

BC Forest Industry Contributes Innovative, Green Building Technology to 2010 Winter Olympic Venues



For Immediate Release

Vancouver, BC – All eyes will be on one of British Columbia's largest and most vital industries when athletes from around the world compete in the new venues built for the 2010 Winter Olympic Games, being held in Vancouver, BC, Canada February 12-28, 2010. By way of its unique, world-renowned innovations in green building technology, BC's forest products industry is a significant contributor to the building of key facilities for the 2010 Games.

Among venues incorporating BC wood and showcasing innovations in green building and wood design are:

- Richmond Speed Skating Oval
- New Vancouver Convention & Exhibition Centre
- Trout Lake Community Centre
- Vancouver Olympic Centre
- Whistler Olympic Park
- Whistler Sliding Centre
- Cypress Mountain Day Lodge
- 2010 Commerce Centre

The venues incorporate architectural wood use, with innovative and creative applications of BC coastal and interior wood species, dimension lumber and glulam beams.

The BC forest products industry represents more than 64,900 direct jobs, more than \$22.3 billion in annual revenues, and is the foundation of British Columbia's economy, accounting for seven per cent of employment and 15 per cent of all economic activity. BC is home to responsible producers who harvest legally; regenerate promptly; reduce waste and support recovery and recycling; reduce greenhouse gases and help fight climate change; and welcome independent scrutiny of how forests are managed.

For more information on BC forest products and new innovations in green technology visit www.naturallywood.com.

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MEDIA BACKGROUNDER

2010: GREEN OLYMPICS AND GREEN BUILDING



British Columbia's bid to host the 2010 Olympic and Paralympic Winter Games included a commitment to sustainability. The Vancouver Olympic Organizing Committee (VANOC) is aiming to create pathways that lead to a sustainable footprint for the 2010 Games and future Games.

Whether required by law or not, all Olympic venues and villages underwent an Environmental (impact) Assessment process. All federal and provincial environmental impact assessment reviews included consultation and accommodation with area First Nations.

Dimension lumber was used in all 2010 construction. A special Aboriginal Art Program for venues and villages features B.C. wood, and many projects feature special wood applications or appearance features. Wood used for venues has been certified to one of the three sustainable forest management certification programs used in B.C. – the Canadian Standards Association (CSA), the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI).

VANOC's 2007-08 Sustainability Report is posted at:

www.vancouver2010.com/dl/00/62/46/-/62462/prop=data/4666nz/62462.pdf

VANOC's headquarters in Vancouver received Gold certification within the Leadership in Energy and Environmental Design (LEED) Green Building Rating System. VANOC specified compliance with LEED Silver Green Building Criteria as minimum performance in its venue development program.

VANOC released two studies about green buildings and infrastructure:

- An independent evaluation showing that incorporating sustainable design into the Hillcrest/Nat Bailey Stadium Park facility could reduce long-term operating costs (*LEED Business Case Study for Hillcrest Curling Facility* posted at Environment Canada www.pyr.ec.gc.ca/EN/¹).
- A scoping study that showed green property investments appeal to investors with an explicit interest in these values and long-term building owners (*Towards a Green Building and Infrastructure Investment Fund: Review of Challenges and Opportunities* posted at www.compassrm.com²).

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http://www.pyr.ec.gc.ca/EN/reports/LEED%20Business%20Case%20Study%20Executive%20Summary%20with%20title%20page_ENGLISH.pdf

2

http://www.compassrm.com/reports/greenbuildingfund/Green%20Investment%20Fund_Presentation%20Summary_June%202007.pdf

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VANOC worked with government partners and corporate sponsors to identify products, services or technologies that create social, economic or environmental benefits. It identified four sustainability innovations associated with Games venues:

1. Innovative on-site composting for site green material (Whistler Olympic Park)
2. Pilot project with Canada Green Building Council to test LEED Neighbourhood Development standard (Olympic and Paralympic Village Whistler; Olympic and Paralympic Village Vancouver)
3. Roof structure to be constructed with wood affected by the pine beetle infestation in British Columbia (Richmond Oval)
4. Net Zero Energy building pilot project for one of the buildings in the Olympic and Paralympic Village Vancouver to include consumption monitoring, solar recovery, waste-heat harvesting and above-LEED standards in energy conservation

The Games Operating Trust, established by the provincial and federal governments in 2003, to support ongoing operating and capital maintenance costs, will be a source of funding for the continued development of three major sporting venues being constructed for the 2010 Winter Games – the Richmond Olympic Oval, the Whistler Sliding Centre and the Whistler Olympic Park.

SUSTAINABILITY INITIATIVES

Environmental Benefits

Protecting Species at Risk

VANOC referred to the BC Conservation Data Centre, and arranged in-depth studies and bio-inventories in areas where at-risk species might exist. Avoidance strategies were incorporated into venue design and, where it was not possible to avoid impacting habitat, management and mitigation plans were developed.

