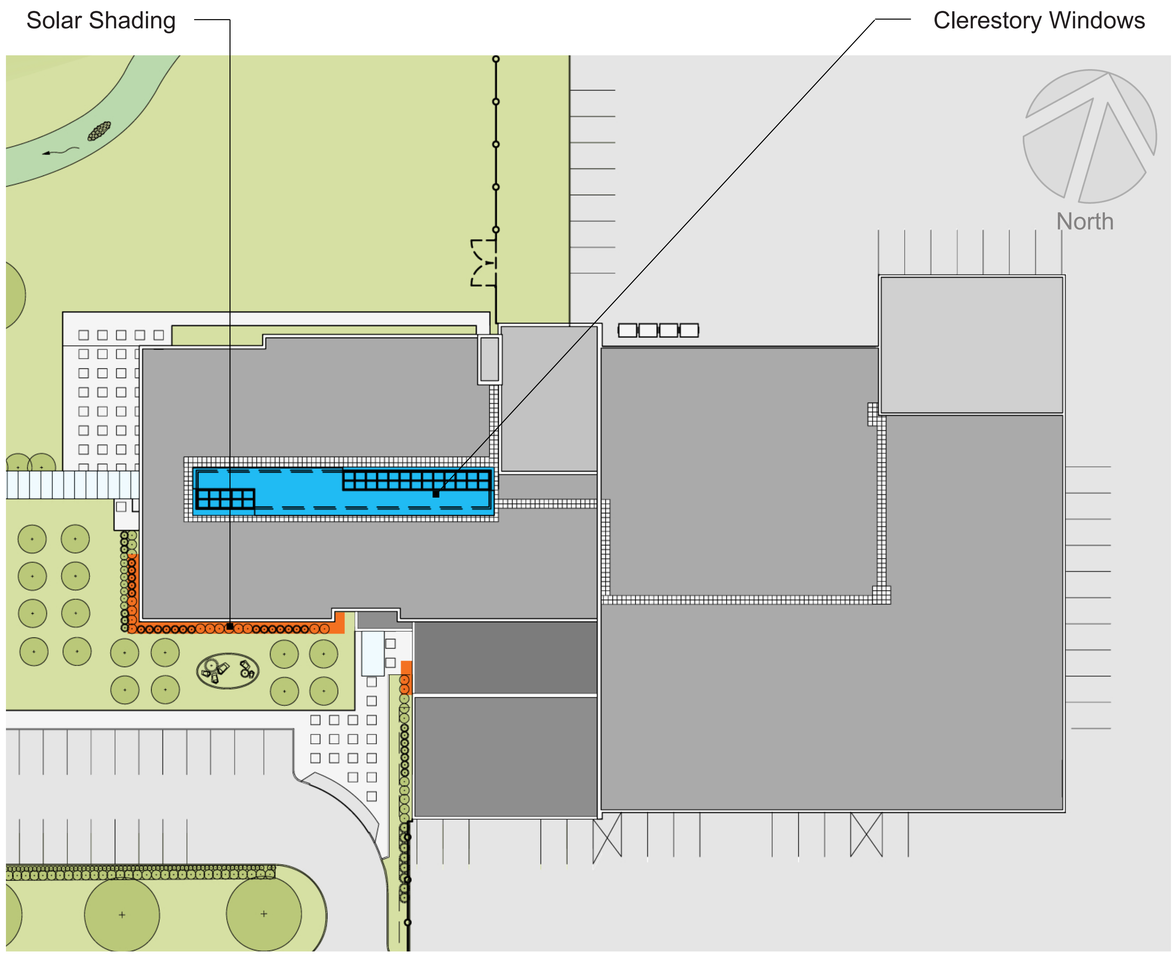
INDOOR AIR QUALITY

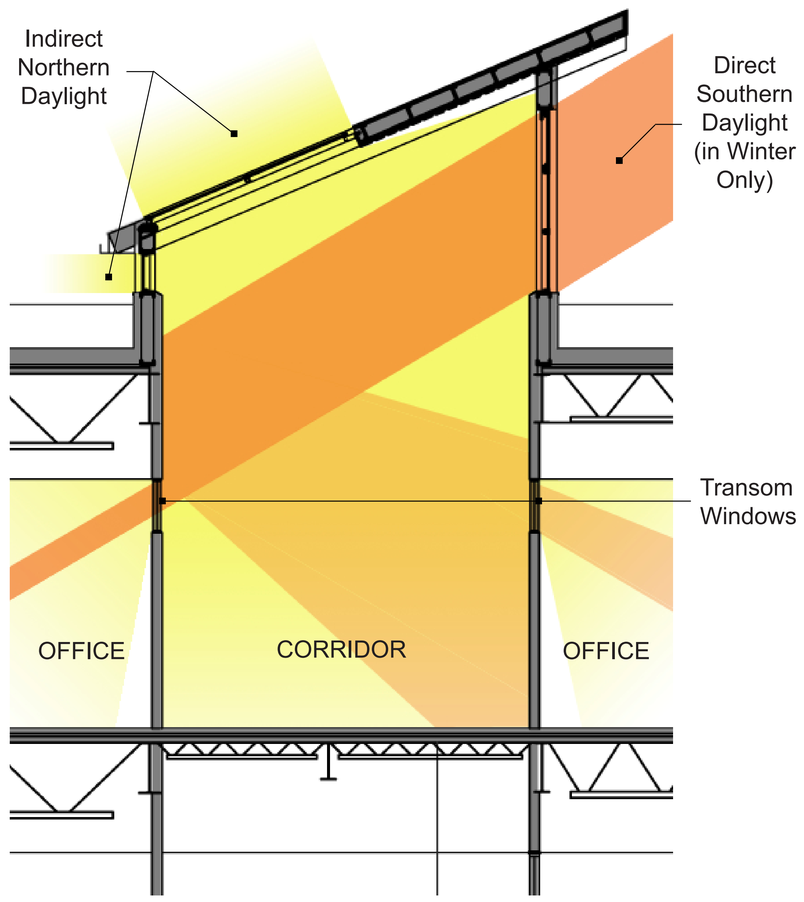
Research over the past decade has increased our understanding of the indoor environment, revealing both problems and potential solutions. Major health disasters such as outbreaks of Legionnaires' disease and sick building syndrome have heightened the awareness of indoor air quality for building owners and occupants. An increasing number of legal cases emphasize the need for optimal indoor environmental quality (IEQ) strategies. Such strategies reduce potential liability for design team members, building owners and managers, increase the resale value of the building, and increase the productivity of building occupants.

CONSIDERATIONS

Canadians spend an average of 90% of their time indoors, where levels of pollutants may be two to five times higher than outdoor levels, and, occasionally, more than 100 times higher than outdoor levels. In its 1999 Air Quality Guidelines, the World Health Organization stated that most of a person's daily exposure to many air pollutants comes through inhalation of indoor air. Many of these pollutants can cause health reactions. 14.1% of Canadians are estimated to be affected by clinical asthma which, together with those who have allergies, contributes to millions of days absent from school and work.



SITE PLAN



TYPICAL CLERESTORY SECTION

PASSIVE TEMPERATURE CONTROL SYSTEM

