Biophilic design: taking love to the street

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We know that regular exposure to nature is good for us, and yet we perfect designs that keep nature out, sometimes even erase our awareness of it. Protected from nature, we control and limit our exposure—we stay warm in winter, cool in summer, which affords us greater productivity and increases our comfort. Like most people, I’m happy to enjoy central heating and storm windows. But an over-create a linear park—which would function as a badly needed beautification project too—and, she added, let’s incorporate exercise stations for seniors.

View crosses Vancouver Street, already blessed with an unparalleled canopy bestowed by majestic chestnut trees whose massive trunks suggest outdoor sculpture. Under the trees, wide grassy boulevards

armoured life isn’t ideal, either. Think of dinosaurs or giant turtles next time your car has you imprisoned in a traffic jam or your office window won’t open because that would disturb the air-conditioning.

Today’s eco-conscious designers point out that excessive barriers to nature produce lowered quality of life as well as boring, mediocre built environments. But designing with nature, they argue, contributes to health, creates excitement, and even fosters love. Love of nature, termed biophilia by E.O. Wilson, refers to a deep-rooted need “to experience natural habitats and species.” Wilson’s colleague Stephen Kellert writes of biophilic design: a conscious bent to design access to nature into what we build in cities. It’s a mandate that can shape buildings, parks… and streets.

Earlier this spring, the City asked for the public’s input at several Parks Masterplan workshops. Planners wanted to know how we use parks, and where we might create new ones. During one workshop, there was an electric moment when a participant suggested turning part of View Street into a linear park. She noted that traffic volume on Fort and Yates (both one-way arterials) is heavy, while it’s relatively light on View. While still allowing cars, the city could nonetheless suggest to the many pedestrian commuters that here, indeed, is an urban park—or should be. The intersection of View and Vancouver is sinking, however, and presents a major engineering conundrum. But this problem could become an opportunity.

We know from Jennifer Sutherst’s research (“Lost Streams of Victoria,” map, 2003), that this intersection is built on what was a wetland fed by seasonal streams and rainwater run-off. The wetland in turn fed a stream that coursed along Pandora (accounting for Pandora’s odd bend between Douglas and Government): the stream marked the boundary between Chinatown and “white” Victoria. It was treated badly even in the 19th century (apparently turned into an open sewer), was soon contained, put underground, paved over. Its remnants still drain into the Inner Harbour.

Sutherst’s map shows the wetland directly at View and Vancouver. Today, its asphalted surface is impermeable, while drainage codes mandate that run-off from roads and neighbouring buildings diverts to storm sewers, versus flowing back into the marsh. Consequently, the now-hidden wetland is drying up, and as it dries, its layers of peat shrink and compress, causing the roadbed to sink. To “fix” that problem, we’ve
in-filled additional layers of asphalt, making the surface even heavier—and contributing to increased compression of the underlying stratum.

It's in many ways a classic vicious circle, and a lesson in living peaceably with micro-ecosystems. In effect, by building yet another protective barrier between nature (the wetland) and us, we have also paralyzed the wetland's hydrological functioning. If the land were a body, what would the wetland be? Perhaps kidneys, absorbing fluid, treating it, discharging it. By putting impermeable asphalt over that natural organ, we've desiccated it, and now it'll cost a pretty penny in engineering surgery.

Since we have to throw money at it anyway, what if we did something truly innovative to that diseased organ? What if we practised biophilic design to restore its ecological function—and gained a unique urban focal point in what could be a fabulous linear park project?

Imagine, for example, an intersection with a permeable steel-grid "road-bed" suspended slightly over a daylighted wetland, the latter slowly restored to full hydrologic function. In the restoration field, daylighting typically refers to excavating and restoring a stream channel from an underground culvert, covering, or pipe. In the case of the View/Vancouver wetland, it would more appropriately refer to removing an impermeable surface, and planting appropriate vegetation that allows the wetland to resume its normal function as a water filter. Restored urban ecology also provides both an educational tool for stewardship and an aesthetic community amenity.

The art-technology-engineering challenge lies in marryng restoration with normal urban functioning: traffic (automotive and pedestrian) has to flow. But consider the value that could accrue for Victoria with a project like this. If Dockside Green, locally the symbolic heart for sustainable development, attracts worldwide attention, perhaps a brilliantly restored kidney could turn a few heads, too.

Yule Heibel returned to Victoria in 2002, after living in the US where she earned her doctorate in art in architectural history at Harvard and taught at MIT, Brown, and Harvard. She is the published author of a book and numerous articles.