



Arapahoe County

Littleton, Colorado
Performance Contract



Project Size: 15 buildings, 1,197,021 sq ft
Project Value: \$10,093,933
Source of Funds: Municipal lease, DSM program
Contract Terms: 12 year guaranteed savings
Project Schedule: On schedule

Project Phase	Project Dates	
	Started	Completed
Comprehensive Energy Analysis	April 2005	July 2005
Design/Implementation	November 2005	Projected Nov. 2005
Monitoring	Projected Nov. 2006	Projected Nov. 2009

List of Improvements:

- Replaced five boiler plants
- Replaced a cooling plant
- Lighting upgrades
- Water conservation
- Installed new/upgrade energy management system
- Installed VFDs on fans
- Installed water softeners
- Installed small A/C units to serve computer rooms
- Water side economizers
- Upgraded irrigation controls
- Programmable flush valve controls
- Laundry conservation
- Replaced domestic hot water system
- Changed natural gas utility provider
- Energy Resource Conservation Manager
- New cooling tower
- Retro commissioning
- Replaced existing ventilation with new VAV system

Guaranteed Savings: Year 1: \$632,694, escalated at 2.5% per year, includes \$90,000 per year maintenance reallocation

Achieved Summarized Savings:

Baselines	kWh	kW	CCF	Water (gal)	Steam (lbs)	Energy \$	Non-Energy \$	Total Dollars*
ANNUAL SAVINGS								
Year	kWh	kW	CCF	Water (gal)	Steam (lbs)	Energy \$	Non-Energy \$	Total Dollars*
Construction								
Year 1								

Under Construction

* Energy Savings + Non-Energy Savings = Total Annual Dollars Saved

Measurement and Verification: IPMVP, 1997, Option A (short-term/periodic measurement after retrofit compared to base conditions) IPMVP, 1997, Option C (entire facility-level comparison, before and after retrofit, typically with utility bills)

Comments: Arapahoe County was faced with aging facilities in need of repair coupled with constraining capital budgets. Chevron Energy Solutions (CES) worked with the County to identify solutions to modernize the aging facilities and to address operational concerns. The project scope included: replacement of heating, cooling and air distribution systems and boiler plants; installation of water softeners; upgrades to the building control systems; and extensive lighting retrofits. By working with CES, Arapahoe County was able to implement needed improvements through one single source, as well as benefit from the guaranteed savings that allowed funding for the project.

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