

## GREEN HIGHLIGHTS

- Geo-thermal heating and cooling for new academic buildings. Geo-thermal heating only in original academic buildings.
- Solar panel on Nicola student residence for domestic hot water preheat.
- Solar panel on Purcell student residence for domestic hot water preheat and space heating demands, in connection with its own closed loop geo-thermal exchange.
- Green Roofs on EME, RHSC and Purcell
- Low flow bathroom fixtures
- Landscape irrigation control
- High efficiency windows
- Occupancy lighting and ventilation sensors
- Storm water runoff management plan
- Low VOC levels in interior finishes
- Use of local materials
- Landfill waste diversion (in construction)

## WHAT IS LEED®?

LEED® (Leadership in Energy and Environmental Design) is a green building rating system in which points are awarded to buildings that meet specific green performance criteria. Performance categories include:

- sustainable sites
- energy and atmosphere
- materials and resources
- innovation and design
- water efficiency
- indoor air quality

## WHAT IS REAP?

REAP (Residential Environmental Assessment Program) was developed by UBC as a green building rating system for its residential buildings. It is similar to LEED® building rating system. The application of REAP standards is required for all new UBC housing developments, with performance measures ranging across five categories from basic compliance to platinum level.



## WHAT IS GREEN GLOBES?

Green Globes is a revolutionary green building guidance and assessment program that offers an effective, practical and affordable way to advance the overall environmental performance and sustainability of commercial buildings. It recognizes buildings that improve energy and environmental performance in the following areas:

- management
- energy
- emissions
- site
- water resources
- indoor environment

## RESCUED PAPER SCRATCH PAD PROGRAM

Each year, the Sustainability Office in partnership with Postnet, Facilities Management, the Library, and the Bookstore participate in the Rescued Paper Scratch Pad program. Non-confidential one-sided papers are collected and then converted into scratch pads for students, faculty, and staff to use. The pads are free of charge and can be picked up at the library or bookstore.



## WATERFILLZ KIOSK

Each kiosk reduces plastic bottle waste generated on campus, with digital counters that track the number of plastic bottles reduced.

It uses only 12 watts of electricity in the ultraviolet purification stage.

The refrigeration unit only requires 46 watts of power when cooling the water to 3.3 degrees Celsius, unlike vending machines that use more than 1500 watts of power.



# SUSTAINABILITY WALKING TOUR



a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

Sustainability Office  
Okanagan Campus

open for campus tour .....



## WELCOME

UBC's Okanagan campus aspires to build and demonstrate a sustainable campus that reflects a balance in its environmental, economic, and socially responsible values across campus operations, teaching, learning, and research. Operations currently expand over 140,000 sq m of building space. Measures to advance campus sustainability include managing aspects of energy and waste reduction, resource conservation, and enhancing the overall campus culture and experience.

## RECYCLING

The Sustainability Office in partnership with Facilities Management launched a campus-wide communication initiative. Every building has designated "Recycling Stations" and signage clearly communicating the campus' recycling program.

The campus' current waste streams include:

**BLUE BINS** - Paper and Plastic: empty coffee cups, paper, #1-7 plastics, uncontaminated paper plates and plastic take-out containers, newspaper, uncontaminated pizza boxes.

**GREEN BINS** - Refundables: empty juice boxes, water and pop bottles, pop cans, glass containers.

**GREY BINS** - Waste: only non-recyclable and contaminated materials, including paper plates and cups with food and/or beverage contaminants, broken glass.

**YELLOW BINS** - Composting: organic waste from across the campus.

## COMPOSTING

Every kitchen facility on campus has 20-gallon bins which are filled and emptied into two large Earth Tubs, composting an average of 150 lbs of pre-consumer organic waste daily. Once the Earth Tub's 4,000-lb capacity is reached, the high-quality compost inside will be used to enhance soil quality on the grounds, diverting more than 3,000 lbs of organic waste from the landfill every month and saving money on disposal costs.

