





WATER AND WASTE WATER TREATMENT













Water & Waste Water Solutions Under One Roof



**Green** Aqua

## **Over View**

A holistic water and wastewater treatment company, Green Aqua Enviro Projects Private Limited, Hyderabad, is the leading expert in the design, construction, erection and commissioning of water and wastewater treatment plants under one roof. We offers a full range of services, from turnkey contracting projects for household, institutional, commercial, industrial and public water supplies by leveraging our expertise across various technologies. We tend to cover every aspect of water, waste water treatment ranging from environmental assessment to the design and development of area specific facilities and solutions with a strong dedicated, highly trained field service engineers.

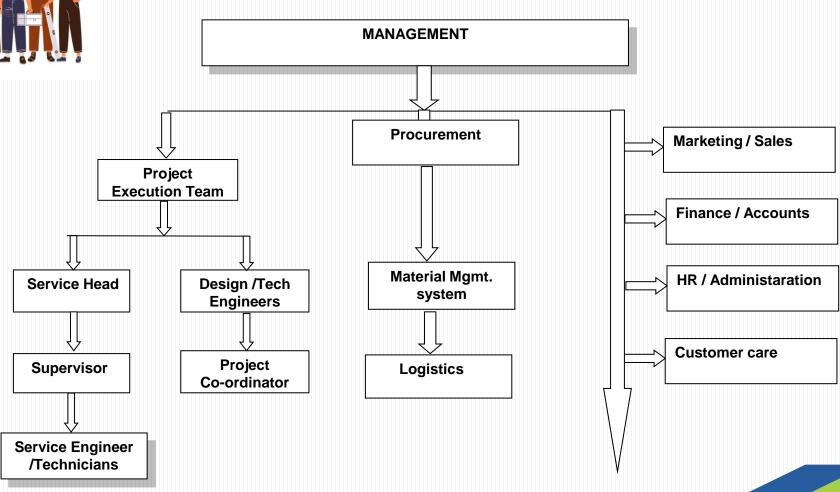
Green Aqua offer a comprehensive set of after sales services such as comprehensive operation and maintenance contracts including technical assistance, Annual maintenance contracts to enable us to meet customer needs over the life of the plant, conveniently and economically with single source

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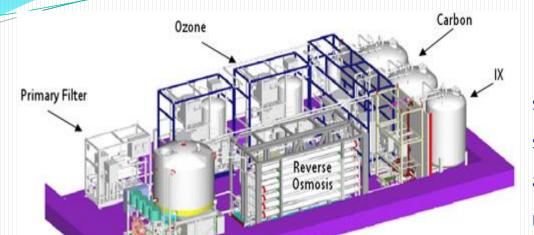




## **Organisation Structure**







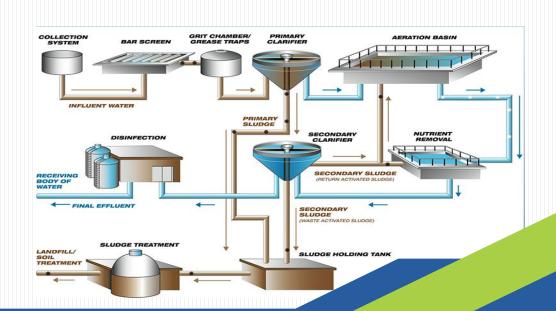
#### **Green** Aqua

#### **Engineered Systems**

Project methodology enables the implementation of projects in the shortest possible time period at lower capital costs by utilising modular standard process and equipment designs for water and wastewater applications. The packaged offerings by this division require little maintenance, are easy to transport and therefore ideal for remote locations, and are additionally simple to install and commission on-site.

### **Design and Build**

This division manages the design, installation and commissioning of small to large -scale custom engineered water and wastewater treatment plants on a turnkey basis.





