

## **Criterion VII – Institutional Values and Best Practices**

### **7.1 Institutional Values and Social Responsibilities**

#### **7.1.3 Facilities in the Institution for the management of degradable and non-degradable waste**



**MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE**

**363, Arcot Road, Kodambakkam, Chennai – 24**

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**Website : [www.msec.edu.in](http://www.msec.edu.in)**

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**PRINCIPAL  
MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE  
363, ARCOT ROAD, KODAMBAKKAM,  
CHENNAI-600 024**



## MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE

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### 7.1.3 Description of the facilities in the Institution for the management of the following types of degradable and non-degradable waste

- a) Solid waste management
- b) Liquid waste management
- c) Biomedical waste management (NA)
- d) E-waste management
- e) Waste recycling system
- f) Hazardous chemicals and radioactive waste management (NA)

#### (A) SOLID WASTE MANAGEMENT

MSEC has taken various initiatives towards waste management. The Institute follows the principle of 3R (Reduce, Reuse and Recycle) to meet its objective of Sustainable Development by bringing ecological balance.

The vegetable waste from the canteen is disposed of regularly to keep the campus clean. However, waste is generated by all sorts of routine activities carried out in the College that includes paper, plastics, glass, metals, foods, etc. The college believes its utmost responsibility to remove all waste not only for the safety of the students but also not to harm the environment.

Adequate number of trash cans and dust bins are placed all over the campus. The collected waste is disposed-off with the help of Municipal Corporation on a daily basis. Waste generated in the college is segregated using different coloured ( Blue ,Yellow ,Green) dustbins placed in the premises.

Composting facility is available for managing biodegradable/horticulture waste. Recyclable waste, dry waste and biodegradable/wet waste are processed and recycled. The paper-recycling unit, which has been operational in the college, generates fine quality paper which is used for various activities. The institute promotes minimal plastic usage and encourages staff and students not to use plastic in the premises.

Various awareness campaigns are organized on waste management. To sustain eco-friendly and green enabled campus, NSS programs like Swachh Bharat, Clean & Green activities and plantation in campus are regularly conducted.

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**Facilities in the Institution for the management of degradable and non-degradable waste**



**Fig. 1: Main Block Back side - Solid waste Management: Segregation of waste**



**Fig. 2: Civil Block - Solid waste Management: Composting Back side**

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Fig. 3 : Civil Block - Solid waste Management: Composting - Back side



Fig. 4: Civil Block - Solid waste Management: Composting - Back side

### (b) LIQUID WASTE MANAGEMENT

Water conservation has become the need of the day. Rainwater harvesting is a way to capture the rainwater at the time of downpour, store that water above the ground or charge the underground water and use it later. The Institution has significant provisions for rainwater harvesting. The rain water is channelized properly to recharge the ground water level. Adequate arrangements are made to collect the roof water during rain is in place.

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### Rainwater harvesting:

Rain water harvesting system involves gathering of rainwater that runs from roof top, garden, road and playground. This is done to preserve the runoff water. This is one of the best solutions to tackle the present water crisis.

### Objectives of rainwater harvesting:

- Recharge the groundwater sources.
- Reduce the loss of water by runoff.

### Facilities provided for harvesting the rainfall in our campus:

MSEC, affiliated to Anna University is managed by Ganapathy Educational trust. The total strength of campus including students and staff is more than 3000. Water is the natural resource that is essential in life, always in high demand. Hence, keeping in view, rain water harvesting system can be considered as the best solution for fighting against water scarcity in campus. The rain water runoff harvested from roof top, garden, playground and other open lands is used to recharge the underground water potential and also reduce flood risk and improve living condition.