## RE-PURPOSING EQUIPMENT AND MATERIALS

Recycling at UBC's Okanagan campus covers a lot more than paper and cardboard. Desks, chairs and almost any manner of office equipment that can be re-used and re-purposed will be found a new home. Office equipment that cannot be reused is broken down with the wood, metal and other materials being recycled accordingly.

Photocopiers are reused and reallocated to areas where they are needed. Desktop computers and laptops, which are recovered under the computer replacement program are used as loaners and spares.

Older fluorescent tubes are being replaced with newer, more energy-efficient models.

This is a publication of the Okanagan Sustainability Office. For further information about our initiatives and projects, please contact us.

OKANAGAN SUSTAINABILITY OFFICE  
3333 University Way, 246 Fipke Building  
Kelowna, BC V1V 1V7  
250-807-8182 | [okanagan.sustainability@ubc.ca](mailto:okanagan.sustainability@ubc.ca)

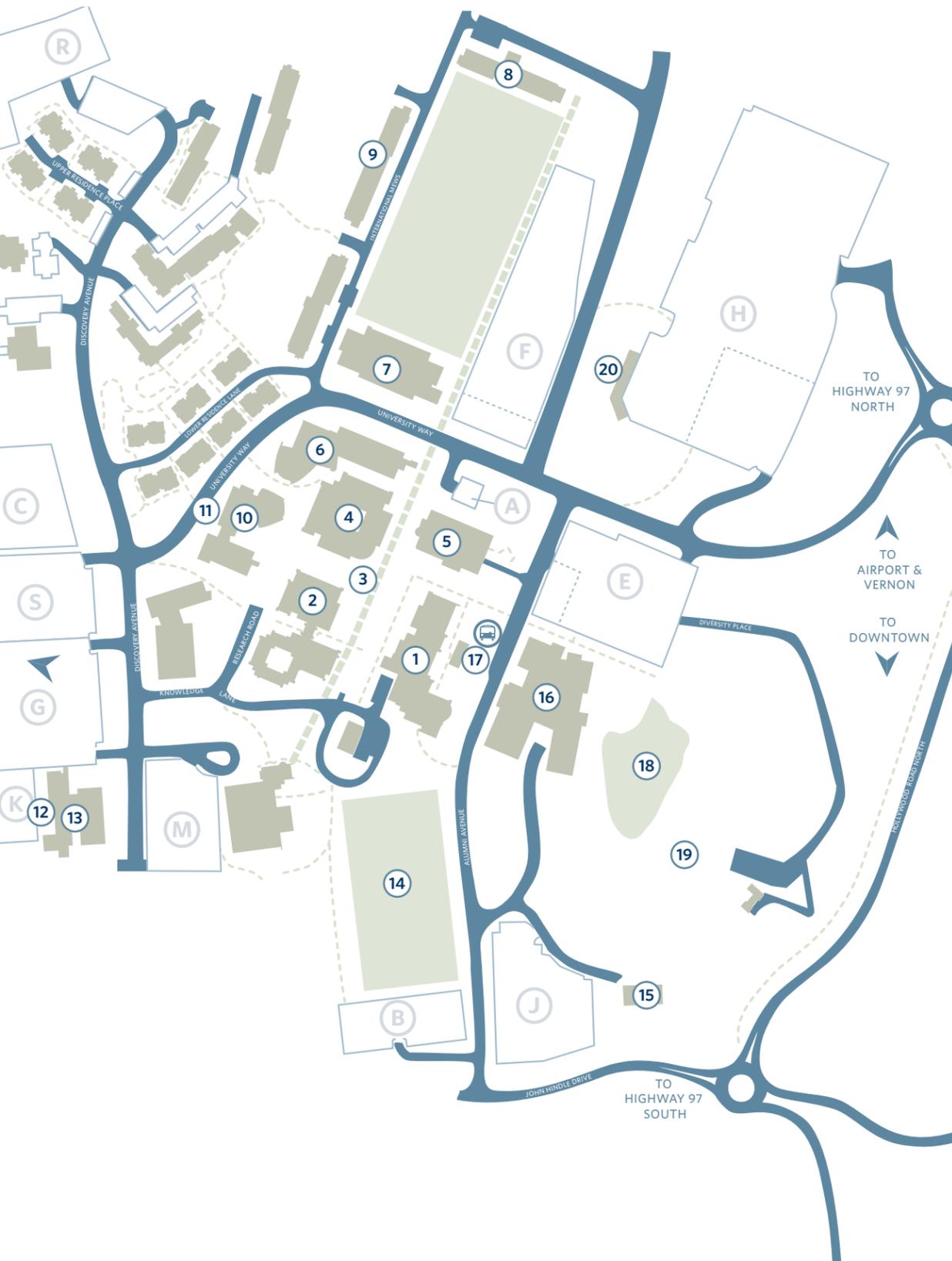


a place of mind  
THE UNIVERSITY OF BRITISH COLUMBIA

Sustainability Office  
Okanagan Campus

# SUSTAINABILITY WALKING TOUR

UBC's Okanagan campus has been built from the ground up with sustainability in mind. We present the following points of interest as you walk around our beautiful campus. Follow the numbers and read as you go.



## 1 ADMINISTRATION

This is the administrative hub of the campus. All kitchens including the Sunshine Café participate in the campus' composting program. See back of brochure for more details.



60% of the fruit and 50% of vegetables used in campus kitchens are sourced locally.

## 2 ARTS

Features an enclosed atrium with banana trees — a popular, peaceful space for study and quiet contemplation.



## 3 COURTYARD

Located between the Arts building and Science building is a living statue. It's called "Decomposition" and was created by Byron Johnston, associate professor of visual arts. Erected in 2010, this artwork has composting from cafeteria, term papers, lichens, peat moss and more. It also features a telescope.



## 4 SCIENCE

In the main foyer, you'll find the first prototype of a campus WaterFillz kiosk. These kiosks are now located in all academic buildings on campus, providing filtered water for refilling personal water bottles.



