

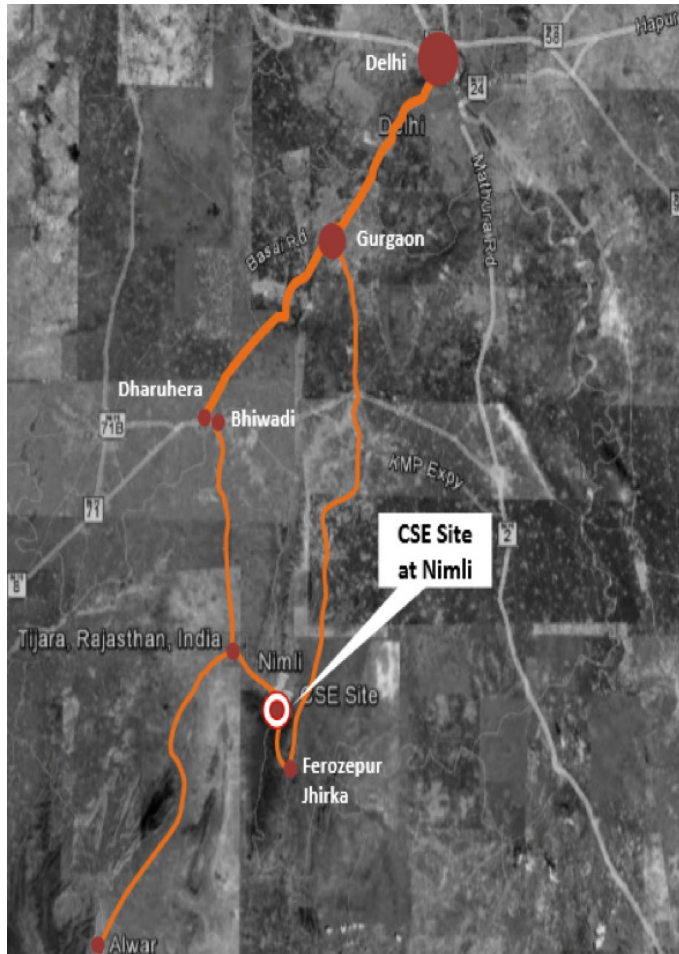


# AAETI

Anil Agarwal Environment Training Institute

## AAETI – GREEN FEATURES

# LOCATION



Nimli Village, Tijara  
Tehsil, Alwar, Rajasthan

## Distances

Delhi (via Bhiwadi): 121 km

Gurugram (via Bhiwadi): 86 km

Gurugram (via Ferozpur Jhirka): 108 km

Bhiwadi: 46 km

Alwar: 62 km

Tijara: 15 km

Ferozpur Jhirka: 11 km

