

**SRI VENKATESWARA
COLLEGE OF
ENGINEERING**



**Prepared by:
ECO SERVICES INDIA
PRIVATE LIMITED**

**GREEN, ENVIRONMENT &
ENERGY AUDIT REPORT:
2022 - 2023**



22nd December 2023

Certificate

This is to certify that we have conducted a Green, Environment & Energy (GEE) Audit for the Academic Year 2022 – 2023 at the **Sri Venkateswara College of Engineering (SVCE) campus** located in Pennalur Village, Sriperumbudur Taluk, Kancheepuram District, Tamil Nadu

The audit broadly covered the following components in the campus,

- Biodiversity Aspects of Campus
- Solid Waste, Hazardous Waste and Bio-Medical Waste Management
- Water Conservation and Waste Water Management
- Operations of Sewage Treatment Plant (STP) Facilities
- Rain Water Harvesting Facilities
- Renewable Energy/Energy Conservation Aspects
- Transportation Facilities and Carbon Footprint Reduction
- Green Campus/Environmental Promotional Initiatives

The activities and management of various components mentioned above have been verified and found satisfactory. The efforts taken by the management, faculties and students towards Environmental Consciousness and Sustainability are highly appreciated and commendable.

For Eco Services India Pvt. Ltd.,

Sushmitha D.
22/12/23

Sushmitha D.

Accredited EIA Coordinator (NABET)



Declaration

Our team member has inspected the campus physically towards conducting Green Environment & Energy Audit. We hereby declared that the given audited information's regarding particulars of the Sri Venkateswara College of Engineering campus in the report is correct and we certified the same.



For Eco Services India Private Limited

A handwritten signature in blue ink, appearing to read "D. Gul".

NABET Accredited EIA Coordinator

1.0 Introduction

1.1. About SVCE

Sri Venkateswara College of Engineering (SVCE), managed by Sri Venkateswara Educational and Health Trust (SVEHT) is the one of the pioneer engineering institution in the state inaugurated to foster the academic community since its inception in 1985. The institution implements Engineering programs to promote research, to disseminate knowledge, to exchange of ideas between the academic community & industrial organizations and to develop entrepreneurship skills among students. It strives to achieve academic excellence along with the harmonious development of personality of students for the nearly 4 decades.

SVCE spread over on the 95 acres vast lush green campus located at the Pennalur Village i.e at the western outskirts of Chennai. The campus houses in architecturally exquisite buildings with ample infrastructure such as Laboratories, Workshops, Faculty Rooms, Office, Conference Hall, Dispensary, Technology Innovation Centre, Staff Quarters, Guest House, Open Air Auditorium, Library, Canteen, Hostels, Swimming Pool, RO Plant, Gymnasium, Indoor Sports Facility and Play Grounds.

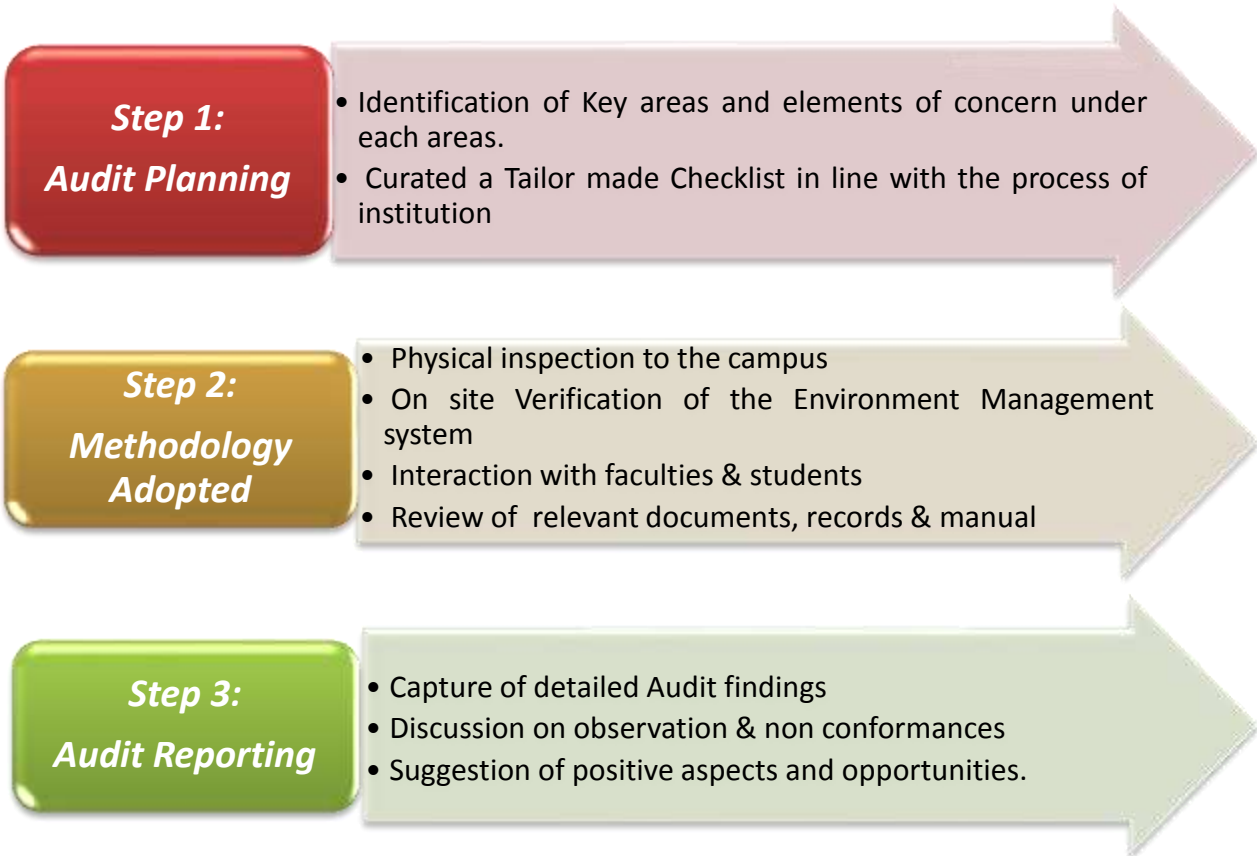
1.2. Environmental Framework of Institution

SVCE prioritize its Environmental Consciousness and sustainability initiatives and have framed an Exclusive Environmental & Green Policy to be adopted by the institution to achieve the objectives. In order to evaluate their commitment towards environment & sustainability, the Green, Energy & Environment Audit shall be conducted in every Academic year. Hence, SVCE has engaged Eco Services India Private Limited to evaluate, audit and report the Environmental Management & sustainability initiatives and efforts practiced at their institution.