**Recycling Station:** In 2010, a campus-wide recycling program was implemented which includes paper, plastic, refundables such as pop cans, e-waste, Styrofoam, batteries, lab plastics, glass, and garden waste. Recycling stations are located in each building. Further details on back of brochure.

## 5 LIBRARY

Remodelled in 2012, the Library building provides a great range of services and spaces that enhance the learning experience on campus. The Sustainability Office, Facilities Management, Postnet, the Bookstore, and the Library are partners in the Rescued Paper Scratch Pad program. Further details on back of brochure.



## 6 CHARLES E. FIPKE CENTRE FOR INNOVATIVE RESEARCH

Completed in 2008, this 6,923 sq m building was the first in Canada to be awarded five Green Globes — the highest achievement for environmental and energy performance, and equivalent to LEED® Platinum.



Paired with the Arts & Sciences II building, they are the first campus buildings in the world to each receive five Green Globes and also the first paired buildings to attain this distinction.

This is also the first facility on campus to use an open loop geo-exchange groundwater energy system for heating and cooling.

## 7 UNIVERSITY CENTRE

This 7,408 sq m building was completed in 2009, and is built to LEED® Gold standard.



**WaterFillz Kiosk:** Each academic building on campus has a WaterFillz kiosk which provides fresh, free, filtered water to students, faculty and staff who fill their own bottles. Each kiosk tracks the number of plastic bottles diverted from the landfill.

Installation of all kiosks was made possible by a partnership between the Sustainability Office, Facilities Management, and UBC Students' Union Okanagan.

## 8 PURCELL STUDENT RESIDENCE

Occupied in 2011, Purcell has the following sustainable features: a green roof, solar panels for domestic hot water preheat and space-heating demands, in connection with its own closed loop geo-thermal exchange.



## 9 NICOLA STUDENT RESIDENCE

This is the largest residence on campus at 10,768 sq m. The solar panel on its roof is used for domestic hot water preheat.



## 10 ARTS & SCIENCES II

This 8,139 sq m building was completed in 2010, receiving the prestigious award of five Green Globes — the highest achievement for environmental and energy performance, and equivalent to LEED® Platinum.