Reusing Wood Residue

As new ski trails were developed at the Whistler Olympic Park site, wood waste was chipped on site, mixed with high-nutrient materials, loaded into “ag-bags” to compost for several months, then blended with an indigenous wildflower seed mixture and applied to disturbed soils throughout the site. Re-vegetation occurs quickly, creating good terrestrial habitat for insects, birds and other wildlife. It also protects aquatic habitat by stabilizing soils and preventing sedimentation of waterways. (*Also see Whistler Olympic Park.*)

Protecting Special Areas

Nearly six square kilometres of land across 11 venues are located within or near protected areas or areas of high biodiversity value. VANOC avoided venue development in or near areas that are protected or have high biodiversity value. For those venues situated in or near such areas, environmentally sensitive construction and management strategies and practices are in place to ensure effects are minimized.

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Using Existing Forest Roads

The Whistler Olympic Park legacy recreation trails will use existing forestry roads where possible. At Whistler Creekside, efforts to reduce environmental impacts resulted in a 20-per-cent reduction in the originally proposed amount of old growth tree removal, a 79-per-cent reduction in removal of disturbed riparian vegetation and a 96-per-cent reduction in removal of undisturbed riparian vegetation, as compared with original approved plans.

Protecting grizzly habitat

Recreational cross-country skiing trails, part of the post-Games legacy operation of the Whistler Olympic Park, were designed to minimize risks to species and habitat, including grizzly bear habitat. VANOC committed to working with the B.C. Ministry of Environment on a research program that will help inform grizzly bear management.

Social Benefits

Four Hosts First Nations Society

The Games will welcome the world to the shared ancestral territories of the Four Host First Nations – the Lil'wat, Musqueam, Squamish and Tsleil-Waututh. Chiefs and Councils of the Four Host First Nations entered into an historic Protocol Agreement where they agreed to coordinate their collective efforts to host and support the 2010 Olympic Games. The Four Host First Nations (www.fourhostfirstnations.com) will facilitate engagement between the Nations and VANOC to ensure that the Games are successful and that the Nations' languages, traditions, protocols and cultures are meaningfully acknowledged, respected, and represented in the planning, staging and hosting of the Games.

Carpentry training program

VANOC is working with RONA, community organizations, government funders and industry to implement a training program to provide carpentry skills and job experience for inner-city residents in a fabrication shop that will produce the medal podiums, ski racks, on-hill warming huts and other items needed at Games venues. This training will prepare inner-city residents, Aboriginal peoples and others for entry-level construction jobs at Games sites. More than 148 inner-city residents will have the opportunity to participate in the training program. RONA (www.rona.ca), the largest Canadian retailer and distributor of hardware, home renovation and gardening products, is the Official Home Improvement Partner for the Games and a National Partner of the Canadian Olympic and Paralympic Teams through to the year 2012.

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Olympic Torch Relay

The 2010 Olympic Torch Relay, which begins in Victoria on Oct. 30, 2009, includes a torchbearer program where 12,000 Canadians who commit to live more active, environmentally friendly lives or who are inspired to create a better Canada could win an opportunity to carry the Olympic Flame.

British Columbia, Canada, is home to over 40 native wood species and innovative structural and finishing products that offer a wide range of building and design solutions. It also has responsible producers who harvest legally; regenerate promptly; reduce waste and support recovery and recycling; reduce greenhouse gases and help fight climate change; and welcome independent scrutiny of how forests are managed.

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QUICK FACTS



WOOD USE IN OLYMPIC VENUES

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Richmond Olympic Oval

The roof panel system was conceived and engineered by Fast+Epp, a local firm.

The V-shaped wood trusses are made from standard 2x4 lumber structurally designed to span the large glue laminated trusses.

The 2x4's (60+ logging truck loads of logs) originate from British Columbia's interior lodgepole pine forests that were attacked by the mountain pine beetle. The beetle carries a blue stain fungus that assists in killing the tree. The blue staining in the lumber is indicative of trees affected by the beetle. The stain is purely cosmetic; it does not change the structural characteristics or longevity of the lumber.

Roof sheeting is made from Douglas fir plywood. 19,000 sheets; a number that would cover nearly 14 acres (5.6 ha) if individually laid out.

Structurlam Products Ltd. (www.structurlam.com) produced 112 Douglas-fir glulam sections for the roof system superstructure, each almost 75 feet in length. More than 30 Douglas-fir struts were fabricated to support the building's exterior canopy and to partially support the roof over the main entrance of the facility.

Where the roof extends beyond the building, the glulam posts are made from yellow cedar originating from British Columbia's coastal forests.

www.richmond.ca/discover/events/oval/oval.htm

Vancouver Convention and Exhibition Centre

The VCEC is a showcase for architectural wood use, with innovative and creative applications of coastal and interior species, dimension lumber and glulam beams. There is extensive use of local Douglas-fir and hemlock wood-finished surfaces. Clear glazing means the wood can be seen from both within and outside the building.

www.vcec.ca

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Whistler Olympic/Paralympic Park (Whistler Nordic Village)

Project managers used glulam products from Edmonton-based Western Archrib for the building superstructures. The initial design specified structural steel members.