The audit also reviews the extent to which the campus activities are in compliance with the applicable regulations, policies and standards pertaining to the environmental entirety of the campus. In addition, the specific Environmental objectives set for the institution were evaluated to ensure the Environment & Sustainability Framework of the institution is in place.

2.0 Audit Framework

The Audit Team understood the scope of work and framed the below audit Framework in the following steps.



3.0 Audit Findings

The Audit Findings against environmental objective/area/aspects were evaluated and enlisted in the below table. The supporting documents & detailed information about the Environmental Management Measures and other initiatives is appended as Annexures.

Table 3.1 Detailed Audit Findings:

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
Environmental Objectives	<ul style="list-style-type: none"> To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly life style and habitats 	<ul style="list-style-type: none"> Students and Faculties understood the institution’s commitment to make the campus Plastic Free zone and involved in various environmental campaigns from time to time. Signage boards on Plastic Free Zone are observed in various points of the campus. Photographs showing the plastic Free Zone are furnished. The faculties and other staffs were mindful about their responsibilities in adopting and encouraging Environmental & sustainable practices.
	<ul style="list-style-type: none"> To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation and involvement to promote and implement sustainability goals. 	<ul style="list-style-type: none"> An Environmental Committee incorporating faculties & students is in place and it meets regularly to promote environmental initiatives. Students informed that Environmental Science and Engineering (GE18251) is part of their curriculum that inculcates environmental consciousness among them. Students were encouraged to go Field visits to understand the significance of environment. Committee advices & overviews the environmental and sustainability practices of the institution.
	<ul style="list-style-type: none"> To advance governance regarding environment compliance and employ 	<ul style="list-style-type: none"> Encouraging the students and faculties to follow 3R(Reduce, Reuse & Recycle) Waste being generated from the campus is treated and reused

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	<p>methods to reduce the waste, and conserve energy, and water consumption.</p>	<p>within the campus.</p> <ul style="list-style-type: none"> • Reuse of treated sewage about (114 KLD) for green belt maintenance is being observed.
	<ul style="list-style-type: none"> • To improve the biodiversity in the campus 	<ul style="list-style-type: none"> • During the assessment Year 2022 – 2023, totally 200 flowering plants & 30 Nos. of tree saplings are planted and maintained within the campus. • Flowering species & Non Flowering plants developed to add the aesthetics of the campus. • 20 – 30 years deep-rooted Trees were seen and maintained • Nectar yielding species planted to attract insects and butterflies. • 2 Micro Habitats were created to habit different forms of insects, Squirrels and birds • Fleet of butterflies around the shrubs was naturally seen • Greenbelt Development was envisaged around the periphery of the campus. • Water Bowls & Feeder Boxes were fastened/placed under in trees to cater the birds & pets. <p>(Photographs of flora and Fauna attached as Annexure I)</p>
	<ul style="list-style-type: none"> • To be recognized as Eco Friendly and Green Campus. 	<ul style="list-style-type: none"> • Composting yard for management of littered horticultural wastes was observed. • Bio Gas Plant operation is observed which treats Food wastes from canteen • E-Shuttles were employed to facilitate low carbon operations. • Eco friendly practices such as avoiding Single Use Plastics, Lush

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
		green belt maintenance, solar energy utilization and operation of In-situ STP were observed.
Energy Conservation	<ul style="list-style-type: none"> Utilization of Solar Energy 	<ul style="list-style-type: none"> Photovoltaic Panels of 35 KW was installed over the Terrace in one of Academic blocks. The Photographs of solar panel & Solar heater is enclosed as Annexure - II) Solar water heaters are installed in the hostel blocks
	<ul style="list-style-type: none"> Use of LED Bulbs/ energy saving Fixtures 	<ul style="list-style-type: none"> All the lighting Fixtures inside the Admin Block, New Library Block, and Canteen and in some Hostel Blocks are LED types. It is informed that eventually all the CFL Lamps are being replaced with LED fixtures.
	<ul style="list-style-type: none"> Transportation & Carbon Footprint Reduction 	<ul style="list-style-type: none"> E – shuttles facilities could be seen in the campus Students & staffs were encouraged to opt of common/ college bus & E – Shuttle services to minimize the travel carbon foot print. Fuel Free - Material handling carts employed to save fuel <p>The Photographs of transportation services (Diesel vehicles & E-shuttles) is enclosed herewith as Attached as Annexure - III</p>
	<ul style="list-style-type: none"> Bio gas & other alternative fuels 	<ul style="list-style-type: none"> Institution operates a Biogas Plant (35 Cu.m capacity) to treat the food waste. Bio gas storage cylinders available for reuse in Kitchens was seen. The Photographs of Bio gas plant components enclosed as Annexure - V
Water Conservation	<ul style="list-style-type: none"> Rain Water Harvesting 	<ul style="list-style-type: none"> Huge Rain water harvesting pond observed at the site. (4 MLD) Internal storm drains were constructed to have their outfall to the Pond.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	<ul style="list-style-type: none"> Recycling of treated sewage/ water 	<ul style="list-style-type: none"> Excess storm runoff collected was stored, treated and reused for Flushing & gardening purposes. Exclusive WTP can be seen for the storm runoff treatment.
	<ul style="list-style-type: none"> Water Quality 	<ul style="list-style-type: none"> Water Treatment Plant (200 KLD) was operated to treat the raw water. The Photographs of WTP enclosed as Annexure IV Reports from NABL Accredited labs were reviewed and qualities of water samples are well within the ISO 10500:2012 standards.
	<ul style="list-style-type: none"> Water Distribution system 	<ul style="list-style-type: none"> Drinking Water distributed through Water Dispenser bottles and dispatched to classrooms and all other blocks.
Waste Management	<ul style="list-style-type: none"> Municipal Solid Waste Management 	<ul style="list-style-type: none"> Campus declared to be a Plastic Free Zone Tri color Bin – Collection System near the entry/exit of can be found near Blocks, Canteens & common areas. Workers stated that Organic Waste generated is treated in Bio gas plant and the horticultural wastes were treated in a separate Composting Yard. Bio Gas flow records reviewed and found effective. It is informed that recyclable plastic and paper waste is stored and periodically handed over to ITC wealth out of Waste Recycling drive. The Bio gas plant Photographs attached as Annexure – V
	<ul style="list-style-type: none"> E-waste management 	<ul style="list-style-type: none"> Separate Room stacked with E waste components CPU, Monitors etc. is inspected. The MOUs & Photos of E Waste storage room attached in Annexure – VII.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
	<ul style="list-style-type: none"> Hazardous Waste Management 	The Spent lube oil derived from DG sets is stored separately.
Air Emissions & Control	Stack Emissions	<ul style="list-style-type: none"> Exhaust Stack connected to for 3 Nos. of Diesel Generator sets. Stack Height is in line with CPCB Norms and Consent issued. Photographs showing the existing Exhaust of Chimney of DG Set, Acoustic enclosure are enclosed.
Waste Water Management	<ul style="list-style-type: none"> Treatment options available 	<ul style="list-style-type: none"> Conventional Activated Sludge Process Based STP is seen under operation. Tertiary Treatment systems Ultra Filtration installed to increase the quality of treated sewage.
	<ul style="list-style-type: none"> Waste water Quality 	<ul style="list-style-type: none"> Month wise STP Outlet Sample Test Reports was reviewed. Environmental Monitoring Reports shows that the Treated Sewage meets the TNPCB Norms.
Green Campus & Environment Initiatives	Environmental awareness workshops	<ul style="list-style-type: none"> Environmental Committee framed combining students & faculties. The Hierarchy chart with Qualification was verified. Institution has created the active CARE Eco club conducting activities. Tree Sapling plantation programs have been conducted during the month of April 2023 to create environmental awareness. Institution is regularly conducting Seminars and awareness programmes to highlight the principle of Sustainability in every seminars & programs The Photos & list of activities carried out to promote environmental awareness can be seen in Annexure – X.

