

SEWAGE TREATMENT PLANT

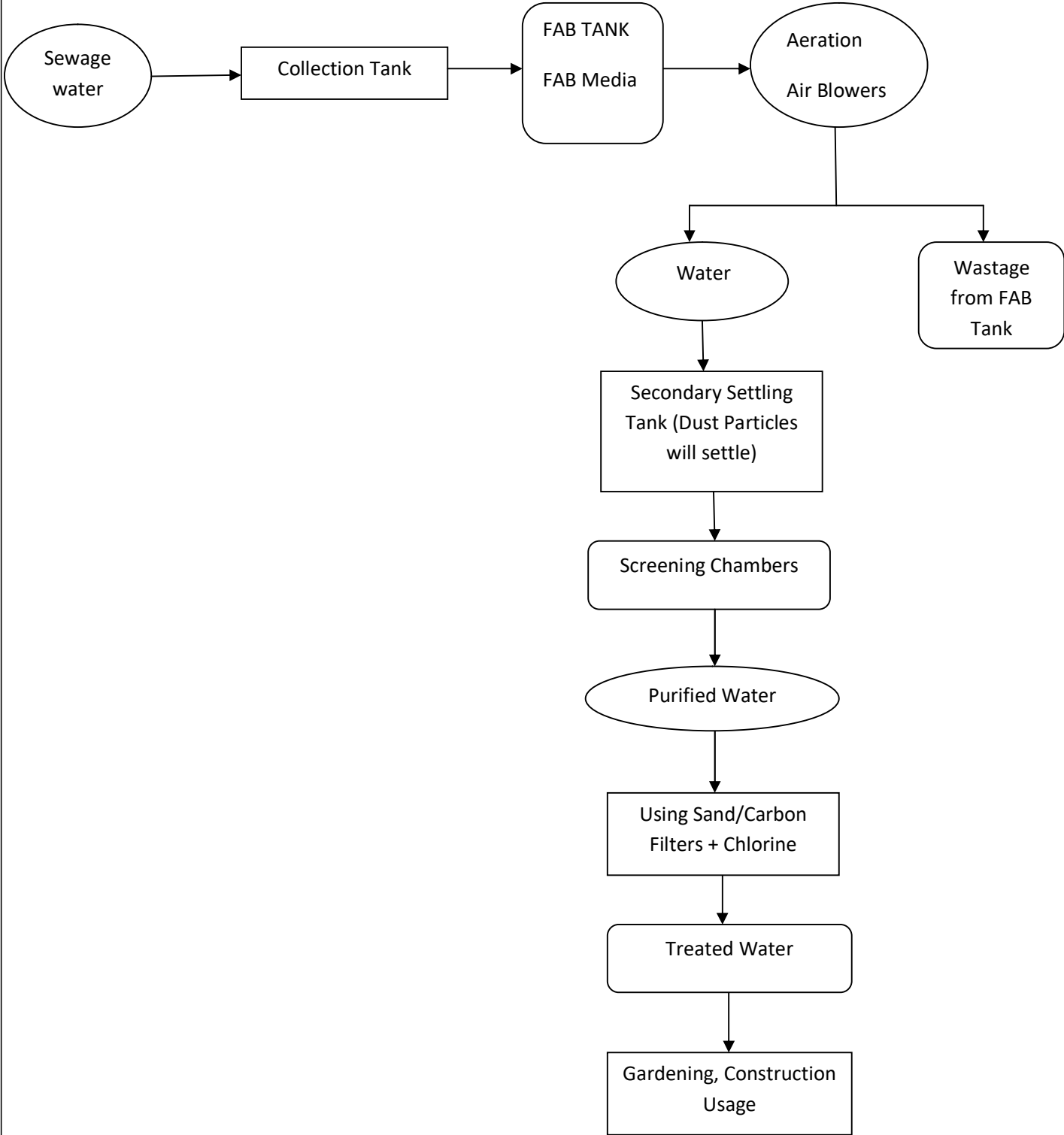
Sewage Treatment Plant (STP) Sewage treatment is the process of removing contaminants from wastewater, primarily from household sewage. It includes physical, chemical, and biological processes to remove these contaminants and produce environmentally safe treated wastewater (or treated effluent).

