

Green Roofs and Living Walls



City Hall Toronto, Ontario



City Hall, Chicago, Illinois

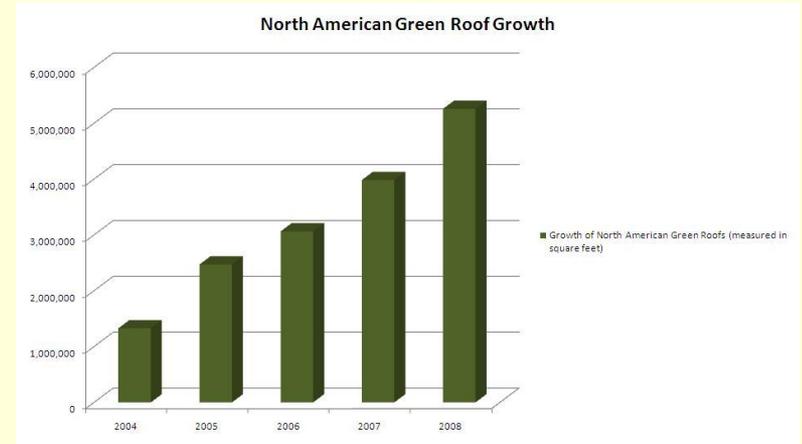
Fortune Bay Ecolodge Designs Ltd.



Atlantic Living Walls



Green Roof Professional (GRP) Accreditation



Green Roof Design 101
Introductory Course
Second Edition
Participant's Manual
Presented By
GREEN ROOFS
FOR HEALTHY CITIES
www.greenroofs.org

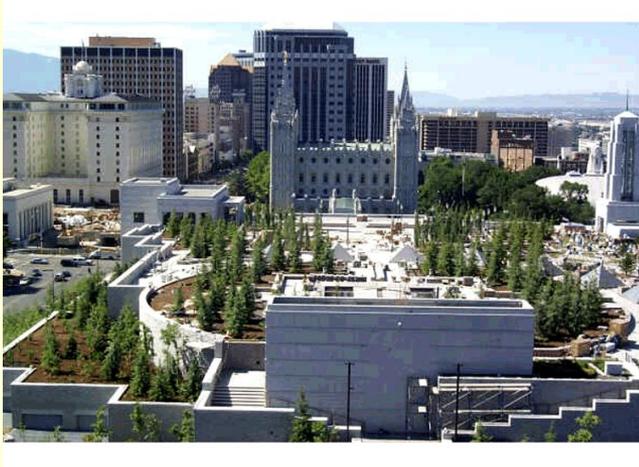
Green Roof Infrastructure: Design and Installation 201
Participant Manual
Presented by:
GREEN ROOFS
FOR HEALTHY CITIES
www.greenroofs.org

Green Roof Waterproofing and Drainage 301
Participants' Manual
Presented By:
GREEN ROOFS
FOR HEALTHY CITIES
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Green Roof Plants and Growing Media 401
Participants' Manual

ACCREDITED GREEN ROOF PROFESSIONAL
GRP

Church of Later Day Saints Salt Lake City, Utah



War Museum Ottawa, Ontario



Ford Motor Company
Year: 2003
Location: Dearborn, MI, USA



Greenroof Type: Extensive, Test/Research

Greenroof System: Custom

Roof Size: 454000 sq.ft. (10.42 acres)

Roof Slope: 1.5%

Access: Accessible, Private

Submitted by: Linda S. Velazquez





Fairmount Hotel Vancouver, B.C.