Area/Aspect	Objectives/Criteria	Audit observation on Implementation
Statutory Compliance	Compliance with the Statutory Requirement.	<ul style="list-style-type: none">• Environmental Clearance from State Environment Impact Assessment Authority dated 29.04.14 is available and reviewed.• Renewed Consent To Operate under Air & Water Acts is obtained from Tamil Nadu Pollution Control Board on 23.08.2022 valid till 31.03.2027.• Hazardous Waste Authorization obtained under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 from Tamil Nadu Pollution Control Board.

Annexures

Annexure I

Bio Diversity:

The educational Institution Campus has already planted adequate numbers of saplings all along the periphery and inside the campus, roadways and available open spaces. The major aim of greenbelt development plan is to attenuate air pollutants released into the environment but it can also help in overall improvement in the environmental conditions of the campus.

Floral Diversity:

The plan will address the following issues such as attenuation of air pollution, noise reduction, improving the biodiversity of the region, adding aesthetics and combating soil erosion and prevention of land degradation.

A well designed green-belt helps in intercepting particulate matter and gaseous pollutants and helps in purifying the air. Trees acts as effective barrier and absorber of noise. The green belt around the campus acts as an indicator in the event of release of gaseous emission by visible morphological changes in the leaves, stem etc.

To accrue the benefits of greenbelt and to maximize its potential in environmental management around the campus, choice of the green belt tree and shrub species plays a vital role. About 1430 nos. of trees and 650 nos. of Shrubs are planted and the details of trees and shrubs species are furnished below.

List of tree species planted:

S. No.	Common Name	Botanical Name	Tamil Name
1.	Royal poinciana	Delonix regia	Sengonrai Maram
2.	Fishing rod tree	Pterospermum suberifolium	Taddaemarum
3.	Flame of the forest	Butea monosperma	Kincukam
4.	Trumpet/ Yellow Snake tree	Stereospermum colais	Vasantha Rani
5.	Ceylon ebony tree, East Indian Ebony	Diospyros ebenum	Karingali
6.	Jodpakli	Dimorphocalyx glabellus	Thenthukk

S. No.	Common Name	Botanical Name	Tamil Name
7.	Seashor Mempari, Pongam, Indian Beech	Pongamia pinnata	Pongam
8.	Alexandrian laurel	Calophyllum inophyllum	Punnai maram
9.	Indian lilac	Azadirachta indica	Malai vembu
10.	Rain Tree	Samanea saman	Seema vaigai
11.	Banyan	Ficus benghalensis	Aalam
12.	Fig tree	Ficus glomerata	Atthi maram
13.	Strangler fig	Ficus aurea	Atthi maram
14.	Noni	Morinda tinctoria	Nuna maram
15.	Neem	Azadirachta indica	Vembu
16.	Indian bael	Aegle marmelos	Vilva maram
17.	Tamarind tree	Tamarindus Indica	Puliyamaram
18.	Rosy trumpet tree	Tabebuia rosea	Vasantharani Tree
19.	Royal Palm	Roystonea regia	Panamaram
20.	Fishtail Palm	Caryota urens	Panamaram
21.	Table palm	Livistona Rotundifolia	Panamaram
22.	Areca palm	Dyopsis lutescens	Date Palm
23.	Date palm	Phoenix dactylifera	Date tree
24.	Copperpod	Peltophorum pterocarpum	Perungondraii maram
25.	Ironwood tree	Cassia Siamea	Sinnakennai
26.	Casuarina	Casuarina junghuhniana	Savukku maram
27.	Zebra wood	Guettarda speciosa	Panneer maram
28.	Devils Tree	Alstonia scholaris	Ezilai aalai
29.	Kadam	Neolamarckia cadamba	Kadamba maram
30.	Malabar Neem	Melia dubia	Malai Vembu
31.	Teak	Tectona grandis	Thekku maram
32.	Beach-almond	Terminalia bellirica	Than-dri kai maram
33.	Golden Shower, Indian Laburnum	Cassia fistula	Sarakondrai
34.	Indian cork tree	(Millingtonia hortensis	Mara malli
35.	Cannon Ball Tree	Couroupita guianensis	Nagalinga maram
36.	Indian ash tree	Lannea coromandelica	Othiyam maram

S. No.	Common Name	Botanical Name	Tamil Name
37.	Malabar plum	Syzygium cumini	Naval maram
38.	Bullet Wood	Mimusops elengi	Makila maram
39.	Butter tree	Madhuca longifolia	Iluppai maram
40.	Mango tree	Mangifera indica	Maa amram
41.	Bastard poon tree	Sterculia foetida	Pootha karapaan
42.	Peacock flower fence	Adenantha pavonina	Annai kundrimani
43.	Indian laurel	Terminalia elliptica	Neer mathi
44.	Sea almond	Terminalia catappa	Badam tree
45.	Gooseberry tree	Phyllanthus emblica	periya nelli maram
46.	Indian rock fig	Ficus arnottiana	Kallala maram
47.	Notched Leaf Soapnut	Sapindus emarginatus	Poovandikottai Maram
48.	Mahogany	Swietenia macrophylla	Mahogany
49.	Orchid tree	Bauhinia variegata	Mantharai
50.	Orchid tree	Bauhinia racemosa	Mantharai
51.	Singapore Cherry	Muntingia calabura	
52.	River tamarind	Leucaena leucocephala	Peru-n-takarai
53.	Nipa palm	Nypa fruticans	Panamaram
54.	Guava	Psidium guajava	Guava
55.	Pala indigo	Wrightia tinctoria	Veppalai
56.	Yellow Bells	Tecoma stans	Nagasambagam
57.	Earleaf acacia	acacia auriculiformis	Kaththik karuvel
58.	Champak	Magnolia champaca	Sambagam
59.	Manorangini	Artabotrys hexapetalus	Manoranidam





Photographs showing Green Cover within the campus

Faunal Diversity:

It was also noted during the audit, a micro habitat was created within the campus with aim of marinating the biodiversity of the campus.