Exterior solar shade devices are installed on the ground floor and second floor to reduce direct sun light during summer months but allow winter sun into the building. Clerestory windows located along main corridors can open to cool areas during the spring and fall seasons, avoiding the use of air-conditioning and providing indirect sunlight. Sensors determine whether opening these windows would be beneficial, and automatic controls open and close windows.

HVAC protected from dust and debris before installation

Absorptive materials elevated to protect from moisture

Ductwork sealed during construction to protect from contaminants

GREEN MEASURES

- Indoor Air Quality (IAQ) Management Plans were developed and implemented during construction and before building occupancy.
- During construction materials stored on-site were protected from moisture damage. HVAC (heat, ventilation and air conditioning system) ductwork was sealed for the duration of construction. On-site contaminants, such as dust and volatile organic compounds (VOCs), were reduced to a minimum level.
- Prior to occupancy new filtration media was installed in HVAC equipment before flushing-out the building by supplying a considerable amount of air to remove dirt and contaminants.
- Low emitting VOC materials, including carpets, adhesives, sealants, paints and coatings, were installed.
- Carbon dioxide sensors monitor the quality of air in specific rooms, which the mechanical ventilation system will adjust accordingly.
- Regularly occupied rooms have natural daylight, operable windows and exterior views. Interior blinds offer additional control and comfort depending on the season and personal preference.