



TONKA EQUIPMENT COMPANY

Project Profile

Gardner, MA
Snake Pond Well Treatment Facility

CITY OF GARDNER

Contact: Dane Arnold
Director of Public Works
(978) 632-7661

DESIGN ENGINEER

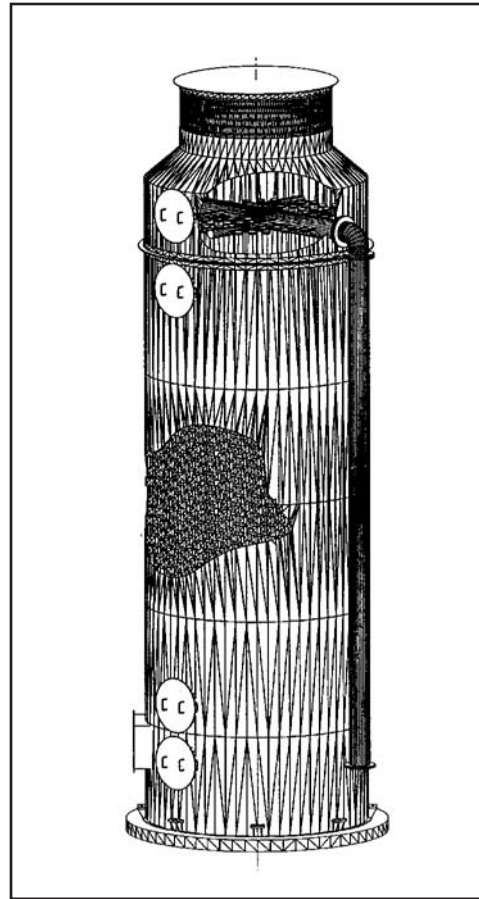
Tighe & Bond, Inc.
Contact: Peter Valinski P.E.
(413) 562-1600

GENERAL CONTRACTOR

PUMA Corporation
Contact: Gary Stevens
(603) 474-2464

TONKA REPRESENTATIVE

BAU/Hopkins
Contact: Alan Hopkins
(508) 699-9300



APPLICATION:

VOC Removal

TONKA PROCESS EQUIPMENT:

Forced Draft Packed Tower Air Stripper

PROJECT BACKGROUND

In an effort to augment the City's water supply, Tighe & Bond was retained to perform a groundwater development program. Several exploration wells were installed. Preliminary results indicated a potential for sufficient water supply, but of marginal water quality, requiring treatment for removal of volatile organics including methylene chloride and 1,1-dichloroethane, and the radionuclide Radon. In 1998, a 24" naturally developed well capable of withdrawing up to 2 mgd was installed, tested, and capped.

PROCESS

In 1999, the City began construction of a 2 mgd groundwater treatment facility to treat water from the new well. The facility utilizes the following treatment unit processes:

- Sequestering of iron and manganese using a blended polyphosphate/orthophosphate
- Tonka supplied Packed tower air stripping to remove VOCs and radon

- Primary disinfection using sodium hypochlorite
- Secondary disinfection using chloramines
- Fluoridation using sodium fluoride
- Corrosion control using caustic soda and poly/orthophosphate blend

PACKED TOWER AIR STRIPPER DESIGN

The stainless steel air stripper includes Tonka's non clogging nozzles for water distribution. These engineered nozzles create a hollow cone spray pattern of fine water droplets effectively distributing the water evenly across the entire surface area. Tonka's packed air stripper design incorporates Lantec 3.5" lanpac packing. This packing achieves a 45 sq.ft. / cu.ft. geometric surface area, and approximately 30,000 dripping points per cubic foot. These packing features maximize the surface to water contacts and increase the mass transfer efficiency. Air is introduced into the sump section of the tower for counter current air flow using two 25 hp blowers each producing 18,050 scfm of air @ 6"wc.

TONKA FEATURES

Proven

Tonka has been designing water treatment equipment since 1956

Non Clogging Spray Nozzles

The greatest distribution of water over the whole surface area of the packing bed.

Stainless steel tower shell fabrication

Better corrosion resistance than aluminum. Eliminates painting of the tower interior.

FOR ADDITIONAL DETAILS, CONTACT:
Tonka Equipment Company



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