Institute Honors and Awards **Fellowship**



2015 AIA Fellowship

Entry 70086

Gunnar Hubbard Nominee

Organization **Thornton Tomasetti**

Location Portland, Maine

Chapter AIA Maine

Sponsor	Dan Kaplan FAIA
Organization	FXFOWLE Architects

Category of Nomination

Category Five - Alternative Career

Summary Statement

A galvanizing force for change, Gunnar Hubbard advances sustainable architecture worldwide as a consultant, educator and advocate who is steadfastly influencing worldrenowned architects and uniting building professionals on an integrative path to highperformance green buildings.

Education

University of Oregon 1990 - 1992 Master of Architecture University of Vermont 1983 - 1987 Bachelor of Science in Environmental Studies

Licensed in: United States: Registered Architect in California, 2002 to present LEED Fellow, United States Green Building Council, 2012 to present

Employment

Thornton Tomasetti Portland, Maine Principal and Building Sustainability Practice Leader 2012 to present

Fore Solutions Portland, Maine Founder and Principal 2003 to 2011

Davis Landgon Schumann Smith Location Green Building Consultant 2002 to 2003 McCoppin Studios Larkspur, California Principal 1998 to 2001

Rocky Mountain Institute Snowmass, Colorado Research Scholar, Green Development 1995 to 1997

Yestermorrow Design/Build School Waitsfield, Vermont Executive Director 1993 to 1995

Institute Honors and Awards Fellowship



Nomination Signature Sheet

Gunnar H	lubbard,	AIA
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Candidate's Name

Component Nomination

Name of component organization

Signature of chapter president or secretary

Name of chapter president or secretary

AIA Maine	
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Judy L. John	ison, AIA

<u>or</u>

Nominated by any 10 AIA Members or any 5 Fellows in good standing:

1.	Signature/date	
	Print/Type full name/chapter	
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	Print/Type full name/chapter	
3.	Signature/date	
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Note: It is the responsibility of the sponsor to notify the AIA component of a petition nomination.

FXFOWLE

FXFOWLE ARCHITECTS, LLP 22 WEST 19 STREET | NEW YORK NY 10011 | T 212 627 1700 | F 212 463 8716 | WWW.FXFOWLE.COM

October 10, 2014

John Castellana FAIA Chair, 2015 Jury of Fellows The American Institute of Architects 1735 New York Avenue, NW Washington, DC 20006-5292

Re: Gunnar Hubbard AIA, LEED Fellow; FAIA Candidate

Dear John,

It is my privilege to sponsor Gunnar Hubbard's nomination for fellowship in the American Institute of Architects. Gunnar is an original, steadfast voice for sustainable design who has been instrumental in changing the way architects think and practice. His vision of integrated architecture, propelled by his consensus-building leadership, deep technical expertise and contagious enthusiasm, have profoundly advanced green building practices; Gunnar's impact on the field has been both wide and deep.

I first got to know Gunnar in the early 1990's through my firm's support of The Yestermorrow School, where he served as executive director. This unique institution has been an incubator for sustainable leadership, attracting such noteworthy thinkers as William McDonough, Bill McKibben and my partner, Sylvia Smith, FAIA. I then worked directly with Gunnar on 4 Times Square where he was leading the interface for Rocky Mountain Institute on a grant for performance-based fee contracting. Twenty years ago (and even today), creating incentives around building performance was on the vanguard of innovation.

Gunnar then chose the path of consulting in order to influence more people and more projects in more places. First with his firm Fore Solutions and now at Thornton Tomasetti, he advises the world's leading architecture firms on integrating design excellence, innovation and environmental responsibility into projects of all sizes — always frontloading sustainability strategies. His leadership and determination are why FXFOWLE turned to him for our Museum of the Built Environment in Saudi Arabia. With complex site and climactic constraints, Gunnar's recommendations made a profound impact on the design of the building.

An educator at heart, Gunnar is tireless in training the profession and the next generation of architects throughout the world, notably as USGBC Faculty for the last decade .When my colleagues at Cornell University's architecture department approached me looking for a visiting lecturer to lead a course addressing environmental systems, I tapped Gunnar without hesitation. He is equally active in his home state, running workshops through the Maine AIA+2030 series.

Sustainability is now firmly in the profession's lexicon and a prerequisite on a wide range of projects. Gunnar is one of a very small group of people who started the ball rolling and got the industry to this point. And he continues designing greener buildings, training wiser practitioners and establishing better regulations. Given all of the above, and more, I wholeheartedly support Gunnar's elevation to FAIA; he would be an important addition to the College of Fellows.

Sincerely,

Daniel J. Kaplan, FAIA, LEED Senior Partner

1 Summary of Achievements

A galvanizing force for change, Gunnar Hubbard advances sustainable architecture worldwide as a consultant, educator and advocate who is steadfastly influencing world-renowned architects and uniting building professionals on an integrative path to high-performance green buildings.

A true believer and ambassador for greening the built environment, Gunnar Hubbard has committed himself to creating a sustainable world. With 25 years of experience, he is sought after by some of the world's leading architects, advancing greener architecture across the United States and in Europe, Asia and the Middle East. His commitment comes from the core of who he is - from his youth spent building his family's off-the-grid log house in Vermont, to his professional work and key leadership positions held. His consulting work on hundreds of green building projects, position as U.S. Green Building Council (USGBC) Faculty, involvement in more than 100 LEED (Leadership in Energy and Environmental Design) certifications, founder of a consulting firm, lecturer at universities, professional service, and now role as principal and building sustainability practice leader at Thornton Tomasetti have captured national attention and are critically moving architecture toward a more conscious, ecological, resilient and environmentally sensitive future.

