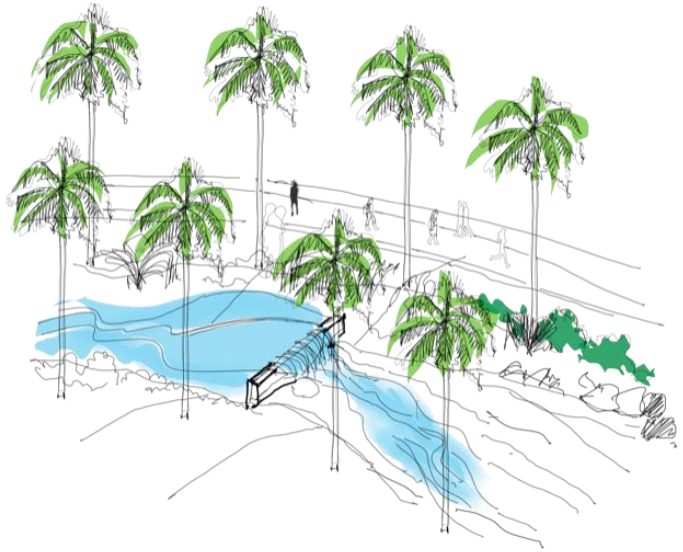
RAIN WATER COLLECTION AND REUSE

2. Check Dam

There are various natural watershed streams running through the campus which collects the water running from the hills in the north and drain in the southern face of the site.
To retain the water in dry season check dams have proposed along the watershed stream. They acts as water retaining pond and water retained can be utilized for nearby horticulture area by use of potable pumps

Storage with Modular Rain water tank
Total no. of check dams proposed= 30 nos.
Aprox. Depth of stream assumed= 500 mm
Height of check dam proposed = 300 mm
Length of one check dam= 10 mtr
Length of stream between two check dams= Aprox. 100 mtr
Aprox. Storage in one check dam= 100X0.3X10 = 300 cum
Total storage in Check dam= 30X300 = 9000 cum



Check Dams as Water retention Ponds along silent valley walk.

3. Central Rain Water Reservoir

At the end of a natural water shed stream running though the site towards southern face of site , an artificial reservoir has been proposed to collect the unused rain water in the same. Rain water during monsoon season will be collected and reused for horticulture purpose during dry-season.

Total area of reservoir= aprox. 1225 sqmtr

Aprox. Depth of reservoir= 2 mtr (assumed)

Total storage of Rain water = 2450 cum

Total storage at site of Rain water for horticulture use = Storage in Modular Rain water Collection tank + Check Dam Storage + Central Rain water reservoir

= 6180 cum + 9000 cum + 2450 cum

= 17,630 cum

Total water required per day for horticulture use = 2500 cum

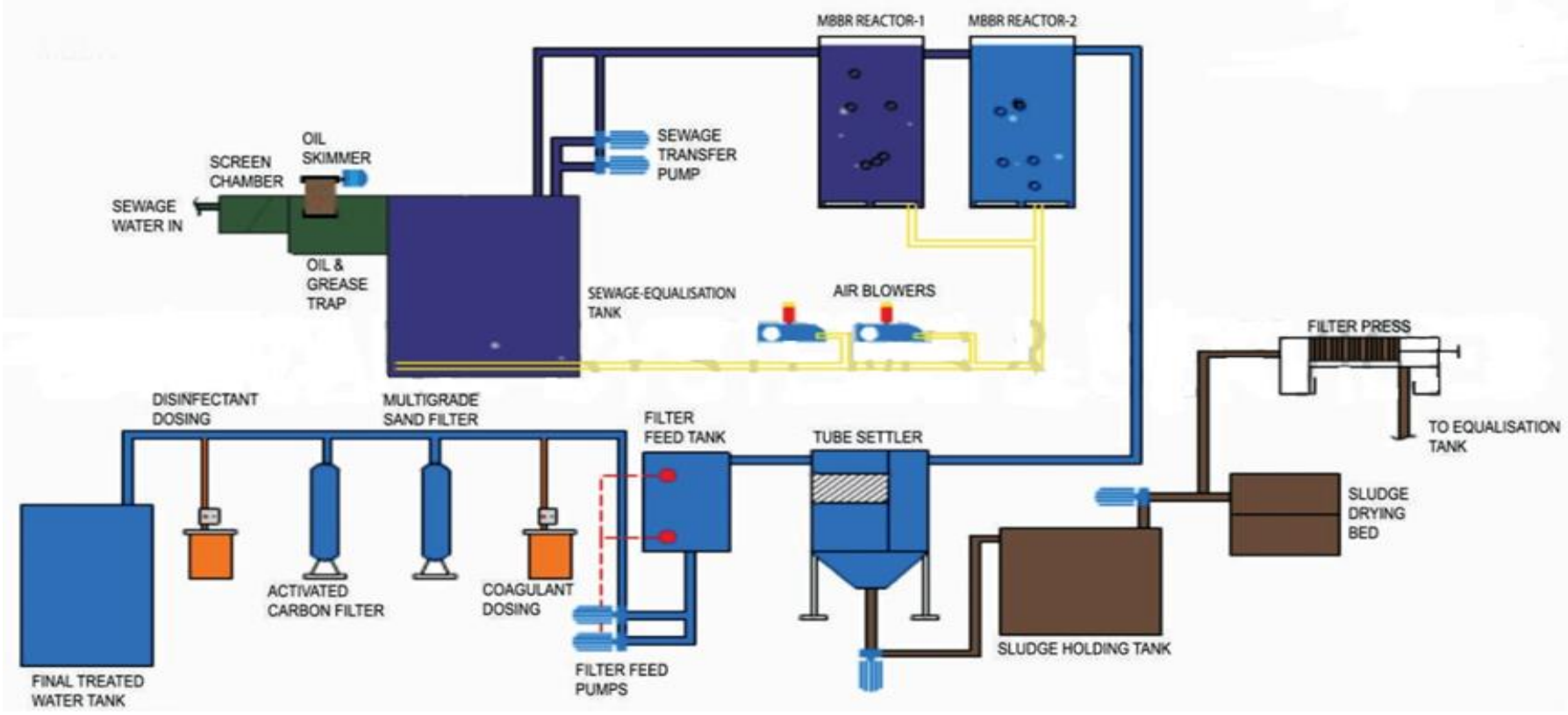
Total Storage at site propose for horticulture use= 17630 / 2500 = Approx.. 7 days.

