6.3.2 Preventing Water System Pollution



6.3.2 Preventing water system pollution

Sri Krishna College of Engineering and Technology has made adequate measures to keep polluted water from entering water sources or pipes. The Institute's plumbing infrastructure, which gathers water from the well and carries it to the treatment unit and supply, has been meticulously planned and constructed. The pipes are positioned at a suitable gradient, and the water is transported safely. Regular inspections are also performed to ensure that the water pipelines are leak-free. Furthermore, if a water pipe breaks due to an accident, it must be replaced immediately. Similarly, different sewer pipe systems transport wastewater collected from the institution's various locations.

There are enough manholes at various intersections to conduct pipeline inspections. The operation and proper maintenance of the pumps and other valves installed in the sewer pipelines are also investigated. Additionally, the treated wastewater is used for gardening and flushing while being transported safely. SKCET has a functional solid waste management system on campus and makes a substantial contribution to the reduction of pollution. We diligently maintain our surroundings and take every effort to ensure that polluted water is prevented from reaching any of the valuable environmental ecosystems.

Following measures are taken by the Institution to prevent water system pollution:

SOLID WASTE MANAGEMENT IN THE CAMPUS

The institution uses a strong solid waste management system to handle the daily influx of organic garbage and leaves. The facility can process 100 kg of biodegradable garbage every day. This environmentally friendly method enhances the campus's lush vegetation by repurposing garbage into manure and fertilisers.



Composting Unit



Segregation of solid waste at the source of generation

In-House disposal facilities viz Composting units are used in our campus to dispose of solid waste. Adequate Garbage bins are in - place in all the classrooms, faculty cabins, washrooms, administrative rooms, corridors and all common amenities in hostels the food waste has been collected using separate bins and disposed of safely. The leftover vegetables and shells are used to convert them into organic

manure. Garbage bins are placed along the corridors and in the classrooms for keeping the surroundings clean and tidy.

The dry waste is segregated on a daily basis from various sources in the college. The organic and inorganic wastes are separated through the separate bins and the collected wastes are disposed of by the municipal corporation. A group of dedicated staff are allotted to collect the solid waste such as dried leaves or plant clippings from all around the campus.