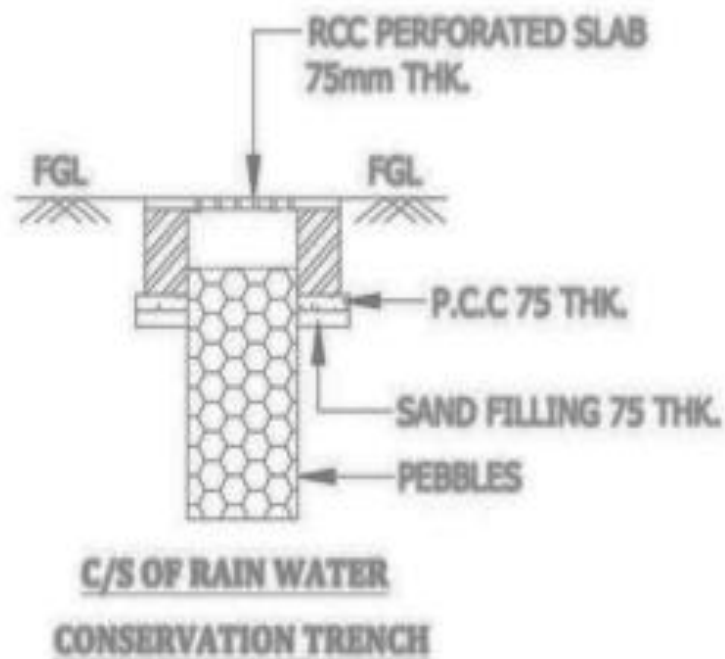


Fig. 5: Rain water Conservation Trench

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The rain water conservation trenches as shown in the above figure are provided around the campus. This is one of the easiest and most effective means of harvesting rainwater. This conservation trench is about 10 feet height and also 5 feet width and 5 feet breadth in size, is filled with pebbles about a height of 7 feet. The trench is covered with perforated slabs wherever necessary. The rain water runoff collected in the trench is treated by the pebbles and the water enters into the ground in such a way that the groundwater potential is recharged. Closed canals are provided continuously around the campus to collect the rainwater runoff and discharged into the conservation trenches. These canals are provided continuously, i.e. excavated in the ground and then closed by perforated concrete slabs.

During heavy rainfall, (more than the average rainfall) the excess rain water flows through the canal and enters into the conservation trench, the excess water that gets overflowed will be collected in a sump that is constructed in the nearby trench. The water collected in the sump could be lifted to an overhead tank.

The average rainfall of Chennai city is 120 cm (Regional Meteorological Centre, Chennai). With this rainfall, our land comprising of 5 acres, harvests nearly 20 million litres of water per year. (against the total requirement of 160 million litres per year, nearly 12.5% requirement achieved by rain water harvesting system) This water directly enters in to the ground and enhances the quality and quantity of the existing ground water potential.

This type of ground water recharge improves our ground water potential, makes our garden green and provides a good environment to our students and staff. So our campus has well established system to make a sustainable environment.

### Through Rain water harvesting

100 cm rain fall

Height of rain fall: **100 cm = 1m**

Area: **5 acres = 20234.28 metre square**

Volume = area \* height

= 1 m \* 20234.28 metre square

= 20234.28 meter cube

= 20234.28 \* 1000 (convert meter cube to litres)

= 20234280 litres

**= 20 Million litres**

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**Fig. 6: Liquid waste Management: Effective rain harvesting system**



**Fig. 7 : Rain Water Harvesting**

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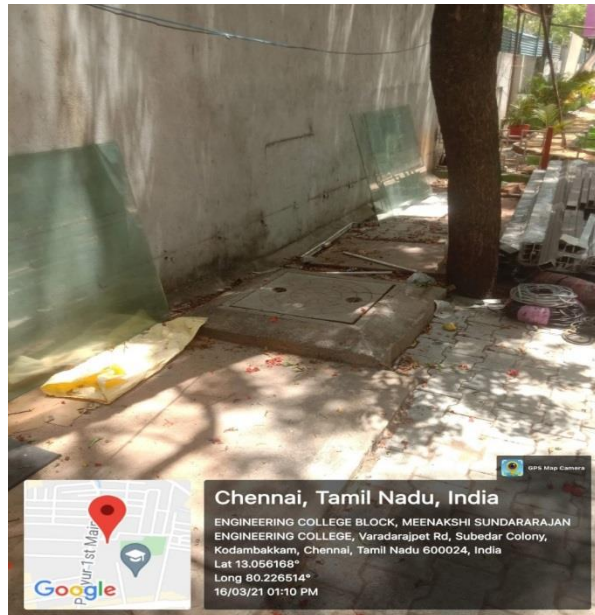


Fig. 8 : Septic Tank-Disposal System

### (c) BIOMEDICAL WASTE MANAGEMENT

Biomedical waste is not produced in the college and management of the same is not required.

### (d) E-WASTE MANAGEMENT:

E-waste generated from various departments which cannot be reused or recycled is being disposed off centrally through certified eco-friendly vendors. Instead of buying a new machine, a buyback option is taken for technology upgrade. Any damages or reductions in capacity are set right by repairs. In addition, the college has emphasis on minimum paper usage to save carbon emission in printers.

E-waste is given to registered vendors, with an undertaking that the same will be processed or recycled in an environmentally sound manner as per the guidelines of Government of India. The e-waste includes

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a wide range of electronic and electrical items such as computers, printers, keyboards etc. Electronic machines and goods are put to optimum use. The institute takes efforts to minimize e-waste by repairing the computer peripheral and electronic components.