# NATURAL SETTINGS



Stream During Monsoon

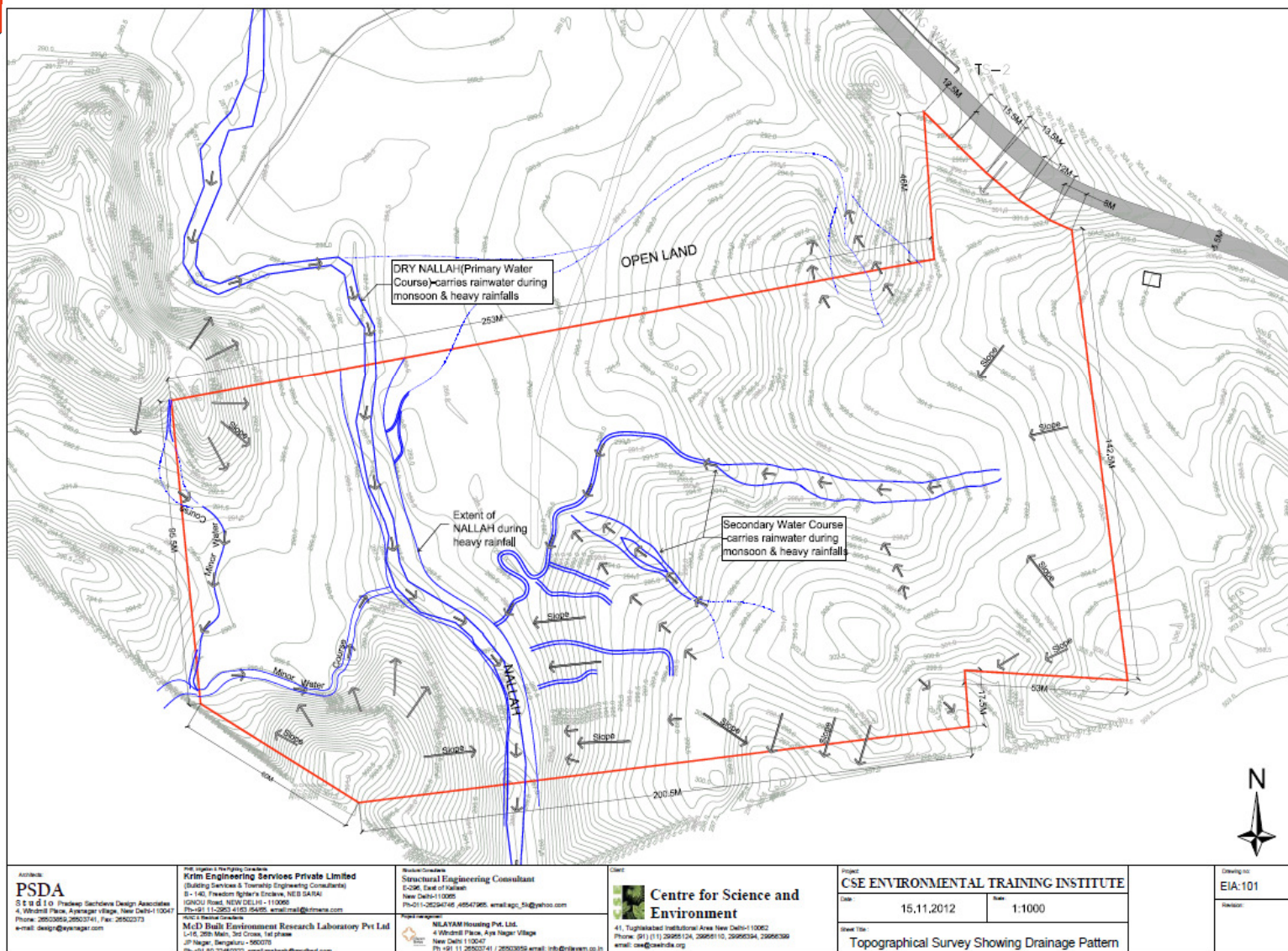


Dry Winter Landscape



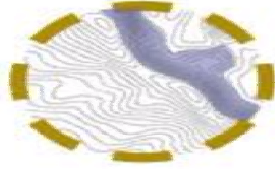


# TOPOGRAPHIC & WATER COURSE



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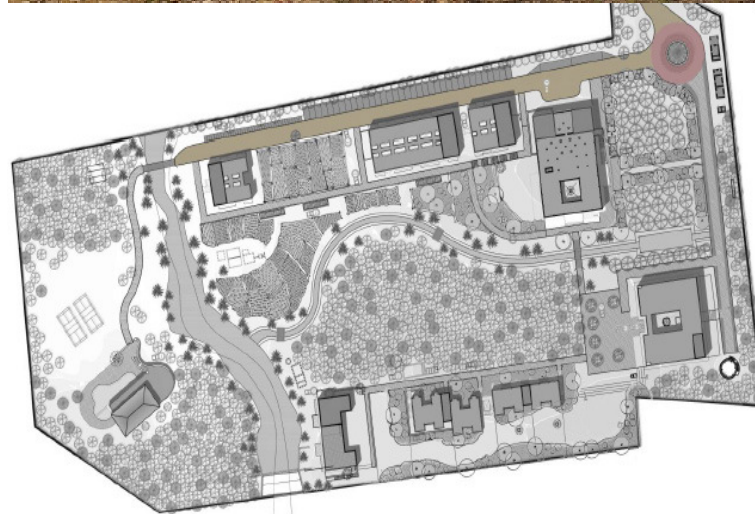
Conserving and Reviving  
water channels and  
controlling erosion