## We Offer

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- > Reverse Osmosis Plants
- > UV purification units
- ➤ Ultra filtration systems
- ➤ Water Softeners
- > DM and MB units
- > Pressure Sand filters
- > Activated carbon filters
- > Desalination Plants

- > Effluent Treatment Plants (ETP)
- ➤ Sewage Treatment Plants (STP)
- ➤ Water treatment Plants (WTP)
- ➤ Pressure booster pumps and HNS
- > Water treatment chemicals
- ➤ Consumables, spares and services
- ➤ Operation and Maintenance Contract
- ➤ Annual Maintenance Contract



#### We offer



The presence of Green Aqua in the commercial, residential and industrial segment extends beyond the designing and building of sewage treatment plants. We are able to offer MBBR, SBR, MBR, UASBR & JOHKASOU etc., technology based sewage treatment options with significantly smaller footprints with greater efficiency relating to the removal of COD/BOD, turbidity and TSS for reuse of water in flushing & gardening.

#### **MBBR-Moving Bed Biofilm Reactor:**

MBBR technology employs thousands of polyethylene biofilm carriers operating in mixed motion within an aerated wastewater treatment basin. Each individual biocarrier increases productivity through providing protected surface area to support the growth of heterotrophic and autotrophic bacteria within its cells. It is this high-density population of bacteria that achieves high-rate biodegradation within the system, while also offering process reliability and ease of operation. MBBR provides cost-effective treatment with minimal maintenance since MBBR processes self-maintain an optimum level of productive biofilm

#### **MBR-Membrane Bio-Reactor**

The term 'membrane bioreactor' (MBR) is a hybrid of a conventional biological treatment system and physical liquid–solid separation system using membrane filtration. Membrane bioreactor (MBR) technology has emerged as a wastewater treatment technology of choice over the activated sludge process (ASP), which has been the conventional municipal wastewater technology over the last century. MBR is, in fact, one of the most important innovations in wastewater treatment, as it overcomes the drawbacks of the conventional ASP, including large space requirement for secondary clarifiers, liquid–solid separation issues, production of excess sludge,.



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#### **SBR - Sequential Batch Reactor**

Sequencing batch reactors use a separate pre-treatment section to mechanically hold back solids and a biological aeration and settling tank. SBR treatment process clean the incoming wastewater over a number of cycles/ Batches. The wastewater goes first into primary treatment (1st chamber), where the solid substances are retained. From there, the wastewater is fed into the SBR tank. The actual biological cleaning by microorganisms now takes place in the SBR tank. Short aeration and rest phases alternate in a controlled cleaning process. The so-called activated sludge can now develop with millions of microorganisms and clean the water thoroughly. A rest phase now follows, during which the live sludge sinks to the bottom of the system. This allows a clarified water zone to form at the top of the SBR tank. The purified wastewater is now fed into a discharge system (stream, river, lake) or into an infiltration system.

#### **UASBR** (Up flow Anaerobic Sludge Blanket Reactor)

The up flow anaerobic sludge blanket reactor-UASB is a single tank process. Wastewater enters the reactor from the bottom, and flows upward. A suspended sludge blanket filters and treats the wastewater as the wastewater flows through it. High reduction of BOD. Can withstand high organic and hydraulic loading rates. Up-flow anaerobic sludge blanket (UASB) reactor belongs to high-rate systems, able to perform anaerobic reaction at reduced hydraulic retention time, if compared to traditional digesters.

The upward flow combined with the settling action of gravity suspends the blanket with the aid of flocculants. The blanket begins to reach maturity at around three months. Small sludge granules begin to form whose surface area is covered in aggregations of bacteria. In the absence of any support matrix, the flow conditions create a selective environment in which only those microorganisms capable of attaching to each other survive and proliferate.



#### **Effluent Treatment Plant (ETP)**

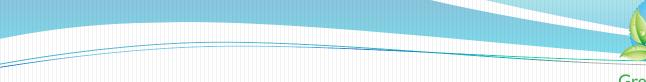
Nowadays effluent has gained a wider coverage as it includes almost every waste that pour into our water and air. Liquid factory waste, smoke, and raw sewage can all be called effluents. Effluent Treatment Plants are another form of waste water treatment plants which are designed and manufactured specially for treating water that contains effluents and works towards making the water effluent-free. Using an Effluent treatment plant, we convert wastewater - which is water no longer needed or suitable for its most recent use - into an effluent that can be either returned to the water cycle with minimal environmental issues or reused.