### E-Waste disposal()

### E-Waste disposal(2019-20)

#### Reasons for scrap:

S.No	System Model	Date of Purchase	Stock Details		Reason for Scrap
1.	D530	10-09-2004	Main Stock Register – I		Non-repairable spare parts
			S.No.86,	Pg No.51	
2.	DX7200	26-04-2006	Main Stock Register – I		32-bit system with no support for latest operating system and software.
			S.No.117,	Pg No.61	
3.	DX2280	03-12-2007	Main Stock Register – I		Non-repairable spare parts
			S.No.163	Pg No.51	
4.	DX7400	07-03-2008	Main Stock Register – I		32-bit system with no support for latest operating system and software.
			S.No.175,	Pg No.105	
5.	DX2480	31-07-2008	Main Stock Register – I		Non-repairable spare parts
			S.No.181,	Pg No.109	

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### (e) WASTE RECYCLING SYSTEM

- i. Vermicomposting
- ii. Waste Paper Recycling

Institution has taken initiatives towards waste management. The Institute follows the principle of 3R (Reduce, Reuse and Recycle) to meet its objective of Sustainable Development by bringing ecological balance.

The vegetable waste from the canteen is arranged to be disposed of regularly to keep the campus clean. Being an educational institution, the college does not generate any hazardous waste. Composting facility is available for managing biodegradable/horticulture waste. Recyclable waste, dry waste and biodegradable/wet waste are processed and recycled.

#### **i. Vermicompost**

Vermicompost is the product of the decomposition process using various species of worms, usually red wigglers, white worms, and other earthworms, to create a mixture of decomposing vegetable or food waste, bedding materials, and vermicast. This process is called vermicomposting, while the rearing of worms for this purpose is called vermiculture. It is one of the easiest methods to recycle agricultural waste and to produce quality compost; the earthworms consume biomass and excrete it in digested form called worm casts. Worm casts are popularly called as black gold. The cast are rich in nutrients, growth promoting substance and having properties of inhibiting pathogenic microbes. Vermicompost contains more of available nutrients than regular FYM or compost. Vermicomposting process is an answer to meet a huge demand of organic manure for popularizing the organic farming system in developing and underdeveloped countries of the world. The developed design of low cost vermin composting structure is capable of meeting the technological requirement for mass production of vermicompost.

It is one of the easiest methods to recycle waste and to produce quality compost earthworms which consume biomass and excrete its digested form called worm casts. It is cost efficient and economical than regular compost.



Fig. 11: Civil Block - Solid waste Management: Composting - Back side

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## ii. Waste Paper Recycling WASTE RECYCLING (2022)

**NET**

**WOW**  
WELL BEING OUT OF WASTE

To  
MS. MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE  
ARCOT ROAD  
KODAMBAKKAM  
CHENNAI 600 024

Date: 21st Feb'2022

Dear Sir/Madam,

**DELIVERY CHALLAN – A4 Paper Reams**

*Greetings from "WOW – Well Being out of Waste"; a National Recycling Initiative by ITC Ltd PSPD and Nish Elgha Technologies Pvt Ltd !*

*Our heart full thanks to your Organization for being part of WOW initiative. Reference to the enclosed statement of Collections of dry recyclable waste material, we are dispatching the A4 Paper JK Brand – Paper Reams of 75 GSM as an exchange towards the collections made.*

*Details are mentioned in the below table:*

Period on: Jan'2022

SL	Name of the Client	Segment	Location	Total Quantity in kgs	Total Amount	No. of A4 Paper Reams
1	Meenakshi engg college	Educational Institutes	Kodampakkam	485	4170	21

JK 75GSM RED COPIER RS 197.00 PER REAM

Kindly acknowledge the photocopy of this Dispatch Note and retain the original for your office records.

For WOW-Chennai  
*M. Swaminathan*  
M.Swaminathan

Nish Elgha Technologies Pvt Ltd , Under ITC Ltd-WOW ( Well Being out of waste)  
SF No.651/3A, No.14,Anjaneyar Kovil Street, Vengaivasal, Madambakkam, Chennai 600 073  
Helpline 9677100845 / 9840922432 / 044-2278 0899 / [chennaiwow@nishelgha.com](mailto:chennaiwow@nishelgha.com)

*J. S. S.*

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**NET**

**COLLECTION CHALLAN**

From : M/s. MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE  
GST: 33AABCN8496K1ZY  
In Time :  
Vehicle No. : TN 11 AH 8134  
Date: 29-01-2022  
SUB : MADAMBAKKAM  
In Time :  
Out Time:  
Concerned Person: Mr./Mrs. 1992  
Sl. No.

Dear Sir / Madam  
In compliance with "WOW" implementation for collection of dry waste from your organisation, we confirm having collected the following "Dry Recyclable Waste" for your premises today.

