

Dated: 23.06.2023

To
The Regional Officer,
RR-II, 6-3-1219,
Block-C, Ward No.91, Near Country Club,
Kundanbagh, Umanagar,
Begampet, Hyderabad-500 037.

Dear Sir,

Sub: Submission of Form-IV for filling annual returns by the occupier or operator of
Facilities-reg,

With reference above cited, we are forwarding herewith annual hazardous waste return i.e. **form-3 & 4** for our TSDF Facility (Centralized Secured Landfill, Common Incinerator Facility & AFRF) situated at HWMP, Survey No 684/1, Dundigal Gandimaisamma Mandal; Medchal Dist. - 500042; T.S. for the period of April'2022 to March'2023, along with the information in attached annexure. We hope that the above is in order.

Kindly acknowledge the receipt

Thanking you,
Yours sincerely,
For **HYDERABAD WASTE MANAGEMENT PROJECT,**

K. Radha Krishna Sai
(Project Head)

Enclosures:

- Annexure -I:** Details of Hazardous waste received Qty's during April 2022 – March 2023
Annexure -II: Details of Incinerable waste received and disposed of during April 2022 – March 2023
Annexure -III: Quantity of Incineration ash generation during April 2022– March 2023
Annexure- IV: Generation of Leachate (SLF) & Scrubber bleed (Inci.) during April 2022 -March 2023
Annexure- V: Details & quantity of hazardous waste returned during April 2022 -March 2023
Annexure- VI to IX: ANALYSIS REPORTS (Monitoring Bore wells (VI); AAQ report (VII), soil analysis report (VIII), stack analysis report DG set (IX), stack (X) & Layout (XI)

Cc:

JCE; HWM division- TSPCB; Paryavaran Bhawan; A-3, Industrial Estate; Sanath Nagar; Hyderabad 500 018

Hyderabad Waste Management Project
(A Division of Re Sustainability Limited)
Site Address:

TSDF at: Survey No. 684/1,
Dundigal Gandimaisamma Mandal, Medchal - Malkajgiri Dist. - 500 043,
Telangana. India.

Re Sustainability Limited
(formerly known as Ramky Enviro Engineers Limited)
Registered Office:

Level 11B, Aerobindo Galaxy,
Hitech City Road, Hyderabad-500 081. India.
CIN No. U74140TG1994PLC018833

Certificate REG No : 44 100 20392865 (ISO 9001 : 2015)
Certificate REG No : 44 104 20392865 (ISO 14001 : 2015)
Certificate REG No : 44 126 20392865 (ISO 45001 : 2018)

MOEF Approved Laboratory
Ref.No: Q-15018/49/2018-CPW

NABL Accredited Laboratory
(ISO/IEC 17025) Certificate No. TC-5067

T: +91 93936 44222

E: mbd_hwmp@resustainability.com
laboratoryhwmp@resustainability.com

resustainability.com



Dated: 23.06.2023

To
THE MEMBER SECRETARY,
Telangana State Pollution Control Board,
Paryavaran Bhavan,
A-3, Industrial Estate
Sanathnagar, Hyderabad

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Cc:

Regional Office, RR-II; T.S. Pollution Control Board, 6-3-1219; Block-C; Ward No. 91; Near Country Club; Kundanbagh; Umanagar; Begumpet Hyderabad - 500 037



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HAZARDOUS WASTE RETURN (FORM-IV) 2022-23

FORM-IV (Y-2022-23)

FORM 3
See Rule 5 (6) and 22 (1)

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**FORMAT FOR MAINTAINING RECORDS OF HAZARDOUS WASTE
BY THE OCCUPIER OR OPERATOR OF A FACILITY**

01	Name and Address of the Occupier or Operator of a Facility	Mr. K. Radha Krishna Sai (Project Head) HYDERABAD WASTE MANAGEMENT PROJECT (A Division Of Re Sustainability Limited) Survey No.:-684/1; Dundigal village; Dundigal Gandimaisamma Mandal; Medchal. Dist-43; T.S. Tel. /Mob. : - 09390005600 Email:- radhakrishnasai.k@resustainability.com	
02	Date of issuance of Authorization and its Reference Number	The consent order No. 01/TSPCB/RO-RR-II/CFO/HO/2015- 2583 dated 23.12.2020 is valid up to 31.10.2025	
03	Description of Hazardous Waste		
Physical form with description		Chemical form	Total volume (M³) and weight (MT)
(1) ETP Sludge (solid) (2) Gypsum Sludge (solid) (3) Iron Sludge (solid) (4) Ash from Incinerator (solid) (5) Mixed salts (Solid) (6) And various other wastes permitted by APPCB (solid)		Contains mainly inorganic material like Calcium, sodium, potassium compounds	(1-6)Material received is disposed off immediately in the Centralized Secured Landfill Facility directly (DL) or after providing required treatment (LAT) after verification and there is no separate stock
(7) Incinerable/AFRF Wastes (liquid / solid / tarry / semi solid / powdery)		Contains mainly organic matter as Distillation residue, pesticides residue, discarded products, raw materials etc.	(7) Incinerable/AFRF wastes are received in drums/bags/carboys etc. Stock of Incinerable wastes as on 31.3.2023 is 155.28-MT

For Hyderabad Waste Management Project

Authorized Signatory

FORM-IV (Y-2022-23)



Sustainability

04	Description of storage and treatment of hazardous wastes			4
Date	Method of Storage of Hazardous Waste	Date	Method of Treatment of Hazardous waste	
April 2022 to March 2023	<u>Landfill</u> : As we receive the wastes in dumpers / Tippers/ Hook loaders/ ABC crane vehicles and Immediately it is disposed off in the developed portion of the landfill after checking the acceptance criteria.	April 2022 to March 2023	If the waste meets the acceptance criteria for direct land filling, then there is no treatment required. In case the wastes are not meeting the criteria, following treatment are done; (a) PH adjustment – treating with lime. (b) Incineration – If organic content is high; (c) Stabilization – If heavy metals are above limit etc.	
April 2022 to March 2023	<u>Incinerable waste</u> : are received in drums and stored on impervious storage area with pallets. Solid material is stored in bags & stored on impervious storage area.	April 2022 to March 2023	The Incinerable wastes are subjected to thermal treatment at common incinerator Plant.	