In order to attract butterflies, 20 species of nectar-yielding saplings were planted. As a result of planting a total of nearly 40 species of butterflies have been identified in the Micro Habitat. A well-maintained lawn alone will not attract butterflies, other insects or smaller life forms.



Photographs showing Microhabitat developed in the campus



Photographs showing Plastic Free zone within the college campus

Annexure II

Power Requirements & Energy Sources

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliances, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment. However, many may not realize how much influence the higher education sector has in the larger energy market. Energy sources utilized by all the departments and common facility centers include electricity.

Major use of energy is in office, canteen, hostels and laboratories for lighting, and laboratory work. Energy consumption by major energy. The total connected load is 1089 kVA and sanctioned demand from TNEB is 9000 kVA. The campus is achieved utilizing the Solar Energy to generate 35 kwh out of the total consumption. Furthermore the followings are adopted as energy conservation measures in the campus.

Transformer and Diesel Generator Details

S.No.	Power House	Transformer	Qty	Total Capacity
1	Sub Station	500 kVA	3	1500 KVA

S.No.	Generators	Capacity	Qty	Make	Status
1	DG sets 1	500 kVA	1 Ns	Powerica	Under Operation condition
2	DG sets 2	500 kVA	1 Ns	Powerica	Under Operation condition
3	DG sets 3	380 kVA	1 Ns	Powerica	Under Operation condition

Estimation of Energy Savings:

S. No.	Description	No. of fixtures	Power consumption without Energy saving measures		Power consumption with Energy saving measures	
			Load per Fitting (in watts)	Total load (in watts)	Load per Fitting (in watts)	Total load (in watts)
1	Lighting Fixtures					
a	New Library Block	430	70	30,100	45	19,350
b	Admin Block	62	70	4,340	40	2,480
c	Canteen & Hostel Blocks	270	50	13,500	21	5,670
d	Common area	135	80	10,800	30	4,050
2	External Lighting Main Gate, Workshop & Hostel Block Lighting	21	250	5,250	72	1,512
3	Lifts	2	8,000	16,000	5,000	10,000
	Total	920		79,990		43,062
Energy saving through energy efficient devices					37 KW (36,928 Watt)	
Energy saving through Solar power					35 KW (35,000 Watt)	
Total Energy Saving					72 KW	
Percentage Energy Saving w. r. t. power requirement					7.77 %	



Photographs showing Diesel Generator with Acoustic enclosure & Stack Arrangements



Photographs of Solar panels & Solar Water Heater

Annexure III Transportation Facilities

Majority of the students in the campus rely on public transport, and the transport service provided by the educational institution indicating lesser carbon foot print of the student community. The institution has also provided E vehicles for commuting the students & staffs within the Campus. Diesel buses for commuting the students & staffs from various parts of city in daily basis.



Photographs showing Transportation facilities (E Shuttle & Buses)

Annexure IV
Water & Waste Water Management

The Campus Water Requirement is reported as 408 KLD and their Fresh Water Requirement is said to be 171 KLD (which is being sourced through the Private Tankers water supply and treated in Water Treatment Plant with a capacity of 200 KLD) and the Flushing water requirement is 237 KLD.

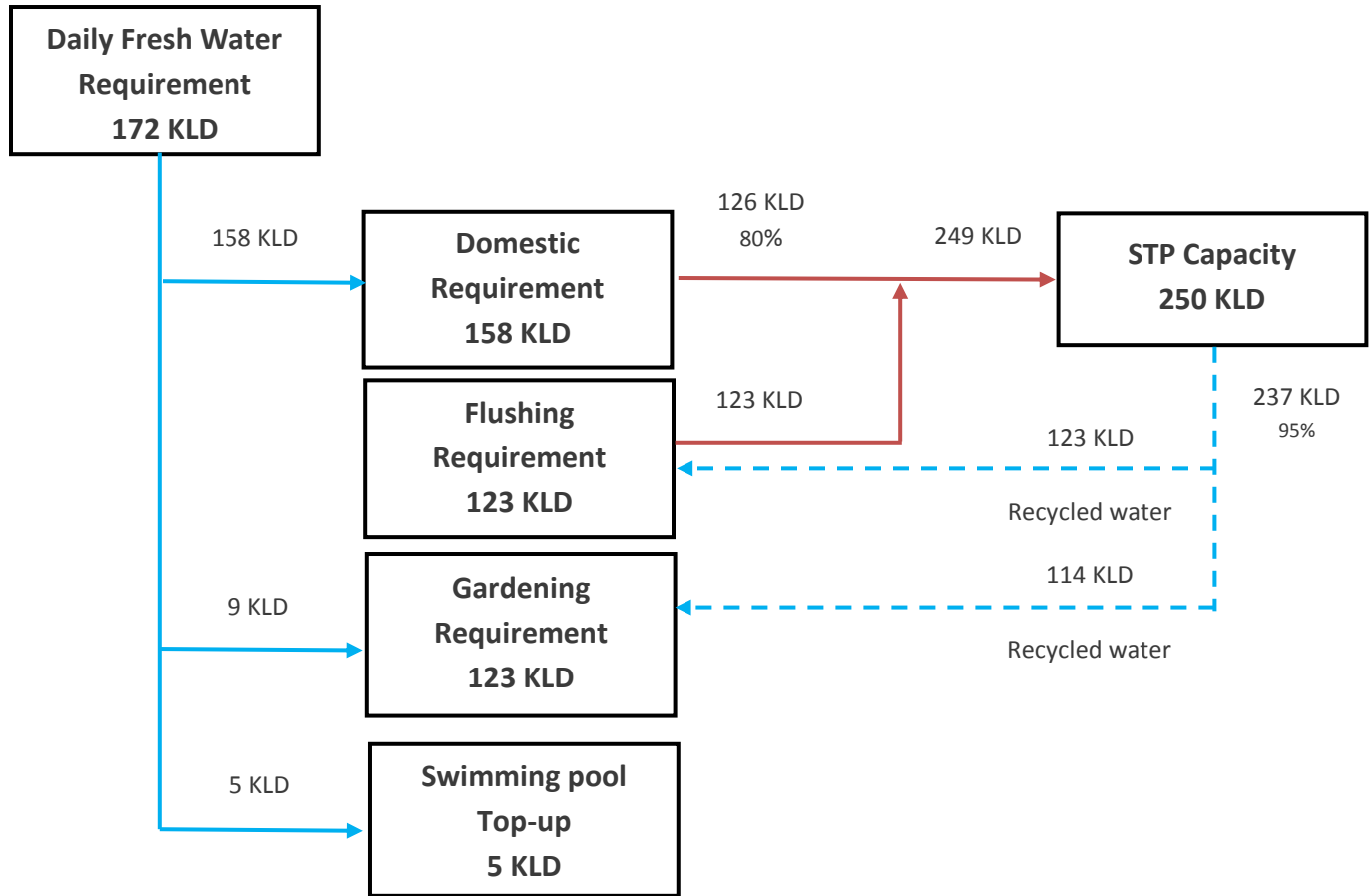
The Sewage generation from the campus is about 249 KLD which is being treated in Sewage Treatment Plant having 250 KLD Capacity. The details of water requirement and the water balance chart is shown in table below:

Project Component	Total Occupancy (Nos.)	Water Requirement (LPCD)			Total Water Requirement (L)
		Water Requirement rate (LPCD)	Fresh Water for Domestic Requirement	Flushing Requirement	
Students	3,566	45	20	25	160,470
			71,320	89,150	
Teaching Staff	258	45	20	25	11,610
			5,160	6,450	
Boys Hostel	792	90	70	20	71,280
			55,440	15,840	
Girls Hostel	288	90	70	20	25,920
			20,160	5,760	
Non-Teaching Staff	173	45	20	25	7,785
			3,460	4,325	
Staff Quarters	26	135	90	45	3,510
			2,340	1,170	
Swimming pool Top-up	-	-	5000	-	5000
Sub Total	5,103 Nos.	-	162,880	122,695	285,575
Green belt Development	-	35000 @ 3.5 KL per Ha	8,646	113,854	122,500
Total			171,526 LPD	236,549 LPD	408,075 LPD
			(Say 172 KLD)	(Say 237 KLD)	(Say 409 KLD)

About 60% of the total water demand is being met through the recycled water from the STP's which used for toilet flushing and green belt development within the premises. For this dual piping system has been incorporated in the campus.

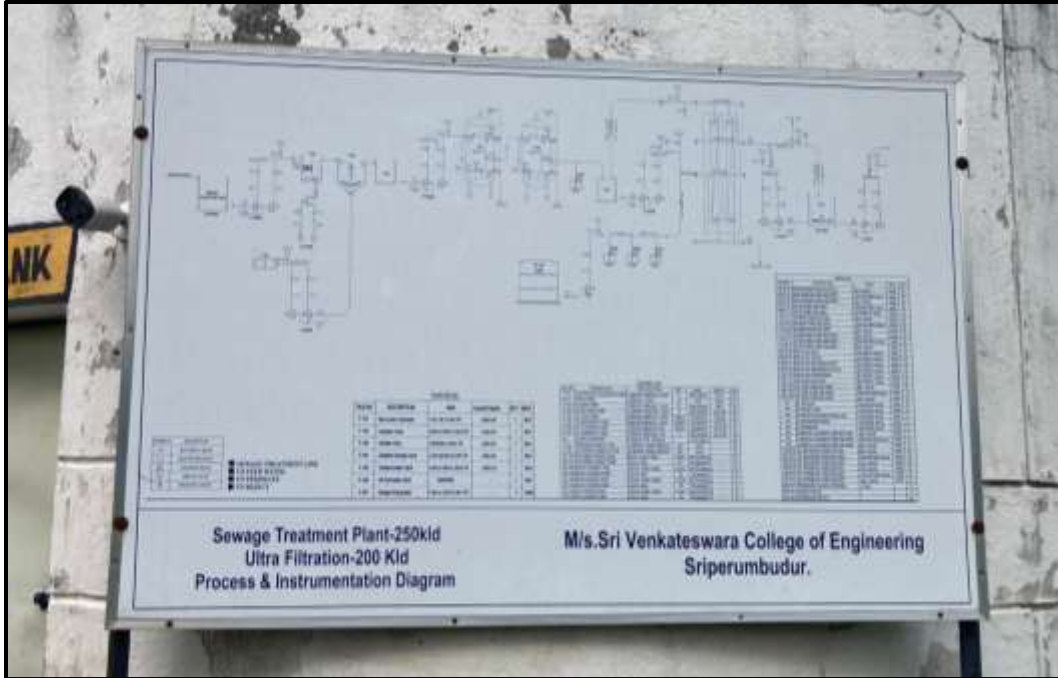
The gardening water requirement totals to 123 KLD.

Water Balance Chart:





Photographs showing Water Treatment Plant



Photographs showing the Sewage Treatment Plant & Units



Bar Screen Chamber



Collection Tank



Aeration Tank



Clarifier Tank



Clarified Water Storage Tank



Pressure Sand Filter & Activated Carbon Filter



Ultra Filtration Plant



Sludge Drying Bed

Annexure V
Solid Waste Management

The solid waste generation of the campus comprises of biodegradable waste e.g. domestic waste, food waste, horticultural waste etc. and recyclable waste, like plastics, paper etc., and inert fractions. The current scenario of solid waste is as follows:

S. No	Project Component	Total Occupancy (Nos.)	Per Capita generation (Kg/P/D)	Total Solid Waste Generation (Kg/day)	Bio Degradable Waste (Kg/day)	Non Bio Degradable Waste (Kg/day)
1	Students	3,566	0.4	1,426	855	584
2	Teaching Staff	258	0.4	103	61	38
3	Boys Hostel	792	1.2	950	570	336
4	Girls Hostel	288	1.2	345	207	112
5	Non-Teaching Staff	173	0.4	69	41	30
6	Staff Quarters	26	0.6	15	9	6
Total Solid Waste Generation (Kg/day)		5,103 Nos.	-	2,910	1,746	1,164
Total (Tonnes/day)			-	2.91	1.75	1.16

S. No.	Name of Solid Waste	Quantity T/day	Mode of Disposal
1.	Bio Degradable Waste (Food, vegetables, paper wastes etc.)	1.75	Treated in Bio Gas plant and Used in Hostel Kitchens/Canteen & through composting beds
2.	Non Bio Degradable Waste Plastics, Carton boxes, scraps etc.)	1.16	Handed over to Authorized Recyclers
3.	STP Sludge	0.03	Used as manure for greenbelt Development

