



CASE STUDY

650 KLD INTEGRATED SEWAGE
TREATMENT PLANT (MBR BASED) AT A
LARGE RESIDENTIAL TOWNSHIP PROJECT



Project Overview

SR Paryavaran Engineers Pvt. Ltd. executed a 650 KLD integrated packaged Sewage Treatment Plant (STP) for the Army Welfare Housing Organisation (AWHO) at its large residential township in Sector-114, Mohali. The project comprised design, engineering, supply, installation, construction, commissioning, stabilisation and subsequent operation of a membrane-based STP system suitable for continuous use in a fully occupied residential complex.

The STP was implemented as a compact, high-performance solution to meet statutory discharge and reuse norms while operating under severe space and execution constraints typical of live housing societies.



Client Challenge

- Compliance with Punjab Pollution Control Board (PPCB) and NGT norms as defined in the tender and contract agreement.
- Execution within a fully occupied residential township (~1100 flats) with zero tolerance for disruption to residents.
- Severely limited available footprint, necessitating a compact treatment technology.
- Requirement for fast-track execution with defined timelines.
- Treated sewage reuse requirement for horticulture and dual plumbing, demanding consistently high effluent quality.

SRP Solution Strategy

SR Paryavaran adopted a Membrane Bioreactor (MBR) based treatment philosophy using flat sheet membranes to ensure superior effluent quality within a minimal footprint. The solution prioritised process stability, operational simplicity and robustness under variable hydraulic and organic loads typical of residential sewage.

The treatment scheme was engineered strictly as per tender specifications and regulatory norms, with design margins incorporated to ensure compliance during peak flows and load variations.

Technical Configuration

- Installed Capacity: 650 KLD (1 × 500 KLD + 1 × 150 KLD)gh COD/BOD wastewater treatment.
- Process Technology: Membrane Bioreactor (MBR)
- Membrane Type: Flat Sheet membranes

- Design Basis: Influent characteristics and effluent standards as per Tender specifications and PPCB / NGT requirements
- Reuse Application: Treated water reuse for horticulture and dual plumbing network within the housing complex
- Plant Type: Integrated Prefabricated STP, optimised for constrained urban sites

Project Execution

The project was executed within an already inhabited residential society, requiring meticulous planning and sequencing. Construction, installation and commissioning activities were phased to avoid disruption to residents and existing services.

Key execution measures included:

- Compact plant design and mechanical layouts to suit limited space availability.
- Controlled material movement and installation schedules.
- Rapid installation and commissioning methodology to meet tight timelines.
- Close coordination with AWHO representatives and site management.
- Despite the constraints, the STP was successfully completed and commissioned within the scheduled construction period.

Performance Outcomes

- The STP was commissioned and stabilised successfully.
- Performance during stabilisation was found compliant with contractual provisions, as certified by the commissioning authority.
- The plant is currently under operation and maintenance by SR Paryavaran Engineers Pvt. Ltd., ensuring consistent performance and reliability.

Value Delivered to Client

- **Regulatory compliance** with PPCB and NGT norms.
- **High-quality treated water** suitable for reuse, reducing freshwater demand.
- **Compact MBR solution** enabling installation within a highly constrained site.
- **Low operational variability** and stable process performance.
- **Single-point responsibility** covering EPC and O&M, simplifying client management.





SRP Membranes

Head Office: 70, Industrial Area, Phase - I, Panchkula, Haryana, India - 134113

International Office: Saif Office Q1-06-026/B, P.O. Box 513994, Sharjah - U.A.E.

E : info@srpepl.com

M : +91 9875955948 / +91 9875955949

www.srpepl.com / www.srpmembranes.com