05	Details of Transportation of Hazardous Wastes			
Name and address of Consignee of package	Mode of packing of Waste for transportation	Mode of transportation to site of disposal	Date of transportation	
To HWMP landfill site	With or without bagging.	In dumpers, tippers, hook loaders etc.	April 202 to March 2023	
Common Incinerator	Drums, bags, carboys	In dumpers	April 2022 to March 2023	

For Hyderabad Waste Management Project

Authorised Signatory

10/11/23

FORM-IV (Y-2022-23)

Sustainability

06	Details of Disposal of Hazardous Waste				5
Date of disposal	Concentration of Hazardous constituents in final waste form	Site of disposal (identify location on relevant layout drawing for reference)	Method of disposal	Persons involved in disposal	
April 2022 to March 2023	The Concentration of Hazardous constituents in final waste form disposed is within the concentration limits given in the Criteria for direct landfilling given by CPCB.	Layout diagram of our site (HWMP) attached as Annexure-XI	Secured land filling.	HWMP landfill facility team & incineration operation team coordinates the activities.	

07	Data on environmental surveillance								
Date of measurement	Analysis of ground water			Analysis of soil samples			Analysis of air samples		Analysis of any other samples (give details)
	Location of sampling	Depth of sampling	Data	Location of sampling	Depth of sampling	Data	Location of sampling	Data	
Analysis reports attached as Annexure-VI (GW)/ VII (Soil)/ VIII (AAQ) /IX (stack DG) & X (Stack Inci.)									

08	Details of Hazardous Wastes sold / auctioned to Recyclers or Re-processors or Re-users	NA
09	Details of Hazardous Waste re-used or recycled	NA

for Hyderabad Waste Management Project

 Authorised Signatory

FORM-IV (Y-2022-23)

Date	Total quantity of Hazardous Wastes generated	Details of Hazardous Waste minimization activity	Materials received	Final quantity of Waste generated	Net reduction in waste generation quantity and percentage
April 2022 to March 2023	3012.65 MT Incinerator ash generated from our Common Incinerator &SD	NA	LANDFILABLE WASTE 100894-MT received from member industries	NA	NA
April 2022 to March 2023		THERMAL DECOPOSITION	INCINERABLE WASTE 3981-MT From member industries.	NA	NA
April 2022 to March 2023		AFRF Material	AFRF Waste 6489 - MT from member industries	NA	NA

Date : 23.06.2023

Place : Dundigal

Name and Signature of Head of Facility

FORM-IV (Y-2022-23)**FORM 4****See Rules 5 (6) and 22 (2)**

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**FORM FOR FILING ANNUAL RETURNS
BY THE OCCUPIER OR OPERATOR OF FACILITY**

(to be submitted by Occupier / Operator of Disposal Facility to State Pollution Control Board / Pollution Control Committee by 30th June of every year for the preceding period April to March)

01	Name and address of the Generator / Operator of Facility	HYDERABAD WASTE MANAGEMENT PROJECT A Division Of Re Sustainability Ltd. Survey No.: -684/1; Dundigal village; Dundigal Gandimaisamma Mandal; Medchal. Dist-43; TS	
02	Name of Authorized Person and full address with telephone and fax number	Mr. K. Radha Krishna Sai (Project Head) HYDERABAD WASTE MANAGEMENT PROJECT (A Division Of Re Sustainability Limited) Survey No.: -684/1; Dundigal village; Dundigal Gandimaisamma Mandal; Madchal. Dist-43; TS Tel. /Mob. : - 09390005600 Email:- radhakrishnasai.k@resustainability.com	
03	Description of Hazardous Waste	Physical form with description	Chemical form
		(1) All types of hazardous waste (listed in HWMHR-2010 schedule -I and II) permitted by TSPCB.	Contains mainly inorganic material LANDFILLING
		(2) Incinerable/AFRF Wastes (liquid / solid / tarry / semi solid / powdery)	Contains organic, Aqueous, tarry, powdery wastes including sludge's etc
04	Quantity of Hazardous Wastes (in MTA)	Type of Hazardous Waste	Quantity (in Tons/KL)
		1) Mainly Inorganic Natured waste	Hazardous Waste received Qty during the period of April-22 to March-23 100894-MT
		2) Mainly Organic Natured waste & AFRF waste	Incineration/AFRF waste received qty during the period of April-22 to March-23 Incineration qty: 3981 MT AFRF Qty : 6489 MT

FORM-IV (Y-2022-23)



Sustainability

05	Description of Storage	Landfill: As we receive the (DL) wastes in dumpers / box vehicles/ Crain vehicles / hook loader it is disposed off in the developed portion of the landfill after it conforms the acceptance criteria and if not meets disposal criteria (i.e. LAT waste) it is unloaded in stabilization bins or temporary storage sheds and prescribed treatment is provided and then disposed off in the landfill after it conforms the acceptance criteria. Incinerable & AFRF waste: are received in drums and stored in sheds having impervious flooring provided with smoke detector, Fire Alarm and sprinkler system and stored on pallets. Solid material in bags are also stored in sheds having similar arrangements. The fire hydrant system is provided around all the storage sheds.			
06	Description of Treatment	If the waste meets the acceptance criteria for direct land filling, then there is no treatment required. In case the wastes are not meeting the criteria, following treatment are done i.e. (a) pH adjustment – treating with lime. (b) Stabilization – If heavy metals are in the above limits etc. High CV & LCV – Incineration, The incinerable wastes are subjected to thermal treatment at common incinerator Plant.			
07	Details of transportation	Name and address of consignee	Mode of packing	Mode of transportation	Date of transportation
		To HWMP landfill site	Bagged or without bags	In dumpers / box vehicles/ Crain vehicles / hook loader	April 2022 to March 2023
		Common Incinerator & AFRF	Drums for liquid / tarry / semi solid / sludge & bags for	In dumpers or Truck	April 2022 to March 2023

