

Municipal Drinking Water Treatment

CEC offers engineering, design, and construction services to provide new or improved water treatment facilities or expansions to existing water treatment facilities for municipal drinking water systems.

CEC engineers and scientists provide comprehensive services to study and design new facilities, or modify, expand or replace existing facilities.

LARGER SURFACE WATER & GROUNDWATER PLANTS

CEC designs larger surface water treatment facilities and groundwater plants that clarify and/or soften raw water with lime or lime and soda ash. CEC designs chemical storage, feed systems, and treatment processes for:

- Taste and Odor Control
- Clarification (turbidity removal)
- Softening
- Iron and Manganese Removal
- Stabilization
- Disinfection

CEC also designs solids handling, storage, and disposal facilities.

SMALLER GROUNDWATER PLANTS

CEC designs smaller groundwater treatment plants to remove methane, iron, manganese, and hydrogen sulfide. Aeration and chemical oxidation systems are designed to convert soluble iron and manganese into elemental iron and manganese for removal by either gravity or pressure filters.

CEC can further reduce any remaining soluble manganese after aeration and chemical oxidation by using synthetic greensand filter media in lieu of conventional sand media. The greensand is maintained by feeding the proper amount of potassium permanganate.

Natural water hardness can be reduced to locally acceptable levels with an optional cation exchange process. Treated water is stabilized with a sequestering chemical and disinfected before being pumped to users.

MEMBRANE SYSTEMS

When conditions require advanced treatment technologies, CEC designs pre-treatment processes needed for the successful use of membrane technologies. In addition, CEC works with suppliers to design and specify membrane systems that treat water to very high quality standards.

TREATED WATER STORAGE & PUMPING

CEC designs finished water storage and high-service pump stations to meet EPA maximum day requirements plus fire flow conditions. When conditions require, designs for elevated storage tanks or ground storage and pump stations provide and maintain local distribution system pressure requirements.

