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Passive House Affordable Housing Development

An existing overgrown lot in Brooklyn's Bushwick neighborhood, is transformed into a new affordable housing complex consisting of the construction of (2) new buildings and the rehabilitation of an existing 3-story building. The three buildings, totaling 100,000 square feet, consist of 78 apartments, community facility spaces, recreation areas and office spaces. The two new buildings were designed in order to achieve Passive House Certification, with ultra-tight building envelopes and high insulation values, resulting in very low heating and cooling requirements.

Challenges:

- Mechanically venting apartments due to tight construction that utilizes high performance doors, windows and insulation.
- Develop of energy efficient air conditioning and heat systems that would limit the required roof space and reduce construction costs.

Achievements:

- Central Energy Recovery Ventilator (ERV) systems were utilized to ventilate the building common areas, community facilities and offices. Individual ERVs were provided for the apartments. These systems transfer energy from toilet and general exhaust to temper the fresh air entering the building, thus saving energy.
- Variable refrigerant volume heat pump systems were provided to heat/cool the apartments. In order to limit the quantity of outdoor units, each system was sized to utilize the maximum allowable refrigerant volume allowed by code.

Locations:

1875 Broadway,
Brooklyn, NY 11207

11 De Sales Place,
Brooklyn, NY 11207

21 De Sales Place,
Brooklyn, NY 11207

Project Size:

100,000 SF combined