



TOWN OF MARANA PFAS REMOVAL TREATMENT PLANT

Airline/Lambert & Picture Rocks Campuses

BACKGROUND

In August of 2018, the Town of Marana Council voted unanimously to approve the design and construction of a water treatment facility for each of two systems in Marana Water found to contain the unregulated compounds PFAS and 1,4-dioxane. Although the EPA and state of Arizona do not currently apply a maximum contaminant level (MCL) for these compounds, the EPA does offer applicable health advisories. The project was carried out as a proactive measure to protect the community from adverse effects associated with chemical water contaminants.

Carollo Engineers and Archer Western/Walsh Group began construction in January 2020, working as a joint CMAR project to design and construct two water treatment facilities with UV/AOP and GAC treatment. Both plants, Picture Rocks and Airline/Lambert, reached operational status on March 12, 2021, staying largely on schedule despite supply challenges posed by the COVID-19 pandemic. Sampling results of the water introduced into the respective systems from both treatment facilities revealed successful removal of both of these non-regulated compounds.

PROJECT DETAILS

The UV/AOP treatment removes 1,4-dioxane from the water and requires peroxide dosing to be successful. The GAC treatment removes the PFAS while acting as a post-treatment to the UV/AOP treatment to quench the peroxide.

PROJECT LOCATION

Marana, AZ

PROJECT TIMEFRAME

Dec. 2019 – March 2021

AV® SCOPE OF WORK

\$1,500,000

GENERAL CONTRACTOR

Archer Western/Walsh
Group

PROJECT TYPE

Design, Manufacture
and Supply

PROJECT PHASE

Complete

END USER

Town of Marana

DESIGN ENGINEER

Carollo Engineers

CONTACT AV SALES

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Airline Lambert Water Treatment Campus



Picture Rocks Water Treatment Campus

KEY GAC SYSTEM DESIGN & OPERATIONAL PARAMETERS	AIRLINE LAMBERT VALUE	PICTURE ROCKS VALUE
Number of Systems/Vessels per System	2/2	2/2
Operating Configuration	Parallel/Lead-Lag	Parallel/Lead-Lag
Carbon Capacity/Volume per Vessel	654 ft ³	654 ft ³
Resin Type	Carbon	Carbon
Design Flow Rate	500 gpm	700 gpm
Hydraulic Loading	4.4 gpm/ft ²	6.2 gpm/ft ²
Empty Bed Contact Time	9.8 Minutes	7.0 Minutes
Underdrain	External Ring header	External Ring header
Overall System Height to Top of Pipe	16'-0"	16'-0"

AQUEOUS VETS® PROJECT SCOPE

AV designed, manufactured and delivered four (4) PF12-520 GAC Systems (12-ft. diameter vessels GAC lead-lag pair for drinking water meeting NSF 61 standards).

