Environmental Best Management Practices for Urban and Rural Land Development

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Appendix A
BENEFITS OF ENVIRONMENTAL PROTECTION

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Appendix A: The Benefits of Environmental Protection

"For Canadians of all ages, protecting the environment is not an option—it is something that we simply must do. It is a fundamental value—beyond debate, beyond discussion" (*Paul Martin 2001*).

"Mounting environmental regulations and increasing costs force us to look at the more efficient alternatives that minimise costs and negative effects on the site and the area around it. Multiple benefits can result from this sensitive site planning approach. Lower overall development costs, higher lot and unit process, advanced lot and unit sales, improved corporate image and faster approvals are some of the possible benefits" (*von Hausen 2004*).

Good environmental planning at the community level can take time and money—but the investment will pay for itself in a better quality of life, savings in infrastructure and liability costs, and payback from increased property values. It is "something we simply must do"— for the benefits of the plants and animals that share our communities with us, AND for the benefits it provides to local governments, developers and the community as a whole.

BENEFITS FOR LOCAL GOVERNMENTS

Free ecosystem services

Natural ecosystems provide a range of free 'ecological services' (water and air purification, mosquito and pest control, etc.) that would otherwise have to be paid for by local governments and residents.

Coastal wetland contributes from US$800 to $9000 per acre to the local economy through recreation, fishing and flood protection (*Kirkby 1993*).

- **Stormwater management:** Streams, wetlands and riparian vegetation can dramatically reduce the need for expensive storm sewer infrastructure. Johnson County in Kansas saved an estimated US$120 million on engineered stormwater controls by setting aside US$600,000 worth of riparian greenways (*Sandborn 1996*).
- **Trees and other vegetation reduce stormwater runoff.** For every 1,000 trees, stormwater runoff is reduced by nearly 3.8 million litres (*Center for Urban Forest Research 2003*).
- **Improved air quality:** A study by American Forests found that the Puget Sound region has lost 37% of its high vegetation and tree canopy coverage over the past 25 years. This lost tree canopy would have removed about 35 million pounds (13,000,000 kg) of pollutants from the atmosphere annually, at a value of approximately US$95 million dollars (*American Forests 1998*).
- **Trees in parking lots moderate the heat absorbed by asphalt.** This lowers the air temperature, which reduces ozone concentrations by lowering hydrocarbon emissions (*Scott et al 1999*).
- **Energy savings:** A study in California found that planting shade trees could reduce the need for power plants—50 million shade trees planted in strategic, energy-saving

locations could eliminate the need for seven 100-megawatt power plants (*Simpson and McPherson 1998*).

Community improvement

- Enhanced property values associated with green space retention leads to greater tax revenues and therefore the ability to provide enhanced municipal services. Higher property values resulting from greenspace acquisition in a Boulder, Colorado neighbourhood increased property taxes sufficiently to pay back the acquisition costs in just a few years (*Sandborn 1996*).
- Community greenspace is an important part of the viewscapes that make a community attractive.

Attract new business

- "Footloose" businesses (that can locate anywhere) are attracted by communities that offer a high quality of life for their employees. Greenspace, environmental protection and recreational opportunities are often an important part of that choice. Places such as Sacramento, California and Boulder, Colorado, vigorously promote their urban greenspaces to attract new business (*Sandborn 1996*).
- Eco-tourism is a rapidly growing industry for which the protection of the natural environment is vital. In 1996, 2,500,000 British Columbians participated in nature-related activities, spending a total of $1,938 million and creating 34,100 jobs (*Environment Canada 2000*).
- People are attracted to areas with natural beauty and outdoor recreation opportunities. A study of visitors to Vancouver Island (summer 2003) found that visitors were very pleased with the vacation experience, in part because of the scenic beauty (98.7%) and outdoor recreation opportunities (91.5%) (*Malaspina University College and Tourism Vancouver Island 2003*).

Reduce costs, increase revenues

- Where one part of a site is densified to enable protection of another part of the site, there are lower costs for roads and servicing. This means lower long-term costs of maintaining these roads and services.
- There are savings in mowing and maintenance costs when lands are managed as a natural buffer rather than manicured lawn. For corporate landowners (including local governments), this can save an estimated US$270 to $640 per acre per year (CDN$150 to $350 per hectare per year) (*Wildlife Habitat Enhancement Council 1992*)
- The net property tax benefit of open space is greater than for developed lands. Agricultural land and open space pays significantly more in taxes than it requires in servicing from local governments (*Curran 2001*). Although developed land contributes more in property taxes, there are higher servicing costs for road, libraries, schools, etc.

