Aquafinity

Case Study
Pembroke Pines Retirement Village
Pembroke Pines, Florida

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Direct Monitoring + Energy Modernization

Case Study

Background

Pembroke Pines is a progressive condominium association and retirement community located in Pembroke Pines, FL, with 27 neighborhood pools to manage and treat.

The Problem

The facility at Pembroke Pines contained a central clubhouse pool and 26 smaller pools covering over a square mile. With 1,200 bathers and 1.5 million gallons of water, they faced the following challenges:

- A lack of staffing and supervision
- High chemical, water, and energy costs
- Dated mechanical systems
- Accelerated degradation of equipment
- Health Department scrutiny and patron complaints
- Significant potential liability

The Solution

With an urgent need to upgrade its aging mechanical systems, Pembroke Pines installed a complete Phase I solution from CES, an Aquafinity company. This included a three-year Equipment Maintenance Agreement (EMA), allowing the client to spend very little out of pocket because the modernizations generated savings to pay for themselves.

Below is the comprehensive list of features for CES's Phase I solution implemented at the Pembroke facility.

- Remote field monitoring with tablets and smartphones
- 24/7 water chemistry control and direct monitoring
- Direct control of circulation and pump filtration
- An energy-saving motor control center

- Secure all-in-one tablet chlorine feeders
- Direct monitoring of water levels and consumption
- On-site monitoring with remote control of all maintenance and management
- Direct temperature control on all pools in the facility
- Alert notifications with digital logs to reports of water levels, chemical inventories, water temperatures, etc.

Streamlining Facility Management

Chemicals + Inventory

Now that we covered the Phase I updates to the Pembroke facility, let's dive deeper into how those changes impacted their day-to-day operations. With CES's digital chemical inventory monitoring and alert notification feature, their staff is alerted when a chemical vat is 1-2 days away from a refill, saving hundreds of hours in labor every year and avoiding unsafe chemical levels.

Pool Pump Energy Efficiency

The DOH has a required flow rate for aquatic pumps, and with the energy modernizations made to the Pembroke facility pumps, the systems now sustain an even flow rate 24/7. These improvements continually minimize the power input of the pump's motors significantly when the filters are clean.

Filter Cycles + Cleaning

The 24/7 direct control of oxidation rates and pH help extend the filters' life, saving more labor costs and water usage. The BECSys5 e-mail and text alerts notify the staff of all filters' optimum cleaning cycles, so scheduling cleanings is easy.

Monitoring Controls

CES's energy conversion included a centralized monitoring station on the grounds. Hence, all the parameters for each pool were monitorable via the office flat-screen TV or with remote monitoring tools. Again, saving them in staffing costs and labor.

The Results

Energy was not the only thing modernized by CES! With the help of the Phase I solution, the Pembroke facility could maintain a smaller and more proficient staff to save on payroll costs and the handle issues more seamlessly.

Moving on to energy modernization, the CES energy-saving model saved an estimated 52kW peak load reduction. That number would account for a yearly energy reduction of 459,000 kWh, equaling over $41,000 in electrical savings. Additionally, the Pembroke facility saved over a million gallons of water by upgrading backwash regimens and precise water level control with early detection of any potential leaks from pool shells and piping.

Lastly, Pembroke Pines' chemical levels and usage were optimized with 24/7 DOH compliance, giving them consistently reliable readings and perfect scores during DOH inspections. They also saved over 30% in costs with precise chemistry control while providing patrons with crystal clear, safe, and inviting water quality.

52kW
LOAD REDUCTION

$41,000
ELECTRICAL SAVINGS

+30%
COST SAVINGS