The PAW Centre was constructed with sustainability in mind. The centre incorporates sustainable features such as LED lighting, solar panels, and recycled materials. The new and old buildings of the Van Vliet Complex are connected by an atrium-like social street, incorporating student services to activate a pedestrian thoroughfare. Sunlight is controlled through 23 kW photovoltaic solar shades and high-performance glazing on the windows. The roof’s 133 kW solar panels provide solar thermal heating for domestic water and the pool.

Reductions

33.9% ↓
ENERGY USE (Modeled)

>10%
RENEWABLE ENERGY

<0.5 m³
PER M² ANNUALLY

Certifications & Awards

Targeting
4 Green Globes

Green Features

BUILDING-INTEGRATED SOLAR

FITNESS FACILITY

DAYLIGHTING

See next pages for details
Physical Activity and Wellness Centre (PAW)

ENERGY
- Energy-efficient lighting
- Energy-efficient elevators
- Achieved 33.9 per cent energy savings. 
  Model based on the MNECB 1997 energy budget.
- Building is oriented to minimize heating and cooling requirements.
- Lighting energy use will be submetered and monitored.
- Building is sited to maximize exterior glazing. Fitness Centre south glazing is screened by the exterior solar panel array.
- Building glazing is triple pane to minimize heat loss and solar gain.
- Renewable energy is modelled to supply more than 10 per cent of the total load.

LOW-IMPACT DEVELOPMENT
- The building was constructed on an existing serviced site, limiting the need for new infrastructure.
- At least 30 per cent of impervious surfaces will be shaded to avoid creating a heat island.
- Non-ozone-depleting refrigerant is used for air conditioning.
- Indoor air quality is monitored for CO₂
- Space for recycling stations has been integrated into the building design.

CONSTRUCTION & DEMOLITION MATERIALS
- Paint and finishes are low-VOC emitting. 
  Volatile Organic Compounds can cause health problems when inhaled or consumed.
- A life-cycle assessment of environmental impact and embodied energy was done for foundations, floor assembly and walls.
- Construction materials with recycled content include structural steel, metal deck, glazed aluminum curtain, reinforcing steel, and Flyash in concrete.
- 50 per cent of the existing building was retained for the new building.
ENVELOPE

• Low thermal emissivity glass reduces heating and cooling needs. 
  *Window glazing: U-value 1.06*

• The building envelope uses best practices: effective air barrier detailing between components of building envelope and penetrations. Field review & testing of air & vapour barrier systems to ensure proper performance.

• Building assemblies and materials were selected for their durability and low maintenance requirements.

• Daylighting is optimized through building orientation and window-to-wall size ratios.

• Walls and roof built with high R-value materials.
  *Roof materials: R 40. Wall materials: R 26.*

• Direct ambient daylight reaches 80 per cent of the primary space.

• 75 per cent of the existing building facade was retained.

WATER

• Water is conserved with low-flow faucets and toilets.

• Drought-tolerant plants require minimal irrigation.

• Energy-efficient hot water service systems

CAMPUS-WIDE PROGRAMS AND POLICIES

• District Energy System efficiently delivers heating, cooling and electricity. Connected buildings do not require chillers or boilers.

• The Building Automation System adjusts temperature depending on weather and occupant schedules.

• Buildings are cleaned using high efficiency machines to save resources and ozonated water to avoid harsh chemicals in the indoor environment.

• All cleaning products used on campus are third party green certified.

• Grounds are landscaped with native and drought tolerant plants in mulch beds to minimize irrigation in Alberta’s hot, dry summers.

• Water from annual fire pump testing is stored and used for irrigation.

PHYSICAL ACTIVITY AND WELLNESS CENTRE
11405 87 Avenue, Edmonton AB T6G 2E1
Architects: Group 2 Architecture
Construction: Clark Builders
Mechanical Engineering: Hemisphere
Electrical Engineering: AECOM
Structural Engineering: Stantec
Sustainability: EcoAmmo

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