	0	6	4000000	24000000	24000000						
7	Loaders	30	0	30	2000000	60000000	30000000	30000000					
8	Bulldozers	3	0	3	6500000	19500000	6500000	6500000					
9	Excavators	2	0	2	2500000	5000000	2500000						
10	JCR's	2	1	1	2500000	2500000							
11	Dallaos	300	275	25	1000000	25000000	833333.333	833333.333	833333.333				
12	Bins	660	0	660	25000	16500000	16500000						
13	Safai Karamchari Shelter	300	60	240	1000000	240000000	80000000	80000000	80000000				
14	Ward Stores	64	0	64	2000000	128000000	42666666.67	42666666.67	42666666.67				
15	Sanitary Inspector Office	64	50	14	2000000	28000000	9333333.333	9333333.333	9333333.333				
16	Auto Workshop	2	1	1	50000000	50000000	16666666.67	16666666.67	16666666.67				
17	Transfer stations	2	0	2	100000000	200000000	66666666.67	66666666.67	66666666.67				
18	Compost plant	2	0	2	150000000	300000000	100000000	100000000	100000000				
19	C&D waste processing Plant	2	1	1	150000000	150000000	50000000	50000000	50000000				
20	Waste to Energy Plant	2	1	1	On BOOT basis								
						1512400000	554696666.7	508946666.7	400446666.7	280300000	20280000	1512400000	