Yard Waste



Dustbins to collect waste

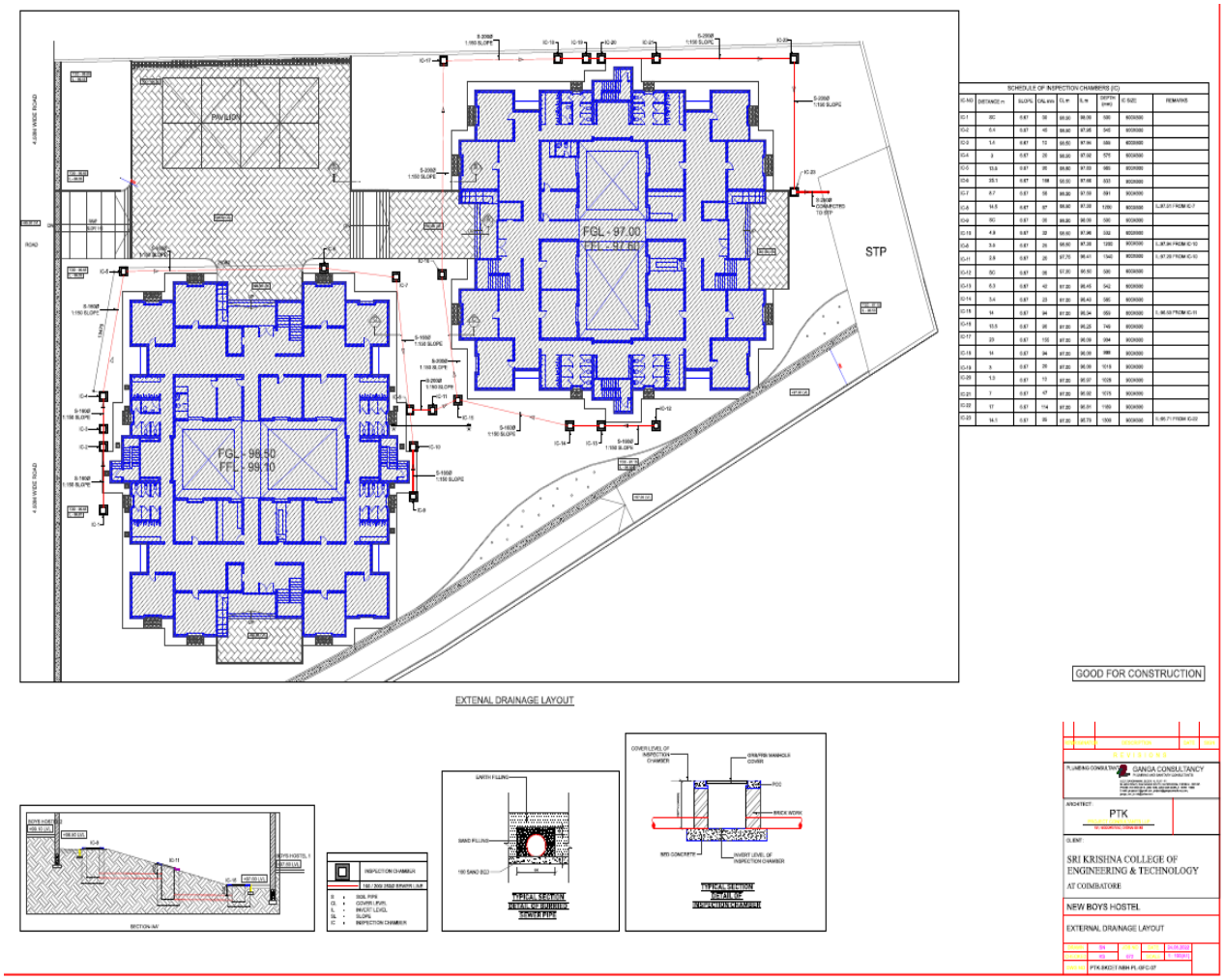


The final stabilized compost is utilized for the garden facilities inside the campus.

DRAINAGE LAYOUT

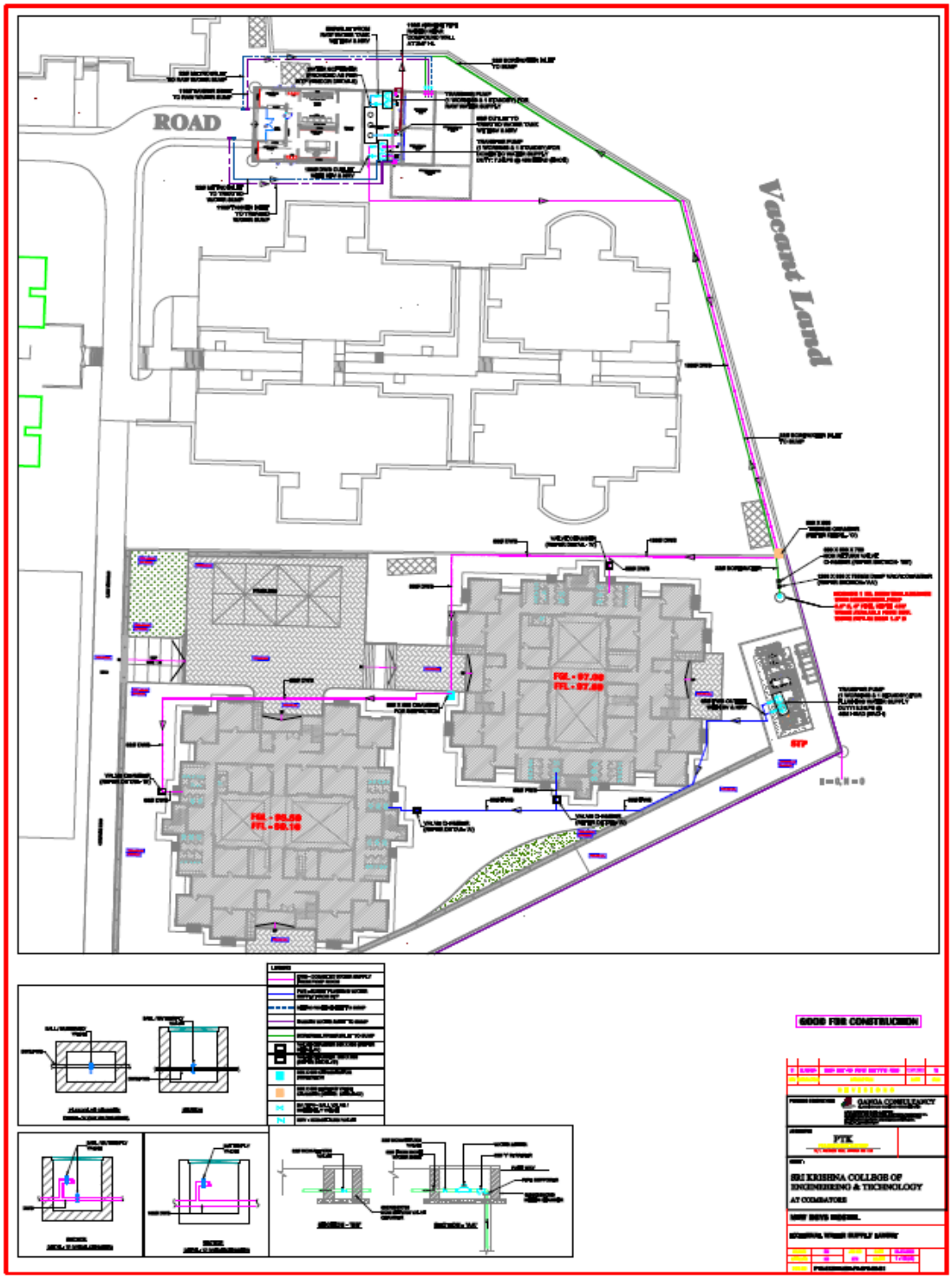
All the buildings have a separate pipeline for grey water, black water and roof/rain water. The polluted water is treated separately in sewage treatment plant located inside the campus.

