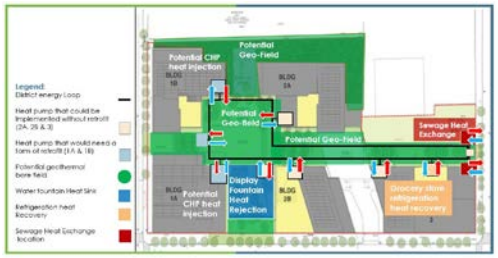
The Peninsula
Category A Feasibility Study
NYSERDA PON 4614

Bronx County

Technical Lead: Endurant Energy (formerly GI Energy)

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



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The Site & Beneficiaries

The Peninsula will be new construction of a mixed-use complex in the Hunts Point section of The Bronx with three buildings consisting of 740 units of affordable housing. An existing district steam system is being transitioned to hot water distribution piping infrastructure. These three buildings, collectively 630,000 square feet, will be analyzed to explore district-style heat pumps. These three buildings have diverse occupancy patterns and thermal load profiles, consisting of multifamily-residential, a grocery store, health center, retail, community space, commercial, and underground parking. 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 resources, if needed, could include ground-coupled boreholes, energy foundations (structural thermal piles), air-source heat pumps, an ornamental fountain that could be used for heat rejection, and/or sewage water.

Potential Configuration

Will explore 4G design, consisting of a central Thermal Building that houses the heat pumps and from which hot water and chilled water will be distributed via conveyance pipes to the end-use buildings. (Simple radiators can be used in the end-use buildings). Benefits of this configuration include: the opportunity to integrate with other supplemental thermal infrastructure and use the heat pumps as the first-call (reserving the fossil fuel systems as supplement to meet extreme peaks, or for system-wide redundancy for resilience), the ability to focus the location where electric infrastructure upgrades are needed to meet the expanded electrification demand to occur at the Thermal Building (as opposed to at the end-use buildings) to minimize disruption to mission-focused activities during construction, and cost containment.