

## Appendix A: Summary of Energy Conservation Measures

The following seventeen (17) technical measures and two (2) non-technical measures will be implemented at the Susan Fennell Sportsplex:

Name	Description
<b>Technical Measures</b>	
<b>Rooftop Solar PV</b>	Proposed 384 kW AC/461 kW DC Solar PV system to be installed on the roof above Rinks 3 & 4 with structural reinforcements.
<b>Pool Temperature Setback</b>	Pool temperature setback will be reduced from 86°F to 84°F (including building automation control optimization).
<b>Domestic Water Retrofits</b>	Install low-flow fixtures to replace mid-flow lavatory and shower fixtures.
<b>Interior LED Fixtures</b>	Change room and lobby fixtures upgraded to LED fixtures.
<b>Exterior LED Fixtures</b>	Replace all metal halide wall packs & pole lighting with LED luminaires.
<b>Basic Lighting Controls</b>	Install ceiling mounted occupancy sensors in change rooms, washrooms, and corridors. Wall switch timers will be installed in mechanical spaces and lighting controllers in over-lit areas.
<b>Arena Lighting Controls</b>	Lighting will be integrated with BAS with scheduling and dimming controls.
<b>Ice Rink Flooding</b>	Replace gas-fired heaters with electric boilers and preheat ice rink flooding water with heat recovered from ice plants.
<b>Ice Resurfacers Replacement</b>	Replace two (2) Olympia Millennium H model fossil fuel powered ice resurfacers with electric models.
<b>Radiant Heating Conversion</b>	Replacement of seventeen (17) radiant stand heaters with electric equivalents.
<b>Dehumidifier Conversion</b>	Install new electric dehumidifiers and retain existing gas fired dehumidifiers for additional capacity on peak humidity days.
<b>Solar Thermal Pool Heat</b>	Install solar thermal panel array tied directly into the pool heating system. This will supplement the ground source heating system (primary heating).
<b>Ground Source Heat Loop</b>	Install a ground source heat loop to replace the main heating boilers and electrify the building's heating source.
<b>Heat Pump Replacement</b>	Replace forty-one (41) heat pumps with high efficiency heat pumps.
<b>AHU Replacement</b>	Replace and modify six (6) natural gas main air-handling units to electrify the building's heating system.
<b>Chiller Replacement - CO2</b>	Replace ammonia ice plants with packaged CO2 Plate and Frame equivalents.
<b>Analytic Control Tuning</b>	Install CO2 sensors, dampers, pressure sensors and controls to achieve demand control ventilation in key spaces.
<b>Non-Technical Measures</b>	
<b>Energy Awareness Dashboard</b>	Install energy awareness dashboards about the site's energy and GHG consumption to encourage community energy awareness.
<b>Duct Cleaning</b>	This measure will improve facility O&M and equipment efficiency.