Greenroof Type:

Semi-Intensive

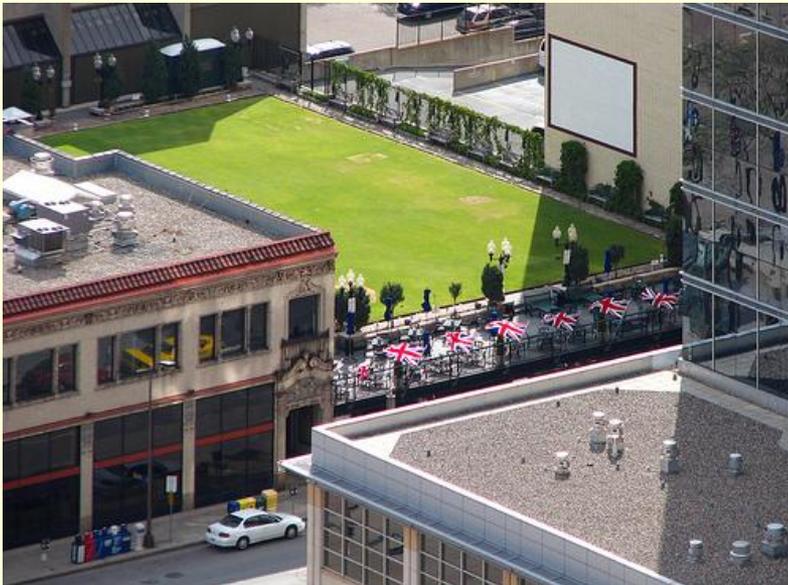
Greenroof System:

Custom

Roof Size: 6000 sq.ft.

Roof Slope: 2%

(~\$35,000 herbs/year)



Brit's Pub

1100 Nicollet Mall LLP
Minneapolis, MN, USA

Greenroof Type: Intensive

Greenroof System: Custom

Roof Size: 11200 sq.ft.

Roof Slope: 1%

Access: Accessible, Private

Benefits of Green Roofs

Common Benefits

- Urban Heat Island, (2-3C or 4-6F)
(Asphalt 70C, White PVC 38C, Green Roof 32C)
- Biodiversity,
- Air Quality
- Food Production,
- Storm Water Management (major driver for cities),
- Green Space,
- Energy Savings,
- Job Creation, (2004-5 industry grew 72% in N. America and 80% in USA),
- Materials Recycling,
- 12-24 months to payback costs
(See: US Green Build Council 'Why Build Green')
- Extends Life of Roof Membrane
(Asphalt 70C, White PVC 38C, Green Roof 32C)
- On average, 25% smaller HVAC System required



