

8.0 EFFECTS ON THE USE AND CONSERVATION OF ENERGY RESOURCES

Construction of the proposed residential units would result in the consumption of gasoline, oil and electricity used in the operation and maintenance of construction equipment.

Once construction is completed, the development would require energy for heating (gas and/or oil), air conditioning and electricity. Site generated vehicular traffic would result in the consumption of fossil fuels. This level of energy consumption is anticipated to be typical of similar residential developments in Dutchess County.

The proposed residential units would be designed to meet or exceed the New York State Energy Conservation Code, which requires the use of energy efficient products in all new and renovated construction.

Geothermal heating is a method of heating and cooling a building, which takes advantage of the natural stable warmth stored in the earth. A heat pump uses the extracted water as a heat source in the winter and a heat sink (or collector) in the summer.¹ The Applicant does not currently propose to include geothermal energy to provide heating, cooling and electricity for the proposed development.

Electric service and natural gas will be provided to the site by Central Hudson Gas & Electric Corporation.

According to the New York State Energy Research and Development Authority's report, *Patterns and Trends New York State Energy Profiles: 1990-2004*, the average household consumes 5.973 kWh of electricity, and 69 Mcf (or 1,000 cubic feet) of natural gas², per year. From this average household estimate, it can be assumed that the anticipated levels of energy consumption for the proposed 126 new households would consume 752.598 kWh of electricity or 8,694 Mcf of natural gas annually.

¹ http://en.wikipedia.org/wiki/Geothermal_heating

² *Patterns and Trends New York State Energy Profiles: 1990-2004*, NYSERDA, December 2005; Appendix C – New York State Household Consumption and Expenditures by End Use, 2001