Retain native trees and  
landscaping



Optimizing Ground  
Coverage and reducing  
impervious services



SITE PLAN





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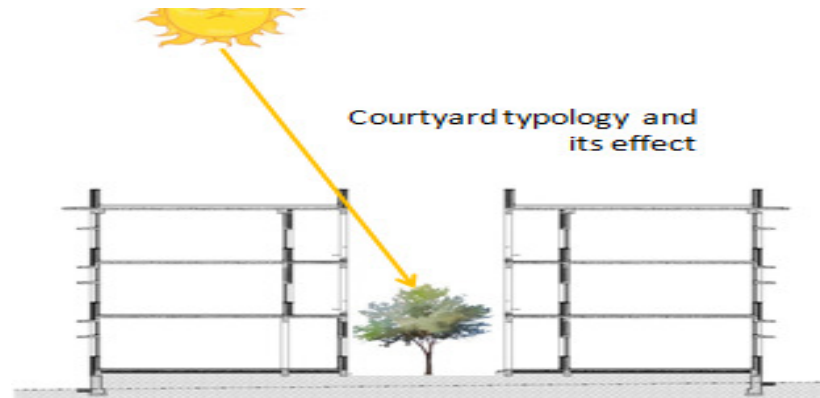
Appropriate Building  
Typology



Response to wind



Response to sun for  
thermal comfort



Shading of south  
facing windows



TYPOLGY AND ORIENTATION



**AAETI**



**Stones from the site are utilized in boundary wall construction**

Recycled and Recyclable Material



**Temporary structures made up of rammed earth from the site**

Minimize construction waste



**Recycled iron bars from construction are used for this gate and similar elements**



# MATERIALS

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Heat Gain Reduction



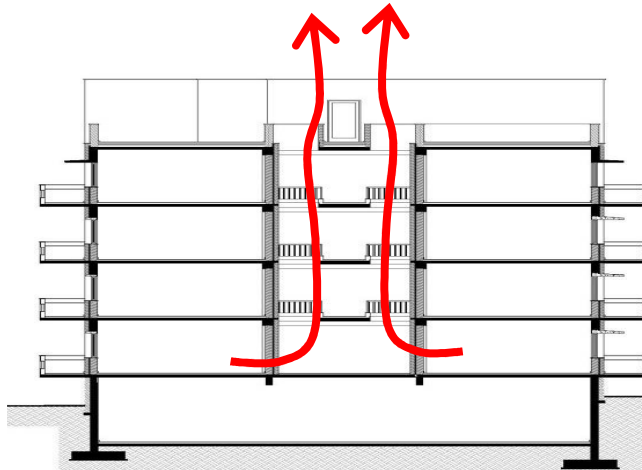
Highly reflective surfaces bounce off radiation. Good insulation protects the outside heat to enter inside

Maximum Daylight Utilization



Light shelves in corridors allow natural light to filter in and allow hot air to escape