EXTERNAL DRAINAGE LAYOUT FOR NEW BOYS HOSTEL



SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
An Autonomous Institution | Approved by AICTE | Affiliated to Anna University | Accredited by NAAC with A++ Grade
Kuniamuthur, Coimbatore – 641008
Phone : (0422)-2678001 (7 Lines) | Email : info@skcet.ac.in | Website : www.skcet.ac.in

EXTERNAL WATER SUPPLY LAYOUT FOR NEW BOYS HOSTEL

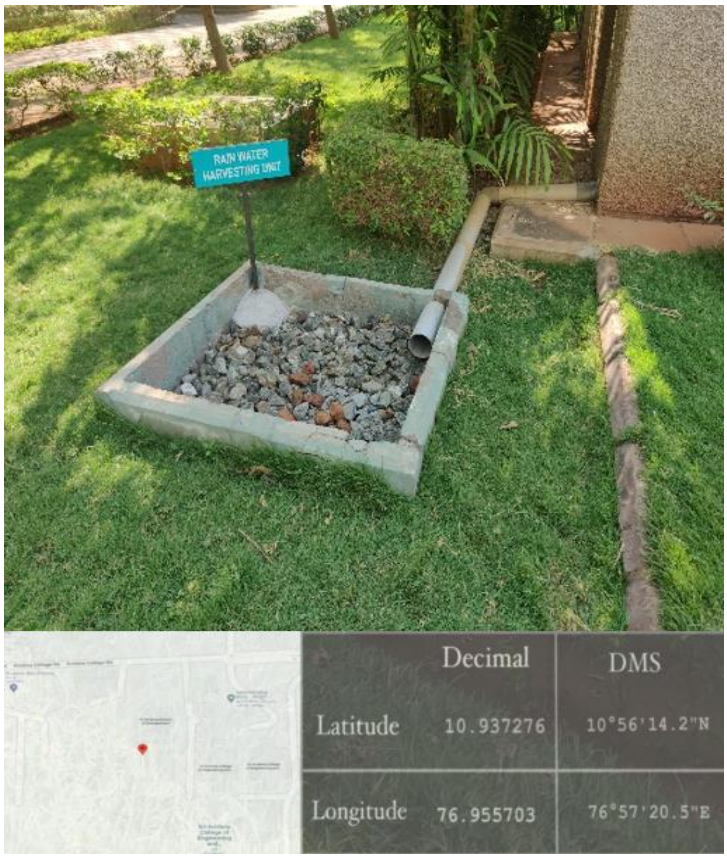


6 CLEAN WATER AND SANITATION

RAIN WATER HARVESTING

● Harvested rainwater is passed through the percolation pits consisting of sand and gravel filters

