CASE STUDY

School's Onsite Wastewater Reuse System Equipment Earns Top Marks for Distributed Reuse Quality

Two-hundred and fifty acres provides an idyllic location for the K-12 students of a prestigious preparatory academy located in the United States. As a widely renowned educational institution the academy provides a unique learning environment for its 500 students, faculty, and staff that focuses on personal integrity, social responsibility, and leadership.

The beautiful campus provides exquisite views of the surrounding area, yet development of the relatively remote site gave rise to a challenge regarding the collection and disposal of onsite generated wastewater. At the same time, the state in which the academy is located has enacted stringent water quality regulations designed to protect the sensitive surrounding watershed. After several years of hauling wastewater offsite at considerable expense, the school began to take a proactive leadership approach toward managing its water and wastewater resources. Following an exhaustive review of competing technologies, the school chose aquaTECTURE's waterPOD.br™ system as the best choice for its wastewater treatment needs. waterPOD.br's fully-integrated wastewater treatment system provides a clean, safe, automated, and cost-effective solution to handle the highly variable wastewater flows generated from the dynamic school environment.

Due to the school's rigorous attention to social responsibility, one of the primary criterion in the selection process was the waterPOD.br's ability to produce superior quality treated effluent even under the extremely variable and intermittent loading conditions that are common in a school or other institutional environment. Just as importantly, the waterPOD.br system's flexible aesthetics allow the academy to easily camouflage the wastewater equipment into the school's scenic environment. System reliability and operability were also of significant concern for the school, both of which were addressed by continuous online monitoring as well as an extremely easy-to-service and operator friendly design.

The academy's competitive evaluation process determined that the waterPOD.br system provided clear advantages over other wastewater treatment or recycling technologies in terms of producing safe, high quality treatment under the school's dynamic loading conditions. The unique configuration and powerful automated controls of the waterPOD.br design allow it to maintain biological treatment and provide consistent quality effluent under extremely low-flow or even relatively short periods of no-flow conditions. This performance is possible due to the unique out-of-basin membrane design and best-in-class controls that come standard with every system. Complete, on-line monitoring of all key operating and effluent quality parameters gave the school the confidence it needed that the waterPOD.br would provide its students, staff, and local environment with the highest levels of safety.

With treatment performance assured, the academy turned its attention to ensuring that the new onsite wastewater

treatment equipment could be seamlessly and unobtrusively incorporated into a very central location on the school's campus. To this end, the fully-integrated, fully-containerized and flexible aesthetic design of the waterPOD.br made it extremely easy to work with the architectural team. After considering several higher-profile options, the school selected an unassuming style for delivery of the final waterPOD.br container. Uniting a neutral earth tone and simple exterior, the system was easily blended into the landscape design only yards away from the school's impressive sports stadium and busy main parking area. Siting the system was made even easier as waterPOD.br systems require only common 230V electrical service – thus eliminating the need for expensive and unsightly high-voltage switchgear. The resulting 'hidden in plain sight' effect allows easy access to the waterPOD for staff and visitors while also avoiding undue attention during busy school days and sporting events.

Last but not least on the academy's list of considerations was reliability, serviceability, and operational safety for the wastewater system package. All waterPOD technologies have been designed and developed with exactly this operability in mind. Each aspect of waterPOD.br's system operation and control are integrated into the main PLC. Further, all of the meters, instruments, and control elements in the process are operated via a low-voltage 24-volt DC system with individual secure, water-tight plugs. This design not only reduces concerns regarding electrical safety, it ensures that virtually all equipment can be easily serviced by any technician that is familiar and comfortable with common hand tools. In addition, the waterPOD.br membrane system is the only commercial-grade packaged wastewater treatment, reuse, or recycling technology that comes with a full five-year warranty on key components, ensuring the school maintains years of trouble-free operation.

Following installation of the waterPOD.br system in 2017, the academy has been thoroughly satisfied with its choice for onsite wastewater treatment. The school has achieved all of its environmental stewardship goals while also reducing the cost, complexity, and risk of managing its wastewater resources. After one year of continuous operation the system drew consistent praise and top grades from the State's water quality regulatory agencies and visitors. Based on its performance track-record, waterPOD.br systems have successfully graduated into a number of other similar projects where superior water quality, ultra-reliable operation, and flexible aesthetic design places it at the top of the class.