Sewage Treatment plant is located Near Quarters in the campus.

The details of each and every Sewage Treatment plant are mentioned that includes

- Basic Flow diagram of STP
- Specifications (KLD , Pumps, Motors, Air Blowers)
- Maintenance details
- Problems Arise during working of plant

Basic Flow diagram of Sewage Treatment Plant



Details of Sewage Treatment Plant at Various Locations

1) Campus – 200KLD

a) Air Blower Motors

- Company : Crompton Greves
- Frame Number : 1832 M.J
- Voltage : 415V
- Current : 10.35 A
- Power : 5.5 kW
- HP : 7.5 HP
- RPM : 1450
- Connection Diagram : Delta
- Number of Motors : 02 No's

b) Sewage Transfer Pumps

- Company : Crompton Greves
- Machine Number : NDA 2 M.J
- Voltage : 415V
- Current : 2.42 A
- Power : 1.1 kW
- HP : 1.5 HP
- RPM : 2820
- Connection Diagram : Star
- Number of Pumps : 02 No's

c) Sludge Feed Pumps

- Company : Crompton Greves
- Machine Number : NDA 2 M.J
- Voltage : 415V
- Current : 2.42 A
- Power : 1.1 kW
- HP : 1.5 HP
- RPM : 2820
- Connection Diagram : Star
- Number of Pumps : 02 No's

d) Filter Feed Pumps

- Company : Kirloskar
- Machine Number : KDS-225++
- Voltage : 415V

- Current : 3.9 A
- Power : 1.5 kW
- HP : 2.0 HP
- RPM : 2842
- Connection Diagram : Star
- Number of Pumps : 02 No's

e) Booster Pumps

- Company : GrundFos
- Type : CR 10-05-A-FJ-A-E-HQQE
- Voltage : 415V
- Current : 8.15/4.7 A
- Power : 2.2 kW
- HP : 3.0 HP
- RPM : 2899
- Connection Diagram : Star & Delta
- Number of Pumps : 03 No's

f) Everest Blower Motors

- Company : Everest Blower Motors
- Model Number : M5075
- Voltage : 415V
- RPM : 1300
- Pressure : 0.5kg/cm²
- Capacity : 200m³
- Connection Diagram : Star & Delta
- Number of Motors : 02 No's

g) Cutter Pumps (Submersible Pumps)

- Company : Aquatex
- Type : ASP 22P
- Voltage : 415V
- Current : 5.7 A
- Power : 2.2 kW
- HP : 3.0 HP
- RPM : 2900
- Number of Pumps : 04 No's

Daily & Future Maintenance Details

S.No	Sewage Treatment Plant Check list	Frequency of Check
1	Check water pressure of the system	Every 30 minutes
2	The chlorine should be added to treated water tank	Daily
3	The motor terminals should be checked	Every 1 week
4	Apply Oil and grease for motors	Every 1 week
5	The V- Belts should be Changed / Replaced	Every 2 months
6	The Gland-rope should be Changed / Replaced	Every 2 months

Problems Arise during working of plant

- 1) If the plant is over running due to excess usage of water, then the water over flows that leads to the blocking of meshes and to resolve the unblocking meshes the Turn Around Time (TAT) will be 1Hour to Half Day.
- 2) Breaking of Water lines takes place due to sudden raise of pressure in the motor and to avoid that, the Gardening Department should open the valves when it is required and co-ordinate with the sewage treatment plant technicians.
- 3) During running of the plant, there will be Air Lock problem and to resolve that problem the Turn Around Time (TAT) will be 30 minutes to 1 Hour.

Maintenance Details

- 1) During daily rounds, the water pressure of the system should be checked for every 30 minutes.
- 2) For every 1 week, the motors terminals should be checked and apply oil and grease for smooth operation of motor
- 3) For every 2 months, the V- Belts and Gland-rope should be Changed / Replaced.
- 4) The chlorine should be added to treated water tank every day.

Feedback

Rain Line is directly connected to the Sewage Treatment Plant, if there is continuous rainfall for 30 minutes to 1 Hour, the plant area is flooded with water. To avoid that problem, a separate line has to be taken to manhole for collecting the rain water.