FORM-IV (Y-2022-23)**Sustainability**

			solid waste		
08	Details of disposal of hazardous waste	Name and address of consignee	Mode of packing	Mode of transportation	Date of transportation 9
		To HWMP landfill site	Loose material or in bags	In dumpers / box vehicles / Crain vehicles / hook loader	April 2022 to March 2023
		Common Incinerator & AFRF	Drums for liquid / Semi solids / tarry / solid & bags for solid waste	In dumpers or Truck	April 2022 to March 2023
09	Quantity of useful materials sent back to manufacturers* and others#	Name and type of material sent back to	Quantity in Tonnes / KL		
		Manufacturers*	<u>Annexure-V</u>		
		Others#			

* delete whichever is not application
 # enclose list of other agencies

Date :23.06.2023

Signature :

Place :Dundigal

Designation : Project Head

FORM-IV (Y-2022-23)



Sustainability

DETAILS OF TSDF OPERATION

- During the year 2022-2023, total Hazardous waste **2760 MT** have been incinerated
- **1st Land fill (cell-1):-** Completed with all respect
- **2nd Land fill (Cell-II):-** Completed with all respect
- **3rd Land fill (Cell-III):-** Permanent Capping completed.
- **4th Land fill (Cell-IV):-** Part A, B, C, D, E, F is completed and temporary capping is completed & Part G Operation is under progress.
- The Company has implemented Integrated Management system PAS-99:2006 for Quality ISO: 9001:2018; Environment ISO: 14001:2018 and Safety OHSAS: 45001: 2018.
- The analysis laboratory has been augmented to include sophisticated instruments for the analysis of the various wastes, Leachate, bore wells, stack and ambient air samples.
- The laboratory is accredited with **NABL and ISO: 9001:2018** and approved by **Govt. Of India ministry of forest and environment (MOEF)**.
- The landfill design as per CPCB guidelines.

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For Hyderabad Waste Management Project

Authorised Signatory

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Annexure-I

HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Re Sustainability Ltd)

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DETAILS OF HAZARDOUS WASTE RECEIVED QTY'S DURING APRIL 2022 - MARCH 2023

Sl. No	Month	DL - Direct Landfill	LAT-Landfill After Treatment	Incineration	AFRF	Total Qty (MT)
1	April 2022	1385.128	7732.755	195.880	297.000	9610.763
2	May 2022	631.820	7464.192	279.023	419.550	8794.585
3	June 2022	694.490	6889.548	312.541	395.202	8291.781
4	July 2022	1327.050	6871.037	261.008	495.290	8954.385
5	Aug. 2022	681.071	7225.779	278.427	574.788	8760.065
6	Sept. 2022	1099.090	7076.624	312.649	643.037	9131.400
7	Oct. 2022	731.626	6869.292	371.992	538.400	8511.310
8	Nov. 2022	702.449	8117.386	400.297	598.367	9818.499
9	Dec. 2022	1065.315	8218.613	335.997	564.089	10184.014
10	Jan. 2023	649.659	7683.160	292.687	669.315	9294.821
11	Feb. 2023	1002.630	7320.161	484.917	567.430	9375.138
12	March 2023	1295.565	8159.603	455.332	726.699	10637.199
TOTAL		11265.893	89628.150	3980.750	6489.167	111363.960

Note: All waste came as DL and LAT was finally disposed in secured landfill and disposal details of incineration waste are given on next page.

For Hyderabad Waste Management Project



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FORM-IV (Y-2022-23)**Annexure-II**

12

HYDERABAD WASTE MANAGEMENT PROJECT**(A Division of Re Sustainability Ltd)**

**QUANTITY OF INCINERABLE WASTE RECEIVED, TREATED AND DISPOSED OFF
DURING APRIL 2022 TO MARCH 2023 (Qty in TONS)**

Sr. No	Month	Opening Balance	Qty Received	Qty Incinerated	Closing Balance	Converted to AFRF	AFRF DISPOSAL	Recycling	Remarks
1	April 2022	159.14	195.879	157.50	123.23	60.972	450.76	13.32	
2	May 2022	123.23	279.023	167.70	124.63	53.30	408.01	56.619	
3	June 2022	124.63	312.540	238.266	109.32	49.359	432.840	40.23	
4	July 2022	109.32	260.96	245.400	68.28	32.107	547.33	24.490	
5	Aug. 2022	68.28	278.247	156.115	58.01	101.812	682.28	30.587	
6	Sept. 2022	58.01	312.65	255.608	87.87	24.98	427.09	2.205	
7	Oct. 2022	87.87	371.99	232.58	103.20	40.90	597.09	83.174	
8	Nov. 2022	103.20	400.30	250.720	122.83	41.24	694.28	88.71	
9	Dec. 2022	122.83	336.00	206.959	217.42	0.00	457.25	34.46	
10	Jan. 2023	217.42	292.687	68.925	368.41	41.968	550.19	30.8	
11	Feb. 2023	368.41	484.92	416.21	188.33	110.02	739.36	138.76	
12	March 2023	188.33	455.332	364.327	155.28	62.157	526.78	61.9	
TOTAL →			3980.520	2760.31		619.23	6513.26	605.255	

for Hyderabad Waste Management Project

Note:



 Authorised Signatory

FORM-IV (Y-2022-23)

Annexure-II
HYDERABAD WASTE MANAGEMENT PROJECT

(A Division of Re Sustainability Ltd)
QUANTITY OF LANDFILL WASTE TREATED AND DISPOSED OFF
DURING APRIL 2022 TO MARCH 2023 (Qty in TONS)