Paired with the Charles E. Fipke Centre for Innovative Research, they are the first campus buildings in the world to each receive five Green Globes and also the first paired buildings to attain this distinction.

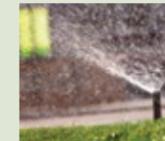
## 11 BIO-SWALE

This is an urban landform used to convey surface water — enhancing infiltration and reducing surface runoff. Bio-swales are typically moderate gradient devices (approximately one to 5% in channel slope) and may be covered by grasses, landscape fabric, mulch or other vegetation or leaf litter.



## 12 HUNTER WIRELESS IRRIGATION SYSTEM

Smart irrigation is utilized across the campus and minimizes unnecessary watering. The Hunter IMMS 2.0 irrigation management monitoring system automatically adjusts or ceases watering times on low temperature (3 degrees Celsius), precipitation (1/8 to 1 inch) or if wind speed is greater than 20 km/hour.



The main computer monitoring control is located in EME and a small weather station is located near RHSC which measures sunlight, rain, and wind speed.

## 13 REICHWALD HEALTH SCIENCES CENTRE (RHSC)

This is the home of UBC's Southern Medical Program. The 5,104 sq m building was completed in 2012 and is built to LEED® Gold equivalent standards. It has the largest green roof on campus which has integrated indigenous plants and vegetation. A green roof keeps the building cool in the summer and warm in the winter, as well as absorbing rain water and improving air quality.



Water consumption is anticipated to be reduced by nearly 40% compared to a typical building. As a result of its energy efficient design, the RHSC anticipates approximately 285 fewer tonnes of greenhouse gas (CO<sub>2</sub>e) than a typical building of the same size.

75% of construction waste material was diverted from the landfill.

## 14 NONIS SPORTS FIELD

This 153-by-75m artificial turf field consists of a permeated plastic carpet with plastic grass blades (no mowing and no watering). The field also features a heat-reflecting surface layer of crumb rubber. It meets international standards for soccer, Canadian football, field hockey, and field lacrosse. It has dramatically extended the playing season for university and community users, replacing a natural grass surface that was closed from the end of October through April.



## 15 COMPOSTING STATION

Tours must be pre-arranged for this working facility. The Composting Station, which uses two Composting Earth Tubs, diverts over 3,000 lbs of waste from the landfill every month. This system provides highly enriched mulch material for campus ground maintenance.



## 16 ENGINEERING, MANAGEMENT AND EDUCATION (EME)

Home to four faculties and schools, this is the largest building on campus at 16,769 sq m. Completed in 2012, it has a green roof and is targeted to achieve five out of five points for LEED® Innovation in Design for clear-water utilization, education, green housekeeping, and green power.



Of the 5,415 sq m of non-assignable space, 1,000 sq m is devoted to environmental and social sustainability and 800 sq m is used to house the heat exchange recovery equipment.

The use of low-flow fixtures will provide an anticipated 40% savings over conventional systems.

The energy savings correspond to an anticipated 46% total cost savings at current utility rates.

## 17 TRANSPORTATION STATION

The Universal Bus Pass (U-Pass) Program — a partnership between UBC's Okanagan campus, BC Transit, City of Kelowna and the Regional District of Central Okanagan — provides students with a low-cost, sustainable transportation option. Other important features and transportation initiatives include:



- Bus shelters have low-energy solar-powered lighting.
- Sheltered bike racks and end-of-trip facilities for cyclists.
- Preferred parking for carpools.
- Parking stalls for electric cars/charging stations (6).

## 18 RETENTION POND

The man-made pond acts as a filtration system for storm water, preventing harmful materials from entering Okanagan Lake.



## 19 LEARNING GARDEN

A model campus garden dedicated to promoting the principles of sustainable environmental practice, responsible stewardship of nature, interdisciplinary learning and knowledge.



## 20 GEO-THERMAL EXCHANGE

The geo-thermal district energy system (DES) is used to heat and cool academic campus buildings. This closed-loop system will reduce natural gas consumption and the campus' carbon footprint.

