Water

COMPONENT GOALS

01

UBC will practise responsible water management and use at the building and site scale by advancing water conservation and efficiency, exploring alternative water supply and treatment solutions and building water supply resiliency.

02

UBC will use a low-impact development approach to rainwater management at the site scale to mitigate risk and respect the natural hydrology of the campus.



Kitchen in Faculty and Staff housing featuring low flow plumbing fixtures and Energy Star appliances to reduce water use

CONTEXT

In the Lower Mainland of BC there exists a relative abundance of water. However, there are still times when water supplies are low or deficient.

With the impacts of climate change, even more frequent periods of drought in future summer months as well as more frequent intense and severe rainfall in the winter are expected. UBC will be a leader in conserving water and will improve rainwater management by managing this valuable resource and supporting the regional water balance between water use and rainfall.



Wesbrook Neighbourhood **PHOTOGRAPHER:** PHILIP BERTOGG

Pathway to Net Positive

Although the University has made great strides in increasing water use efficiency, it is committed to continual improvements in monitoring and research to better understand how water is used, the potential for water reuse strategies, the role UBC should play in the greater region in the event of water emergencies, and how best to adapt to increased droughts brought on by climate change. The GBAP will align with and integrate building and landscape guidance called for in the (concurrent) Water Action Plan.

Rainwater management will be envisioned, designed and built as a holistic system of low-impact development with green roofs and at-grade solutions combined for new building projects and, where possible, for renewals. Low-impact development (LID) recommendations for UBC include: reduced hard surfaces, thicker top soil, climateadaptive landscapes, bioswales, French drains and rain gardens. On building sites more than 300 meters from the cliffs, the opportunity to use LID will be optimized; a more cautious approach is required closer to the cliffs to mitigate the risk of cliff erosion.

Key Directions

GBAP priority actions focus on a water metering and benchmarking strategy and the development of landscape and irrigation design standards. Landscape and irrigation design standards will be updated to incorporate droughtresistant plantings and more suitable trees. Irrigation will be tailored to specific plant requirements across the campus to ensure responsible water use.

Rainwater management priority actions include improving LID site rainwater management to help mitigate the risk of floods and cliff erosion on campus as well as developing criteria and guidelines for the use of green and blue roofs.

FIVE-YEAR IMPLEMENTATION PLAN - SHORT-TERM PRIORITY ACTIONS

- New residential projects to achieve the same rainwater management requirements as institutional projects by 2020.
- Institute a residential building benchmarking program for water consumption.
- Develop a water metering strategy (building and suite level) for residential buildings; consider a visualization concept that concurrently educates users.
- Develop building landscape and associated irrigation design standards for upcoming neighbourhoods based on low impact development.
- Develop a strategy that coordinates building landscape rainwater management with rainwater management in the public realm.
- Develop criteria and guidelines for green roof and blue roof projects, based on rainwater management capacity, co-benefits, maintenance and operation considerations for residential building typologies.
- Promote the use of seasonal rainwater features in policy which do not use potable water and consider the life cycle costs for strata owners.

TARGETS AND INDICATORS

Target: Maximize rainwater management using lowimpact development on building sites that are more than 300 m from cliffs.

Indicator: Increase infiltration, retention and detention of rainwater in the neighbourhoods.