Mtn Equipment Co-op Toronto, Ontario '98

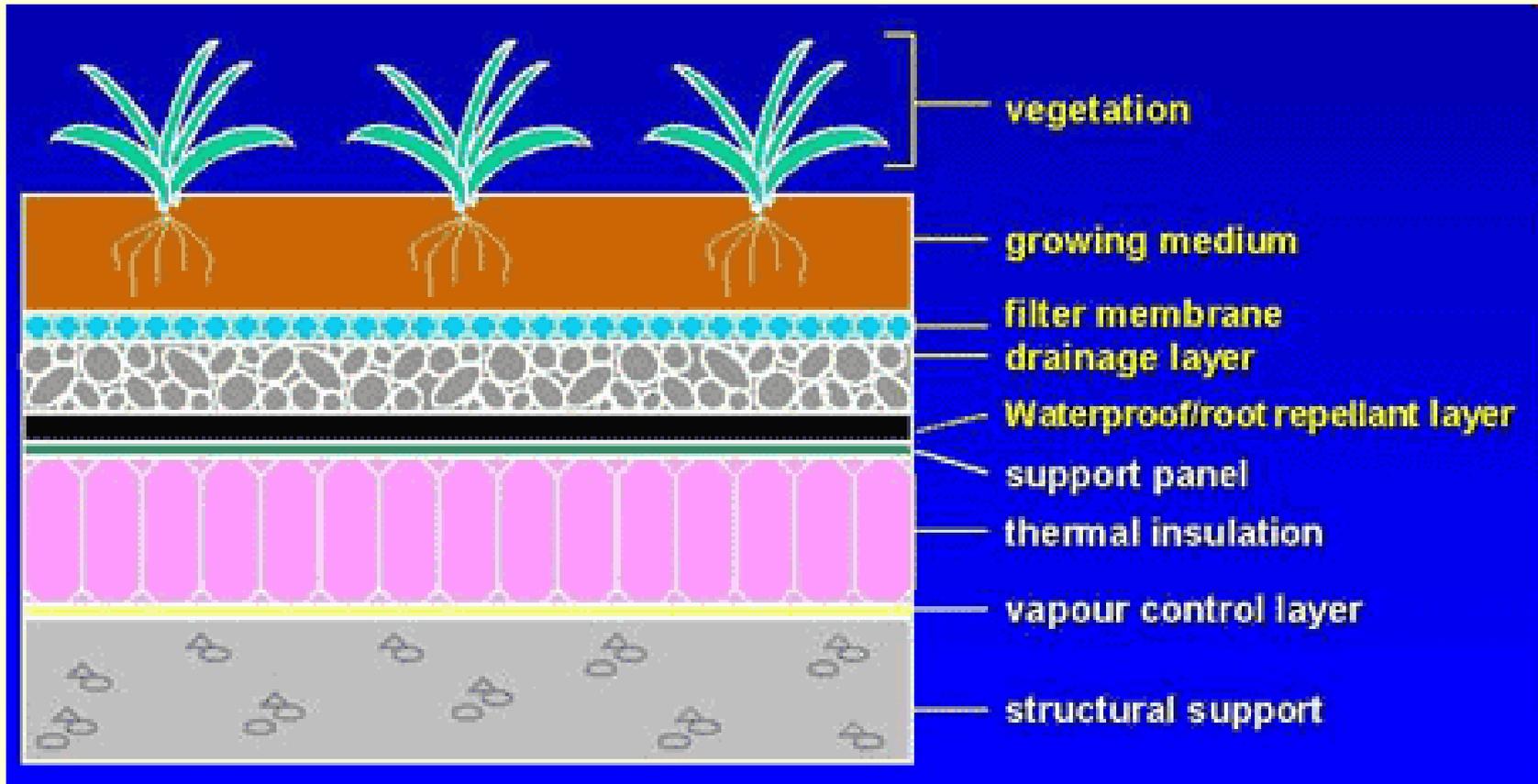
Green Roof Categories

Characteristic	Extensive	Semi-Intensive	Intensive
Growing Medium Depth	6" or less	25% above or below 6"	More than 6"
Accessibility	Often Inaccessible	May be partially accessible	Usually accessible
Fully Saturated Weight	Low 10-35 lb/ft 48.8-170.9 Kg/m	Varies 35-50 lb/ft 170.9–244.1 Kg/m	High 50-300 lb/ft 244.1-1,464.7 kg/m
Plant Diversity	Low	Greater	Greatest
Cost	Low (2x conventional)	Varies	High
Maintenance	Minimal	Varies	High

General Advantages of Different Green Roof Categories

Extensive	Semi-Intensive	Intensive
Lightweight	Combines best features of Extensive and Intensive	Greater diversity of plants
Suitable for large areas	Utilizes areas with greater loading capacity	Best insulation properties and storm water management
Low maintenance costs may be designed for no irrigation	Greater coverage at less cost than intensive	Greater range of design
More suitable for retrofit projects	Average maintenance	Usually accessible
Lower capital costs	Greater plant diversity than extensive	Greater variety of human uses
Easier to replace	Greater opportunities for aesthetic design than extensive	Greater biodiversity potential
Sedums, Mosses, Grasses	Sedum, Moss, Grass, Herbaceous	Shrubs and Trees

Green Roof Components (Conventional)