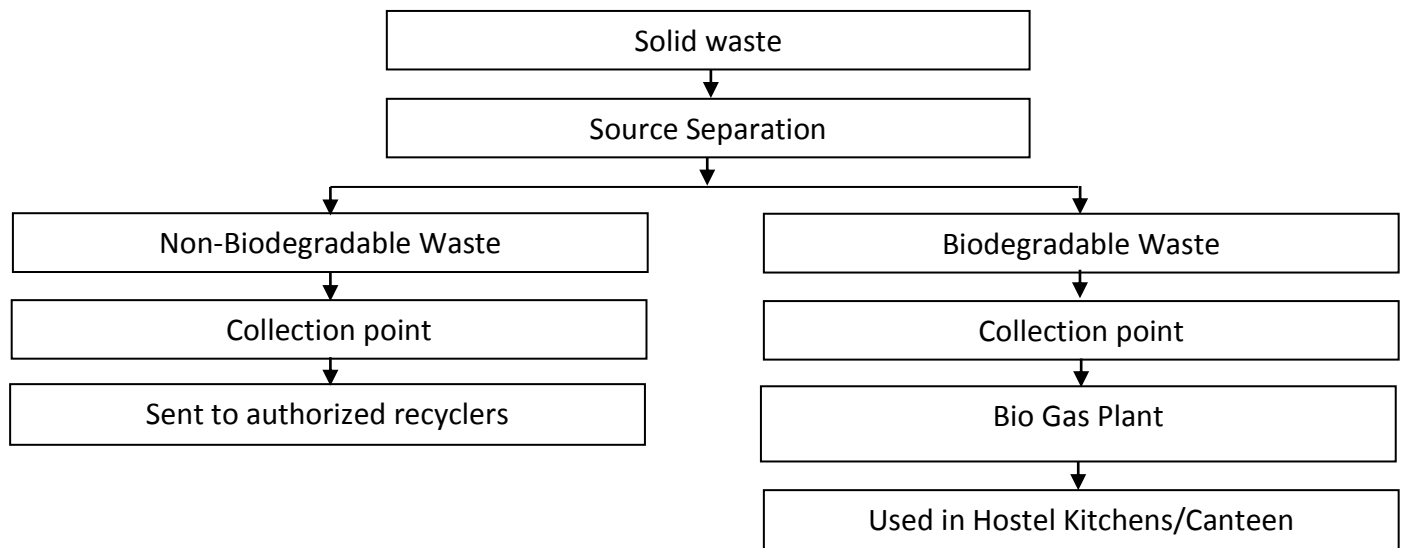
In the campus, sweepers are engaged for handling domestic waste. Adequate number of collection bins separately for biodegradable and non-biodegradable waste has been provided as per the Municipal Solid Waste (Management and Handling) Rule, 2016. Waste from such bins

are collected separately on daily basis and taken to a separate centralized collection facility. Final segregation of solid waste into biodegradable, non-biodegradable, and inert fraction are done in the centralized collection facility.

The biodegradable wastes are collected and feed into the Bio Gas Plant for Bio Gas Production and the Bio gas is used in hostel kitchen. Horticulture wastes leaves, grass and vegetative residues are being collected at the secured location such that it will not hinder daily activity schedule or washed away by the surface run-off causing choking of drains, etc. and they are treated in a separate composting Yard which are then used for manure in green belt development.

The non-biodegradable wastes are given to the ITC Limited for recycling Project called WOW (Well Being Out of Waste – A National Recycling Initiative).

The solidified sludge from the STP is being dewatered, and used as manure for the green belt.



Photograph showing Solid Waste Management facilities within the campus



Waste Segregation System



Food Waste Crusher



Bio Gas Plant



Gas Accumulator



Boiler with Bio-Gas Burner



Composting Yard



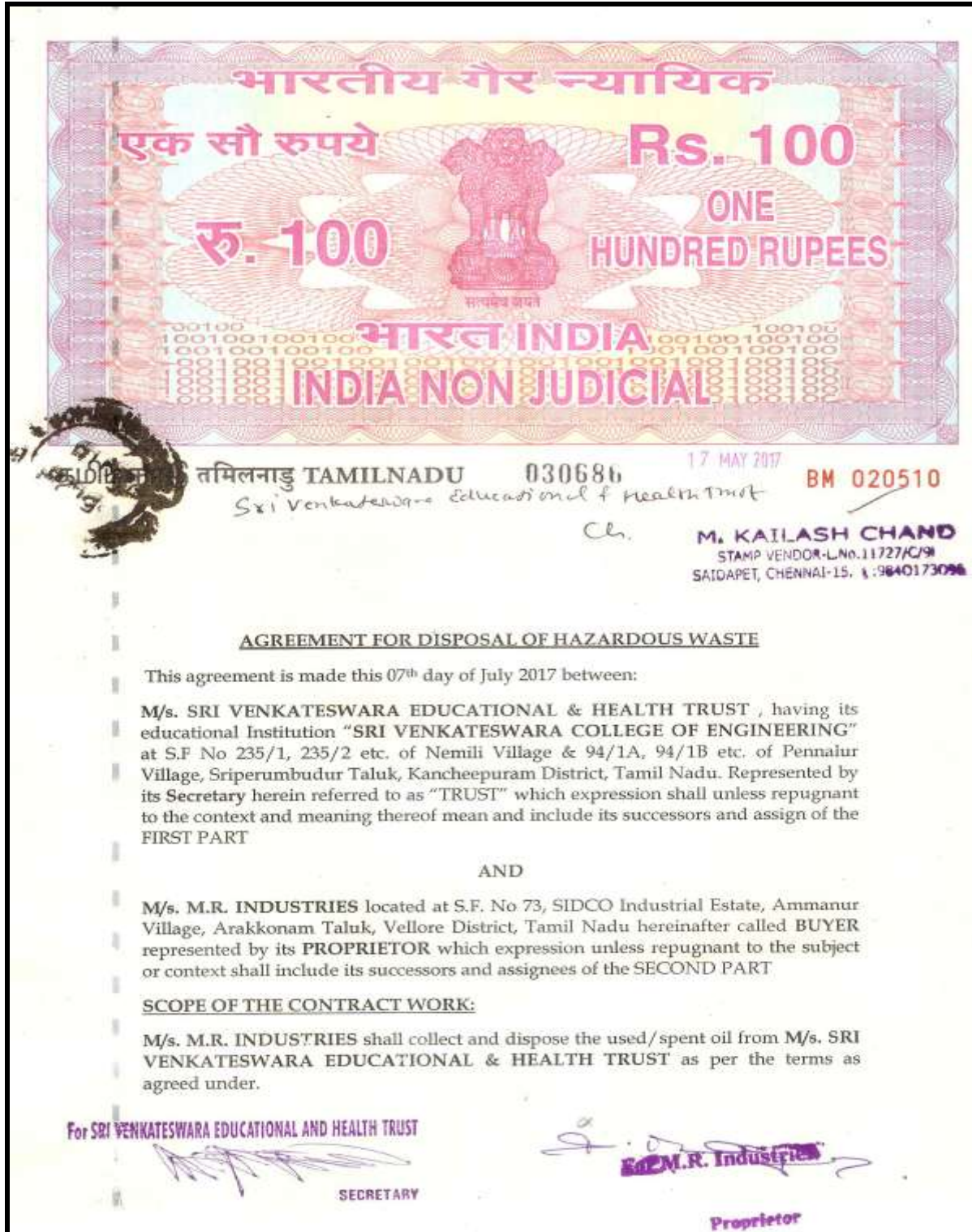
Composting bed

The other non-biodegradable wastes are being handed over to the recyclers on a regular basis.

