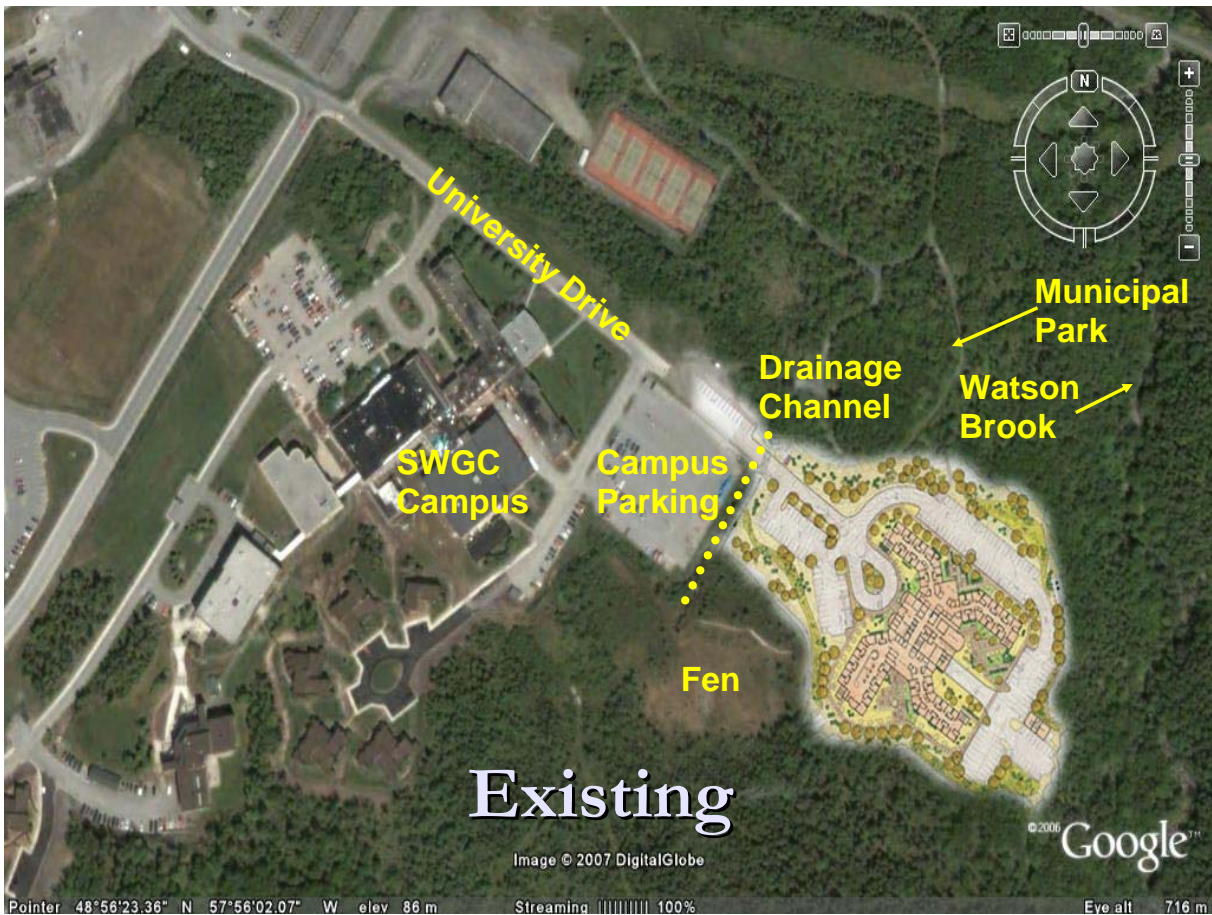


# CORNER BROOK LONG TERM CARE FACILITY

THE VALUE OF LEED  
PERSPECTIVE BY NL TRANSPORTATION AND WORKS



Gunar Leja, P. Eng., - Director Design & Construction (Works)



# LEED Rating System

- Certified 26 to 32 Points
- Silver 33 to 38 Points
- Gold 39 to 51 Points
- Platinum 52 or More Points

# LEED Prerequisites

- Erosion & Sedimentation control during construction
- Engage an independent commissioning agent
- Energy performance must be 25% better than MNECB
- Eliminate CFC based refrigerants & Halon in fire suppression equipment

# LEED Prerequisites

Continued...