CONSULTANT: A unifying force that champions high-performance green buildings

As a licensed architect and sustainability consultant, Gunnar masterfully unites architects, owners, engineers and all members of the design team in a common goal of reducing negative impacts on the planet. An integrated approach, begun early, is his key tool. Grounded in research and collaboration-building skills learned early in his career at the Rocky Mountain Institute (RMI), hands-on experience gleaned through his architecture practice in San Francisco, and critical LEED knowledge (honored with a LEED Fellowship), his unique skill set is setting the standard for sustainable architecture.

A lengthy international client list with award-winning projects is testament to his reach and credibility: Arquitectonica, Behnisch, Foster + Partners, FXFOWLE, Gensler, Goettsch Partners, Grimshaw Architects, JAHN, KPF, Payette, Snøhetta and Studio Daniel Libeskind, among others. He is the "green glue" that holds project teams together, the authority that guides their thinking with evidence-based metrics, and the conscience that pushes them to exceed their sustainability goals. For example, he led the Block C team of the 6-million-sf CityCenter Las Vegas to LEED Gold — when Silver was the target — working with four different high-profile architects. In 2012, his unique expertise was further recognized when industry leader Thornton Tomasetti acquired his firm Fore Solutions.

EDUCATOR: A gifted trainer and mentor to professionals and policymakers across the globe

Gunnar is a sought-after expert who generously shares his wealth of knowledge on each project, and in each presentation. His in-depth mastery of green building principles – daylighting, energy modeling, water conservation, building orientation and more – has placed him at the top of his field. He listens as much as he informs audiences, and he is a master at selecting the most effective analysis or rating tool, explaining why along the way. He skillfully employs rating systems to advance great architecture, and has been active in developing LEED since the mid 1990s, participating in early planning sessions with the USGBC in Big Sky, Montana, which established the base for what LEED is today. More recently, his work is creating dialogue across international systems, as he is immersed in BREEAM (Building Research Establishment Environmental Assessment Methodology) in the United Kingdom and the Three Star Rating System in China.

Hundreds of architects and allied professionals have benefited from his green building workshops (63, and counting) in the U.S. and abroad, most recently in Brazil and Stockholm. He has created opportunities in Beijing, Hong Kong and Shanghai (in coordination with the AIA), to teach integrated design, building certification and effective problem solving. He is knowledgeable across varying building types; throughout a variety of climates — from the hot desert of Saudi Arabia to the cold climates of Scandinavia and New England; and around the globe, crossing cultures and customs. His approachable style and professionalism engage a broad range of stakeholders through additional venues at conventions, government task forces, AIA events and multitudes of invited speaking engagements in related disciplines.

ADVOCATE: A passionate ambassador transforming thinking among students and the public at large

Gunnar's impact extends to academic and civic realms, beginning as a University of Oregon graduate student when he led the creation of its design/build studio program, still going 20 years later. His guiding instinct to integrate architecture and sustainability led him to the executive directorship of the Yestermorrow Design/Build School in the mid-1990s. In the classroom setting since then, students at Ball State University and Cornell University have learned from his persuasive instruction on design/build and environmental systems.

A highly respected voice in the Northeast, he is a founding member of the USGBC's Maine Chapter, board member of AIA Maine and active in advancing their 2030 programs as chair of the Committee on the Environment. In early 2000 he was part of a handful of people to convince Maine to adopt LEED Silver as the benchmark for state buildings. When the new governor dramatically reversed this, Gunnar was handpicked to write an Op/Ed. As a result of this and his extensive, award-winning work in the state, MaineBiz magazine recognized him as one of the top 10 influential people to shape the state's economy in 2011. His professional path will continue to be about advocating for the design, construction and operation of green buildings and communities. Whether he is on a podium, in a meeting, with his children or guiding staff — Gunnar is leading architects, and society, to meaningful change for a better tomorrow.

2.1 Featured Projects

Gunnar Hubbard is a pioneer in the green building industry, beginning his journey 25 years ago. His sustainability work spans the globe with more than 100 projects, ranging from the \$8.4 billion hotel, retail and residential CityCenter Las Vegas to residential towers in Amman, Jordan, and a Net Zero Energy LEED-Platinum education center in Maine. A licensed architect, he is affecting dramatic change by consulting to owners and architects worldwide.

INTERNATIONAL

MUSEUM OF THE BUILT ENVIRONMENT*

Riyadh, Saudi Arabia, 2017 Sustainability consulting for the design phases of a 340,000-sf museum. Energy-efficient design early in the programming phase maximized space efficiency and identified more solutions for natural ventilation, daylighting and energy performance. **(FXFOWLE)**



SHANGHAI INTERNATIONAL FINANCIAL CENTER*

New Pudong Area, Shanghai, China, 2017, **LEED Gold targeted** LEED consulting for 515,000-sm office towers which include a combination of highly efficient, double-

wall construction envelope, under-floor air distribution, ice storage cooling and natural ventilation. (JAHN)



BÖBLINGEN ELEMENTARY AND HIGH SCHOOL

Böblingen, Germany, 2015 LEED Gold targeted

LEED consulting for a 300,000-sf school on an army base with a focus on daylight and energy efficiency, and balancing performance, cost and constructability. (Swanke Hayden Connell and G.A.U.S.)



