

Life Cycle Cost Analysis

as a practical tool for landscape professionals



A Life Cycle Cost Analysis (LCCA)

considers the life of your project and all the costs that go into it. Such as:

Initial costs

Energy costs

Maintenance & replacement costs

Disposal costs

Residual value

(Resale value of project components)

Financial variables

(Regional energy rates, inflation, etc.)

LCCA goes beyond just the cost of the initial investment to give you a realistic picture of what the project will cost you over its lifetime. All these costs, the life cycle and the contribution to the environment need to be factored into every project alternative. The project with the lowest Net Present Value is typically chosen. **Green infrastructure has proven worth the investment!**

→ Read the full report at:
<https://cnla.ca/learn/publications/research-reports>

Asphalt & Concrete

A continuous, impervious layer on top of the ground that allows rainwater to runoff, unchecked and unfiltered into stormwater catch basins and into our rivers, lakes and oceans.

Initial cost: **Typically lower**

Maintenance & repair costs: **Typically higher**

Net Present Value at 25 years: **\$111.64/m²**
(based on 2000m²)

Kg CO₂e saved at 25 years: **0kg**

Permeable Pavers

An interlocking paver product that allows rainwater to collect and filter through gaps, into a stone layer and then into the ground, replenishing our natural ground water.

Initial cost: **Typically higher**

Maintenance & repair costs: **Typically lower**

Net Present Value at 25 years: **\$101.46/m²**
(based on 2000m²)

Kg CO₂e saved at 25 years: **331kg**



Canadian Nursery Landscape Association
Association Canadienne des Pépiniéristes et des Paysagistes

Grey vs. Green Infrastructure

↓ HVAC vs. Trees, Green Walls/Roofs



↓ Concrete Storm Drain vs. Bioswale



↓ Fence vs. Vegetated Berm/Hedge



Stormwater Management

A case for alternative approaches using LCCA

Conceptual drawing courtesy of
CSLA-AAPC 2016 Award Winner:
Schollen & Company©

Comparative costs based on a 2000m² drainage area

	Asphalt + OGS	Bioretention	Permeable Pavers	Enhanced Grass Swale
Initial Cost \$/m ²	\$67.00	\$69.65	\$83.28	\$61.12
Annualized maintenance costs*	\$2,521.00	\$2,984.00	\$1,371.00	\$2,508.00
Annualized stormwater costs*	\$1,050.00	\$158.00	\$578.00	\$840.00
Net Present Value*	\$111.64	\$108.93	\$101.46	\$102.98
Kg CO2e saved*	0kg	626kg	331kg	147kg

*At 25 years

Stormwater Ponds

The case for natural versus conventional stormwater ponds. The conventional pond is surrounded by grass and has no vegetation underwater. The naturalized pond uses natural plantings beside and in the pond allowing for improved water quality, habitat creation and a healthy, balanced ecosystem. While initial construction costs are generally the same for both, a conventional stormwater pond can require more than five times the cost to maintain.

	Conventional Stormwater Pond	Naturalized Stormwater Pond
Initial Cost \$/m ²	\$37.50	\$32.76
Annualized maintenance costs*	\$11,932.00	\$2,128.00
Net Present Value* (based on a 16,900m ² pond)	\$55.15/m ²	\$35.91/m ²

*At 25 years



Rainwater Harvesting

Harvest the rainwater to work for you and the environment. By collecting the rainwater using a gravity fed system, you can use the water to flush toilets, water the garden, irrigate the lawn or wash the car, saving money and dependence on municipal water.



Reduce your carbon footprint by 102kg of CO₂e per year!

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