

The design of the Millennium Water Olympic Village was heavily influenced by a single imperative laid out in the official development plan: no potable water was to be used for irrigation. As the integrated design process took hold, however, the team pushed well beyond this simple water-saving concept.

“We get plenty of water between October and May, and then little between May and October,” says landscape architect Peter Kreuk (see page 27). “So we would fill our cisterns quickly in October, and the water would just sit there till we need it in June. Meanwhile, the rest of the year, water would just keep running off the site as it normally would have. We wanted to do more with the water, so that’s why we thought of toilet flushing.”

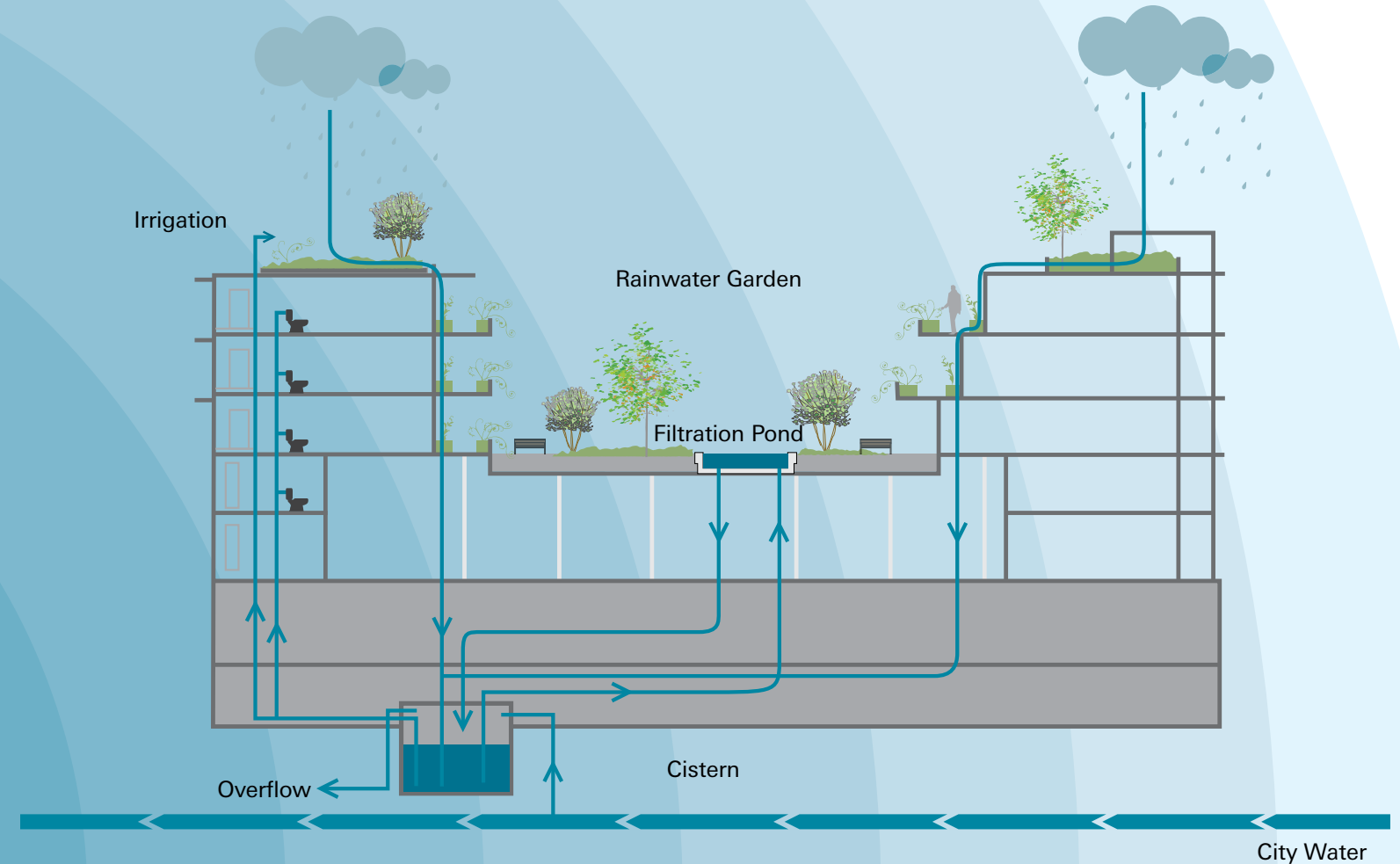
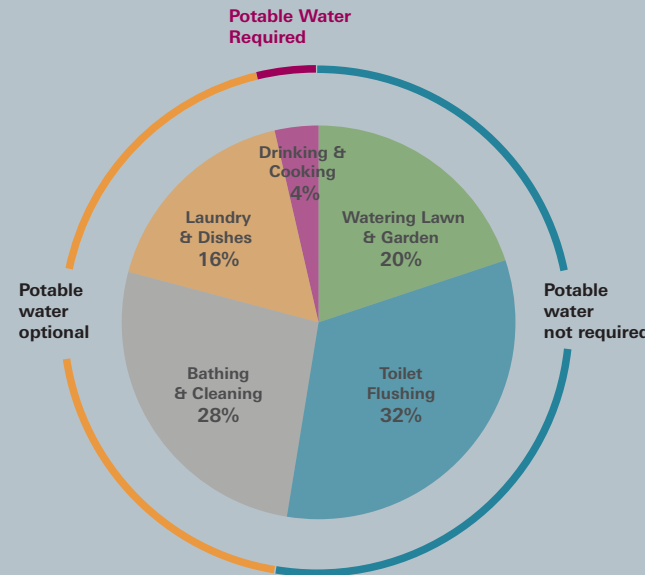
Rainwater that falls on Olympic Village roofs is collected into basement cisterns. These tanks provide water for toilet flushing and irrigation, so municipal water is drawn for these purposes only when the banked supplies run low. The continual collection and use of rainwater throughout the year will provide a 40% reduction in total water demand that the Village places on the municipal reservoir – a far superior conservation performance than if the rainwater were used solely for irrigation.

“In SEFC we said, ‘We’re going to use a fit-for-purpose’ approach,” says Patrick Lucey, an aquatic ecologist involved in the design. “What that means is that we have two sources of water. For every cubic metre of water we capture from the rooftops, we get to “bank” in the reservoir an equivalent amount of water. Then, we get to use that banked water for irrigation during the dry period if it’s necessary, because we haven’t put a strain on the reservoir during the rest of the year like everyone else has.”

Capturing and using water that naturally falls on the site is one step closer to a system that mimics nature, which recycles water within local systems many times before it runs back to the ocean. While the Olympic Village does not reuse grey water [water left over from cooking or washing] as some sustainable developments do, Lucey says its use of rainwater banking is groundbreaking for the region.

“This whole notion of water banking and water balance is a huge step forward, and a very important and strategic change in the way the City and the region can begin thinking about its water supply. If everybody in the City did what they’re doing at False Creek, intuitively, the reservoirs would always stay full.”

Capturing and using water that naturally falls on the site is closer to a system that mimics nature



Above: Rainwater circulation diagram shows how rainwater is captured, stored, circulated and used within a typical building.

Left: Chart shows how water is used by residents of Greater Vancouver. Toilet flushing and irrigation are two of the heaviest demands on municipal water supplies. Using rainwater for these activities contributes to the Olympic Village’s 40% reduction in standard potable water use.