VASAKRONAN REFURBISHMENTS*

Multiple locations, Sweden, 2012 LEED Gold

LEED for Existing Buildings: Operations and Maintenance consulting, in collaboration with PiaCon, for three large-scale, mixed-use commercial projects owned by Sweden's largest property holding company.

KAROLINSKA INSTITUTE

Stockholm, Sweden, 2011

LEED certification and compliance consulting during early phase of 4-million sm hospital project and support facilities. (White Arkitectur, Skanska)

LIMITLESS SANAYA TOWERS

Amman, Jordan, 2009

LEED consulting for two 173,000-sm residential and retail towers that feature abundant daylighting, energy-efficient mechanical systems, recycled and local materials, wind turbines, and landscaping and construction practices that preserve the site's unique qualities. (JAHN)



GULF HOLDING COMPANY

Bahrain, 2009 (Unbuilt)

Facilitation of selection process for design team of new cities for 250,000 people in 10 different locations around the globe, starting with Tunisia. Finalists were ARUP, EDAW, Foster + Partners and HOK. The financial crisis stopped the project.



OMNIYAT TOWERS

Dubai, UAE, 2008 (Unbuilt), **LEED CS (Core and Shell) Gold targeted** LEED consulting and integrated design approach services for two 70,000-sm twin office towers. The project embraced water conservation, high-efficiency systems and excellent daylighting. **(Foster + Partners)**

COMMERCIAL



ONE BRICKELL CITY CENTRE*

Miami, Florida, 2018 LEED Platinum targeted

Sustainability consulting including energy modeling and LEED administration, seamlessly integrating innovative design strategies into a 2.7-million-sf building. (Arquitectonica)



FIRST AND MISSION

San Francisco, California, 2017 **LEED Platinum targeted** LEED consulting for two-tower, 2-million-sf project in the heart of the city, including support and coordination of the San Francisco Green Building Ordinance and CalGreen. **(Foster + Partners)**



ZURICH NORTH AMERICA HEADQUARTERS*

Schaumburg, Illinois, 2016 **LEED Platinum targeted** Sustainable strategy consulting and energy modeling for 780,000-sf office complex. The 11-story building is arranged to maximize views and optimize solar orientation. **(Goettsch Partners)**

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POWERPAY HEADQUARTERS Portland, Maine, 2010 LEED Gold

LEED consulting and energy modeling for adaptive re-use of a 46,450-sf public market into an office building with high-efficiency HVAC system, renewable energy offsets, LED lighting and water conservation measures. Artificial lighting power usage was reduced by 25%. (Winton Scott Architects)



VORNADO REALTY TRUST

New York, New York, 2010 LEED EB:OM Certified & Silver

LEED for Existing Building consulting to raise sustainability and reduce carbon footprint of 12 existing commercial and/or mixed-use high-rise structures. Included: 330 Madison Avenue, 640 Fifth Avenue, 770 Broadway, One Penn Plaza, 150 East 58th Street, Two Penn Plaza, 909 Third Avenue, 1740 Broadway, 1290 Avenue of the Americas and 11 Penn Plaza.



MAINE COAST HERITAGE TRUST

Somesville, Maine, 2009 LEED Gold

LEED consulting and owner's sustainability representative for a 4,000-sf office space. Photovoltaic panels helped the project exceed ASHRAE standards by more than 50%. **(Stewart Brecher Architects)**



FOUR TIMES SQUARE

New York, New York, 1999 While at Rocky Mountain Institute, Gunnar brought this project into a performance-based fee study, funded by the Energy Foundation. He provided energy and sustainability consulting for the 1.6-millionsf, 48-story office tower that was the first large-scale speculative green building in the nation. (FXFOWLE)

CULTURAL



NEW YORK PUBLIC LIBRARY, NEW CENTRAL LIBRARY

New York, New York, 2014 (unbuilt) **LEED CI targeted** LEED consulting for interior renovation of a historic landmark. To consolidate libraries from various buildings, the building was reprogrammed and remodeled to preserve key exterior and interior architectural features while incorporating innovative energy-saving measures. **(Foster + Partners)**



COLBY COLLEGE MUSEUM OF ART, THE ALFOND-LUNDER FAMILY PAVILION

Waterville, Maine, 2013 LEED Silver

LEED consulting for 26,000-sf addition housing exhibition spaces, education facilities, staff offices and art studios. Features include water-efficient fixtures, native landscaping, storm water management strategies, FSC-certified wood and mechanical systems commissioning. (Frederick Fisher and Partners)

EDUCATION



CORNELL UNIVERSITY, UPSON HALL RENOVATION

Ithaca, New York, 2017 LEED Gold targeted

LEED management and energy modeling for 150,000-sf renovation with complete replacement of exterior envelope and HVAC systems. (Perkins + Will and LTL Architects)



BOSARGE FAMILY EDUCATION CENTER AT COASTAL MAINE BOTANICAL GARDENS*

Boothbay, Maine, 2011 LEED Platinum LEED consulting and owner's sustainability representative for an 8,000-sf, high-performance, net-zero



BOWDOIN COLLEGE FITNESS CENTER, THE PETER BUCK CENTER FOR HEALTH AND FITNESS

Brunswick, Maine, 2009 LEED Silver

energy teaching facility. (Scott Simons Architects)