- Conventional rainwater harvesting pits measuring 02 feet x 02 feet in size have been established around the campus to collect the rooftop runoff.
- Rainwater is collected from a roof-like surface and redirected to a pit so that it seeps down and restores the groundwater.
- Each building has dedicated RWH chamber and few line were connected to common drains.



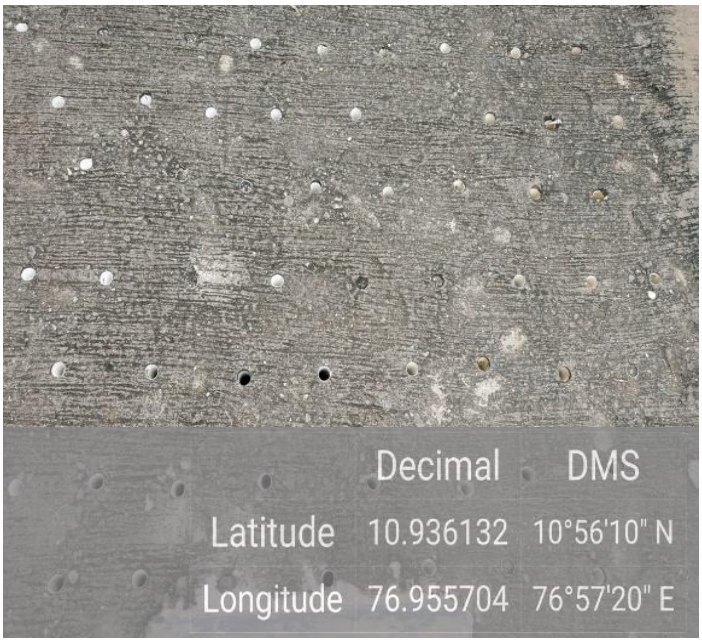
Rainwater Harvesting Pit (Long view)



Rainwater Harvesting Pit (Top view)

PERFORATED DRAIN CHANNEL

- Perforated land drain is used to collect water through the small holes located around the pipe.
- These holes allow water to seep from the ground into the pipe and be carried away over the drains directly into the drainage channels.
- This finally reaches the sewage treatment plant operated inside the campus.
- Here, the collected water is treated efficiently and reused for gardening, vehicle cleaning and toilet sanitation.



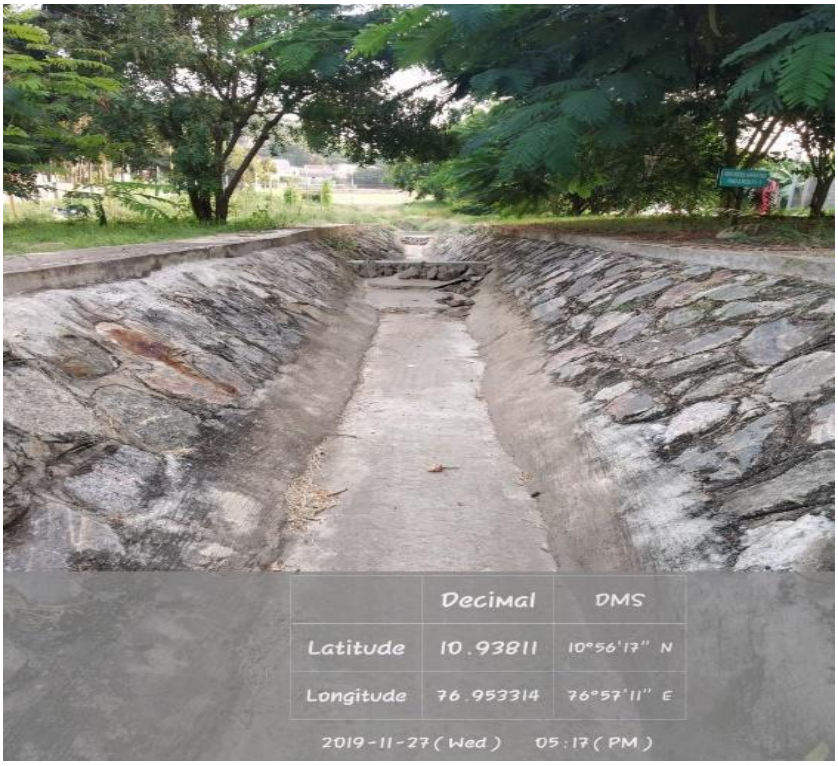
Perforated Drain Channel Slabs (Close view)