Annexure VI
Hazardous Waste Management

In an educational institution, the source for generation of Hazardous waste is mainly from Diesel Generators (DG) sets from which spent/used oil and filters will in hazardous in nature. These wastes are collected and segregated and disposed through the authorized vendor as per the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016.

The minimization, safe handling, and ultimate elimination of these materials are essential to the long-term health of the planet. For environmental sustainability the drainage of chemical laboratory collected in air tight cement chamber and frequently the chemical waste from chamber is sent for recycle or for scientifically destroy process.



Hazardous Waste Disposal agreement with M/s. M. R. Industries for disposal of Spent Oil from DG Sets

Annexure VII
E – Waste Management

The E –Waste generated like, obsoleted Computers from laboratories, Administration Buildings, Electrical and Electronic Equipment from the Laboratories is being collected and stored in a centralized earmarked area which will be handed over to the authorized recyclers for Recycling and Disposal.

The Purchasing Department will be responsible for the disposal of defective equipment's and E Scrap by the method which obtains Best Value for money. Intimation to the authorized recyclers through mail/ telephone for collection will be given on a periodic basis.

The next E Waste Recycling will be done by the Month of December and they will be handed over to the authorized recyclers for Recycling and Disposal.



Photographs of Collection and Storage Room of E – Waste generated in the campus

Annexure VIII

Rain Water Harvesting

Rainfall

Kancheepuram district receives rainfall during North-East Monsoon (Oct - Dec) and South-West Monsoon (June - September). A major portion of the rainfall is during North-East Monsoon. Sometimes the city also receives rainfall during January and February, but that is quite rare.

The annual rainfall in Kancheepuram is in the range of 800- 1000 mm. The characteristics of our rainfall demands not only to conserve large quantity of rainwater during these few days but also to store wherever it rains in preferably for direct use and alternatively as ground water.

Rain harvesting system

Rain Water Harvesting Pond:

Keeping in mind the importance of water and its scarcity it is implemented to conserve water by rainwater harvesting by which the subsoil water condition / moisture content is maintained / improved to a great extent. Also to harvest rainwater from the terrace area by collecting the same in a rainwater collection trench of suitable capacity and stored in a Rain water harvesting Pond.

Rainwater from the roof-top of the institution buildings which is about 2,400 Sq.m is being collected in the pond with a capacity of 40 lakh liters. The collected water is reused for the domestic purpose within the campus with the provision of a filtration unit.

Photograph showing Rain Water harvesting pond



Annexure IX
Medical/Clinical Facilities

The Medical centre of SVCE was instituted in the year 2008 with 6 beds, a resident Medical Officer, a trained residential nurse and a qualified lab technician. Besides that, the college has first aid kits made available in almost all blocks. A 24-hour ambulance facility, adequate pharmaceutical support, medical lab services are a few of the mentionable services offered.



Photograph Showing Bio Medical Waste Facility

Annexure X Green Campus & Environmental Initiatives

Environmental Activities:

The main objective of conducting the Environmental activities within the campus for the students, teachers and stakeholders to acquire knowledge of the environment beyond the immediate environment including distant environment. It helps the students understand how their decisions and actions affect the environment, builds knowledge and skills necessary to address complex environmental issues, as well as ways we can take action to keep our environment healthy and sustainable for the future.

Concern, Awareness, and Responsibility (CARE) Club for Environment is a student-run organization that works with peers, faculty, and community to create environmental consciousness among public, in general, and students, in particular. It motivates students to have an eco-friendly life style and attempts make the campus a more sustainable campus by converting green ideas into reality.

The activities carried out in the academic year related to Environmental is as follows:

1. CARE - Eco Club of SVCE – organized a Seminar on "Introduction to Biomimicry" at 8th of May, 2023 delivered by Dr. T. Murugavel, who gave a brief Introduction about the Bio mimicry, its history, current technologies and its scope in a sustainable future to the students of SVCE.



Photograph showing Seminar on “Biomimicry”

2. CARE – The Eco Club of SVCE conducted a native tree plantation program at SVCE for a sustainable environment. Students of SVCE planted Native Species of Trees in the campus of SVCE on 5th April, 2023 and pledged to nurture and protect them for their time in college.



Photograph showing plantation by students of SVCE

3. To Create Awareness among Students about how beautiful and diverse the nature is and how important it is to conserve it, the Insects within the college campus were identified and painted in slab tiles around the college campus.



Photograph showing nature inspired painting

4. Eco Club Students of SVCE have organized an Art Exhibition on 29th February 2023, which not only provide space for artists to display their works, but it has also allowed art enthusiasts and the general students to appreciate and engage with art in a meaningful way. All who came were treated with an immersive and inspirational experience, which are carefully and meticulously curated by Eco Club, the SVCE caring club.



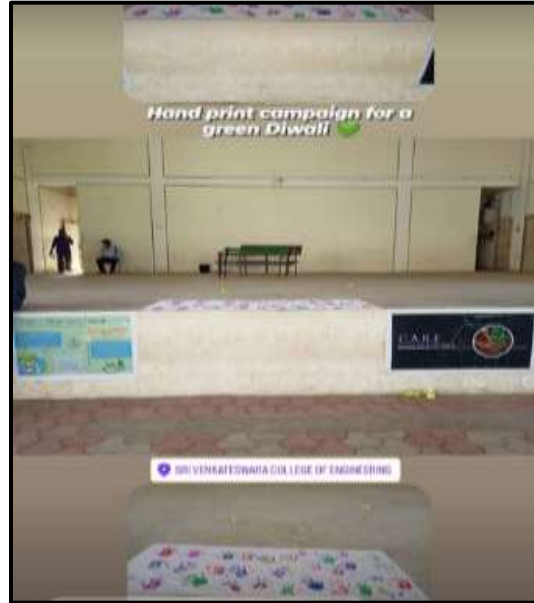
Photographs of Art Exhibition organized within the campus

5. In order to raise awareness among the students about the cruelty involved in training elephants to perform tasks, CARE - Eco Club of SVCE organized a Signature Campaign against the mistreatment of elephants on 2nd February 2023. The campaign featured an elephant-painted artwork.



