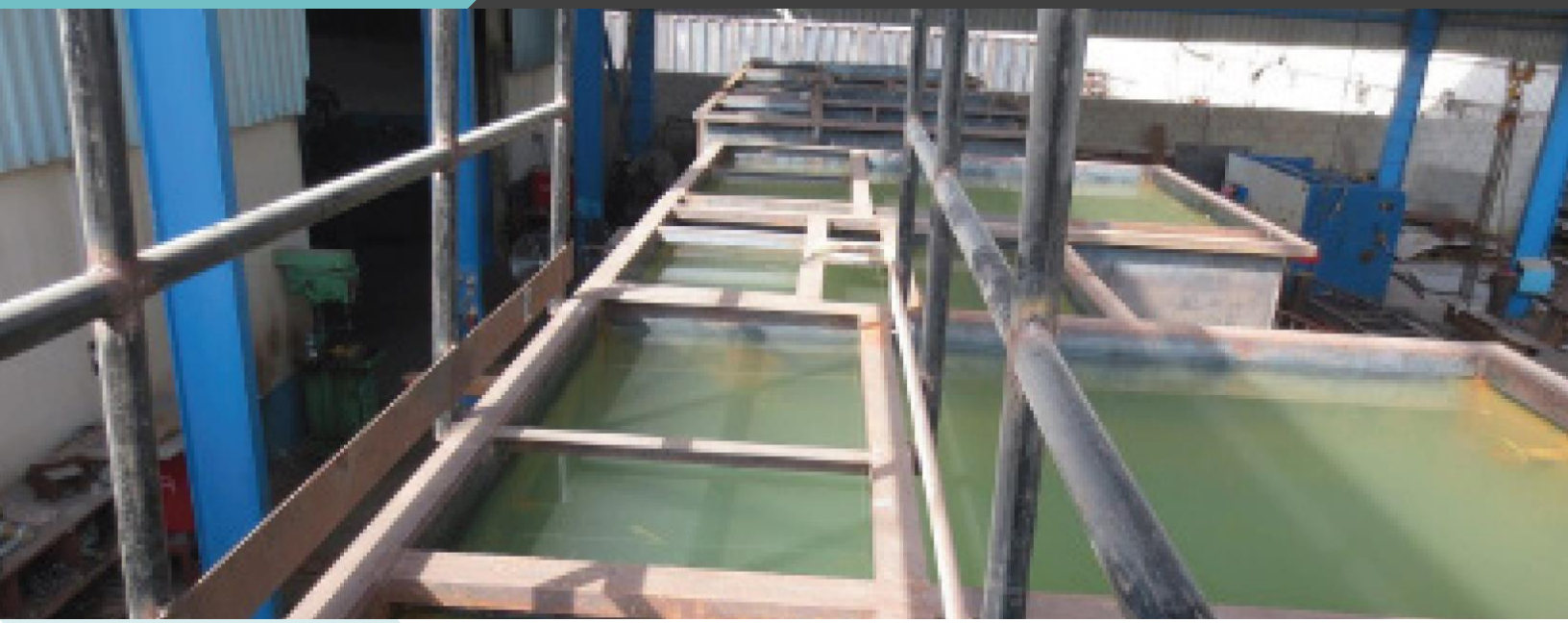
Headworks® INTERNATIONAL

CASE STUDY: Al Shamal STP

AL SHAMAL, QATAR



Introduction

The Headworks Integrated Treatment (HIT) system is a modular, compact wastewater treatment system designed for smaller communities and industries. Headworks BIO is pleased to announce its recent contract award from Metito after approval of our process design by Ashghal, the Public Works Authority of Qatar, the end user. Under the contract, Headworks BIO will supply Metito with three HIT™ compact wastewater systems, also known as package plants, for construction projects they are doing for Ashghal.

Background

In fast growing economies like the Middle East, keeping up with the growing demands for water is a significant challenge for governmental authorities. The nominal existing ground water levels are rapidly depleting. In Abu Dhabi, for example, less than 15 % of the water extracted from the aquifer is naturally replenished. Expensive desalination is the main method of creating fresh water in the region. Power costs for desalination and the ecological impact of the brine discharge (which is the waste product created by desalination), especially in shallow and constrained ocean bodies like the Arabian Gulf, pose additional burdens on the environment and subsequently on utilities and governments.

Creating Reusable Water in Qatar – With Headworks BIO's Compact Wastewater Treatment Plants

Customer: Metito
Industry: Municipal

KEY FACTS

- **Wastewater Flow:** 200 m^3/day (0.053 MGD)
- **BOD_5:** Design influent 315 mg/L
  Target effluent < 15 mg/L
- **COD_5:** Design influent 515 mg/L
- **TSS:** Design influent 350 mg/L
- **Fat, Oil, Grease:** Design influent 300 mg/L
- **pH:** Influent 6.0 – 8.5
- **Temperature:** 20 – 35 ° C (68 – 95 ° F)

With water running out and more people and industry moving into the region, reuse of as much wastewater as possible is one logical part of the solution to the water conundrum. We are seeing increasing use of fines for violating discharge limits and stricter laws established about how water can be used in new buildings.

The HIT System™ pictured will reduce BOD to 10 mg/L, Ammonia to 2 mg/L and TSS to 15 mg/L.

Promisingly, a shift in social acceptance of reversing the long neglected environment is becoming more apparent. Larger industrial water users are becoming more responsible stewards of the environment and are willing to spend their money for a reliable working system which will protect that precious commodity called water.

This is naturally good news for Headworks BIO as a provider of state of the art systems which consistently deliver high standard reusable water with low operating costs and ease of use for operators. For customers looking for an experienced company who can turn wastewater into reusable water for agriculture, district cooling, etc., there are very few choices. And none who have a reputation for listening closely to the client and fulfilling their needs the way we have at Headworks BIO. Coupled with our years of experience and many installations in the MENA region, we continue to see increasing growth in this part of the world.

"The reliability of a system is an important decision point for the client. Especially in areas where skilled operators are hard to find, a smooth working, self-regulating system makes the difference between happy local residents, for example, or unhappy people complaining about smell and their beaches being no longer inviting."

- Gerald Seidl

Senior VP of Headworks International

HIT System™

The Headworks Integrated Treatment (HIT) System provides a complete solution – screening, grit removal, MBBR or IFAS treatment, clarification, tertiary filtration, and disinfection – all with a minimal capital investment and low operational costs.

Depending on the flow size, effluent requirements and site restraints, we offer a variety of systems. For larger flows, we supply individual vertical tanks, while for smaller flows we can treat municipal or industrial wastewater in a skid mounted arrangement or with a super compact single body type. If needed our in-house designed dissolved air flotation (DAF) systems guarantee an even smaller footprint with an excellent effluent quality. The goal is always to provide effluent suitable for reuse for non-potable needs such as irrigation.

A single train can treat flows up to 870 m^3/ day (230,000 GPD), but as many trains as needed can be added to the system to treat higher flow rates. For example, if you need to treat 2,000 m^3/day (500,000 GPD), our team can design a system of three trains, each rated at 700 m^3/day (170,000 GPD).

Headworks BIO designs systems to meet a variety of effluent quality requirements. And at any given time, the compact wastewater treatment system can be expanded to meet new discharge requirements or increasing flow rates. This system is suitable for labor camps, oil field worksites, oil platforms, housing complexes, resorts, etc.

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