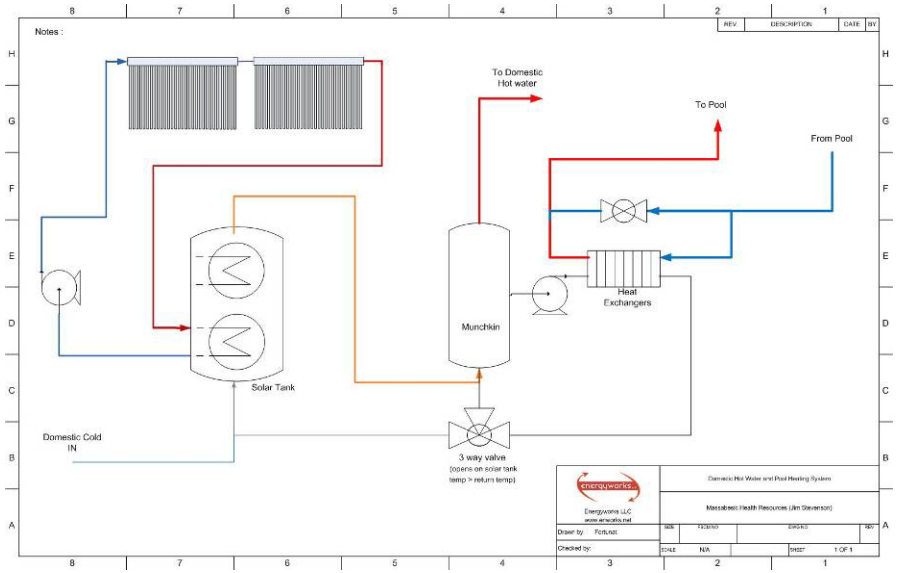
Massabesic Health Resources, P.A.
Physical Therapy & Fitness Center
Therapeutic Pool

Solar Hot Water and Pool Heating System

- eliminates more than 8,500 lbs. of CO2 annually
- saves more than 600 gallons of propane annually
- generates 46 million BTU's of renewable energy

System Overview: The solar domestic hot water and pool heating system installed at the Massabesic Health Resources, Physical Therapy and Fitness Center was designed and installed by ReVision Energy LLC of Portland, Maine, as part of MHRPT's commitment to reducing hydrocarbon fuel and electricity consumption. The system is a closed loop, anti-freeze system consisting of six AP30, Apricus evacuated tube solar hot water collectors, which are mounted on the south facing roof of the center, and a 165-Gallon, dual coil storage tank which is located in the pool room.

System Operation: Whenever the rooftop collectors are warmer than the water in the bottom of the storage tank, the differential temperature controller activates the solar circulator pump. Warm glycol is pumped down from the roof and through the lower heat exchange coil in the storage tank, transferring the heat from the sun to the water in the tank. Solar preheated water flows from the solar tank and into the existing propane water heater, thus reducing the demand on the water heater substantially.
When the tank is warm enough to heat the pool, the three way valve diverts the return water from the pool heat exchanger to the solar tank inlet. Solar heater water is then drawn through the Munchkin water heater and into the pool heat exchanger, heating the pool with clean, renewable, solar energy.



Environmental Benefit and Oil Savings: By harvesting over 46 Million BTU's of clean, renewable solar energy, this system will reduce the propane consumption of the gym by at least 5-600 gallons of propane oil per year. This reduction in fuel consumption will save over 8,500 pounds of CO2 each year.

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