
EXECUTIVE SUMMARY

THE PROJECT:

To establish 1800 Tons per Day (having four streams of 450 tons Capacity). Municipal Solid Waste (MSW) Processing Plant for Conversion of MSW to compost and refuse derived fuel (RDF) with SLF at Kodungiyur Open Landfill, Kodungiyur, Chennai in the state of Tamil Nadu as per MSW Rules 2000.

Name of the Project :Integrated Municipal Solid Waste (1800 TPD) processing through Accelerated Aerobic Composting, Refuse derived Fuel Formation, Power Generation and Sanitary Landfill of Non-degradable waste

Location / site :Kodungiyur – Chennai Municipal Corporation 's Dumping site

Size of the Project :1800 TPD MSW facilities at 100 acres of Land of Chennai Municipal Corporation Kodungiyur Dump site

Expected cost of the project :Rs. 31.00 Crores

Contact Information : (1) Superintending Engineer
Solid Waste Management
Corporation of Chennai
Ripon Buildings, Chennai 600 003
Phone: 044 – 2538 4510

(2) Terra Firma (MS W) Chennai Private Limited
104, Ranka Park
No.5 Lalbagh Road
Bangalore – 560 027
Ph: + 91 80 22215412
Fax : + 91 80 22248265
E-mail : terrabilio@bgl.vsnl.net.in
rtfbl@yahoo.com

TECHNOLOGY TO BE USED:

Integrated MSW processing through aerobic bio-composting and RDF for utilization of short – term biodegradable with power generation and inert processing to eco-bricks

PROJECT PROPONENT

Terra Firma, Private Limited, Bangalore

TECHNOLOGY STATUS

In accordance with MSW processing and handling rules 2000. Also as per the recommendation of Supreme Courts Technical Committee and Inter –Ministerial Task Force under the Ministry of Urban Development, New Delhi, “Accelerated Aerobic Bio Conversion under controlled conditions to recover manure and refuse derived fuel from Municipal Solid Waste with power generation and inert processing to civil bricks

PROCESSING OPERATION

Waste receiving and processing treatment throughout the year. The technology use will be a combination of the following:

- Forced Air Composting
- Windrow composting
- Vermicomposting
- Reuse of Refuse Derived Fuel
- Rapid Biomethanation
- Brick Manufacturing out of Debris
- Scientific Landfill site
- Extraction of land fill gas from land fill site and
- Recycling of Plastic and others

THE PROCESS IN BRIEF

1. Pre-sorting of waste into compostables, recyclables & currently unusable
2. Treatment with herbals and enzymes for sanitation and accelerated biological conversion cycle.
3. Windrow formation for proper aeration and process control
4. Weekly turning (4 to 5) and moisture maintenance
5. Control of process parameters like pH, Temp, Odors, Porosity.
6. Processing of fermented biomass through on-line machines for separation grading and compost recovery
7. Quality control analysis and release of the product for market.

WHY THIS TECHNOLOGY

1. It is able to treat and process larger volumes of waste
2. It is adjustable to consume wide range of wastes such as food, garden, tree prunes, paper, meat fish slaughter house, poultry etc
3. Capacity enhancement is possible by add-on equipment
4. No risk of mishaps, accidents like methane gas leakage and explosions
5. Can receive and treat the waste for sanitization & stabilization on all 35 days even it plant is closed for periodic repair and maintenance
6. Does not require high energy input or large water volumes
7. Semi-mechanical – online system – easy to operate and maintain locally

KEY FEATURE OF TECHNOLOGY:

- Waste is sanitized with herbal extracts
- It is biostabilised with enzymes
- Rapidly fermented is achieved in compressed time cycle
- Biomass is processed through less power consuming machines
- Various grades of compost are recovered for wider user ship
- Over 90% organic waste which is main pollutant is utilized fully
- The natural carbon energy is put to use for further plant growth and harnessing of sun's energy.
- Creation of landfill Bio reactor is minimized
- Recovered product is a lifeline for health of soils

ENVIRONMENTAL ISSUES COVERED AS A PART OF THE PROJECT

- Control of odour from the project
- Control of pathogens, flies, rodents and vultures
- Control of smoke and fire

ROLE OF PROJECT PROPONENT

- To receive MSW and treat daily on a year around basis
- Maintain the site under hygienic conditions and other controls as per regulatory requirements of State and Central Pollution Control Board
- Produce compost, RDF, and other usable products as per technical committee recommendations and MSW rule 2000. This will be the property of the Terra Firma Pvt Ltd.
- Timely preparation and submission of reports to different authorities
- Maintain records, data and offers facility inspection as and when required with prior notification

ROLE OF CORPORATION

- To make available 1800 Tons per day of waste to the project site on a day to day basis
- To accord permission to use 40 acres of land for the project
- To furnish no objection certificate for getting services such as communication, power, water and drainage facilities within the project area.

BENEFITS TO CORPORATION OF CHENNAI

- Compliance of MSW Rules 2000 & other regulatory aspects
- Saving of cost on maintenance of disposal site
- Increasing the shelf life of disposal site by 6 folds
- Minimization of waste related litigations
- Hygienic working conditions for SWM workers
- Protection of aesthetic value of the city
- Project operation in eco friendly with international standards
- Integration of recovered product usage with national theme

- Municipal Solid Waste will be treated in scientific manner as per MSW Handling Rules 2000

RECOVERED PRODUCTS FROM MSW

1. Soil friendly compost
2. RDF
3. Plastics/metals/glass etc.
4. Eco bricks from inert processing

COMPOST AND POTTING MEDIA

- Highly useful for improving organic carbon content of soils and supplementation of trace element requirements
- The products will be useful in improving the efficiency of fertilizers and conservation of moisture
- Compost will be extremely useful as organic soil conditioner

RDF- GREEN COAL

- The lignite content of MSW having high calorific value will be processed into green coal. This will be supplementing the fuel requirement from other sources
- The calorific value of processed green coal will be 3200 to 3800 kcal/kg. Fixed carbon 10 – 12% sulphur content, <0.7 % and ash content of 20 to 25%

CIVIL BRICKS

- Civil bricks and hollow blocks which can be used in compound walls, pedestrian pathway, walkways, public places and gardens etc.