



## Death Valley Resort Secures Sustainable Wastewater Future

The Furnace Creek region of Death Valley (known as the Oasis in the Desert) which comprises the famous Furnace Creek Inn and Ranch, RV park, campgrounds, and restaurants has completed the construction and commissioning of a new "low carbon footprint" wastewater treatment system that is very energy efficient and uses natural biological process to treat domestic wastewater.

Furnace Creek, CA is home to the visitor center, museum, and headquarters of the Death Valley National Park. The village is surrounded by a number of Park Service public campgrounds along with two of the Park's major tourist facilities - the Inn at Death Valley and Ranch at Death Valley. The Furnace Creek Golf Course (originally Death Valley Golf Course) attached to the Ranch claims to be the lowest in the world, at 214 feet below sea level. Some of the lodging is closed in the summer, when temperatures can surpass 125 °F.

Integrated Water Services, Inc. (IWS) was hired by Xanterra Corporation to construct the wastewater treatment system upgrade for the project with a construction value of approximately \$1mm, not including the owner furnished equipment. IWS provided a turn-key project execution for all trades (civil, mechanical, and electrical/controls) and start-up.

The treatment system was permitted and designed by Barbara Bradley, PE of Advanced Onsite Water ([www.advancedonsitewater.com](http://www.advancedonsitewater.com)).

The specific scope of work included the installation of: a) nine Orenco ([www.orenco.com](http://www.orenco.com)) AX Max units and one T Max unit; b) one 25,000 gallon fiberglass tank; c) all interconnecting piping and valves; d) concrete pads for equipment; e) Blowers for Sludge Digesters; f) All electrical and controls including conduit, fiber optic cable, wiring, and standby generator; g) Sludge removal and regrading of sludge drying beds along with all associated piping and pre-cast structures; and g) distribution piping to subsurface disposal. Once wastewater is treated at the plant it is dispersed through leachfields located throughout the site.

Prior to this phase of work IWS had completed several projects for Xanterra in Death Valley which included: a) Construct an emergency overflow pond for the wastewater treatment system at the Furnace Creek Resort; b) Retrofit and install upgrades to the existing equalization tank, blower controls, and electrical control system; and c) Install a 7,000 gallon grease interceptor for the restaurant at Furnace Creek Ranch.



*AXMAX Treatment Units With Concrete Apron*



*Pouring Concrete Apron*



*Grading Sludge Drying Beds*



*Treatment Headworks in Foreground*

Barbara Bradley, the project engineer, was very pleased with IWS's performance on the project. Ms. Bradley said, "The project site is located in an isolated area so it is important that the contractor is well organized and has good visibility for schedule and manpower. IWS did an excellent job and worked cooperatively with the project team. They replaced

the existing treatment system in its entirety while keeping the current system on-line. There was no interruption in service. The new plant looked beautiful and startup proved that the functioning of the plant was as good as the looks. I highly recommend IWS for future projects."



*Left to right: Bruce Wilkerson (IWS), Barbara Bradley (AOW), John Scott (IWS), Jay Carpenter(IWS), Ted Deason (IWS), Steve (Furnace Creek Operator), Jerry Poole (Inyo County Inspector), Steve Braband (BioSolutions).*

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