LEED consulting for a three-level addition to an existing gym complex. The expanded 44,659-sf facility incorporates energy-efficient lighting, water-saving fixtures and eco-friendly materials. (Cambridge 7 Architects)



COLBY COLLEGE, COTTER UNION

Waterville, Maine, 2009 LEED Silver LEED consulting, energy modeling and eco-charrette for the renovation and 7,000-sf expansion of student center, totaling 18,000 sf. (Bohlin Cywinski Jackson)



WESLEYAN UNIVERSITY, ALLBRITTON CENTER

Middletown, Connecticut, 2009 LEED Gold LEED consulting and energy modeling for 28,000-sf historic building being transformed from the campus student center to classrooms and offices. (Noyes Vogt Architects)



TABOR ACADEMY. MATH AND SCIENCE CENTER

Marion, Massachusetts, 2009 LEED Gold

LEED consulting for a 28,000-sf academic center and lab. Energy modeling simulated daylight and skylight placement to downsize the mechanical system, reduce ventilation, increase heat recovery, lower operating costs, optimize roof insulation and size photovoltaics. (Saltonstall Architects)



WAYNFLETE SCHOOL, ARTS CENTER ADDITION

Portland, Maine, 2009 LEED Silver LEED consulting and energy modeling for phase two of an auditorium renovation and new 276-seat theater. (Scott Simons Architects)



TUFTS UNIVERSITY, SCHOOL OF DENTAL MEDICINE

Boston, Massachusetts, Phase 1, 2008 LEED Silver Phase 2, 2011 LEED Gold LEED consulting with energy modeling for a five-story, 105,000-sf vertical expansion to existing 10-story building (Phase 1) and level 2 renovation (Phase 2), both as part of the sustainability-focused master plan. (ARC/Architectural Resources Cambridge)

HEALTHCARE



VETERAN'S ADMINISTRATION MEDICAL CENTER, SPINAL CORD INJURY AND MENTAL HEALTH CLINIC

Brockton, Massachusetts, 2012 (on hold) **LEED for HC Silver targeted** Sustainability and LEED consulting for two separate projects. More than 25 energy conservation measures were proposed, including a low-cost geo-exchange system, a hot water recovery system, radiant heating/cooling and advanced occupancy controls. **(Payette)**

INTERIORS



FORSYTH INSTITUTE RENOVATION

Cambridge, Massachusetts, 2011 LEED CI Silver

LEED consulting for four floors of a 62,000-sf interior. The fast-track project incorporated lowflow water fixtures, a high-performance HVAC system and FSC-certified wood for 84% of all wood products. It accomplished 81% waste diversion during construction. **(ARC)**



THE SPA AT THE INN BY THE SEA

Cape Elizabeth, Maine, 2011 LEED Silver

Sustainability consulting for administrative offices and supporting spa facilities. Green features include low-VOC adhesives, paints and coatings; recycled rubber floors; indigenous landscaping plants; energy-efficient lighting; and Energy Star appliances. **(TFH Architects)**



BOSTON CHINATOWN NEIGHBORHOOD CENTER

Boston, Massachusetts, 2006 LEED CI Silver

Sustainability consulting for a 40,000-sf community center that includes energy and water savings, lighting and low-emitting materials. **(The Architectural Team)**

LABORATORIES



THE ALBERT SHERMAN CENTER AT UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL*

Worcester, Massachusetts, 2013 LEED Gold

LEED consulting and energy modeling including sustainable design charrette for state-of-the-art biomedical research and education building totaling 512,000 sf which includes wet and dry research labs, clean rooms, a 300-seat auditorium, classrooms, a library and conference rooms. **(ARC)**



BIGELOW LABORATORY FOR OCEAN SCIENCES*

East Boothbay, Maine, 2012 LEED Platinum

Sustainability consulting and energy modeling peer review for 65,000-sf research lab. Unique daylighting and solar orientation maximize natural light while energy recovery and high-efficiency equipment provide a 54% energy cost savings. (Perkins + Will and WBRC)



GENZYME CORPORATION, BIOLOGICS SUPPORT CENTER

Framingham, Massachusetts, 2011 LEED Gold

LEED consulting and energy modeling for 186,000-sf laboratory addition which uses 43% less water and 28% less energy than code-compliance standards. Renewable sources provide 100% of the building's electricity. **(ARC)**



HARVARD UNIVERSITY, ALLSTON SCIENCE COMPLEX

Allston, Massachusetts, 2008 (On hold) **LEED Gold targeted** LEED consulting and sustainable design charrette for four interconnected laboratory buildings totaling 1.1 million sf. The project was put on hold in 2009 with the foundation complete. A new engineering school is in planning for the site now. **(Behnisch)**



ARIZONA STATE UNIVERSITY, INTERDISCIPLINARY SCIENCE AND TECHNOLOGY BUILDING

Tempe, Arizona, 2005 LEED Gold

LEED consulting for a 168,000-sf building that features drywells to reduce storm-water runoff by 25%, reflective pavements and roofing to reduce heat island effect, and natural and drought-resistant landscaping to reduce the site's irrigation by 50%. (Perkins + Will)

LARGE SCALE MIXED USE

MOHEGAN SUN



Revere, Massachusetts, 2015 (Unbuilt) LEED Gold targeted

Energy modeling and sustainable strategies that were required for the application to the Department of Environmental Protection. The project was striving to be the most sustainable casino development in the world. **(KPF)**



