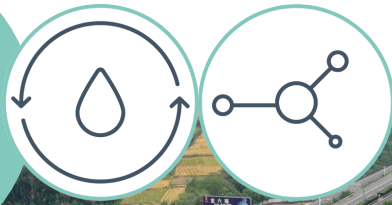


CASE STUDY



Aspiral™ Smart Packaged Wastewater Treatment System Xiaogan Highway Service Area, Hubei Province, China

- **Location:** Xiaogan Service Area, Beijing-Hong Kong-Macao Highway, Hubei Province, China
- **Capacity:** 200 m³/day (52,800 GPD)
- **Technology:** Aspiral™ MABR-based Smart Packaged Wastewater Treatment System
- **Customer:** Hubei ITEST

Background

The Xiaogan Service Area of Beijing-Hong Kong-Macao Highway, located in Xiaogan was in need of a renovation to accommodate an increase in traffic. The service area, which covers 46,289 square meters, and includes restaurants, gas stations, mechanics,

accommodations, shopping and parking, was upgraded to address this growing need, including its wastewater treatment capabilities to comply with new regulations.

The Challenge

- The design and equipment of the new plant need to fit the existing infrastructure of the previous plant
- The site, which is near the service station and receives visitors throughout the day, needs to be aesthetically pleasing, with minimal noise and odor
- The influent characteristics include high Nitrogen concentration, a common occurrence in service stations, which require highly efficient treatment

Solution Criteria

- Meets Class 1A effluent standards
- Capacity: 200 m³/day
- Low energy consumption
- Economical CapEx and OpEx
- Environmentally friendly
- Timeline: two months for installation and commissioning

CASE STUDY • Xiaogan Service Area | 200 m³/day Aspiral™



The Solution

The plant was constructed within 2 months with this specific process design:

- Pre-treatment: fine screen and selection tank
- Secondary treatment: two Aspiral™ L4 units
- Secondary clarifier
- Tertiary treatment: media filter and disinfection unit

Design Parameter (mg/L)	pH Range	NH ₄ -N	COD	TN	TP	TSS	BOD
Influent	6~9	30	400	70	5	300	200
Effluent	6~9	< 5	< 50	< 15	< 0.5	< 10	< 10



3rd Party Wastewater Test Report

Released by Henan PONY Testing
Report No. HMBHPJ0A7905055ZB

Item (mg/L)	pH	NH ₄ -N	COD _{Cr}	TN	TP	TSS	BOD ₅
Influent	6.85	68.8	452	86.3	5.26	38	172
Effluent	6.81	0.206	16	2.18	0.04	8	4.4
Class 1A Standard	6 ~ 9	< 5/8	< 50	< 15	< 0.5	< 10	< 10

* Class 1A Standard refers to the National Standard of P.R.China GB18918-2002 Pollutant Discharge Standard of Municipal Wastewater Treatment Plants