Sr. No	Month	DL Qty Received	DL Qty Disposed	LAT Qty Received	LAT Qty Disposed	Remarks
1	April 2022	1385.128	1385.128	7732.755	7655.2	
2	May 2022	631.820	631.820	7464.192	7500.225	
3	June 2022	694.490	694.490	6889.548	6915.235	
4	July 2022	1327.050	1327.050	6871.037	6901.235	
5	Aug. 2022	681.071	681.071	7225.779	7195.555	
6	Sept. 2022	1099.090	1099.090	7076.624	7155.235	
7	Oct. 2022	731.626	731.626	6869.292	6790.325	
8	Nov. 2022	702.449	702.449	8117.386	8155.665	
9	Dec. 2022	1065.315	1065.315	8218.613	8190.235	
10	Jan. 2023	649.659	649.659	7683.160	7601.23	
11	Feb. 2023	1002.630	1002.630	7320.161	7325.99	
12	March 2023	1295.565	1295.565	8159.603	8295.23	
TOTAL →		11265.893	11265.893	89628.15	89681.36	

Note:



Hyderabad Waste Management Project

(A Division of Re Sustainability Limited)

Site Address:

TSDF at: Survey No. 684/1,
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Annexure-III
HYDERABAD WASTE MANAGEMENT PROJECT
 (A Division of Re sustainability Ltd)

**QUANTITY OF INCINERATION ASH GENERATION FROM ROTARY KILN, SPRAY DRIER, MULTI CYCLONE
AND BAG FILTER DURING APRIL 2022 TO MARCH 2023**

Sr. No	Month	ROTARY KILN (MT)	SPRAY DRIER (MT)	MULTI CYCLONE (MT)	BAG FILTER (MT)	TOTAL QTY (MT)
1	April 2022	15.75	399.91	3.2	9.45	428.31
2	May 2022	16.72	616.53	5.6	17.77	656.625
3	June 2022	23.83	449.63	5.27	17.07	495.805
4	July 2022	24.54	69.99	4.53	15.88	117.94
5	Aug. 2022	15.61	197.65	4.27	14.59	232.125
6	Sept. 2022	25.97	83.40	6.35	23.12	138.845
7	Oct. 2022	20.71	225.83	4.16	15.97	266.67
8	Nov. 2022	25.07	176.03	3.06	11.82	215.98
9	Dec. 2022	20.70	173.22	3.81	14.18	211.91
10	Jan. 2023	6.89	11.85	0.91	3.59	23.238
11	Feb. 2023	41.62	29.2	7.3	27.59	105.712
12	March 2023	36.43	39.02	9.75	37.30	122.499
TOTAL		273.84	2472.26	58.21	208.33	3012.64

All types of salts generated from various points in incineration operations are disposed in secure landfill after analysis.

for Hyderabad Waste Management Project.

Authorised Signatory

Annexure-IV
HYDERABAD WASTE MANAGEMENT PROJECT
(A Division of Re Sustainability Ltd)

**DETAILS OF LEACHATE GENERATION FROM LAND FILL AND SCRUBBER BLEED FROM INCINERATOR
PLANT DURING APRIL-22 TO MARCH 23**

Sl. No	Month	Leach ate generated from land filling in KL	Waste water generated from Incineration scrubber in KL	Total Qty (KL)
1	April 2022	802.0	92.500	894.5
2	May 2022	831.0	160.000	991
3	June 2022	755.0	174.600	929.6
4	July 2022	790.0	142.100	932.1
5	Aug. 2022	821.0	145.900	966.9
6	Sept. 2022	767.0	241.000	1008
7	Oct. 2022	671.0	164.00	835
8	Nov. 2022	679.0	138.00	817
9	Dec. 2022	720.0	167.00	887
10	Jan. 2023	587.0	54.2	641.2
11	Feb. 2023	634.0	489.9	1123.9
12	March 2023	699.0	654.4	1353.4
TOTAL		8756	2623.6	11379.6

for Hyderabad Waste Management Project

Authorised Signatory

ANNEXURE-V

DETAILS & QUANTITY OF HAZ. WASTE SENT BACK - APR' 2022 TO MAR' 2023

The Hyderabad Waste Management Project has not been sent back any received hazardous waste during April-2022-March-2023.

for Hyderabad Waste Management Project.

authorised Signatory

(ANNEXURE-VI) FORM-IV 2022-23



Hyderabad Waste Management Project Monitoring Bore wells Analysis Report

Date of Collection: 09.03.2023

Date of Report: 29.03.2023

Sl. No's.	Parameters	M-1	M-2	M-3	M-4	M-5	M-6	M-7	M-8
1	pH	7.39	No Water	6.88	7.77	8.16	Bore well is not available due to landfill construction	8.28	8.48
2	EC, $\mu\text{Mho/cm}$	1644		1500	2715	1804		955	689
3	Color, Pt-Co Scale	<1		<1	<1	<1		<1	<1
4	Turbidity, NTU	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
5	Total Dissolved Solids, mg/L	1003		915	1683	1100		573	413
6	Total Suspended Solids as TSS, mg/L	<10		<10	<10	<10		<10	<10
7	Fluoride as F, mg/L	<1		<1	<1	<1		<1	<1
8	Chlorides as Cl, mg/L	296		266	488	320		118	54
9	Sulphates as SO_4^{2-} , mg/L	76		288	226	181		49	69
10	Nitrates as $\text{NO}_3\text{-N}$, mg/L	3.2		4.1	6.3	4.0		0.9	0.8
11	T. Alkalinity as CaCO_3 , mg/L	312		59	411	252		257	193
12	T. Hardness as CaCO_3 , mg/L	337		376	772	495		277	297
13	Calcium as Ca, mg/L	79		107	198	119		48	79
14	Magnesium as Mg, mg/L	34		26	67	48		38	24
15	Sodium as Na, mg/L	196		156	258	179		87	16
16	Potassium as K, mg/L	44		24	20	17		9	6
17	Phosphate as P, mg/L	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0
18	Amm. Nitrogen, mg/L	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0
19	Total Kjeldal Nitrogen as TKN, mg/L	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0
20	Cyanide as CN, mg/L	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
21	Chemical Oxygen Demand, mg/L	<50		<50	<50	<50		<50	<50
22	Biological Oxygen Demand, mg/L	<4		<4	<4	<4		<4	<4
23	Oil & Grease, mg/L	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0
24	Total Organic Compounds, mg/L	3.6		4.2	2.2	3.1		4.4	3.2
25	Iron as Fe, mg/L	<0.2		<0.2	<0.2	<0.2		<0.2	<0.2
26	Lead as Pb, mg/L	<0.01		<0.01	<0.01	<0.01		<0.01	<0.01
27	Cadmium as Cd, mg/L	<0.003		<0.003	<0.003	<0.003		<0.003	<0.003
28	Chromium as Cr, mg/L	<0.05		<0.05	<0.05	<0.05		<0.05	<0.05
29	Copper as Cu, mg/L	<0.05		<0.05	<0.05	<0.05		<0.05	<0.05
30	Manganese as Mn, mg/L	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
31	Nickel as Ni, mg/L	<0.02		<0.02	<0.02	<0.02		<0.02	<0.02
32	Zinc as Zn, mg/L	<0.5		<0.5	<0.5	<0.5		<0.5	<0.5
33	Arsenic as As, mg/L	<0.05		<0.05	<0.05	<0.05		<0.05	<0.05
34	Mercury as Hg, mg/L	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1
35	Depth of Water in Mt	4.6		4.7	4.6	5.7		4.7	4.1