CITYCENTER LAS VEGAS, BLOCK C*

Las Vegas, Nevada, 2009 LEED Gold

LEED consulting for a 6-million-sf commercial and hotel development comprising the LEED Goldcertified Mandarin Oriental, Crystals and Veer Towers, and the LEED-registered tower The Harmon (unbuilt). (Foster + Partners, JAHN, KPF, Studio Daniel Libeskind, Adamson Associates, Rockwell Group)

MANUFACTURING



GENZYME CORPORATION, ALLSTON LANDING FACILITY EXPANSION

Allston, Massachusetts, 2010 LEED Gold

LEED consulting for 127,000-sf expansion to an existing facility. The combination of a central plant with a cogeneration unit and a highly efficient lighting system resulted in an overall 32% energy savings. **(ARC)**

MUNICIPAL

LA.

THURGOOD MARSHALL U.S. COURTHOUSE RENOVATION

New York, New York, 2013 **LEED Silver** Sustainability consulting and early LEED consulting for first-ever comprehensive renovation of all buildings systems for Cass Gilbert-designed 1931 landmark. **(Beyer Blinder Belle)**



JACKMAN LAND PORT OF ENTRY

Sandy Bay Township, Maine, 2010 **LEED Gold** LEED consulting for a 58,305-sf border patrol station incorporating water conservation, wind turbines, FSC-certified wood and construction waste diversion, resulting in a 50% overall energy savings. **(Orcutt Associates)**



PENOBSCOT JUDICIAL CENTER

Bangor, Maine, 2007 Sustainability consulting and charrette facilitation. High-performance building ideas directed the design toward day-lit spaces and energy efficiency. **(Leers Weinzapfel Associates)**



RESIDENTIAL

ONE JOHN STREET

New York, New York, 2016 **LEED Gold targeted** Sustainability consulting to design/development team for high-end, high-performance, residential project under the Manhattan Bridge on Brooklyn Bridge Park. **(Alloy)**



ELM TERRACE APARTMENTS

Portland, Maine, 2013 LEED Platinum Sustainability and LEED consulting for award-winning affordable housing project. (CWS Architects)

MOUNT PLEASANT HOME

Jamaica Plain, Massachusetts, 2011 LEED Gold

LEED consulting and energy modeling for the renovation and expansion of an assisted living facility. The addition utilizes high-efficiency radiant heating and natural ventilation to achieve a 20% energy reduction. (Next Phase Studios)



VEER TOWERS AT CITYCENTER*

Las Vegas, Nevada, 2010 LEED Gold

LEED consulting for two 37-story condominium towers as part of Block C. Project includes sunscreen shades and low-ultraviolet high-efficiency curtain wall on the east, south and west façades limiting solar gain and providing privacy. Water consumption is reduced by 33%. **(JAHN)**



PEARL PLACE

Portland, Maine, (Phase 1) 2008 LEED Gold (Phase 2) 2013 LEED Platinum

Sustainability and LEED consulting for a 60,000-sf multifamily affordable housing development on brownfield site. One of the first multi-story residences to receive certification under the LEED for Homes Mid-Rise Pilot Program. (Winton Scott Architects, PDT Architects)



UNITY COLLEGE, PRESIDENT'S RESIDENCE

Unity, Maine, 2008 **LEED for Homes Platinum** This project set the stage for other colleges in Maine for commitment to energy efficiency, performance, and proving the effort with LEED for Homes certification. **(Benson)**



PLEASANT HILL HOME

Freeport, Maine, 2006 LEED for Homes Silver The first home in the country to achieve certification under the LEED for Homes program. (Taggert)

RETAIL

HANNAFORD SUPERMARKET*



Augusta, Maine, 2009 LEED for Retail Platinum

LEED consulting and owner's sustainability representative for a 48,000-sf supermarket that is the world's first LEED for Retail Platinum project and uses 50% less energy than a typical grocery store. Reclaimed heat from the GreenChill refrigeration system meets 100% of the store's heating needs. (Next Phase Studios with WBRC)



CRYSTALS AT CITYCENTER*

Las Vegas, 2009 LEED Gold

LEED consulting for award-winning 500,000-sf retail and entertainment space as part of Block C. Sustainability guidelines for tenants of the LEED Gold-certified Crystals tower. **(Studio Daniel Libeskind)**

SPORTS



BOWDOIN COLLEGE, WATSON ARENA

Brunswick, Maine, 2009 LEED Certified

LEED consulting and energy modeling for the nation's first LEED-certified ice arena totaling 68,000 sf. The arena uses 17% less energy than a traditional arena, taking advantage of energy-efficient refrigeration and dehumidification systems. **(Bear Mountain Design AC, Ltd.)**



COLLEGE OF NEW ROCHELLE, WELLNESS CENTER

New Rochelle, New York, 2008 **LEED Silver** LEED consulting and energy modeling for a 55,000-sf academic fitness center with 1,000-seat gymnasium and convocation center, natatorium, fitness center, holistic meditation room, classrooms and outdoor contemplation garden and chapel. **(ikon.5)**



NEW YORK SPORTS AND CONVENTION CENTER

New York, New York, 2005 (Unbuilt) **LEED Gold targeted** Sustainability consulting for a 2.3-million-sf mixed-use stadium building. **(KPF)**

2.1 Additional Projects



THOMPSON'S POINT

Portland, Maine, 2018 Master planning strategies, sustainable design, energy modeling and LEED consulting.

