



FINAL REPORT

GREEN ROOF INDUSTRY SURVEY 2007

APRIL 2008



GREEN ROOFS
FOR HEALTHY CITIES

www.greenroofs.org

Introduction – Organizational Background

Green Roofs for Healthy Cities – North America, Inc. was founded in 1999 as a small network of public and private organizations and is now a rapidly growing 501(c)(6), not-for-profit industry association for green roof experts in North America. Our mission is to increase the awareness of the economic, social and environmental benefits of green roofs and green walls, and other forms of living architecture through education, advocacy, professionalism and celebrations of excellence.

The Association is holding its 6th Annual Conference in Baltimore from April 30th to May 2nd, 2008, where experts from around the world will gather to network and share information on new policy development, designs, research results and products and services. The conference is being co-hosted by the City of Baltimore and will be held at the Sheraton Inner Harbor Hotel and the Baltimore Convention Center.

Media passes are available. See www.greenroofs.org/baltimore for details.

Green Roofs for Healthy Cities (GRHC) has over 5,000 Corporate and Individual Members. The Association is implementing an accredited *Green Roof Professional* program for green roof designers and installers in the spring of 2009. GRHC delivers professional training courses throughout North America. This program will help to support quality green roof design and construction practices and allow green roof professionals to differentiate themselves in the market.

Green Roofs for Healthy Cities has a *Local Market Development Program* through which it works with a wide variety of policy makers to develop research, policies and programs in support of widespread green roof implementation. This program has been implemented in over 25 cities to date and has resulted in significant improvements in the level of awareness, technical performance, research, economic valuation research and policy support.

Green roofs are an important component of green infrastructure. They provide valuable public benefits related to stormwater management, reduction of the urban heat island, improvement of air quality (including removal of particulate matter), and general improvement of the quality of life in communities. Studies have shown that widespread green roof implementation can generate tens of millions in cost savings associated with reducing energy consumption in buildings and reducing the urban heat island. Green roofs are also excellent at helping to retain, delay and slow stormwater thereby helping to improve water quality in our rivers and streams. See the “Green Roof Tree of Knowledge” at www.greenroofs.org for information on technical reports and policy developments.

Survey Background

In December 2004, the Corporate Members' Committee decided that there was a clear need to begin to develop data on the size, composition and geographic distribution of the green roof industry. This information is helpful in measuring our progress each year.

Survey Methodology

All of the Corporate Members were sent the survey in the form of an Excel spreadsheet. Survey data is sent in by participating Corporate Members to Kendon Light. Mr. Light is retained to ensure the anonymity of the aggregated data and to provide third party validation of the results. The survey data collected includes the location of green roof projects, the size of the green roof in square feet, and the general type of green roof, as follows:

- Extensive (six inches of growing media or less, light weight, low cost and maintenance)
- Mixed/Semi-intensive (25% of the area, above or below six inches of growing media)
- Intensive (total area more than six inches of growing media, greater weight, cost, maintenance and plant diversity)

Fourteen completed surveys were received in 2008. Project duplications are identified and eliminated. Some of our corporate members are unable to complete the survey because they do not have ability to collect the data requested for various reasons or are unable to release this information.

2007 Survey Results – 30% Overall Growth for 2007 – Chicago's The Number One City

Overall growth of North American Green Roof Industry in 2007, compared to 2006 is 30 percent. This is based on the 2007 survey results and a blended average of the growth rates of several firms that represent overall industry activity.

The total square footage reported for 2007 is 2,407,525. Several of our members declined to participate this year, resulting in lower than anticipated overall square footage numbers. We estimate that this survey captures approximately 60 percent of the total market activity, on a square footage basis.

This number is represents a small fraction of the total roof area that could support green roofs, which is measured in billions of square feet. The number of extensive green roofs (six inches of growing media or less) grew by 40 percent in 2007, while the number of intensive green roofs (more than six inches of growing media) dropped by 247 percent compared to



2006. Semi-intensive green roofs (above or below 25% area covered by six inches of growing medium) increased by 61 percent in 2007 compared to 2006.

In our Top Ten Green Roof City ranking, the City of Chicago remains number one, for the fourth straight year in a row. Chicago has a number of policies and programs that support green roof implementation and which are spurring the development of the market. These include grants, regulatory requirements, procurement by City departments, tax increment financing and floor area ratio bonuses. In 2003, Green Roofs for Healthy Cities recognized Chicago's outstanding leadership by awarding Chicago Mayor Richard Daley with the Civic Award of Excellence.

Top Ten Green Roof Cities in *North America*, Square Footage Implemented, 2007

Chicago	IL - Illinois	517,633
Wilmington	DE - Delaware	195,600
Baltimore	MD - Maryland	121,550
Brooklyn	NY - New York	102,908
Virginia Beach	VA - Virginia	100,500
Royersford	PA - Pennsylvania	100,000
Toronto	ON - Ontario	83,055
Calgary	AB - Alberta	61,720
Washington	DC - District of Columbia	55,046
Burnaby	BC - British Columbia	50,000

Top Ten Green Roof Cities in the *U.S.*, Square Footage Implemented, 2007

Chicago	IL - Illinois	517,633
Wilmington	DE - Delaware	195,600
Baltimore	MD - Maryland	121,550
Brooklyn	NY - New York	102,908
Virginia Beach	VA - Virginia	100,500
Royersford	PA - Pennsylvania	100,000
Washington	DC - District of Columbia	55,046
Philadelphia	PA - Pennsylvania	46,820
Amery	WI - Wisconsin	30,928
Germantown	MD - Maryland	25,740

Top Ten Green Roof Cities in *Canada*, Square Footage Implemented, 2007

Toronto	ON - Ontario	83,055
Calgary	AB - Alberta	61,720
Burnaby	BC - British Columbia	50,000
Québec	QC - Quebec	34,800
Montréal	QC - Quebec	33,400
Saskatoon	SK - Saskatchewan	19,700
Sherbrooke	QC - Quebec	18,000
Vancouver	BC - British Columbia	17,200
Edmonton	AB - Alberta	12,350
Mississauga	ON - Ontario	12,252

Conclusion

Green roofs provide multiple public and private benefits and represent a critically important development in our collective efforts to move towards healthy and restorative buildings and communities. This survey allows us to measure the degree of policy support among various governments for this type of living architecture and is one small measure of our progress in moving towards sustainability in North America. The survey results indicate that there remains enormous potential growth opportunity on new and existing buildings in cities across North America. Increasingly, government policy makers are recognizing the wealthy contribution green roofs can make to addressing common infrastructure challenges and implementing supportive policies and programs.

Cover photos of 2006 Green Roof Awards of Excellence winners. Top to bottom: Phillips Eco-Enterprise Center (PEEC), Minneapolis, MN – submitted by The Kestrel Design Group, Inc.; Mashantucket Pequot Museum and Research Center, Mashantucket, CT – submitted by Mashantucket Pequot Museum and Research Center; Eastern Village, Silver Spring, MD – submitted by Eco Housing Corporation; 10th @ Hoyt Apartments, Portland, OR – submitted by Koch Landscape Architecture; 601 Congress Street, Seaport District, Boston, MA – submitted by Sasaki Associates, Inc.