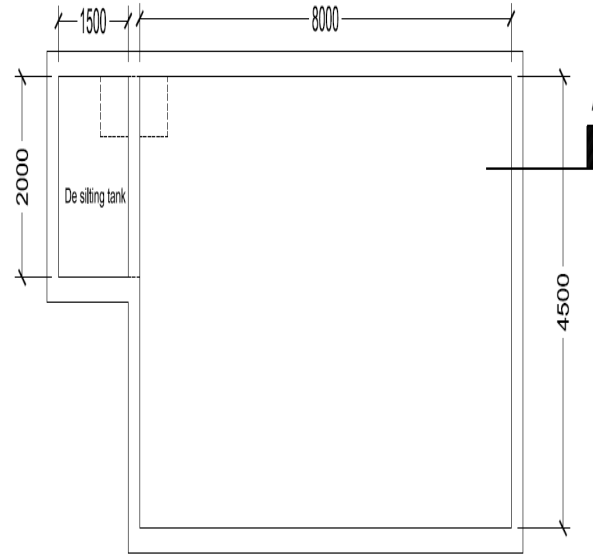
Encouraging cross ventilation



HEAT, LUX AND AIR

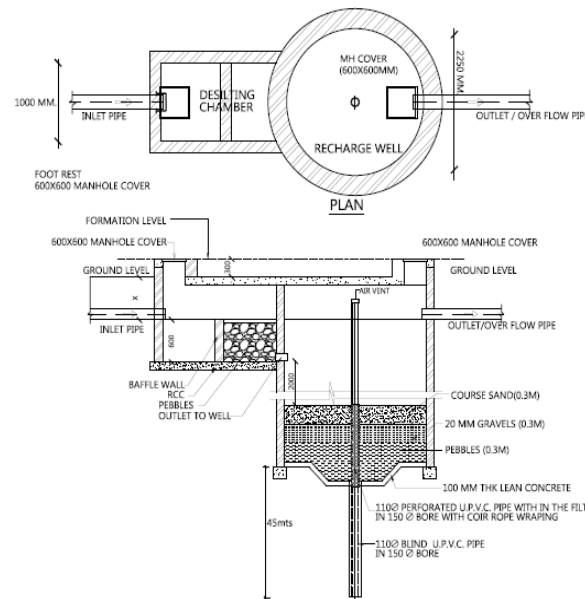






**Storage Tank** - Number - 2; Capacity - 100 KL (each); Use = Potable purposes

Ground Water Recharge



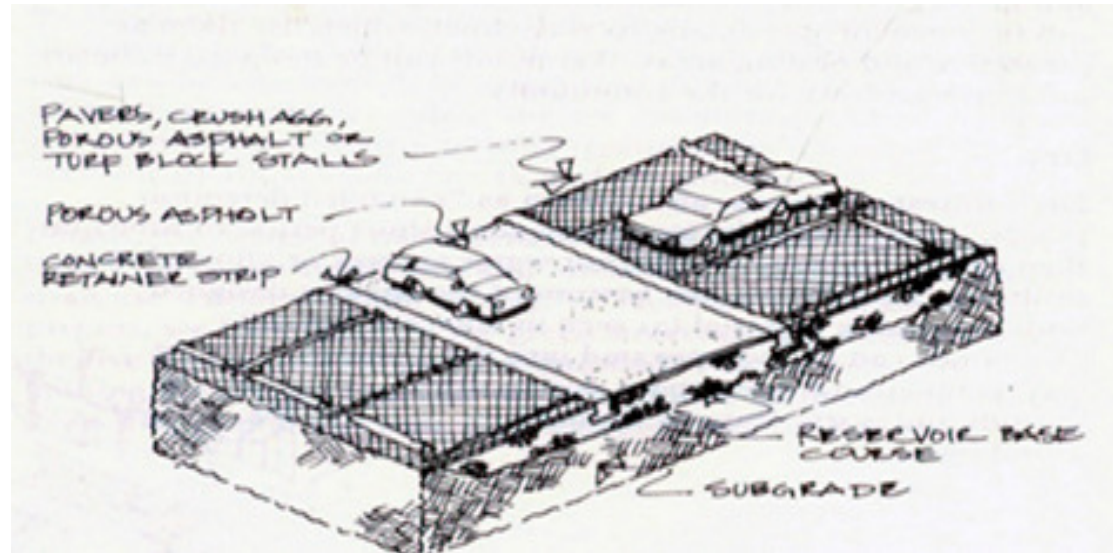
**Recharge Well** - Number - 8; Groundwater recharge

Water Conservation & Management



AAETI

Soil Moisture, greening  
and reducing need for  
irrigation



Reducing parking lot imperviousness



Planted native species and constructed anicut on natural stream increases groundwater recharge

# WATER CONSERVATION & MANAGEMENT



AAETI

% of Energy from Solar



Campus will produce 300 kWh of power currently which will offset 30-40% of the total energy demand

