

**Oneonta Railyards
Category A Feasibility Study
NYSERDA PON 4614**

Otsego County

Technical Lead: Ramboll

Anticipated completion of
study/availability of final
report: April 2022



V1 8/2021

The Site & Beneficiaries

The Oneonta Railyards is a new construction, light industrial development located on a 38-acre parcel in the southwestern portion of the City of Oneonta seeking to explore a district-style heat pump system to serve five buildings. When constructed, the five buildings are anticipated to total approximately 177,000 square feet. Light industrial occupancy is expected to consist of a combination of fabricating and assembly space, storage and loading dock space, and office space. Calculations will be made on how to provide the buildings with low-carbon heating and cooling via district-style heat pumps. 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 distribute heat from one building to another. Supplemental thermal resources, could include ground-coupled boreholes, air-source heat pumps, sewage heat exchange and rejected industrial waste heat. The study will explore the implications of inviting a few nearby commercial/industrial buildings to join the district.

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 more traditional electric systems as a supplement to meet extreme peaks), 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) for cost containment. Will also explore 5G design, consisting of a so-called “ambient-temperature loop” that each building would connect to, and within each building a heat pump would either extract heat from, or reject heat to, the shared ambient-temperature loop.