(Y. Swathi),
Quality Manager.

For Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-VI) FORM-IV 2022-23



Hyderabad Waste Management Project Monitoring Bore wells Analysis Report

Date of Collection: 09.03.2023

Date of Report: 29.03.2023

Sl. No's.	Parameters	M-9	M-10	M-11	M-12
1	pH	6.89	7.96	7.85	
2	EL, MMH / CM	1586	2433	9389	
3	Color, Pt-Co-Scale	<1	<1	2.2	
4	Turbidity, NTU	<0.1	<0.1	0.5	
5	Total Dissolved Solids, mg/L	983	1508	5446	
6	Total Suspended Solids as TSS, mg/L	<10	<10	22	
7	Fluoride as F ⁻ mg/L	<1	<1	0.7	
8	Chlorides as Cl ⁻ , mg/L	266	478	2316	
9	Sulphates as SO ₄ ²⁻ , mg/L	133	274	704	
10	Nitrates as NO ₃ -N, mg/L	1.7	2.7	40	
11	Total Alkalinity as CaCO ₃ , mg/L	277	252	540	
12	Total Hardness as CaCO ₃ , mg/L	515	614	1109	
13	Calcium as Ca, mg/L	103	131	317	
14	Magnesium as Mg, mg/L	92	78	77	
15	Sodium as Na, mg/L	129	269	1546	
16	Potassium as K, mg/L	3	16	165	
17	Phosphate as P, mg/L	<1.0	<1.0	<1.0	
18	Ammonia Nitrogen, mg/L	<1.0	<1.0	<1.0	
19	Total Kjeldal Nitrogen as TKN, mg/L	<1.0	<1.0	<1.0	
20	Cyanide as CN, mg/L	<0.1	<0.1	<0.1	
21	Chemical Oxygen Demand, mg/L	<50	<50	<50	
22	Biological Oxygen Demand, mg/L	<4	<4	73	
23	Oil & Grease, mg/L	<1.0	<1.0	<1.0	
24	Total Organic Compounds, mg/L	4.1	1.5	71	
25	Iron as Fe, mg/L	<0.2	<0.2	<0.2	
26	Lead as Pb, mg/L	<0.01	<0.01	<0.01	
27	Cadmium as Cd, mg/L	<0.003	<0.003	<0.003	
28	Chromium as Cr, mg/L	<0.05	<0.05	<0.05	
29	Copper as Cu, mg/L	<0.05	<0.05	<0.05	
30	Manganese as Mn, mg/L	<0.1	<0.1	<0.1	
31	Nickel as Ni, mg/L	<0.02	<0.02	<0.02	
32	Zinc as Zn, mg/L	<0.5	<0.5	<0.5	
33	Arsenic as As, mg/L	<0.05	<0.05	<0.05	
34	Mercury as Hg, mg/L	<0.1	<0.1	<0.1	
35	Depth of Water in Mt	6.5	5.5	3.5	

Bore well is not available due to new landfill construction

(Y. Swathi).
Quality Manager.

for Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-VI) FORM-IV 2022-23



Hyderabad Waste Management Project Monitoring Bore wells Analysis Report

Date of Collection: 09.03.2023

Date of Report: 29.03.2023

Sl. No's.	Parameters	M-13	M-14	M-15	M-16	M-17
1	pH	8.45	7.85	7.07	7.58	7.54
2	EC, $\mu\text{Mho/cm}$	729	923	1496	1164	1272
3	Color, Pt-Co Scale	<1	<1	<1	<1	<1
4	Turbidity, NTU	<0.1	<0.1	<0.1	<0.1	<0.1
5	Total Dissolved Solids, mg/L	437	554	913	710	776
6	Total Suspended Solids as TSS, mg/L	<10	<10	<10	<10	<10
7	Fluoride as F, mg/L	<1	<1	<1	<1	<1
8	Chlorides as Cl, mg/L	143	192	379	251	266
9	Sulphates as SO_4^{2-} , mg/L	60	88	108	89	115
10	Nitrates as $\text{NO}_3\text{-N}$, mg/L	1.0	1.9	1.7	2.8	0.9
11	Total Alkalinity as CaCO_3 , mg/L	99	94	99	129	134
12	T. Hardness as CaCO_3 , mg/L	218	158	337	297	297
13	Calcium as Ca, mg/L	48	40	75	63	67
14	Magnesium as Mg, mg/L	24	14	36	34	31
15	SODIUM Na , mg/L	89	140	186	130	153
16	Potassium as K, mg/L	1.2	0.7	8	4	3
17	Phosphate as P, mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
18	Ammonia Nitrogen, mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
19	Total Kjeldahl Nitrogen as TKN , mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
20	Cyanide as CN, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
21	Chemical Oxygen Demand, mg/L	<50	<50	<50	<50	<50
22	Biochemical Oxygen Demand, mg/L	<4	<4	<4	<4	<4
23	Oil & Grease, mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
24	Total Organic Compounds, mg/L	3.2	5.2	3.3	2.5	3.2
25	Iron as Fe, mg/L	<0.2	<0.2	<0.2	<0.2	<0.2
26	Lead as Pb, mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
27	Cadmium as Cd, mg/L	<0.003	<0.003	<0.003	<0.003	<0.003
28	Chromium as Cr, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
29	Copper as Cu, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
30	Manganese as Mn, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
31	Nickel as Ni, mg/L	<0.02	<0.02	<0.02	<0.02	<0.02
32	Zinc as Zn, mg/L	<0.5	<0.5	<0.5	<0.5	<0.5
33	Arsenic as As, mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
34	Mercury as Hg, mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
35	Depth of Water in Mt	4.5	3.5	3.0	6.5	3.5