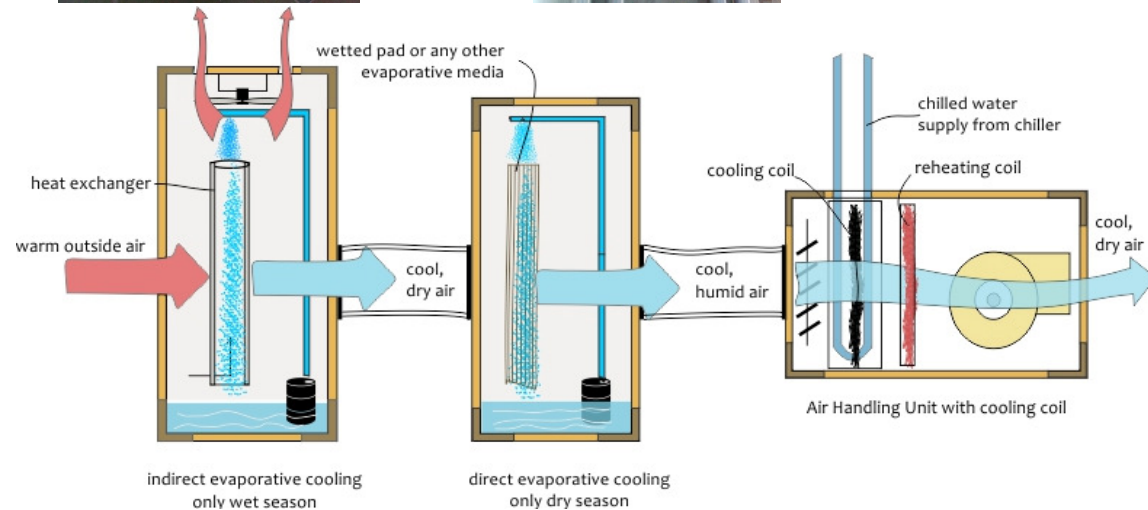
Efficient Techniques and equipments



Self closing taps and fixtures and LED bulbs reduce water and energy usage



Active Cooling Techniques



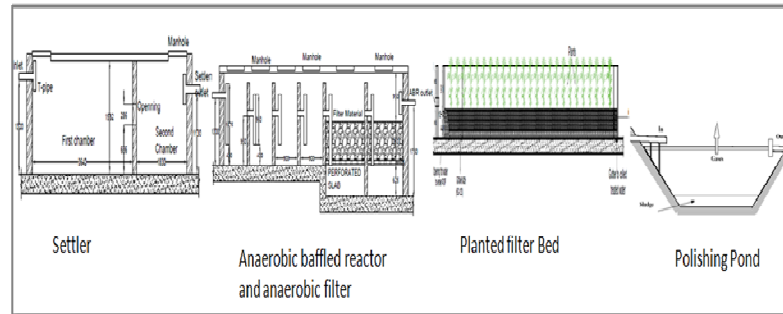
WATER, ENERGY NEXUS



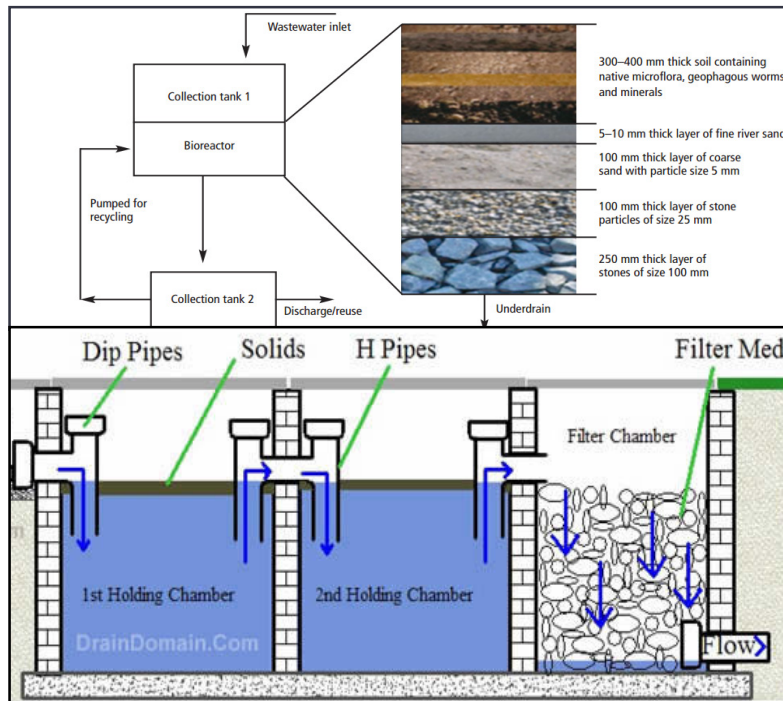
AAETI



Campus will have waste segregation system & recycle 100% of organic waste onsite



Capacity – 8 KLD  
Reuse  
Horticulture  
(Academic & Faculty block)