Avoid future costs

- Good environmental planning prevents development on hazard lands and other sites that are unsuitable for development. This may prevent expensive and time-consuming lawsuits if problems arise.
- There can be substantial costs of NOT protecting the environment. One Lower Mainland community removed riparian buffer vegetation and subsequently suffered stormwater flooding damage of about $2.5 million (*Cullington 1999*).

SUPPORT DECISION MAKING

Environmental planning can:

- Assist local and senior governments with park acquisition decisions;
- Assist with siting transportation and utility corridors in places with least impact on sensitive habitats;
- Help to define zoning, bylaws, and the configuration of future urban growth areas and urban containment boundaries; and
- Identify the location of greenways and other wildlife movement corridors, especially where they are not associated with stream corridors. Connectivity is important in maintaining genetic diversity, as it allows interbreeding between different populations, and in maintaining species diversity, as it allows the species to move between habitats.

BENEFITS FOR THE DEVELOPMENT COMMUNITY

Community environmental plans lead to greater certainty

- Developers benefit from greater certainty if they know in advance that part of a development site is deemed to be an environmentally sensitive area. They can then account for this in site development plans and avoid wasted time and expense in disputes over proposed development of this land.
- Developers can identify unconstrained or lightly constrained development areas, so that phased developments have the potential to start and recover monies on areas with lower overhead first.
- Developers can use the community-level environmental information to direct their needs for technical expertise in developing the site-level inventory.

Save money

- Development costs are lower per unit for higher density developments. If housing units are clustered on one portion of a site in order to protect an environmentally sensitive area, there are cost savings of 10–33% because there is less area to be cleared, less infrastructure (roads, sewers, etc.). Cluster development can reduce the capital cost of subdivision development by 10 to 33%, primarily by reducing the length of infrastructure needed to service the development (*Schueler 1995*).

Increase sale values

- Property values are higher next to greenspace. A study of properties in the Lower

Mainland and south Vancouver Island found that residential property values increase by 15–20% when close to greenways (*Quayle and Hamilton 1999*).

Increase marketability

- The ability to incorporate special environmental features into the community plans provides unique neighbourhoods based on the local features (e.g. "Heronwoods" where a local heron rookery is preserved in an adjacent woodland).
- The U.S. National Association of Home Builders has encouraged the planting of trees because it increases the marketability of new developments (*Petit 1998*).

Faster approvals

- Where new developments fit into the community environmental plan, the development is likely to move more quickly through the approvals process and encounter less community resistance. This translates into time and cost savings for the developer.

"Clean air, fresh water, the sun rising through the mist on a mountain lake, an abundance of life on the land, in the air, and in the sea—the value of these things is incalculable." (*Al Gore 1992*)

BENEFITS FOR RESIDENTS

Quality of life

- Residents benefit from a well planned community through the enjoyment of wildlife and natural areas. Lots of greenspace creates pleasant viewscapes throughout the community.

Health

- Having community greenspace encourages walking, which is good for physical fitness. It also provides spaces for 're-creation' and restoration of mental health in an often hectic lifestyle.
- Natural areas provide ecosystem services that clean the air, clean the water and allow for groundwater recharge.

Sense of community

- People who live near greenways tend to live in their houses longer than those who do not. This lower turnover rate results in more stable neighbourhoods and a greater sense of community (*Quayle and Hamilton 1999*).
- Developing the community environmental plan provides an opportunity for the public to become involved in their community planning, and to assist with the identification of important natural areas.

Clean air

- Urban forests improve air quality by reducing atmospheric carbon dioxide levels and absorbing air pollutants (McPherson et al 1996).

Clean Water

- Wetlands filter pollutants from stormwater before the water reaches streams and creeks.

Recreational opportunities

- Natural open spaces and walking/biking paths can be among the most important features in a residential neighbourhood (*Warrick and Alexander 1997*).

Reduce costs

- Properly located trees can reduce the costs of heating a home in winter (because of the windbreak effect) and reduce air conditioning costs in summer (because of the shade) (Center for Urban Forest Research website).

FOR MORE INFORMATION ON THE BENEFITS OF ENVIRONMENTAL PLANNING:

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