

# The Children's Village Category A Feasibility Study NYSERDA PON 4614

Westchester County

Technical Lead: MEP  
Geothermal Engineering

Anticipated completion of  
study/availability of final  
report: October 2021



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## The Site & Beneficiaries

The Children's Village is an existing educational campus in Dobbs Ferry serving at-risk youth with 49 buildings. Each building has its own heating system, typically a fuel oil-fired furnace or boiler. The entire campus, collectively 370,000 square feet, will be analyzed to explore district-style heat pumps. These buildings have diverse occupancy patterns and thermal load profiles, consisting of dormitories, school, administrative offices, recreational, and clinic. The analysis will quantify the peak of the composited thermal load and compare it to the sum of the individual peaks in order to assess the load-flattening benefits of aggregating into a district.

## Potential Thermal Resources

The primary opportunity anticipated will leverage heat recovery heat pumps to move heat from one building to another, and supplemental thermal, if needed, could include ground-coupled boreholes and/or air-source heat pumps.

## Potential Configuration

Will explore developing an ambient loop to serve each facility that will house a ground source heat pump in each residential facility and water to water heat pumps in the larger facilities. The larger facilities may deploy air source, ground source and thermal energy as an energy source coupled in with the ambient loop. Benefits of this configuration include utilizing the ambient loop to energy share from the commercial to the residential facilities. This also provides the opportunity to integrate some existing thermal infrastructure and use of heat pumps and other technologies to implement an all-electric infrastructure upgrade. The study will also consider Implementing solar PV and battery storage to provide resiliency to an all-electric infrastructure.