Capacity – 20 KLD  
Reuse –  
Horticulture +  
Flushing  
(Staff, SHB 1 & 2 & Cafeteria)

Capacity – 2 KLD  
Treated water is used for recharging groundwater (Guest House)

# SOLID AND LIQUID WASTE MANAGEMENT



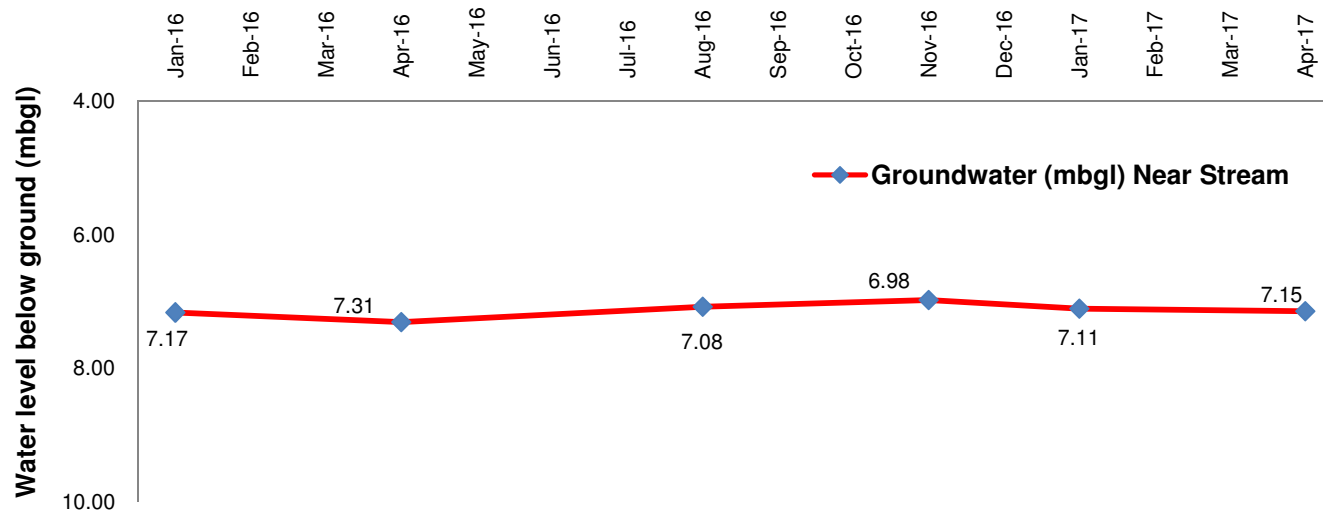


# Key performance indicators

## A. Water Positive Campus

- 100% wastewater recycle & reuse
- 86 LPCD freshwater use – 36% lower than the norms
- Harvested rainwater: 110% of the freshwater waster consumption