FLETCHER ALLEN HOSPITAL

Burlington, Vermont, 2016 LEED consulting and energy modeling. (Morris Switzer)

LAWRENCE MEDICAL CENTER

Lawrence, Massachusetts, 2016 LEED consulting and energy modeling. (Morris Switzer)

LEE COMPANY MANUFACTURING FACILITY

Westbrook, Connecticut, 2013 Sustainability consulting, energy modeling and oversight of compliance incentives. (Noyes Vogt Architects)

ESSEX NORTH SHORE AGRICULTURAL & TECHNICAL SCHOOL

Danvers, Massachusetts, 2015 LEED consulting and energy modeling. **(Design Partnership)**

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JEWISH NATIONAL FUND RENOVATION AND ADDITION

New York, New York, 2015 **LEED Silver targeted** Sustainability consulting for renovation and addition to a 22,600-sf headquarters built in 1922. **(MHG Architects)**



COLBY COLLEGE, DAVIS SCIENCE CENTER

Waterville, Maine, 2014 **LEED NC Gold** LEED consulting for state-of-the-art teaching and research space. **(Shepley Bulfinch)**



OAK STREET LOFTS

Portland, Maine, 2013 **LEED Platinum** LEED for Homes provider and sustainability consulting for 30-unit mid-rise housing. **(Winton Scott Architects)**

HUSSON UNIVERSITY, LIVING AND LEARNING CENTER

Bangor, Maine, 2012 **LEED Gold** Sustainability consulting for 61,000-sf facility with classrooms and dormitory. **(Winton Scott Architects)**

MAINE HALL

Bangor, Maine, 2011 **LEED Silver** LEED consulting and energy analysis for the renovation of a historic four-story, 25,000-sf building into 28 affordable rental-housing units. **(CWS Architects)**

ACADIA GATEWAY CENTER

Trenton, Maine, 2011 **LEED Gold** LEED consulting for a transportation center with maintenance facilities and administrative offices. **(AECOM)**

HANNAFORD SUPERMARKET

Duanesburg, New York, 2010 LEED project management and oversight.

BOSTON UNIVERSITY, FACULTY HOUSING

Boston, Massachusetts, 2010 Sustainability and LEED for Homes certification proposal for 10-unit renovation.

HILTON HEAD VISITORS CENTER

Hilton Head, South Carolina, 2010 Sustainability consulting, energy optimization guidance and LEED strategy development. (KRA Architecture and Design)

SABRA DIPPING PLANT

Chesterfield, Virginia, 2010 LEED consulting.

TOM'S OF MAINE, FACILITY EXPANSION

Sanford, Maine, 2009 Sustainability consulting**. (TFH Architects)**

BRIGHTBUILT BARN

Rockland, Maine, 2009 Sustainability and LEED for Homes consulting. (Kaplan Thompson)

UNIVERSITY OF CONNECTICUT, WILFRED B. YOUNG BUILDING

Storrs, Connecticut, 2009 **LEED Silver targeted** Energy modeling and LEED peer review services for a 64,772-sf academic building. **(Design Partnership)**



DUBAI MARITIME CITY SUSTAINABILITY GUIDELINES

Dubai, UAE, 2008 Sustainability guidelines for phaseddevelopment with mix of residential, commercial and retail.



DUBAI INTERNATIONAL FINANCIAL CENTRE LIGHTHOUSE TOWER

Dubai, UAE, 2008 (Unbuilt) **LEED Platinum targeted** Energy modeling for a 1.6 million-sf tower pursuing LEED Platinum. **(Atkins)**

JUMEIRAH GARDEN CITY SUSTAINABLE DEVELOPMENT GUIDELINES

Dubai, UAE, 2008 Sustainable guidelines for the city-scale development.



SACO & BIDDEFORD SAVINGS BANK

Saco, Maine, 2008 **LEED Silver** LEED consulting and energy modeling for a 14,000-sf operations center for the oldest financial institution in Maine. **(Reed & Co. Architecture)**



OSTEOPATHIC HEALTHCARE OF MAINE Falmouth, Maine, 2008

LEED consulting. (Archetype)

A.D. MAKEPEACE

Wareham, Massachusetts, 2008 Sustainability housing guidelines for residential development division.

TOWN OF FALMOUTH POLICE STATION

Falmouth, Maine, 2008 LEED Silver LEED consulting and energy modeling. (Port City Architects)



BOOTHBAY YMCA

Boothbay, Maine, 2007 Sustainability consulting including assessment of current facilities and plan for high-performance improvements and related ROI.

CRANBERRY RIDGE

Freeport, Maine, 2007 **LEED for Homes Platinum** Sustainability consulting. (Richard Renner Architects)

EAST END COMMUNITY SCHOOL

Portland, Maine, 2006 **LEED Silver** Sustainability consulting and energy modeling for 70,000-sf school on a previous brownfield site. **(Stephen Blatt Architects)**

BRICKHILL COTTAGES

Portland, Maine, 2006 Sustainability consulting. (Winton Scott Architects)

HABITAT FOR HUMANITY, PORTLAND & SEVEN RIVERS AFFILIATES

Portland and Bath, Maine, 2005 Sustainability consulting.

