



TONKA EQUIPMENT COMPANY

Project Profile

Schertz/Seguin, TX LGC Water Treatment Plant Seguin, TX

WATER TREATMENT PLANT

Contact: Dan Druggan
(830)-401-2408

DESIGN ENGINEER

ROMING, PARKER & KASBERG, L.L.P.

Contact: Clay Roming, P.E.
(254) 773-3731

TONKA REPRESENTATIVE

Environmental Improvements, Inc.

Contact: Mike Fuller, P.E.
(800) 374-7008



APPLICATION:

Iron and Manganese Removal
Carrizo Aquifer

TONKA PROCESS EQUIPMENT:

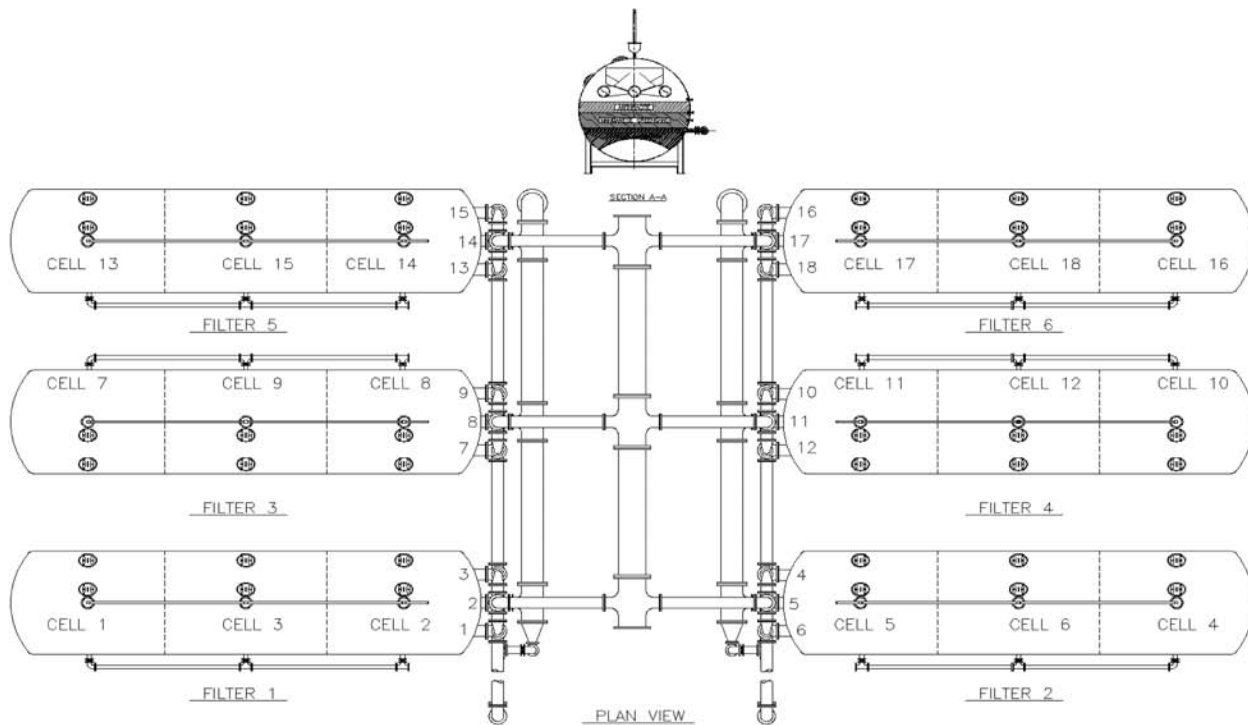
Horizontal pressure filter, multiple cell end-piped design with sustained Simul-Wash™ backwashing

PROJECT

Rapid growth within the cities of Schertz and Seguin, TX, increased water demands and strained water supply capabilities. The Cities formed a Local Government Corporation (LGC) so they could function as a single entity. ROMING, PARKER & KASBERG, L.L.P. Consulting Engineers were hired to evaluate future water sources and usage demands and to design a new water supply system. After reviewing treatment designs and options, the engineers and the LGC chose to design the 10 MGD plant filtration system around Tonka Equipment Company horizontal pressure filters and PLC control system.

PROCESS

The treatment processes consist of pressure aeration and chemical feed for oxidation and disinfection; six horizontal pressure filters, each with three cells; storage and high service pumps. The filter design includes a common underdrain to the three cells, a dual media bed of manganese greensand and anthracite, and a unique backwash trough. The plant can treat up to a peak flow of 17 MGD raw water.



The horizontal pressure filters are designed with multiple cell compartments above an arched plate underdrain within each vessel. This design allows for each filter to be backwashed or taken completely off line while the remaining filters continue to produce filtered water. Each filter cell includes the value-added “Simul-Wash™” backwash process. This unique process uses air and water in combination at sub fluidization water rates, providing the most effective means of backwashing granular media filters¹. Tonka’s Simul-Wash™ media rejection backwash trough was integrated into the filter design which enables the air and water backwash cycle to continue for an unlimited time without media loss. These process features maximize filter cleaning efficiency and reduce backwash wastewater by approximately 50% over conventional methods.

PERFORMANCE

The raw water analysis summarized below reflects moderate concentrations of iron and manganese existing in the water. The treatment process has been highly efficient in delivering high quality water as indicated below.

	Raw Water	Finished Water
Iron (Fe)	1.5 mg/l	ND
Manganese (Mn)	0.3 mg/l	ND

FOR ADDITIONAL DETAILS, CONTACT:

Tonka Equipment Company

¹Amirtharajah, Appiah, et al. *Optimum Backwash of Dual Media Filters and GAC Filter-Adsorbers With Air Scour*, AWWA Research Foundation and American Water Works Association, 1991.



TONKA EQUIPMENT COMPANY

763-55-WATER • 763-559-2837 • FAX: 763-559-1979 • www.tonkawater.com
 P.O. BOX 41126 • PLYMOUTH, MINNESOTA 55441-0126 • 13305 WATERTOWER CIRCLE • PLYMOUTH, MINNESOTA 55441