(Y. Swathi),
Quality Manager.

For Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-VII) FORM-IV 2022-23



TEST REPORT

Sample Particulars : Ambient Air Quality	Test Report Ref. No. HWMP/03/23
Sample Code : AAQ-01 to 03 [Within the Plant]	Locations: TSDF Main Gate (A-I) : Near Landfill-1 (A-II) : Incineration Plant (A-III)
Reporting Date : 01.04.2023.	

Ambient Air Quality Results

Sr. No	Parameters	Units	Locations			
			A-I	A-II	A-III	NAAQS Vol-I 2012-13.
1.	Particulate Matter as P.M ₁₀	µg/m ³	64	63	62	100
2.	Particulate Matter as P.M _{2.5}	µg/m ³	31	30	30	60
3.	Sulphur Dioxide as SO ₂	µg/m ³	16	18	18	80
4.	Oxides of Nitrogen as NO ₂	µg/m ³	23	23	24	80
5.	Ozone as (O ₃)	µg/m ³	9.4	10.9	10.9	180
6.	Ammonia as (NH ₃)	µg/m ³	11.6	10.8	10.4	400
7.	Carbon Monoxide (CO)	mg/m ³	1.1	1.2	1.3	4.0
8.	Lead as Pb	µg/m ³	<0.1	<0.1	<0.1	1.0
9.	Arsenic as As	ng/m ³	<0.1	<0.1	<0.1	6
10.	Nickel as Ni	ng/m ³	<0.1	<0.1	<0.1	20
11.	Benzene (C ₆ H ₆)	µg/m ³	BDL	BDL	BDL	5.0
12.	Benzo(a)Pyrene (BaP)	ng/m ³	BDL	BDL	BDL	1.0

Note: Above parameters are on the basis of 24 hourly and O₃ is 1 hour monitored.

1. Respirable Dust Sampler Model: APM 403 EL, SI. No.970-DTE-2007, PM10/2.5 Sampler, APM154 LES - S. No 308-DTJ-2017

2. Respirable Dust Sampler Model: APM 403 EL, SI. No.1203-DTE-2008, PM10/2.5 Sampler, APM154 LES - S. No 246-DTD-2017

3. Respirable Dust Sampler Model: APM 403 EL, SI. No.1207-DTE-2008, PM10/2.5 Sampler, APM154 LES - S. No 247-DTD-2017

Note: Calibrated On: 22.12.2022 & Due Date: 22.12.2023; Collected by: GREEN TCOI GCRV0029

(Y. Swathi)
Quality Manager

Hyderabad Waste Management Project

(A Division of Resustainability Limited)

Site Address:

TSDF at: Survey No. 664/1,

Dandigal - Gandimaisamma Municipality,

Medchal - Malkajgiri Dist. - 500 043,

Telangana, India.

Res Sustainability Limited

Formerly known as Sanjay Enviro Engineers Limited

Registered Office:

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For Hyderabad Waste Management Project

Authorized Signatory

(ANNEXURE-VIII) FORM-IV 2022-23**Hyderabad Waste Management Project****SOIL ANALYSIS REPORT**

Date: 31.03.23

Sl. No's.	Parameters	Near Quarters	Near Land Fill-I	Near Land Fill-II	Near Land Fill-III	Near Inc. Plant
1.	pH (10 % Solution)	6.48	7.86	6.72	7.37	6.98
2.	Electron Conductivity, μs (10 % Solution)	1125	1058	1368	1862	1785
3.	Color	Brown	Brown	Brown	Brown	Brown
4.	Bulk Density, gm / cc	1.32	1.38	1.52	1.42	1.30
5.	Total Dissolved Solids (20 % Solution), mg / Kg	1254	929	1125	912	1012
6.	Total Suspended Solids (20 % Solution), mg / Kg	05	69	19	21	04
7.	Total Organic Compounds, %	0.74	0.51	0.06	0.39	0.46
8.	Chlorides as Cl^- , meq /100 g	1.02	5.98	4.25	6.94	1.54
9.	Sulfate as SO_4^{2-} , meq /100 g	0.42	0.78	0.61	0.39	0.26
10.	Calcium as Ca, meq /100 g	1.09	1.23	1.34	0.72	1.22
11.	Magnesium as Mg, meq /100 g	1.29	1.45	0.72	1.41	2.14
12.	Sodium as Na, meq /100 g	1.14	1.05	1.02	1.24	2.84
13.	Potassium as K, meq /100 g	0.29	0.08	0.02	0.04	0.31
14.	Nitrate as NO_3 as N, meq /100 g	0.02	0.03	0.05	0.03	0.03
15.	Ammonical Nitrogen as NH_3 - N, meq	0.04	0.05	0.03	0.01	0.05
16.	Phosphate As P, meq /100 g	0.03	0.02	0.01	0.03	0.04
17.	Cyanide as CN^- mg / Kg	<0.1	<0.1	<0.1	<0.1	<0.1
18.	Iron as Fe ,mg / Kg	12.4	6.2	5.8	9.2	17.2
19.	Lead as Pb , mg/ Kg	2.54	2.8	2.4	2.2	2.45
20.	Cadmium as Cd , mg / Kg	0.019	<0.5	<0.5	2.02	0.021
21.	Chromium as Cr, mg / Kg	1.25	2.23	1.78	1.65	0.98
22.	Copper as Cu, mg / Kg	1.32	2.31	1.21	1.14	2.52
23.	Manganese as Mn,mg / Kg	1.20	4.12	5.82	4.15	2.48
24.	Nickel as Ni, mg / Kg	<2.0	<2.0	<2.0	<2.0	<2.0
25.	Zinc as Zn, mg / Kg	<2.0	4.32	5.98	6.54	2.19
26.	Arsenic as As, mg / Kg	<5.0	<5.0	<5.0	<5.0	<5.0
27.	Mercury as Hg ,mg / Kg	<2.0	<2.0	<2.0	<2.0	<2.0
28.	PAH	ND	ND	ND	ND	ND

for Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-IX) FORM-IV (2022 -23)



Report No: HWMP/ COM / ENV /25-0098

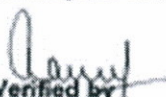
Page 2 of 2

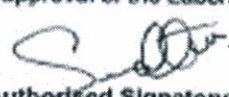
TEST REPORT FOR STACK EMISSION MONITORING

Samples are analyzed 'as is where basis is'

Sl. No 's.	Parameters	Units	Methods	Results		GSR 520 (E) Standards
				SM-230098/1	SM-230098/2	
	Stack Connected to	--	--	D.G. Set 380 KVA	D.G. Set 725 KVA	--
	Fuel	--	--	Diesel	Diesel	--
	Stack Height	M	--	6.0	6.0	--
	Stack Dia Meter	M	--	0.072	0.19	--
	Cross Sectional Area	m ²	--	0.1130	0.028	--
	Ambient Temperature (Ta)	K	--	310	312	--
	Stack Gas Temperature (Ts)	K	--	356	369	--
	Velocity	m/sec	IS-11255 (Part-1):1985	7.43	7.69	--
	Flow Rate	Nm ³ /hr	IS-11255 (Part-3):1985	3022	795	--
TEST RESULTS FOR FLUE GAS EMISSION CHARACTERISTICS						
1.	Suspended Particulate Matter as SPM	mg/Nm ³	IS:8178 Part 4	39	48	As per CFO <115
2.	Sulphur Dioxide as SO ₂	mg/Nm ³	IS:8178 Part 4	26	38	--
3.	Nitrogen Dioxide as NO ₂	g/kw-hr	IS:8178 Part 4	5.4	4.6	<9.2

- Opinion and interpretation: Nil
- Reports pertained only to the collected samples while monitoring
- Test reports shall not be reproduced except in full, without written approval of the Laboratory


Verified by
K. Ravi Kumar
Sr. Dy. Manager


Authorised Signatory
Y. Swathi
Quality Manager

For Hyderabad Waste Management Project


Authorised Signatory

(ANNEXURE-X) FORM-IV 2021-22

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Hyderabad-500 051, Telangana, India
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ISSUED TO:

M/s. HYDERABAD WASTE MANAGEMENT & PROJECT
RAVVI ENVIRONMENTAL ENGINEERS LTD
S.NO:8841, DUNDIAL VILLAGE, GANCI MAUSAMBA MANDAL,
MEDICAL DISTRICT,
TELANGANA,
INDIA.

Report Number : VLL/VLS/22/01895/002
Issue Date : 2022-05-19
Your Ref : 0400075045
Anal Date : 2021-10-21

Sample Particulars: SOURCE MONITORING FOR INCINERATOR STACK

Page 1 of 1

Sample Registration Date: 2022-05-07 Sampling Date: 2022-05-06
Analysis starting date: 2022-05-07 Analysis Completion date: 2022-05-19
Quantity received: Thimble, HNO₃/H₂O₂ and acidified KMnO₄ solution - Metals,
Samples collected at Stack Attached to Incinerator Stack;
Tests required: Heavy Metals;
SAMPLE COLLECTED BY VIMTA LABS LTD

LAB REF: EC

TEST RESULTS

Sl. No.	PARAMETERS	UOM	METHOD OF TESTING	RESULTS
1	Diameter of stack	m	-	0.85
2	Flue gas temperature	°C	-	60
3	Velocity	m/sec	-	15.35
4	Volumetric flow rate	Nm ³ /Sec	-	6.93
5	Chromium as Cr	mg/m ³	USEPA method -29	0.0010
6	Manganese as Mn	mg/m ³	USEPA method -29	0.0012
7	Cadmium as Cd	mg/m ³	USEPA method -29	0.006
8	Thallium as Tl	mg/m ³	USEPA method -29	<0.001
9	Mercury as Hg	mg/m ³	USEPA method -29	<0.001
10	Cadmium + Thallium (Cd + Tl)	mg/m ³	USEPA method -29	0.0060
11	Arsenic as As	mg/m ³	USEPA method -29	0.006
12	Antimony as Sb	mg/m ³	USEPA method -29	<0.001
13	Lead as Pb	mg/m ³	USEPA method -29	0.007
14	Cobalt as Co	mg/m ³	USEPA method -29	0.0018
15	Copper as Cu	mg/m ³	USEPA method -29	0.0019
16	Nickel as Ni	mg/m ³	USEPA method -29	0.0012
17	Vanadium as V	mg/m ³	USEPA method -29	0.0015

Instruments used: GC-FID, ICP-MS, Cold Vapor AAS and GC-MS
Minimum Detectable Limit for Metals - 0.0001 mg/m³

Dr. Subba Reddy Malampati
Group Leader - Environment

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CIN: L24110TG1920PLC011977

For Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-X) FORM-IV 2021-22

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ISSUED TO:

RES. HYDERABAD WASTE MANAGEMENT & PROJECT
RAWKY ENVRO ENGINEERS LTD
S NO 28/11, DUNDIGAL VILLAGE, GANDI MARRAMBA MANDAL
NEDCHAL DISTRICT,
TELANGANA,
INDIA.