Rain Water Harvesting Annual Potential

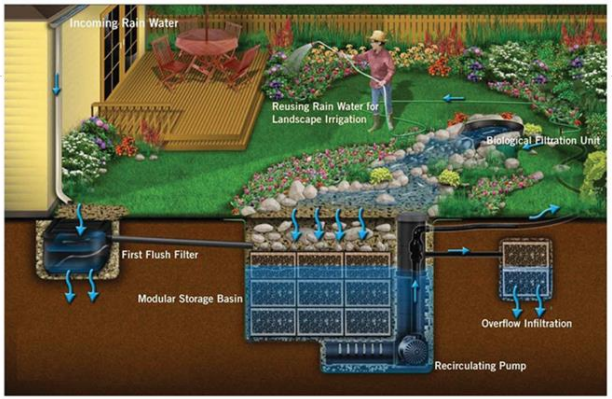
S. No.	Description	Area Considered (in m^2)	Total Annual Rainfall Considered (mm)	Harvesting Surface Run off coefficient	Total Volume of rain water available for Harvesting (m^3)
1	Rocky Areas	311729.3	2111.4	0.90	5 92 367
2	Water Available from Terraces and other roof-top surfaces	207606.27	2111.4	0.90	3 94 506
3	Paved Surfaces, Roads & other Built-Up Areas	524682.1	2111.4	0.65	7 20 079
4	Lawns, Gardens & all other Horticultural Areas	1013525.5	2111.4	0.25	5 34 989
	TOTAL (in m^3)	**20 57 543**			**22 41 941**

SEWERAGE SYSTEM

- The sewerage system shall be based on conventional sewage carriage system, in which sewage generated by individual blocks will be discharged into the sewerage network. During routing of sewage topography of site has been studies and sewer line will be laid based on same to take the advantage of contour.
- The last manholes from each individual building shall be allowed to be connected to the nearest manhole on the main external sewer line located on the nearest main road adjacent to the block.
- The domestic sewage shall be conveyed through the main sewerage network, which shall finally carry the entire sewage due to gravity.
- As per discussion only academic block infra to be developed but considering the development of complete site in future we have proposed two STP's at different location, one of which will be serve the academic and hostel block and second STP will take care the sewage of residential area. As per the development progress infra sewage line can be laid up to STP.