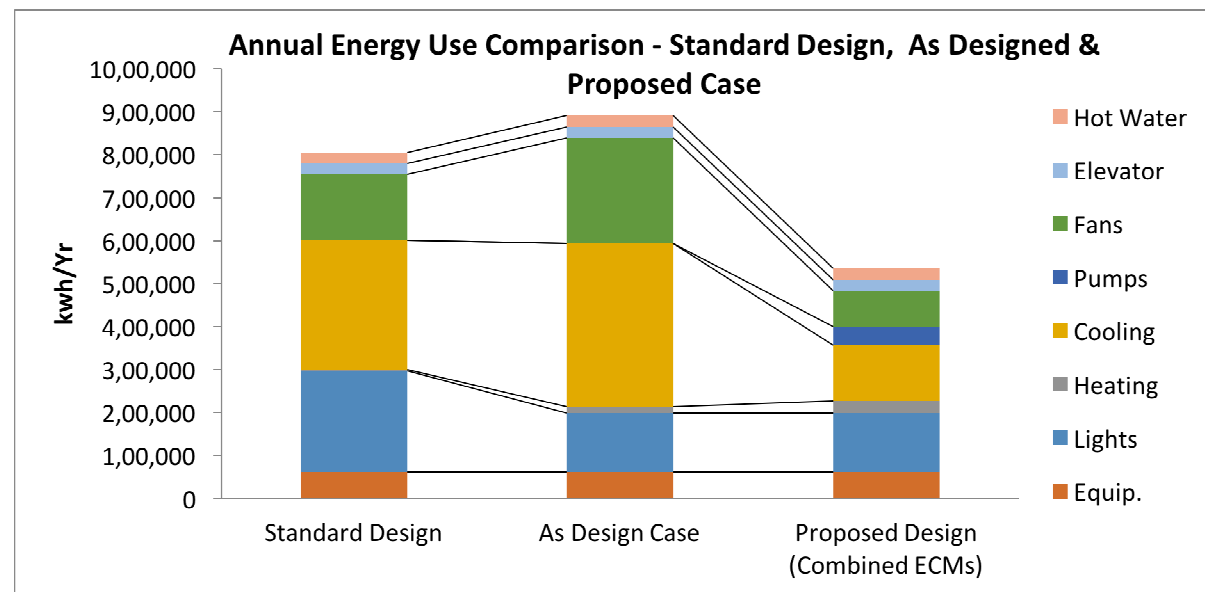
Groundwater level at AAETI, Nimli



# Key performance indicators

## B. Energy efficient & renewable energy Campus

- Designed for 100% renewable energy based off-grid campus
- Electricity consumption 34% less than standard design



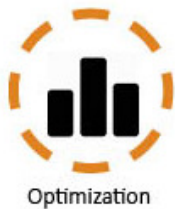


# Key performance indicators

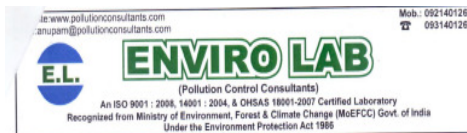
## **C. Zero waste Campus**

- Designed for 100% recycle & reuse of all wastes
- Treated wastewater to be reused for flushing & horticulture
- Organic solid waste to be composted & used as manure
- Inorganic solid waste to be sent for recycling
- Laboratory waste to be stabilized and disposed at TSDF site

# AAETI



Document and  
Dissemination



## TEST REPORT

### WATER SAMPLE QUALITY

Ref No. : E.L.BWD/PTW/8293-17 Issue Date: 03/10/2017  
Issued To : M/s Anil Agrawal Environment Training Institute  
Village-Nimali, Block-Tijara, Distt. Alwar Rajasthan

Sample Description : Borewell Water  
Sample ID : BW/26/09/17/10  
Sampling Date : 26/09/2017  
Receiving Date : 26/09/2017  
Sample Quantity : 2 ltrs.  
Analysis Duration : 26/09/2017 - 03/10/2017  
Sampling Done By : Lab Representative  
Test protocol : CPCB Guideline as per IS 10500: 2012  
Latitude : N 28°12'43"  
Longitude : E 76°51'14"

## RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT (Desirable)	STANDARD LIMIT (Permissible)	TEST METHOD
1.	pH	-	7.33	6.5-8.5	No Relaxation	IS:3025 Part-11
2.	Color	Hazen	<5	5	15	IS:3025 Part-4
3.	Odour	-	Agreeable	Agreeable	Agreeable	IS:3025 Part-5
4.	Taste	-	Agreeable	Agreeable	Agreeable	IS:3025 Part-7
5.	Turbidity	NTU	<1	01	05	IS:3025 Part-10
6.	Total Hardness as CaCO <sub>3</sub>	mg/l	148	200	600	IS:3025 Part-21
7.	Iron as Fe	mg/l	ND	0.3	No Relaxation	IS:3025 Part-53
8.	Chlorides as Cl	mg/l	142	250	1000	IS:3025 Part-32
9.	Residual free Chlorine	mg/l	ND	0.2	1.0	IS:3025 Part-26
10.	Total Dissolved Solids	mg/l	460	500	2000	IS:3025 Part-16
11.	Calcium as Ca	mg/l	68	75	200	IS:3025 Part-40
12.	Magnesium as Mg	mg/l	27	30	100	IS:3025 Part-46
13.	Copper as Cu	mg/l	ND	0.5	1.5	IS:3025 Part-42
14.	Sulphate as SO <sub>4</sub>	mg/l	25.7	200	400	IS:3025 Part-24
15.	Nitrate as NO <sub>3</sub>	mg/l	10.5	45	No Relaxation	IS:3025 Part-34
16.	Total Alkalinity as CaCO <sub>3</sub>	mg/l	135	200	600	IS:3025 Part-23
17.	Fluoride as F	mg/l	ND	1.0	1.5	IS:3025 Part-60

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S - 3, Phase - II, (Near Dee Pharma) Indl. Area, Bhiwadi - 301019, Distt. Alwar (Raj.)

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT (Desirable)	STANDARD LIMIT (Permissible)	TEST METHOD
18.	Mercury as Hg	mg/l	ND	0.001	No Relaxation	IS:3025 Part-48
19.	Cadmium as Cd	mg/l	ND	0.003	No Relaxation	IS:3025 Part-41
20.	Arsenic as As	mg/l	ND	0.01	0.05	IS:3025 Part-37
21.	Phenolic Compound	mg/l	ND	0.001	0.002	IS:3025 Part-43
22.	Selenium as Se	mg/l	ND	0.01	No Relaxation	IS:3025 Part-56
23.	Nickel as Ni	mg/l	ND	0.02	No Relaxation	IS:3025 Part-54
24.	Lead as Pb	mg/l	ND	0.01	No Relaxation	IS:3025 Part-47
25.	Zinc as Zn	mg/l	0.05	5.0	15	IS:3025 Part-49
26.	Chromium as Cr	mg/l	ND	0.05	No Relaxation	IS:3025 Part-52
27.	Manganese as Mn	mg/l	ND	0.1	0.3	IS:3025 Part-59
28.	Boron	mg/l	ND	0.5	1.0	IS:3025 Part-57
29.	Aluminum as Al	mg/l	ND	0.03	0.2	IS:3025 Part-55
30.	Total Ammonia as N	mg/l	ND	0.5	No Relaxation	IS:3025 Part-34
31.	Barium as Ba	mg/l	ND	0.7	No Relaxation	IS:13428 Annex F
32.	Chloramines as Cl <sub>2</sub>	mg/l	ND	4.0	No Relaxation	IS:3025 Part-25
33.	E-coli	MPN/100ml	<2	Shall not be detectable in any 100ml sample	Shall not be detectable in any 100ml sample	IS:1622-1981
34.	Total Coli Form	MPN/100ml	Absent	Shall not be detectable in any 100ml sample	Shall not be detectable in any 100ml sample	IS:1622-1981
35.	Anionic Detergent	mg/l	ND	0.2	1.0	Annex K IS: 13428

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## NOTE

1. The result listed refer only to the tested samples and applicable parameters.
2. Sample will be destroyed one month from the date of issue of test certificate.
3. Any complaints about this report should be communicated within 7 days of issue of this report.
4. The report is not to be reproduced-wholly or in part and can not be used as an evidence in the Court of law and should not be used in any advertising media without our special permission in writing.
5. Any Backup either related to re-issue or changing of report should be given within 30 days of issue.

(Analysed By)



S - 3, Phase - II, (Near Dee Pharma) Indl. Area, Bhiwadi - 301019, Distt. Alwar (Raj.)

# OPERATION AND MONITORING



**AAETI**



**Thank you**

