NOVUS
ENGINEERING

Village Dorms
Bard College
Annandale-on-Hudson, NY

Novus Engineering prepared mechanical, electrical, lighting and plumbing design for this new, nine-building "green" dormitory project. Heating and cooling is provided by a ground-coupled heat pump system that is unique in several respects. The system uses a remote 42-well field, with one large source loop driven by two variable speed pumps. Space conditioning is accomplished with the use of two or three water-to-water heat pumps in each building, supplying a two-pipe change-over system. Terminal units are simple fan coil units. Since the buildings are small (4500 to 8500 sq ft), there is little load diversity and no need for simultaneous heating and cooling. Therefore, the two-pipe changeover system is utilized to reduce up front costs and to eliminate the need for a heat pump in each room. This will greatly reduce future maintenance costs, since there are only three heat pumps in each building, rather than dozens. Novus prepared a whole building energy analysis for the complex to size equipment and to predict operating costs.

Other energy efficiency features include a dedicated heat pump for domestic hot water heating and an air-to-air heat exchanger system to provide fresh make-up air to each building, and a very low lighting energy budget of 0.5 watts/ per square foot.

Following design and construction, Novus was heavily involved in commissioning the project. In addition, Novus worked with NYSERDA to obtain support under the New Construction Program. An award of $240,000 was obtained.

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