Perforated Drain Channel Slabs (Long view)

PERCOLATION PITS BY DEEP BORE HOLES WITH CHECK DAMS

- Percolation pits along the runoff channels with a check dam facility have been constructed across small streams having gentle slopes.
- Around 45 pits were excavated along the flow channel each measuring a depth of 100 feet.
- The check dams were constructed adjacent to each pit along the channel to store a minimum quantity of water in each chamber to recharge the groundwater and the excess water overflows to the next chamber along the channel.



Percolation pits by deep bore holes (Dry Season)



Percolation pits by deep bore holes (Rainy Season)

PERCOLATION POND

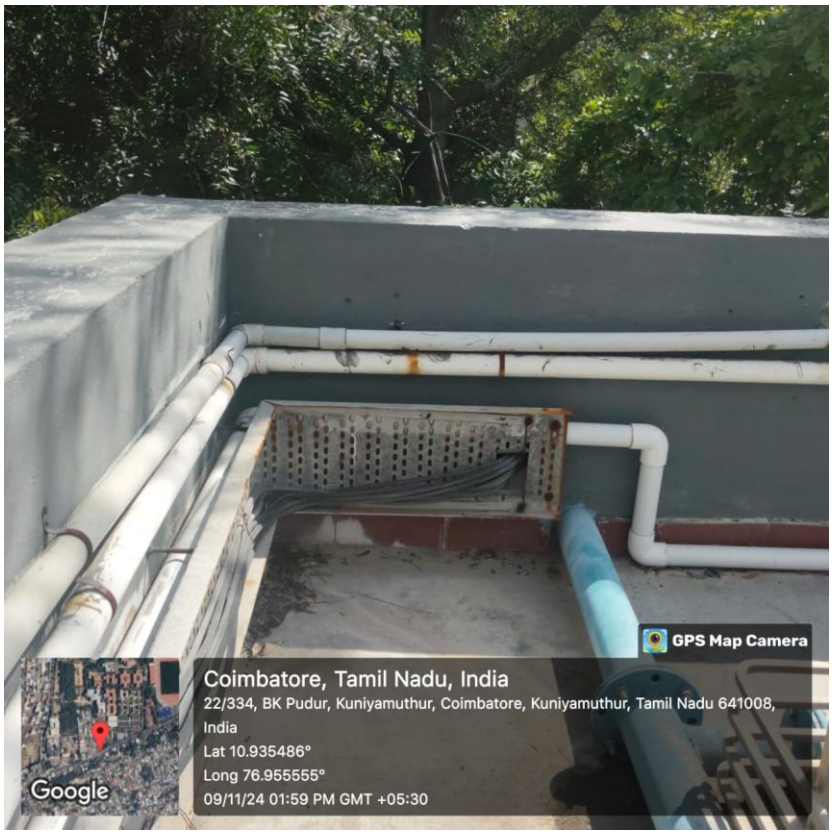
Percolation pond is the most effective runoff harvesting structure inside the campus. To capture the excess runoff water through roads and other paved areas during heavy rainfall, an artificially created percolation pond with a capacity of 20,000 liters is excavated after studying the contour of our terrain and the natural drains to harvest and impound the runoff from the catchments for a longer time, thereby recharging the groundwater storage in the zone of influence of the pond.



Runoff collection Pond

SEWAGE TREATMENT PLANT

The recycled water from Sewage Treatment Plant is used for gardening. Stringent measures are taken to ensure that the effluent is non-polluting. STP treated water samples are regularly monitored for quality. The pipelines are regularly monitored to deduct any leakages by a dedicated maintenance team and any leakage is rectified immediately.



PIPE LINE FOR SEWAGE TREATMENT PLANT



INLET PIPE FOR SEWAGE WATER

SKCET ensures efficient utilization of treated waste water for various purposes such as irrigation, sprinkling, and flushing in common toilets. Around >75% of treated waste water is consumed in different ways.

E-WASTE MANAGEMENT

The Institution has partnered with M/s. Green Era Recyclers, the sole certified e-waste recycler by Tamil Nadu Pollution Control Board in Coimbatore, to manage e-waste. It effectively handles e-waste by routinely disposing significant items such as outdated instruments, computers and electronic gadgets. Miscellaneous e-waste, such as CDs, batteries, and PCBs, are collected and handed over to the partnered recycler.



GreenEra
RECYCLERS
Aspire · Elate · Recycle

An E-waste management facility
authorized by TNPCB

GSTIN 33AAQFG7914D1ZE

AGREEMENT FOR DISPOSAL OF E-WASTE

This Agreement is entered into on **5th November 2019** at Coimbatore by and between:

GREEN ERA RECYCLERS, a partnership firm having its Registered office at No.37, Sivanandha industrial complex, Dr. M.S. Udhayamurthy nagar, Edayarpalayam, thadagam road, Coimbatore-641025 (herein after referred as "Green Era") represented by its Partner Mr.Prasanth Omanakuttan.

AND

Sri Krishna College of Engineering and Technology having its Registered office at Kuniamuthur, Coimbaore-641008. (herein after referred as "Client") represented by its **Principal, Dr.J.Janet.**

For GREEN ERA RECYCLERS

Partner

+91 8300223526 / +91 9361328436 info@thegreenera.in No 37, Sivanandha Industrial Complex, Dr. MS Udayamurthy Nagar, Thadagam Road, Edayarpalayam, Coimbatore - 641025

2. Green Era further agrees that:
i. It shall exercise all safety precaution and best management practices, required by law, in providing service under this Agreement.
ii. It shall notify CLIENT immediately if any permit, licenses, certificate, consent approval or identification number required for the performance of its service under this Agreement has been revoked, modified, expired, suspended or not been renewed.
iii. Green Era shall comply with all applicable laws, rules and regulations and shall indemnify and hold Client harmless in this regard.

VI. DISPUTE RESOLUTION

1. This Agreement shall be governed and construed in accordance with the laws of India.

2. Any dispute or breach arising out of or in relation to this Agreement shall be referred to arbitration to be conducted by a sole arbitrator mutually appointed by the parties herein, in accordance with the Arbitration and Conciliation Act, 1996. The venue of arbitration shall be Coimbatore and the proceedings shall be conducted in English. The decision of the arbitration shall be final and binding on both the Parties. No Party shall make public the award of the arbitration without the prior written consent of the other Party. The Party in default shall bear the cost of arbitration.

3. Subject to the arbitration provisions herein, courts of competent jurisdiction in Coimbatore shall have the exclusive jurisdiction on the matters arising out of or in connection with this Agreement. No Party shall be restrained from approaching the court for seeking interim relief under this Agreement.

IN WITNESS WHEREOF, this Agreement has been signed and executed by the duly authorized representatives of each Party hereto on above mentioned date.

For **Green Era Recyclers**

CBE-25

Mr. Prasanth Omanakuttan
Partner

For **Sri Krishna College of Engineering and Technology**

Dr.J.Janet
Principal

Witnesses:
1.
2. (S. Sophia)

HAZARDOUS CHEMICALS WASTE MANAGEMENT

Hazardous chemicals, including strong acids like HCL, HNO3, H2SO4, are securely stored in designated laboratory rooms, safeguarding human health and the environment. The Institution partners with M/s. Cheenu Enviro Management, authorized by TNPCB, for the safe handling and disposal of hazardous waste generated within the campus, aligning with Hazardous Waste Management Rules 2016.

CHEENU ENVIRO MANAGEMENT
(A Division of CHEENU AMMA AALLOY PVT LTD)
Cheenu

CIN : U27106TZ2009PTC015496

SF No : 364/1 E, Appanaickenpatty Village,
Sulur (Taluk), Coimbatore - 641402
Mobile : +91 98420 46200
E. Mail : info@cheenuenviro.com

AGREEMENT

THIS AGREEMENT is made on this 12th day of October 2021 (hereinafter referred to as the "**Effective Date**") between **M/s.Cheenu Enviro Management (A Division of Cheenu Amma Aalloy Pvt Ltd)**, a company incorporated and registered under the provisions of the Companies Act, 1956 and having its registered office at 379-380,Mariamman Koil street, Peelamedu Pudur, Coimbatore, INDIA (CIN: U27106TZ2009PTC015496) represented by its Authorized Signatory (hereinafter referred to as "CEM" which expression shall unless repugnant to the context or meaning thereof shall mean and include its successors, permitted assigns) of the FIRST PART;

AND

M/s. Sri Krishna College of Engineering and Technology which is a education institute which having college at Kuniamuthur, Coimbatore, Tamilnadu 641008 represented by its Authorized Signatory (hereinafter referred to as "the Generator" which expression shall unless repugnant to the context or meaning thereof, shall mean and include its successors, assigns and affiliates) of the SECOND PART

CEM and the Generator shall be individually referred to as Party and collectively as Parties, hereinafter.

WHEREAS:

A. CEM is, *inter alia*,engaged in the business activity of development, operations and maintenance of projects for hazardous waste management and has been granted Consent to operate an '**Alternate Fuel Resource Facility**' at SF no. 364/1E, AppanaickenpattyPudur, Pappampatti (via), Sulur, Coimbatore-641402, Tamil Nadu (India) (hereinafter referred to as "**AFRF**") by Tamil Nadu Pollution Control Board (hereinafter "**TNPCB**") as per **The Environment (Protection) Act, 1986** and **Hazardous Waste (Management, Handling and Transboundary) Rules, 2016** and amended thereafter (hereinafter referred to as "**the Rules**").

B. The Generator is in the name of **M/s. Sri Krishna College of Engineering and Technology** and its educational institute is situated at Kuniamuthur, Coimbatore, Tamilnadu 641008 is generating Hazardous Waste Liquid/Semi Solid/Solid Waste (hereinafter referred to as"Hazardous Waste") as specified in the Rules and in search of an economical and environment friendly method of disposal of Hazardous in nature as per Hazardous and other Wastes (Management &Transboundary Movement) Rules, 2016 (hereinafter referred to as the "Waste Material"), which are generated fomn Laboratory for educational purpose

6 CLEAN WATER AND SANITATION

CHEENU ENVIRO MANAGEMENT
(A Division of CHEENU AMMA ALLOY PVT LTD)
Cheenu
CIN : U27106TZ2009PTC015496
SF No. 364/1 E, Appanaickenpatty Village,
Sulur (Taluk), Coimbatore - 641402
Mobile : +91 98420 46200
E Mail : info@cheenuenviro.com

8.2.4. Waste which contains shock sensitive substances;

8.2.5. Waste which contains volatile substance of significant toxicity; and

8.2.6. Waste which contains cyanide compounds.

8.3. In the event the Hazardous Waste sent by the Generator is found to be unsuitable for AFRF application, then CEM, in consultation with the Generator, shall send the said unsuitable Hazardous Waste to an authorized third-party Treatment, Storage and Disposal Facility (hereinafter "**TSDF**"), on mutually agreed terms. The responsibility for coordinating with the TSDF shall lie with the Generator.

For and on behalf of CEM

(Sign & Stamped by Authority)

Name : M. Chaithanya Prathy
Designation : Managing Director
Address : CBE

For and on behalf of GENERATOR

(Sign & Stamped by Authority)

Name : Dr. J. Janet
Designation : Principal
Address : SKCET

Witness:

1) S. Jayalakshmi
Name : S. JAYALAKSHMI
Designation : ACCOUNTANT
Address :

Name : Dr. N. RAGAVI
Designation : Prof. & Head, S&H
Address : SKCET

2)
Name : PRAVEEN FRANCIS
Designation : ACCOUNTANT
Address :

Name : Dr. S. Sophia
Designation : Prof & Head ECE
Address : SKCET