- Building design must meet MNECB
- Recycling area provided for building operation
- Ventilation to meet ASHRAE 62-2001 Ventilation for Acceptable Indoor Air Quality
- Environmental tobacco smoke control

May 2007

5

## LEED SCORE CARD CORNER BROOK LONG-TERM CARE FACILITY

Green Design Category	Possible	Targeted	Pending
Sustainable Sites	14	7	1
Water Efficiency	5	4	1
Energy & Atmosphere	17	10	1
Materials & Resources	14	2	2
Indoor Environmental Quality	15	12	0
Innovation & Design Process	5	3	2
	70	38	7

May 2007

6

# Green Building Highlights

- 880 Kw earth energy system
- Building envelope – roof assembly 68%, wall assembly 87% better than MNECB
- Annual Energy Savings predicted to be over 50% better (over \$250,000 per year)
- GHG Savings – 780 tonnes Co<sup>2</sup>/year

# Green Building Highlights

- Water consumption estimated almost 40% below NL DOE design standard
- On-site wastewater treatment using no energy input and a natural treatment process
- Storm water treatment and retention for 2 yr storm

# Green Building Highlights

- 60% minimum effective heat recovery on air handling systems
- Heat rejected from cooler/freezer added to heat pump water loop
- Use of local produced and materials with recyclable content

May 2007

9



# Project Procurement

- CP-1 – Site Infrastructure – General Construction Contract
- CP-1A – Geothermal Loop Field – Assigned Construction Contract
- CP-2 – Design Build Contract
- Owner Supply & Contractor Installed
  - Card Access System
  - Patient Wandering System
  - Food Services and Laundry Equipment

# Project Procurement

- Owner Supply and Install
  - Window Treatment
  - Way Finding Signage
  - Furniture
  - Closet Cabinets
- Document Management System – Project Website

# Timelines

- Site Selection April 2005
- CP-1 – Contract Start October 2005
- CP-1A – Contract Start September 2006
- CP-2 – Design Build Award February 2007
- CP-2 – Construction Start July 2007
- Expected Construction Completion September 2009
- Facility Occupancy November 2009

## The Value of LEED .... At Design Stage

- Higher knowledge of codes and standards required
- Expanded design expertise
  - Energy Consultant
  - LEED Professional
  - Bldg. Science Professional
  - Landscape Architect
  - Stormwater Hydrology expertise
  - Commissioning Agent

Continued...

- More integrated design deliberations
- Greater transfer of design knowledge and required buy in by facility operators
- Measurable energy performance and GHG emission reductions
- Demands a project sponsor (from the Owner) to achieve success

## .... At Construction Stage

- Mandatory environment protection measures
- Promotes collection, storage and recycling of construction waste
- Fosters green building attitude amongst construction work force



Continued...

- A cleaner construction site is a safer workplace
- Product tracking (locally sourced, recyclable content, low VOC) improves product compliance with specifications
- Commissioning as work progresses yields higher built quality and durability

## .... At Project Completion & Handover Stage

- Enhanced indoor air quality at time of occupancy due to extended building flush out
- Thorough building systems performance testing
- Complete documentation, from start of design to project completion, in hands of operational staff
- Comprehensive training results in better building operations

## .... After Occupancy

- Continuous Performance Measurement Program for building systems
- Green Housekeeping Program
- Green Building Education Program
- Exceptional Occupant Comfort – The end result

## Setting the New Building Design/Construction Standard

- LEED GOLD (39 to 51 pts) ?
- LEED SILVER (33 to 38 pts) ?
- LEED CERTIFIED (26 to 32 pts) ?

# New Buildings

- Points Awarded for Percentage Reductions in Design Energy Cost Relative to MNECB

<i>Points</i>	<i>MNECB</i>
1	24%
2	29%
3	33%
4	38%
5	42%

<i>Points</i>	<i>MNECB</i>
6	47%
7	51%
8	55%
9	60%
10	64%

# Questions