How we built a **Net Zero Energy** Building!

**Airtight Construction and Efficient Insulation**
A high-performance building envelope reduces the amount of energy to heat and cool the building.

- Airtight construction reduces air that can infiltrate the building by 10-fold
- Variable R-value insulation provides a protective barrier to block the infiltration of outside air and the escape of inside air
- Roof and walls contain insulation that exceeds current codes, which provides a more efficient barrier for maintaining the temperature inside
- 100% thermally broken facility uses high-performance insulation material between conductive metals to reduce thermal energy loss

**High Efficiency HVAC Equipment**
A 100% electric HVAC system that is paired with heat pumps to provide a very efficient system.

- Large-scale, ductless Variable Refrigerant Flow (VRF) HVAC system that uses refrigerant as the cooling and heating medium
- Higher energy efficiency than traditional HVAC systems (over 50%)
- Simultaneous heating and cooling
- Dedicated Outdoor Air System (DOAS) that is up to 40% more efficient than traditional systems

**Triple Pane Windows**
Three panes of glass with air between each keep the building warm in the winter and cool in the summer.

- 25% more efficient than double pane windows; 50% more efficient than single pane windows
- Heating and cooling systems don’t have to work as hard
- Excellent at preventing sound transmission
- Helps maintain consistent year-round temperature – no cold pockets of air due to leakage

**Maximize Natural Light and Minimize Electrical Light**
- The abundance of windows on every side of the building reduces the need for lighting
- Daylight sensors reduce the brightness of the lights
- Occupancy sensors for lighting and electrical outlets turn off energy supplied when no one is in the space
- LED lights throughout the building use 75% less energy than traditional bulbs