If an industry has a right to use water then it becomes their duty to make it clean or re-usable. Industries consumed clean water and in outcome they generate polluted water which includes harmful chemicals such as oils, grease, solids etc. water produced through the industrial process is called effluent. Our duty is to clean the pollutants through the effective water treatment methods. So, plants are established for this process and these plants are called "Effluent Treatment plants". As the name suggest, it involves removing the pollutants under the water to make it usable for another process and then to make the environment pollution free.

#### Zero Liquid Discharge Systems (ZLD)

Continually striving to deliver cost-effective, environmentally sound water treatment solutions, Green Aqua specialised in supplying zero liquid discharge (ZLD) plants whereby all components, water and waste, are recovered for reuse. ZLD employs custom-designed evaporation and crystallization technology to decrease costs, optimise the industrial water cycle, enhance the consistency of water supply and quality,.







# Pharmaceutical process water and steam

Within the pharmaceutical industry, water is most commonly used in liquid form, not only as an ingredient in numerous formulations, but also as a cleaning agent.

The production of purified water, highly purified water, pyrogen-free water and international pharmaceutical standards is widely recognised as a critical process. Unparalleled technological experience delivers complete solutions that not only meet, but exceed these standards.



#### Water Softener plant

of calcium, magnesium, and certain other metal cations in hard water. Soft water also extends the lifetime of plumbing by reducing or eliminating scale build-up in pipes and fittings. Water softening is usually achieved using lime softening or ion exchange resins.



#### **Desalination**

Desalination is an effective technique that can be used to provide potable or process water from sea or brackish water, to reduce project costs and lessen dependence on municipal



#### **Boiler water treatment**

Green Aqua assists in the control of the scaling and corrosive conditions prevalent in most boiler water systems in order to ensure internal boiler integrity and safe operation at cost-effective parameters are maintained.







#### **Reverse Osmosis plant**

Reverse osmosis is a common process to purify or desalinate contaminated water by forcing water through a membrane. It requires variety of pretreatment techniques including softening, dechlorination. and anti-scalent treatment. Following pre-treatment, high levels of pressure send water through a semi-permeable membrane, which retains all contaminants but lets pure water pass through. Energy requirements depend on the concentration of salts and contaminants in the influent water; higher concentrations requires more energy to treat



#### **Ultra Filtration system**



Ultrafiltration can be used for the removal of particulates and macromolecules from raw water to produce potable water. When treating water with high suspended solids, UF is often integrated into the process, utilizing primary (screening, flotation, filtration) and some secondary treatments as pre-treatment stages.



#### **Process water production**

Utilising advanced filtration technology, specialised membrane and deionization technology, as well as disinfection chemicals, supplies process water treatment to a variety of industrial markets, specifically catering to the pharmaceutical, food and beverage, and ultrapure water markets with packaged and standard solutions.



# **Residential Water Treatment Plants- WTP**





STREET AGES

# Commercial & Industrial Green Aqua Water Treatment Plants- WTP





















# **Sewage Treatment Plants**







# Packaged STP and ETP





# **Under ground Sewage Treatment**







# After sales service Operation and maintenance



Prompt and on time Service is our moto. We Green Aqua Enviro Projects Private Ltd., undertakes operation & maintenance, annual Maintenance contracts for STP, ETP, WTP, RO, Ultra filtration plants, water softeners etc.

We have vast experience in trouble shooting, breakdown service of RO plants, STP, Effluent treatments (E.T.P.) Water treatment plants (WTP) in industrial, residential, commercial and institutional sectors.

Our maintenance staff are well versed with Standard Operating procedures and expertise in periodical and breakdown maintenance services for all types treatment plants.

Our Team is available round the clock 365 days for operation, break down service.



## **Our Esteemed Clients**









एन एस आई सी **N5** ISO 9001 : 2008

The National Small Industries Corporation Ltd























## **Our Esteemed Clients**



























































**Green** Aqua

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**Get In Touch** 



We are here to help you



Working days 9.30 am to 6 pm





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**THANK YOU** 