SL	DESCRIPTION	QTY (kg)
1	White / Office Records / Shredded Waste	
2	Color Records	194 kg
3	Old News Papers	116 kg
4	Mixed waste	168 kg
5	Kraft	07 kg
6	Others	
<b>TOTAL QTY</b>		<b>485 kg</b>

Thanking you,

Team WOW

Acknowledged by

Supervisor: *Bakiraj*

*V. Lakshmi*

**NISH ELGHA TECHNOLOGIES PVT. LTD.**

Tel No. 044 22780899 | CIN: 7220AP2001PTC36634  
(Associates for ITC's WOW Initiative)

SF No.651/3A, Flat No.14, Anjaneyar Koil Street, Madampakkam, Chennai - 600 073.  
Contact: R.Saravanan - 98409 22432, M.Swaminathan - 96771 00845, G.Kudiyarasu - 99440 15467





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WoW ( Well Being out of Waste ) a National Recycling Initiative By ITC LTD,  
 In Association with Nish Elgha Technologies Pvt Ltd  
 14, Anjaneyar Koil Street, Madambakkam  
 Chennai 600 073  
 9840922432 / 044 - 2278 0899

Date	Source of Collection	ONP	Rate	AMT	White Waste	Rate	AMT	Kraft	Rate	Amt	Color Record	Rate	Amt	TOTAL QTY	Total Amt
29.01.2022	MEENAKSHI SUNDARRAJAN ENGINEERING COLLEGE	168	9.5	1596	194	9.5	1843	7	5	35	116	6	696	485	4,170.00

For WOW-Chennai

*M. Swaminathan*  
 M.Swaminathan  
 9677100845

WoW ( Well Being out of Waste ) a National Recycling Initiative By ITC LTD,  
 In Association with Nish Elgha Technologies Pvt Ltd  
 14, Anjaneyar Koil Street, Madambakkam  
 Chennai 600 073  
 98409 22432 / 044 - 2278 0899

Date	Source of Collection	ONP	Rate	AMT	White Waste	Rate	AMT	TOTAL QTY	Total Amt	Vehicle No
29.10.2022	MEENAKSHI SUNDARRAJAN ENGINEERING COLLEGE			0	345	9	3105	345	3,105.00	TN22M8160
01.11.2022	MEENAKSHI SUNDARRAJAN ENGINEERING COLLEGE	30	10	300	330	9	2970	360	3,270.00	TN22BX4854
							Total	705	6,375.00	

For WOW-Chennai

*M. Swaminathan*  
 M.Swaminathan  
 9677100845

*J. Srinivasan*

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## A4 reems received against the Waste paper Disposal (2022)

**NET**

**WOW**  
WELL BEING OUT OF WASTE

DC No.0218  
Date: 18th Nov'2022

To  
MS. MEENAKSHI COLLEGE FOR WOMEN  
ARCOT ROAD  
KODAMBAKKAM  
CHENNAI 600 024

Dear Sir/Madam,

**DELIVERY CHALLAN – A4 Paper Reams**

*Greetings from "WOW – Well Being out of Waste"; a National Recycling Initiative by ITC Ltd PSPD and Nish Elgha Technologies Pvt Ltd !*

*Our heart full thanks to your Organization for being part of WOW initiative. Reference to the enclosed statement of Collections of dry recyclable waste material, we are dispatching the A4 Paper JK Brand – Paper Reams of 75 GSM as an exchange towards the collections made.*

*Details are mentioned in the below table:*

Period on: 29.10.2022 to 01.11.2022

SL	Name of the Client	Segment	Location	Total Quantity in kgs	Total Amount	No. of A4 Paper Reams
1	Meenakshi college	Educational Institutes	Kodampakkam	705	6375	23 - 1 = 22

JK 75GSM RED COPIER RS 275.00 PER REAM

Kindly acknowledge the photocopy of this Dispatch Note and retain the original for your office records.

For WOW-Chennai  
*M. Swaminathan*  
M.Swaminathan

Nish Elgha Technologies Pvt Ltd , Associate with ITC Ltd-WOW ( Well Being out of waste)  
SF No.651/3A, No.14,Anjaneyar Kovil Street, Vengaivasal, Madambakkam, Chennai 600 073  
Helpline 9677100845 / 9840922432 / 044-2278 0899 / [chennaiwow@nishelgha.com](mailto:chennaiwow@nishelgha.com)

### (F) HAZARDOUS CHEMICALS AND RADIOACTIVE WASTE

Live (hazardous) waste is discarded after autoclaving (killing the microbes before discarding).

Radioactive waste is not generated in the college.

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