Drainage System



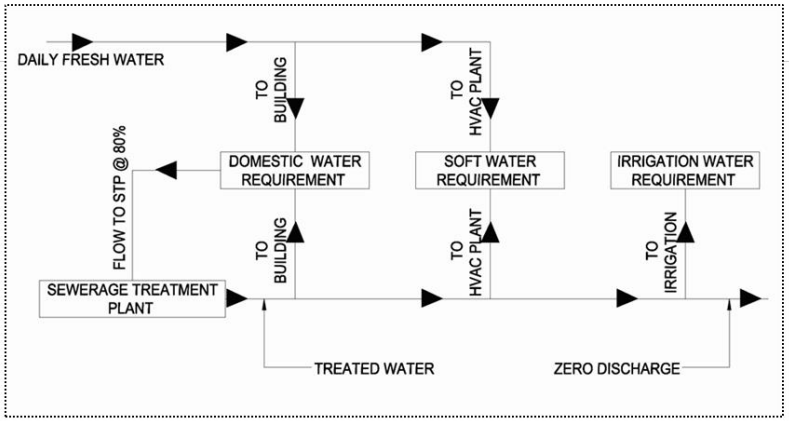
RAIN WATER HARVESTING

CENTRAL DRAINAGE SYSTEM

STORM WATER LINE

Sewage System

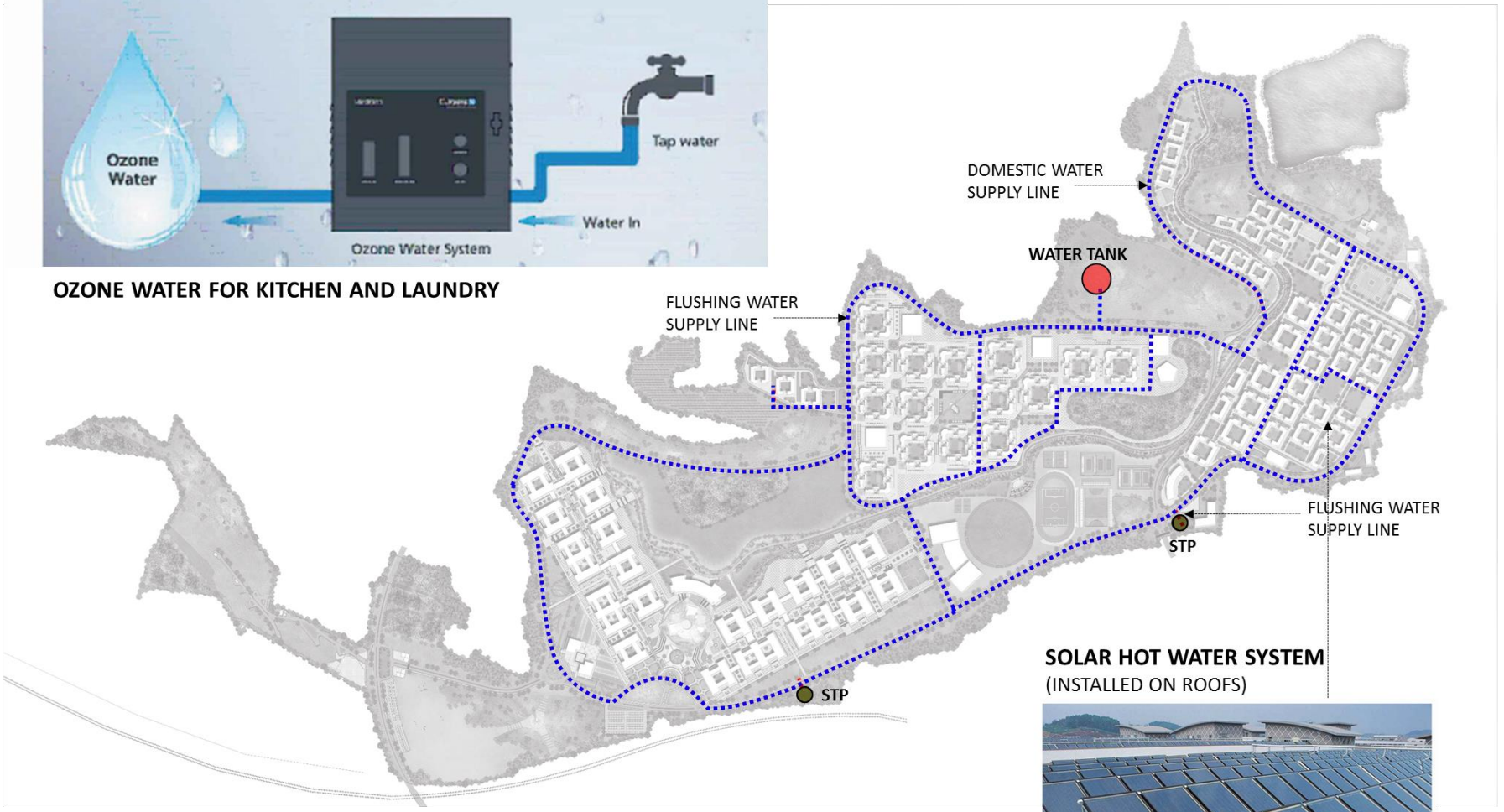
WATER BALANCE DIAGRAM FOR ZERO DISCHARGE



Water Supply System

WATER EFFICIENT SANITARY FIXTURES (SENSOR BASED FIXTURES)

OZONE WATER FOR KITCHEN AND LAUNDRY



SOLAR HOT WATER SYSTEM
(INSTALLED ON ROOFS)

FLUSHING WATER SUPPLY LINE

DOMESTIC WATER SUPPLY LINE