Old Country Market

Coombs, BC



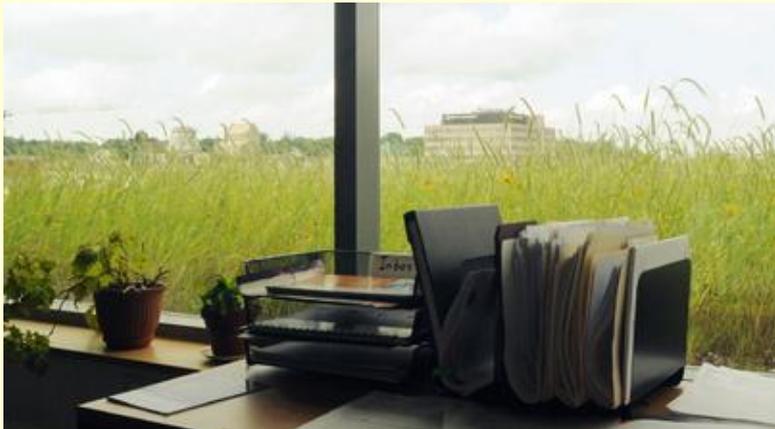
(Sales increased
\$250,000/yr.)



Life Expression
Wellness Center
Sugarloaf, PA, USA

'Then this living, 'green' roof not only protects the inside of the building from the elements, it helps cool the building in summer, retains heat in winter, controls water runoff, improves air quality and provides wildlife habitat. And while Guelph is not considering following Toronto's lead yet — that city passed a bylaw in May requiring all new buildings of 2,000 square metres or more to include green roofs— **Guelph is embracing the trend that's sweeping North America.**' *Guelph Mercury Newspaper; August 19, 2009*

City Hall
Guelph, Ontario



Ballard Branch Library
Seattle, Washington





The Solaire Building
New York City
2003

Building Type: Multi-Family Residential
Greenroof Type: Extensive & Intensive
Greenroof System: Custom
Roof Size: 9400 sq.ft.
Roof Slope: 1.25%



Heinz 57 Center/Gimbels Building
Pittsburgh, PA, USA
2001

Building Type: Commercial
Greenroom Type: Extensive
Greenroof System: Custom
Roof Size: 12000 sq.ft.
Roof Slope: 1.5%



Fortune Bay
Ecolodge
Designs Ltd.

and

Xero Flor
Green
Roofs



Living Walls/Vertical Gardens



Musée des Arts Premiers Quai Branly Paris, France; 2004



CaixaForum Museum Madrid, Spain



Siam Paragon Shopping Center Banbkok, Thailand



Even a small green wall can bring life to an interior space.

The benefits aren't just visual.

The garden can:

- >Improve air quality,
- >Deaden sound,
- >Provide insulation,
- >Clean water.



The Farm Centre Prince Edward Island



Pershing Hall Hotel, Paris

Nestled in the courtyard of the Pershing Hall Hotel is a 30 meter high vertical garden that features over 250 different plant species.



Private Deck (Summer Only)