Western Archrib (www.westernarchrib.com/) has a 50-year history in the structural wood systems industry. A leader in the design, manufacture, and custom fabrication of glued-laminated structural wood systems, the company is certified to manufacture in accordance with the national standards of Canada, the United States and Japan. Western Archrib works closely with architects, engineers, general contractors, and building designers to provide cost-effective solutions to unique and distinctive designs, while maintaining their integrity.

Instead of burning wood residue from site development, the project team:

- Recycled large woody debris as fill, creating foundations for temporary compounds such as parking lots and service trailers. After the Games, the ground will be revegetated and slowly return to natural contours and vegetation cover.
- Donated root wads for use as coarse woody debris in regional fish habitat improvement projects.
- Chipped vegetation debris on site, supplemented it with natural organics (such as those from the Whistler wastewater treatment plant) and collected it in recycled and recyclable plastic agriculture bags. After the waste breaks down in the bags, a mix of seeds native to the area is added and this will be sprayed onto disturbed soils on the site as part of the regeneration and erosion control work.

www.whistlerolympicpark.com/

Trout Lake Arena

The Trout Lake Community Center ice facility will be a very visible wood showcase with approximately \$2.5-million worth of wood products incorporated into the facility.

This includes extensive use of glulam beams and columns. Structurlam Products (www.structurlam.com/) has been awarded the glulam contract. The company is a wood specialist, providing engineering expertise and design, and structured wood packages that offer the warmth of wood as an alternative to steel and concrete.

A portion of the glulam beams and paneling used in the lobby ceiling will use wood from trees blown down in Stanley Park during the 2006 windstorm.

<http://vancouver.ca/parks/info/2010olympics/troutlake.htm>

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Vancouver Olympic/Paralympic Centre & Percy Norman Pool

The curling centre, located next to Queen Elizabeth Park, will feature aboriginal art. After the 2010 Winter Games, the curling venue will become a multi-purpose community recreation centre that will include an ice hockey rink, gymnasium, library and six to eight sheets of curling ice.

Attached to, and being constructed with the new curling venue and community centre, is a new aquatic centre with a 50-metre pool and leisure pool. The designers of the facility opted for a glulam solution for the swimming pool part of the building.

2010 Commerce Centre (Robson Square)

The centre has a unique ceiling crafted from wooden planks donated by Spirit Committees from communities across the province. The ceiling panels were sourced from Live Edge Design in cooperation with RONA. The centre has Interior Douglas-fir and larch flooring, donated by British Columbia manufacturers.

Other unique applications include use of wood from submerged Douglas-fir logs for custom decorative applications and chips from trees killed by the mountain pine beetle as aggregate in concrete countertops.

Lecterns for the 2010 Commerce Centre were carved by one of B.C.'s best carvers, David Cartwright Compton (www.davidcartwrightcompton.com). The log was reclaimed from the bottom of a lake. As a result, the fish and the rest of the podium are different colours without being stained – this is a phenomenon that characterizes wood that has been immersed in water for a significant period of time. (See wood design)

www.2010commercecentre.gov.bc.ca/Default.aspx

Cypress Mountain Day Lodge

This 4,700-square-metre Timber Frame Day Lodge building is hosting the snowboard and freestyle skiing competitions. It opened in time for the 2008/09 ski season. The exterior is prefinished board and batten with natural stone accents. The building is the central hub for all activities in the park during both the summer and winter seasons. The manufacturer was Normerica (www.normerica.com), an Ontario-based prefabricated building manufacturer that used a variety of B.C. wood products.

All wood waste generated from site-clearing activities was chipped and reused on-site for revegetation purposes.

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UBC Winter Sports Facility (UBC Thunderbird Arena)

The main entrance features reclaimed/refurbished glulam beams from a previously decommissioned and demolished older arena at the site.

UBC Thunderbird Arena – Olympics venue

www.2010commercecentre.gov.bc.ca/news.aspx?articleID=216

UBC Thunderbird Winter Sports Centre

www.icerink.ubc.ca/

Vancouver Athletes Village and Community Centre

The Vancouver Athlete's Village on the southeast side of False Creek in Vancouver uses wood for interior applications, including cabinets, doors and trim, and flooring.

Olympic and Paralympic Village Whistler

Structurlam is supplying glulams for this project, and there is potential for wood to be used for cladding (cedar and beetle-killed pine siding) and sidewall shingles as well as doors, trim and cabinets.

Britco Structures (www.britco.com/) will design and build a 100-room lodge and a 20-unit townhouse complex, both to be permanently located in the Whistler Olympic and Paralympic Village. Britco is also supplying, in modular form wood-frame based buildings, temporary rooms to accommodate up to 700 team officials staying at the Whistler venue.

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