

ENERGY PERFORMANCE CONTRACT CASE STUDY

Fairfax County Government

Phase 1: 2022 | Phase 2: 2023 | Phase 3: 2024



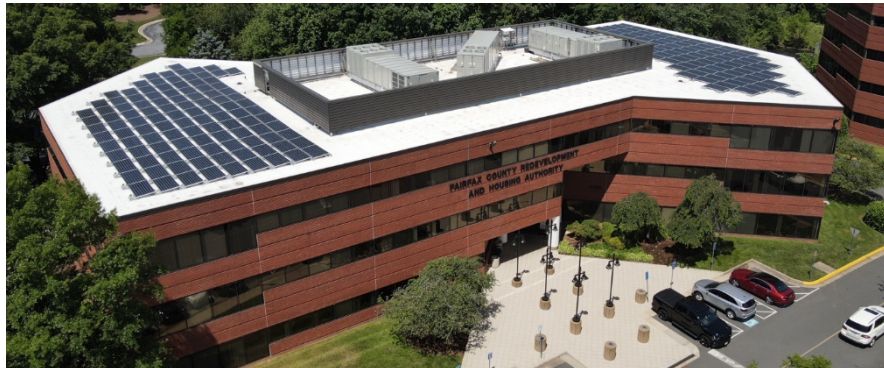
AT A GLANCE

Energy Conservation Measures

- ◆ Over 700 kW combined rooftop solar photovoltaic (PV) arrays at 6 buildings
- ◆ New heat recovery chiller to recover waste energy for heating Cub Run's two indoor pools
- ◆ HVAC system replacement - original 4-pipe boiler/chiller to high-efficiency geothermal water source heat pumps at Spring Hill Rec Center
- ◆ All work completed in occupied buildings

Project Stats

- ◆ Cost of Project
 - Phase 1: \$3,868,007
 - Phase 2: \$11,527,219
 - Phase 3: \$11,887,857+
- ◆ Annual Energy Savings
 - Phase 1: \$294,160
 - Phase 2: M&V Year 1
 - Phase 3: In Construction



PROJECT OVERVIEW

When Fairfax County, Virginia decided they were ready to make a serious positive impact to their greenhouse gas emissions, they partnered with CMTA. These phases are part of an ongoing Guaranteed Energy Savings Contract project with Fairfax County. The initial 3 phases have included 12 buildings and total 526,873 square feet in size. The work completed or currently in construction from the initial 3 phases includes:

- New high-efficiency geothermal HVAC system at Spring Hill Rec Center, including ground source heat pump domestic water heating
- HVAC renovation at South Run Rec Center with a system conversion to high-efficiency VAV system
- New Building Automation System (BAS) for South Run Rec Center and Spring Hill Rec Center, along with upgraded controls and sequences of operation at multiple facilities
- Replacement of pool dehumidification units at South Run and Spring Hill Rec Center with pool heat recovery
- Hot water plant renovation with new condensing boilers at multiple facilities, including rec centers, libraries, and community centers
- Replacement of three existing 480V/120V electric transformers with new, high-efficiency units at multiple facilities
- LED lighting upgrades at multiple facilities
- Building envelope improvements, including weatherstripping, sealing, and low-emissivity (low-e) window film

EPC PROJECT HIGHLIGHTS

- For Phase 1 of the project, the guaranteed energy savings was \$131,779. The actual energy savings was \$294,160, more than double of the guaranteed energy savings, all of which is retained by Fairfax County Government.
- Cub Run Rec Center, whose Energy Use Intensity (EUI) improved from an original 502 kBtu/ft²/yr to a post-project 203 kBtu/ft²/yr, is now being considered for an ASHRAE Technology Award for the innovative heat recovery system.
- CMTA's EPC projects are a key component in Fairfax County's plan to meet its aggressive climate action goal of carbon neutrality in government building operations by 2040.



COLORADO
Energy Office