GOVERNOR BAXTER SCHOOL FOR THE DEAF

Falmouth, Maine, 2004 **LEED Silver** LEED consulting for new 10,000-sf school, the first structure to pursue LEED certification by the Maine Bureau of General Services. **(Barba + Wheelock Architects)**

CONGIN SCHOOL

Westbrook, Maine, 2004 Energy efficiency and high-performance consulting for an existing 42,600-sf school. (Winton Scott Architects)

CLACKAMAS HIGH SCHOOL

Portland, Oregon, 2003 **LEED Silver** Sustainability consulting through the performance-based fee program at RMI for the first LEED Silver. **(Boora Architects)**

TURNER CONTEMPORARY MUSEUM

Margate, United Kingdom, 2002 Sustainability consulting with an emphasis on materials and durability. **(Snohetta)**

STOP & SHOP - LOW ENERGY SUPER STORE

Foxboro, Massachusetts, 2001 Consulting and project management of green building aspects. 2.1 Professional Practice

As "keeper of the environmental mission of a project," Gunnar guides teams to design green buildings, often to exceed the targeted LEED certification. His passion for sustainable building came early, at the age of 12, when his parents moved to Vermont. He helped peel logs for their own green home, and the concepts of constructability, durable materials, local sourcing, design, quality of life and passion for purpose have driven him ever since. He has routinely broken new ground as a researcher, architect and consultant all over the world — including in Bahrain, China, Dubai, Germany, England, Jordan, Saudi Arabia and Sweden, where he was born.

Thornton Tomasetti

Principal and Building Sustainability Practice Leader THORNTON TOMASETTI, Portland, Maine, 2012 to present

Thornton Tomasetti is an 800-person organization of engineers, architects and other professionals collaborating, with 28 offices worldwide. The firm's goal is to cultivate innovation and embrace integrative design. As the leader of their Building Sustainability Practice, Gunnar guides a group of specialists who collaborate with owners and design teams on the design, construction and operation of buildings, reducing their environmental impact at every stage in their life cycle.

SIGNIFICANT BUILDING ON A GLOBAL PLATFORM ACCOMPLISHMENTS

Gunnar has advanced Thornton Tomasetti's already well-established sustainability practice, now with a presence in Chicago, London, New York, Portland and San Francisco. Services range from sustainable strategies to building modeling, and building certification to education.

FOSTERING A CLIMATE FOR INNOVATION

Working with the firm's Computational Modeling and Research Group (CORE), Gunnar's sustainability team is actively developing parametric analysis tools to further enable feedback to design teams on climate-responsive design.

ENABLING UNIQUE, HIGH-QUALITY PROJECTS

Gunnar's collaboration with other practice groups has led to significant new work for the firm including the One Brickell CityCenter project with Arquitectonica, Zurich North America with Goettsch Partners, and First and Mission with Foster + Partners.



Founder/Principal

FORE SOLUTIONS, Portland, Maine, 2003 to 2011

Gunnar founded this consulting firm with expertise in assisting design teams, contractors and building owners to create or improve the environmental performance of their buildings and communities. Over eight years, he successfully cultivated an international client base, spanning Europe, the Middle East and Asia. In January 2012, Thornton Tomasetti acquired Fore Solutions in order to integrate sustainability consulting into the full range of the firm's service offerings.

SIGNIFICANT ACCOMPLISHMENTS • Became an established brand and leading consultancy in New England and globally

- Guided the world's first LEED for Retail Platinum project (Hannaford Supermarket)
- Lead the sustainability agenda for the first Net Zero Energy commercial building in the state of Maine (Bosarge Family Education Center)
- Worked on the first certified mid-rise affordable home (Pearl Place)



SIGNIFICANT ACCOMPLISHEMENTS



SIGNIFICANT ACCOMPLISHMENTS

Green Building Consultant

DAVIS LANGDON SCHUMANN SMITH, Portland, Maine, 2002 to 2003

Gunnar was hired to create a new service line on the East Coast for this international consulting firm, catering to architects and owners worldwide. His work extended internationally to green consulting for Snohetta on a competition-winning scheme for the Turner Contemporary Museum in England.

• During this time, Gunnar organized and co-moderated a group of green building industry experts to present to the U.S. Environment and Public Works Committee on the state of green buildings and the federal government's role. A White Paper was published in 2003.

Principal

MCCOPPIN STUDIOS, SAN FRANCISCO, California, 1998 to 2001

McCoppin Studios is an architecture firm founded with a colleague of Gunnar's from architecture school focused on environmentally responsible architecture.

- Designed homes, additions and small commercial and educational buildings from a straw-bale, offthe-grid home in Oregon to bungalows in the Bay area, from a charter elementary school to vacation homes back East
- Served as part-time development/membership director for the USGBC
- As a consultant for Stop & Shop, he managed the green building aspects of their prototype Low Energy Super Store (L.E.S.S) in Massachusetts

Research Scholar, Green Development

ROCKY MOUNTAIN INSTITUTE, Snowmass, Colorado, 1995 to 1997

Rocky Mountain Institute, founded by Amory and Hunter Lovins in 1982, is a nonprofit research and educational foundation aiming to foster efficient, sustainable use of resources. During his time there, Gunnar focused on environmentally responsible architecture and development.

