The owner of the Best Western Inn Kelowna, Greg Salloum, hates waste. In 1990 he introduced what was probably the first blue box program in a hotel in BC. A year later he began a retrofit of all external lighting, switching incandescent lights to fluorescent lights. Over the years, he successfully tackled several other waste reduction projects.

After all this work, one question remained for Salloum. How could he take advantage of the earth’s natural heating source, the sun? After searching for about three years, he finally found what he was looking for: a commercial solar hot water system.

At the time, there was only one company in the province with experience designing and installing hotel solar retrofits - Swiss Solar Tech Ltd. The bulk of their experience was in Switzerland.

As an astute businessman, Salloum had
Energy Savings From New Water Treatment Technologies In Kamloops

In the past, the City of Kamloops has made a significant effort to become a leader in the field of water treatment. Now the City is taking a leadership role in reducing energy use through the development of a water treatment facility which incorporates green building concepts.

The River Street Water Treatment Plant, scheduled to be operational by December 2004, will demonstrate the City’s commitment to sustainability and green technology. The project team decided to actively search for better alternatives to conventional models and reduce the environmental impact related to the construction and operation of the plant. This decision expanded the conventional cost-benefit decision-making model to one that includes environmental performance as a core value and promotes the plant’s cohesive quality in the community.

To demonstrate sustainable design compliance, the project is participating in the LEED (Leadership in Energy and Environmental Design) program. The following are the ten major green building concepts that are being employed:

1. Select and Develop Sites to Promote Livable Communities
2. Develop Flexible Designs to Enhance Building Longevity
3. Natural Strategies to Protect/Restore Water Resources
4. Improve Energy Efficiency
5. Reduce Environmental Impacts Related to Energy Use
6. Promote Occupant Health and Well-Being in the Indoor Environment
7. Conserve Water and Consider Water Reuse Systems
8. Use Environmentally Preferable Building Materials
9. Use Appropriate Plant Materials
10. Plan for Recycling During Construction and Occupancy

The goal is to achieve a 50% reduction in energy from the building loads and a 35% reduction from the treatment process loads. Current energy modeling indicates a 27% and 15% reduction, respectively.

In addition to the obvious savings realized through reduced operating costs, incentive programs and assistance are available to municipalities that can demonstrate significant improvements in reducing energy consumption and greenhouse gas emissions. The sustainable design study for this project was funded in part by the Federation of Canadian Municipalities (FCM) Green Municipal Enabling Fund. The City is currently applying for a loan under FCM’s Green Municipal Investment Fund.

For more information, contact Marni Gillis at (250) 828-3348 or by email: mgillis@city.kamloops.bc.ca.

– Marnie Gillis, City of Kamloops

LEADERSHIP BY FIRST NATIONS

The Seabird Island Project – First Nations Leadership In Sustainable Housing

The Seabird Island Project, located in British Columbia five miles north of Agassiz on the Fraser River, is the first of its kind in the world. While other research and prototypes developments have advanced the concepts and principles of sustainable housing, the Seabird Project has assembled a whole range of strategies, new technologies, innovations and new products to demonstrate an integrated approach.

As a member of the Sto:lo First Nation, the Seabird Island community contains 1,943 floodplain hectares of which 730 hectares are cultivated. The remaining 1,213 hectares are used for residences, community buildings, forestry, rights-of-way and economic development projects. Project planning and design for its new, sustainable housing development began in May, 2002, and is now over 75% completed.

The Seabird Island demonstrates a number of innovative development approaches including: a new way of financing through partnership between the Canada Mortgage and Housing Corporation (CMHC), Indian and Northern Affairs Canada (INAC), the Seabird Island First Nation, and many sponsoring suppliers and manufacturers; practical, common sense and affordable design solutions for First Nations housing that can be easily transferred to communities across Canada; opportunity for community involvement and self-construction; and opportunities for information sharing through tours and workshops and the production of a 30-minute video tentatively entitled ‘In a Sacred Way We Build’.
In the area of energy efficiency, the following innovations have been implemented:

- Homes oriented to the south to take advantage of the sun’s heat
- Interior space zoning – storage, stairs and sleeping areas oriented to the north, living areas to the south
- Efficient site planning results in smaller building footprint using less materials and resources
- Solar energy to preheat domestic hot water
- Metal roofs to provide solar heat
- Solariums to retain heat and permit year-round gardening.
- Air tubes circulate hot air from roof and solarium to under slab
- Earth tubes to preheat or cool incoming outside air (low tech geo-thermal)
- Constant recycling of heat throughout house
- Radiant floor heating systems to eliminate the need for standard furnace
- High efficiency water heater (radiant floors, domestic water)
- Wind generators to supply supplemental power
- A well-insulated building envelope
- Energy-efficient appliances, lighting fixtures, windows and doors
- Natural daylighting in main living areas
- Building products made from recycled materials and those requiring less energy to manufacture
- Use of local suppliers and resources resulting in less energy being expended in transportation and manufacturing
- Solar, wind and geo-thermal systems to conserve energy and resources

While calculations of energy savings have yet to be completed, it is anticipated that these savings will be substantial. Energy savings will also result in impressive cost savings.

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—This article was adapted by the editor from a larger article written by Allan Dobie MRIAC, MEDes(Arch) and Rob Sieniuc MIABC, MEDes(Arch) for Architecture BC Fall 2003.