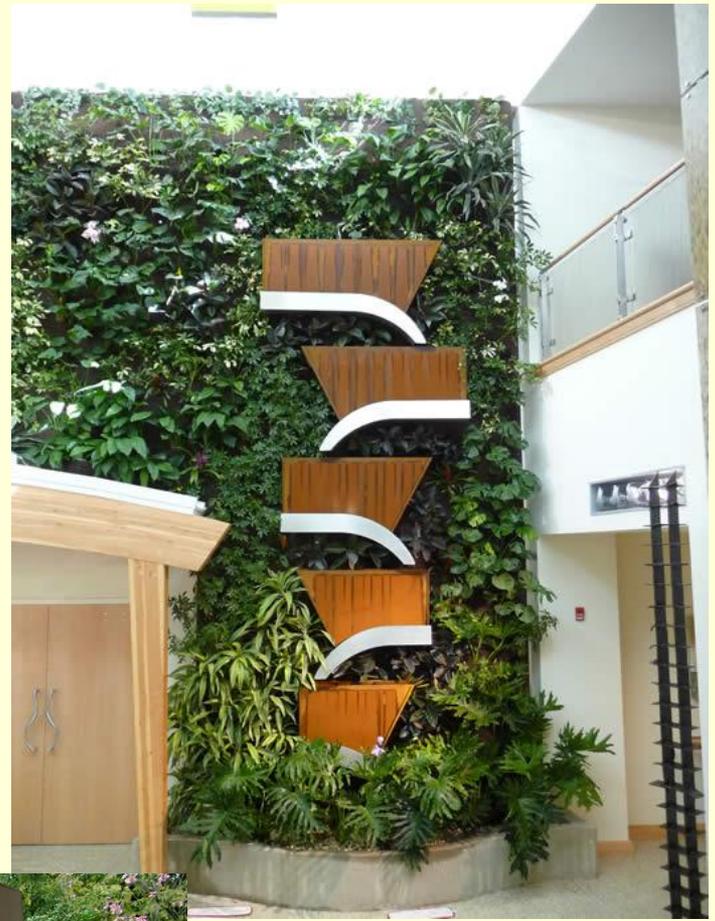


Starbucks Seattle, Washington



The Dunes Studio /Gallery Brackley, Prince Edward Island





Living Wall Mural for Canada Day Festival Ottawa, Ontario



Patrick Blanc
“Rainforest Rhapsody”, featured in Capital Land’s lobby
Singapore



Nessya's Gems and Jewels



The 'Green, Green, Green House Art in the Open Festival 2011



Concepts

Grocery Store Green Roof



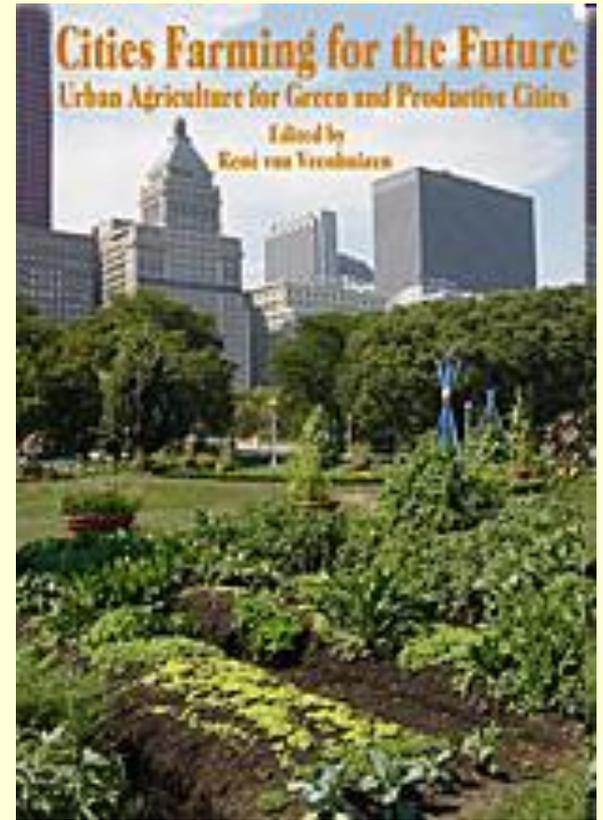


ILLUSTRATION: BRYAN CHRISTIE



**Residence Antilia,
Mumbai, India
200 meter tall living wall**



SkyFarm, Toronto, Canada



Retail Shop Seoul, Korea



**Fukuoka Building Japan
(18 Stories)**

Atlantic Living Walls

Creating green space – bringing the tranquility, health and beauty of nature to homes and offices where people live and work.

“Whether you want to dramatically beautify a space with living works of art, improve environmental conditions or make rooms more functional by using green walls to divide or define areas, this is a remarkable way to do it.”

www.atlanticlivingwalls.ca

atlanticlivingwalls@gmail.com

902-367-0390



24"x48" and 16"x48"
Traditional Walls



36"x48" Traditional Wall
(Office installation)



24"x48" Traditional Wall
(Home-Custom Reservoir)