Report Number : VLL/VLS/22/01895/001

Issue Date : 2022-05-13

Year Ref : 0400076045

and Date : 2021-10-21

Sample Particulars: SOURCE EMISSION MONITORING FOR INCINERATOR STACK

Page 1 of 1

Sample Registration Date: 2022-05-07

Sampling Date : 2022-05-09

Analysis starting date : 2022-05-07

Analysis Completion date: 2022-05-19

Quantity received: 1No. Thimble; and 2 Nos. 100ml Plastic containers; Samples collected at Stack Attached to Spray dryer;
Tests required: Oxygen, Carbon Dioxide, Carbon Monoxide, Hydrocarbons, Particulate Matter, HCl, HF, Sulphur Dioxide, and Oxides of Nitrogen;

SAMPLE COLLECTED BY VIMTA LABS LTD

LAB REF.: EC

TEST RESULTS

Sl. No.	PARAMETERS	UOM	METHOD OF TESTING	RESULTS
1	Diameter of stack	m	-	0.30
2	Flue gas temperature	°C	-	60
3	Velocity	m/sec	-	15.16
4	Volumetric flow rate	Nm³/sec	-	6.93
5	Oxygen	%	Flue Gas Analyser	16.1
6	Carbon Dioxide	%	Flue Gas Analyser	5.0
7	Carbon Monoxide	mg/Nm³	Flue Gas Analyser	92.5
8	Hydrocarbons	PPM	Flue Gas Analyser	15.7
9	Particulate Matter	mg/Nm³	USEPA method -5	23.1
10	HCl	mg/Nm³	USEPA method -28	24.1
11	HF	mg/Nm³	USEPA method -13	1.3
12	Sulphur Dioxide	mg/Nm³	Flue Gas Analyser	21.2
13	Oxides of Nitrogen	mg/Nm³	Flue Gas Analyser	108.89

Instrument Used for SO₂, NO_x, O₂, CO₂, CO and HC - Flue Gas Analyser

All the Results are corrected to 11% O₂

Minimum Detectable Limit for SO₂ - 3.4 mg/Nm³

Minimum Detectable Limit for HC - 5 PPM

Dr. Subba Reddy Mallampati
Group Leader -Environment

Life Sciences Campus, # 5, MN Science & Technology Park, Genome Valley, Shamirpet, Hyderabad - 500 101, Telangana, India
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CIN : L24110TG1890PLC011977 For Hyderabad Waste Management Project

Authorised Signatory

(ANNEXURE-X) FORM-IV 2021-22

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ISSUED TO:
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RAJESH ENVIRO ENGINEERS LTD
S.NO. 88/5, GUNDRAL VILLAGE, GANDI MA/SANMA MANDAL
MEDCHAL DISTRICT,
TELANGANA,
INDIA.

Report Number : VLL/VLS/22/01895/003
Issue Date : 2022-05-19
Your Ref : S/00070545
Anal Date : 2021-10-21

Sample Particulars: SOURCE MONITORING FOR INCINERATOR STACK

Page 1 of 1

Sample Registration Date: 2022-06-07 Sampling Date: 2022-05-06
Analysis starting date: 2022-06-07 Analysis Completion date: 2022-05-19
Quantity received: XAD Module, Filter Paper and Methanol/MoCl₅ Line washing - TOC, 11no Dragger tube, 11no. Thimble, and Line
wash-PAH Tarsal/ Adsorb cartridges - VOC;
Samples collected at Stack Attached to Incinerator Stack;
Tests required: Total Organic Carbon, Polynuclear Aromatic Hydrocarbon and Volatile Organic Compounds;
SAMPLE COLLECTED BY VIMTA LABS LTD
LAB REF.: EC

TEST RESULTS

Sl No.	PARAMETERS	UCM	METHOD OF TESTING	RESULTS
1	Diameter of stack	in	-	3.65
2	Flue gas temperature	°C	-	90
3	Velocity	m/sec	-	18.35
4	Volometric flow rate	Nm ³ /Sec	-	8.53
5	Total Organic Carbon	mg/Nm ³	USEPA method -80 & MM51E1	3.1
6	Polynuclear Aromatic Hydrocarbon	µg/Nm ³	CARB method -424	<0.05
7	Volatile Organic Compounds	µg/Nm ³	USEPA method -20 831	<0.01

Minimum Detectable Limit for VOC & PAH - 0.01 µg/m³
Minimum Detectable Limit for TOC - 0.1 mg/m³

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CIN : L24110TG1990PLC010073

For Hyderabad Waste Management Project

Authorised Signatory

LEGEND

- Office
- Store
- Workshop
- Garage
- Storage
- W.C.
- Shower
- Kitchen
- Dining
- Living
- Bedroom
- Veranda
- Porch
- Staircase
- Corridor
- Entrance
- Exit
- Gate
- Wall
- Floor
- Roof
- Foundation
- Structure
- Equipment
- Material
- Waste
- Debris
- Scrap
- Refuse
- Litter
- Garbage
- Trash
- Waste
- Debris
- Scrap
- Refuse
- Litter
- Garbage
- Trash

Sl. No.	Room Name	Area (sq. ft.)	Volume (cu. ft.)
1	Office	100	100
2	Store	200	200
3	Workshop	300	300
4	Garage	400	400
5	Storage	500	500
6	W.C.	60	60
7	Shower	70	70
8	Kitchen	80	80
9	Dining	90	90
10	Living	100	100
11	Bedroom	110	110
12	Veranda	120	120
13	Porch	130	130
14	Staircase	140	140
15	Corridor	150	150
16	Entrance	160	160
17	Exit	170	170
18	Gate	180	180
19	Wall	190	190
20	Floor	200	200
21	Roof	210	210
22	Foundation	220	220
23	Structure	230	230
24	Equipment	240	240
25	Material	250	250
26	Waste	260	260
27	Debris	270	270
28	Scrap	280	280
29	Refuse	290	290
30	Litter	300	300
31	Garbage	310	310
32	Trash	320	320

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