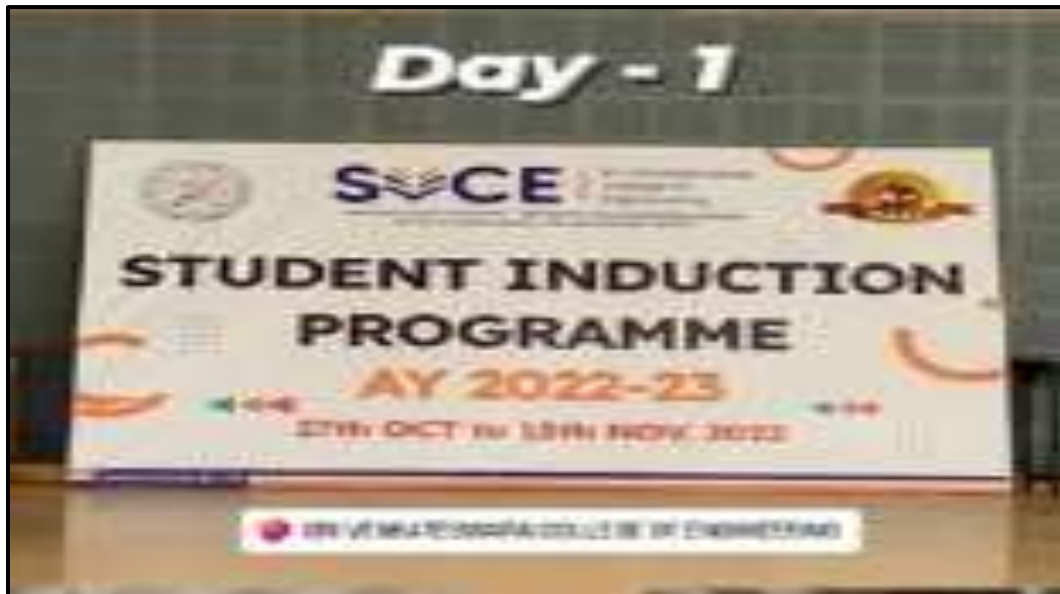
Photographs showing Awareness Artwork on Elephant cruelty

6. To Create Awareness for a safe and green Diwali for all life on earth, the Students have pledged to have a Green Diwali by placing their handprints on a cloth. Many students came forward to take the pledge of celebrating a safe and green Diwali on 20th October 2022.



Photographs showing Hand print campaign towards green Diwali

7. An introduction to the Eco club and the significance of CARE was provided to the Fresher's. Students that were interested were invited to join CARE in order to collaborate during several sessions between 27th October – 15th November 2022.





Photographs' showing an Induction program to freshers on Eco Club

8. CARE - Eco Club of SVCE organized a competition called "Green O graphy" in honour of National Wildlife Week in 2022, and more than 100 students from all years participated. The competition challenged students to take pictures of the plants and animals and identify the species. The winner was revealed on the CARE social media website.

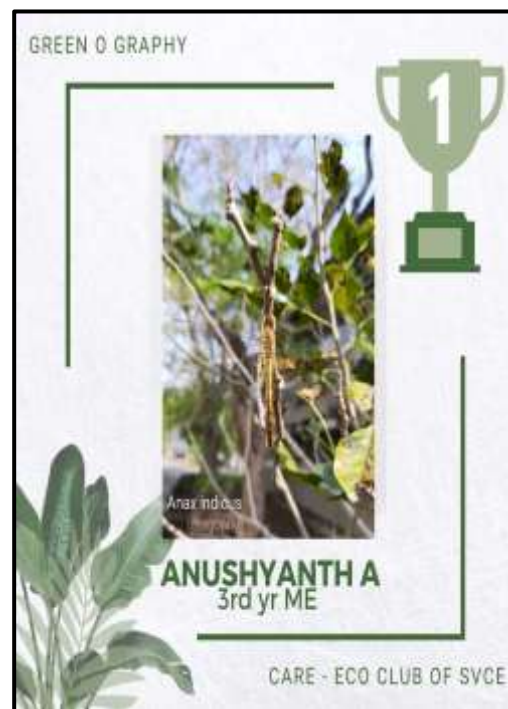


Image showing pamphlet of green o graphy (nature inspired photography)

9. An inaugural speech delivered on the occasion of the launch of CARE 22 – 23 by Mr. G. Sundarrajan & Dr.T.Murugavel held on 22nd - 28th Sep 2022, with a chief guest and the OBs from the previous year Mr. G. Sundarrajan.



Photographs showing the speaker (Mr. G. Sundarrajan & Dr.T.Murugavel) giving inauguration speech on the launch of CARE club 2022 - 2023

Annexure XI
Environmental Monitoring Programme

The environmental monitoring programs helps to continuously monitor the incremental increase in various pollutant concentration in the respective environment. It outlines the frequency of the pollutant concentration being measured in each environment and the parameters being monitored in respective environment.

S. No.	Description	Monitoring parameters	Frequency of Sampling and Analysis
Operation Phase			
1.	Ambient Air Quality	PM ₁₀ , PM _{2.5} , SO _x , NO _x and CO	Once in a month
2.	Stack Emissions from DG Set	PM, SO _x , NO _x , HC and CO	Once in a month
3.	Ambient Noise Level	Noise level in dB (A)	Once in a month
4.	Treated Sewage (STP)	pH, TSS, BOD and Fecal Coliform	Once in a month

All parameters shall be monitored; compilation and reporting is done by NABL Accredited Laboratory.

Annexure – XII

Environmental Policy & Environmental Committee

Environmental Policy:

During the Audit, the educational institution's Environment Policy were reviewed and the policy is as follows:

Objectives

- To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly life style and habitats.
- To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation and involvement to promote and implement sustainability goals.
- To advance governance regarding environment compliance and employ methods to reduce the waste, and conserve energy, and water consumption.
- To improve the biodiversity in the campus.
- To be recognized as Eco Friendly and Green Campus.



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Green and Environment Policy

Statement

Sri Venkateswara College of Engineering (SVCE) is committed to making the Institution one of the most environmentally conscious and sustainable institutions in of the Country.

Objectives

- To inculcate a strong sense of commitment and responsibility among students and members of faculty to follow an eco-friendly lifestyle and habits.
- To make students aware of the sustainability goals at the micro and macro level and to strengthen their participation and involvement to promote and implement sustainability goals.
- To advance governance regarding environmental compliance and employ methods to reduce the waste, and conserve energy, and water consumption.
- To improve the biodiversity of the Campus.
- To be recognized as Eco friendly and Green Campus.

Process

- By introducing environmental sustainability concepts in the curriculum and research.
- By improving governance regarding environmental compliance; reduce its waste, energy, and water consumption proportionally against its growth in staff and student numbers.
- By enhancing, monitoring, and developing the biodiversity of the Campus by creating microhabitats, planting indigenous plant species.
- By promoting and creating smart, sustainable approach to the Institution's plans and projects.

Provisions

The College will provide adequate funding, infrastructure and staff for implementing the Green and Environment policy.


PRINCIPAL

Environmental Committee:

During the audit, details of the Environmental committee were reviewed which mainly consist of faculties from various departments in order to review the educational policy and to check the status of the targets made based on the Environmental policy.

The details of the Environmental committee are as follows:

