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Dated: September 9,2021

Shoolini University
Bhajol (Solan)
Himachal Pardesh
Pin – 173223.

Kind Attn: **Col. K S Nagial**

Subject: **Survey of Green practices adopted by Shoolini University at above address.**

Dear Sir,

This refers to the site visit and survey conducted by our team to your campus between 6th to 8th September 2021. We have inspected the working of various water saving features and other energy saving features provided for at the university campus.

Based on the survey we have found that University is taking appropriate measures in different fields for maintaining the ecological balance.

It was also found that University is Recycling of waste water, installed solar energy system&have a rain water harvesting system. Appropriate measures for waste management system, waste segregation and suitable disposal, Water purification, noise level are being maintained on a regular basis.

Detail Report is attached.

For Ambience

Anuj Kumar

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Survey report

Introduction:

Shooni University is one of the largest educational campusesof Himanchal Pradesh, which is nestled amidst hills of Solan, away from the hustles of urban area. This university is being run and managed by highly educated professionals. From our interaction with the management, we found them to be conscious about the impact of habitation on environment and it is their constant effort to mitigate the impact on the environment so as to provide a safe and sustained place for higher education. As part of the development of the campus they have already achieved a high level of sustainability in consumption of natural resources and aim to be a zero impact (net zero campus) in coming years.

Green Audit aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience.It is an important and useful tool to determine how efficiently the natural resources are being used. This audit also provides an insight into further improvement of the system to improve the overall experience of the habitat without causing harm to the environment.

The process involves systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishment.

It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It sanitizes staff and students with better understanding of impact of various processes adopted on campus. As environmental sustainability is becoming an increasingly important issue, the role played by all concerned towards environmental sustainability is becoming more relevant.

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The university has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

METHODOLOGY:

The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

Water Quality Assessment:

To cater the water requirement for the campus, seven bore wells and IPH water supply are used for the activities. However, in summer, to cater the additional shortage of water, a tanker from outside is hired for the need of campus activities. The total peak residential population including students and staff at campus is 5000 persons and floating population of the campus is around 1000 persons. The total peak water requirement for the campus is about 4,00,000 Liters (400 KLD). This is less than the water requirement as specified by NBC (135Lts /person). This is achieved using low discharge fixtures, aerators on taps, push taps etc.

For maintaining hygienic drinking water, RO plants are installed in each building block. In order to provide portable drinking water there are 60 RO's at various locations in the campus. Department of Estate tests quality of water on a regular basis.

The committee inspects the working of filters monthly and the quality of water is verifiedfor suitability once in three months.

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Recycling of waste water:

The waste water developed in university campus is treated on campus and is used for watering of garden. The institute is having Sewage Treatment Plant (STP) with the capacity 400KLD. The same is being upgraded to 550 KLD to take care of future load.

WATER ANALYSIS REPORT OF Shoolini University:

Water quality testing is important because it identifies contaminants and prevents water-borne diseases. Drinking or using contaminated water can result in severe illness or death. That is why it is important to ensure that drinking water is safe, clean and free from bacteria and disease. The parameters for water quality are determined by the intended use. Work in the area of water quality tends to be focused on water is treated for human consumption, on in the environment.

Drinking water indicators:

The following is a list of indicators often measured by situational category:

1. Color of water
2. Alkalinity
3. pH value
4. Taste and odor (geosmin, 2-Methylisoborneol (MIB), etc.)
5. Dissolved metals and salts (sodium,chloride,potassium,calcium,manganese,magnesium)
6. Microorganisms such as fecal coli form bacteria (Escherichia coli), Cryptosporidium and Giardia lamblia; see Bacteriological water analysis
7. Dissolved metals and metalloids (lead, mercury, arsenic, etc.)
8. Dissolved organics; colored dissolved organic matter (CDOM), dissolved organic carbon (DOC)

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9. Heavy metals

Once in six months the water is tested by Eco Laboratories & consultants Pvt. Ltd. (An ISO 9001-2015 14001 & 45001: 2018 certified & approved by MOEF, PPCB). Copy of the reports of water quality check dated 18.08.2021 to 24.08.2021 have been shown to us for verification. All parameters of water is within acceptable limits.

Air Quality & Noise Quality Monitoring:

Air quality monitoring instrument is used to monitor quarterly the criteria pollutants. The most important air quality parameters, which are measured, are NO2, SO2 & PM10. The other criteria pollutants such as Ozone, Carbon Monoxide and Lead are not measured because there are no nearby Industries located near the institute, which are emitting these pollutants. The general ambient air is within acceptable limits. As per the checks carried out by Eco Laboratories & consultants Pvt. Ltd. (An ISO 9001-2015 14001 & 45001: 2018 certified & approved by MOEF, PPCB) no appreciable pollutants have been found in the air.

NOISE LEVEL IN THE SURROUNDING OF Shoolini University:

Noise equally plays a vital role in the environment; hence noise measurement is also done at the institute quarterly.

All buildings are separated with adequate distance so that the noise from one building does not travel to other building. There is enough vegetation and trees to absorb the noise. Therefore, during the visit no appreciable noise pollution was observed in academic area. Also since the Academic buildings are above the mean road level the noise pollution from road traffic does not travel to classrooms. As per the checks carried out by Eco Laboratories & consultants Pvt. Ltd. (An ISO 9001-

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2015 14001 &45001: 2018 certified & approved by MOEF, PPCB) the observed sound level at rest is less than 45dB.

ELECTRICAL:

The total Power connection sanction to the university is 491 KW. The connected power load is 370 KW. The same has been verified by M/s Ram Lal thakur Class1 electrical contractor.

There is a working solar power plant of 500 KVA existing at the campus therefore overall, there is no major power cost. The university has installed twelve (12) sets of solar panels, two on girl hostel, two over parking area, two on the roof of G & H block, two on admin block,Two on boys hostel Arya Bhatt, one on F-Block and one near STP The energy from this solar installation is helping offset the institute's daytime peak electricity demand from the grid.

Moreover, the university is replacing all remaining existing Tubes with high efficiency LEDs to further reduce their demand load.

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