CHILLICOTHE CORRECTIONAL INSTITUTION

CHILLICOTHE, OH | ORC156 | GUARANTEED ENERGY SAVINGS PROJECT

Brewer-Garrett

SIZE
764,954 sq. ft.

COST
$6,379,124

GUARANTEED ENERGY SAVINGS
$7,890,031

DURATION
21 Months

PERFORMANCE PERIOD
10 Years

SIMPLE PAYBACK
8.09 Years

INMATE COUNT
2,500

SECURITY
Medium/Maximum & Death Row

SCOPE

- Steam distribution system optimization
- Laundry conversion
- HVAC upgrades
- Condensate return system
- Domestic hot water boiler installation
- Enhanced steam boiler controls
- Kitchen hood controls
- No-salt water treatment
- Interior and exterior LED retrofit



Chillicothe Correctional Institution (CCI) is a medium/maximum security correctional facility in Ross County, Ohio that opened as a state penitentiary in 1966, though some of the buildings date back to 1930. It is one of the largest facilities in the state and houses over 2,500 inmates. The complex has a total of 30 buildings, which equates to 761,954 square feet.

Occupied Construction
IN MAXIMUM SECURITY AREAS

ZERO
SAFETY OR SECURITY INCIDENTS

Brewer-Garrett (**BG**) developed a comprehensive energy program, that allowed the facility to reduce it's energy usage by 20%. A major piece of the project included reducing the water treatment costs by replacing the water softener system for boiler feed water and instituting a no-salt system for domestic hot water. A variable speed aeration blower was also installed to reduce electricity consumption in the treatment plant.

BG performed a campus-wide interior lighting retrofit that upgraded most interior fluorescent lamps to LED technology. Incandescent lamps and compact fluorescent lamps were retrofitted with LED screw in units. In areas where high temperatures are of concern, such as boiler rooms, HID fixtures were replaced with a high bay T5 high output fluorescent fixture. The fixtures are designed to produce maximum light output; improving efficiency and reducing heat.

BG reduced losses from traps, pipe insulation, and condensate return systems by performing upgrades on the steam system and boiler house. By converting the laundry equipment from steam to natural gas and installing new, high-efficiency domestic hot water boilers, the institution was able to shut down the steam system during summer months. Not only did these projects reduce natural gas usage, but they allowed maintenance teams to perform normal maintenance during summer shutdowns.