

# Project Profile



## Project

National Geographic Society  
Headquarters  
Washington, D.C.

## Owner

National Geographic Society

## Architect

Mills, Clagett & Wening  
Bethesda, MD

## Roofing Contractor

Magco, Inc.  
Jessup, MD

## Roofing System

Adhered roof system,  
using white, 60 mil G410  
EnergySmart Roof® membrane

## Project Size

18,200 square feet

## Completed

June 2002

## A Tradition of Environmental Decisions

On the evening of January 13, 1888, 33 men convened around a large mahogany table to discuss “the advisability of organizing a society for the increase and diffusion of geographical knowledge.” The entity they were about to create — known around the world today for its impressive research and dedication to the environment — is the National Geographic Society.

It has since become one of the largest nonprofit scientific and educational institutions in the world.

Located in Washington, DC near the White House, the National Geographic Society headquarters complex is comprised of four interconnected buildings ranging from 20 to 100 years of age. Continuing its tradition of environmental discovery and achievement, the Society’s management wanted to incorporate the relatively new Leadership in Energy and Environmental Design (LEED) Green Building Rating System®, established by the U.S. Green Building Council (USGBC), into its renovation plans.

Thus, National Geographic Society headquarters became one of the first 60

projects selected to participate in the USGBC 2002 pilot program for existing buildings (LEED-EB).

## Roof Contributes to LEED-EB

Renovations were undertaken as part of the LEED program and included upgrading heating and cooling systems, interior lighting systems, and building operating practices. To top it off, 12,000 sq. ft. of existing EPDM roofing materials were replaced with the Sika Sarnafil EnergySmart Roof® membrane. This white, highly reflective thermoplastic roof membrane has been proven to reduce energy consumption, is ENERGY STAR® compliant, and has a 40-year track record of proven performance.

“I’ve used Sarnafil® repeatedly,” said Rick Sese, project architect at Mills, Clagett & Wening. “When the National Geographic Society called about the roofs and said we had to use ‘green’ architecture, I turned to Sika Sarnafil. I like their variety of attachment systems and knew Sarnafil qualified under the LEED Program Guidelines.”

Magco, Inc., the authorized roofing contractor selected to install the

**Sika**®

**Sarnafil**®

EnergySmart Roof system, is also familiar with Sarnafil. "The biggest challenge on this project was trying not to disturb the people working inside," said Eric Wiegand, project manager at Magco. "We were comfortable with the Sika Sarnafil product, but were working on slopes, had poor access, and there were multiple levels so we had to erect scaffolding and add stair towers, ramps, and hoists to get our equipment and materials up."

The Society's building at 1146 16th Street had three different roof elevations to re-roof. Magco workers tore off the existing EPDM roof down to the concrete deck, and then adhered the insulation to the deck and the Sarnafil membrane to the insulation. "The old roof leaked," said Wiegand. "And there were additional problems with existing roof-mounted equipment and skylights. But we have a good working relationship with Sika Sarnafil, so if there were any questions or issues, we could resolve them quickly with one phone call to their technical department."

#### **A Pioneer on the LEED Front**

In late 2003, the Society headquarters retrofit was officially recognized as the first project to complete certification under the LEED-EB Green Building Rating System. It also received a Silver LEED rating. As headquarters for one of the world's largest scientific and educational non-profit organizations, the Society's complex demonstrates the effectiveness of LEED-EB standards applied to older buildings.

From a roofing perspective, Sika Sarnafil is also a pioneer in the LEED effort. The company's skilled technical representatives have experience working on more than 25 LEED-registered projects, including Platinum, Gold, and Silver LEED-rated buildings.

#### **Environmental and Economic Benefits**

While the LEED-EB program offered National Geographic another method of promoting environmental awareness, it also increased the market value of the complex by two to three dollars for every dollar invested in the renovation.

Sika Sarnafil's EnergySmart Roof system actually exceeds LEED requirements and has been proven to help building owners reduce energy costs by thousands of dollars annually.

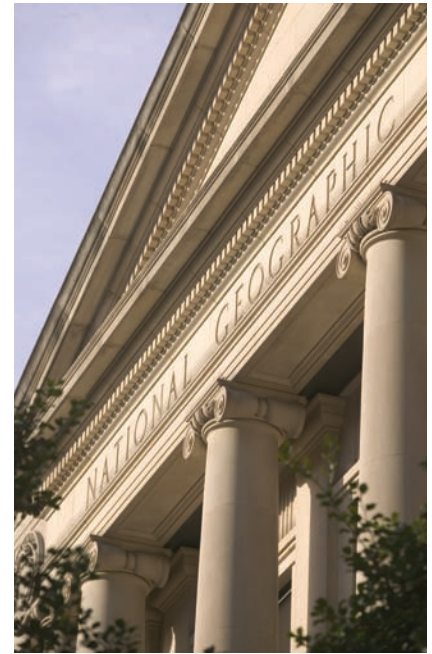
Specifically, in a two-year study commissioned by the U.S. Department of Energy (DOE) and the Environmental Protection Agency (EPA), researchers set out to monitor and verify annual air-conditioning savings and peak electrical demand reduction when a black roof is replaced with Sika Sarnafil's white reflective membrane.

Their findings resulted in the report "Measured Energy Savings and Demand Reduction from a Reflective Roof Membrane on a Large Retail Store in Austin," that proved the retailer would reduce peak summertime air-conditioning demand by 14 percent and result in annual energy savings of \$7,200 (7.2 cents per square foot per year).

#### **Respecting Tradition, Leading Innovation**

The National Geographic Society promotes respect for traditional cultures and history, as well as cutting-edge educational and research efforts to protect the environment. The Society's renovation of its classic headquarters complex with an energy-efficient EnergySmart Roof leads the way for existing buildings to retain their character while conserving energy and other resources.

Sika Sarnafil is proud to have helped numerous LEED-certified buildings, including the National Geographic Society complex, to meet their goals for sustainable building construction.



#### **What Is LEED-EB?**

The U.S. Green Building Council is a coalition of corporations, builders, universities, federal and local agencies, and nonprofit organizations working together to promote buildings that are environmentally responsible, profitable, and healthy places to live and work.

Since early 2000, the USGBC has expanded LEED beyond new building construction to address more than four million existing buildings across the U.S. LEED-EB provides the opportunity for building owners and operators to capture the long-term benefits of sustainable operations and reduced environmental impact of existing buildings over their entire life cycle. The development of the LEED-EB Rating System focuses on the upgrade and operations of these buildings, improving their performance and overall impact on the environment.

#### **Sika Sarnafil**

A Division of Sika Corporation  
100 Dan Road  
Canton, MA 02021  
Telephone: 1-800-451-2504  
Telefax: 781-828-5365  
www.sikacorp.com

#### **Sika Sarnafil**

A Business Unit of Sika Canada Inc.  
6820 Davand Drive, Unit 2  
Mississauga, Ontario L5T 1J5  
Telephone: 905-670-2222  
Telefax: 905-670-5278  
www.sika.ca