- Ran a grant program through the Energy Foundation on performance-based fee contracting, which was applied to projects by Fox & Fowle, Bob Berkebile/BNIM and BOORA architects
- The grant program also informed Stop and Shop on their low-energy supermarket in Massachusetts and has informed other projects across the country
- This experience launched Gunnar's expertise in high-impact change through charrettes and integrated design workshops



SIGNIFICANT

ACCOMPLISHMENTS

YESTERMORROW

SIGNIFICANT ACCOMPLISHMENTS

Executive Director

YESTERMORROW DESIGN/BUILD SCHOOL, Waitsfield, Vermont, 1993 to 1995

Operating as a non-profit since 1980, Yestermorrow is one of the only design/build schools in the country, offers more than 150 hands-on courses per year. The school's philosophy is to inspire people to create a better, more sustainable world by providing education that integrates design and craft as a creative, interactive process.

- Brought in industry leaders, including Bill Browning, Pliny Fisk, Steve Loken, William McDonough, John Picard, Marc Rosenbaum and Alex Wilson to teach seminars
- Advanced the school's courses and recognition in sustainable design and construction
- Participated in the Greening of the Whitehouse initiative by invitation
- Presented at numerous universities, including Ball State University in Indiana, Clemson University in South Carolina, North Carolina State, Norwich University in Vermont, Parsons School of Design in New York, Ryerson University in Toronto, Canada, the University of Oregon and the University of Washington

2.1 Professional Service

Gunnar has made giving back to the profession an integral part of his life; there is no distinction among giving his time to found the worldwide chapter of the USGBC, to giving a presentation for the AIA+2030 Professional Series, to giving a report on computer parametric simulations to a developer client. His proactive green building USGBC Faculty work since 2004 has trained hundreds of architects and blossomed into opportunities in Asia, Canada, Europe, the Middle East, South America and throughout the U.S., to expand the dialogue of green internationally.



USGBC[®] FACULTY[™] BD+C, ID+C

2004 to present

Gunnar develops and leads LEED training workshops across the United States and around the world, including in Abu Dhabi, Denmark, Dubai, Hong Kong, London, Sao Paulo, Shanghai and Stockholm, totaling more than 50 and counting. Teaching LEED principles keeps him current, and with each class he learns more due to the dialogue and perspectives from a class full of learners. Daylong courses count for eight hours of continuing education points. He is authorized to teach the following workshops:

- LEED 101: Green Building Basics & LEED
- LEED 201: Core Concepts & Strategies
- BD+C 251: Understanding the Building Design and Construction LEED Rating Systems
- BD+C 301: Implementing the Building Design and Construction LEED Rating Systems

LEED certification follows good design practice, and he uses it in his consulting in just this way. He understands when to use LEED as a tool, how to explain the credits, and, most importantly, to understand the intent behind the credit. This is especially important as a LEED Faculty and even more important in managing LEED projects.

SIGNIFICANT ACCOMPLISHMENTS

- On one trip to China, the USGBC had him sit on their behalf for a daylong session with the China Three Star group to compare and contrast the rating systems.
- He has taught homeowners to executives about green buildings in classrooms, at conferences and in project meetings. He uses these platforms to represent the impact LEED and the USGBC has made, and is making, in our collective work.
- Until a recent shift in the program, Gunnar held an Authorized Education Delivery Partner license with the USGBC for teaching internationally and to private groups. For a period of time, Gunnar was the only Delivery Partner teaching in Scandinavia and providing workshops in China.

AIA Maine AMERICAN INSTITUTE OF ARCHITECTS MAINE CHAPTER

Board Member, 2011 to present

Chair, Committee on the Environment (COTE), 2013, 2014

Maine AIA COTE works to advance, disseminate and advocate design practices that integrate built and natural systems and enhance both the design quality and environmental performance of the built environment. Gunnar was instrumental in establishing the AIA+2030 education program in Maine, and delivered several of the education programs.

SUSTAINABLE PORTLAND

Task Force Member, 2006 to 2009



Gunnar was invited to serve on a task force appointed by the mayor's office to establish sustainability guidelines for the city related to transportation, recycling, water and energy. The volunteer effort resulted in the creation of green building guidelines that included the adoption of LEED Silver for all city buildings and projects using city funds.

USGBC MAINE CHAPTER, FOUNDING MEMBER

2003 to present



Gunnar was among a small group of professionals who created the Maine Chapter of the USGBC, where he served as a board member for four years. One of the first major accomplishments was the creation of an Executive Order by Governor Baldacci to use LEED Silver as the target for all new state buildings. Gunnar was one of three people who went to the Governor's office to present the implications and potential for this Executive Order.

COMMUNITY HOUSING OF MAINE, BOARD MEMBER

2005 to present



This non-profit provides advocacy, supportive housing, community inclusion and stability for homeless and special needs populations across the state. Gunnar has helped the group to dramatically increase the quality of their housing stock through energy-efficiency upgrades of existing homes, and to pursue high-performance designs and LEED certification on every project. Currently, he is working with them on a 48-unit housing complex pursuing Passive House certification.

2.1 Academic Involvement

Gunnar's support of sustainable building extends to higher education, teaching courses ranging from integrated design to approaches in high-performance green building. His career actually began as the executive director of the Yestermorrow Design/Build School, a distinguished 17-year-old Vermont non-profit institution.



CORNELL UNIVERSITY VISITING FACULTY,

2012 to 2013

Two-year fall term teaching position in the Department of Architecture, Art and Planning teaching classes on environmental systems to graduate and undergraduate students. They were taught climate-responsive design (architecture and façade systems) first, as the best way to create building comfort, followed by instruction on MEP systems, daylighting and lighting design.



UNIVERSITY OF TENNESSEE COURSE DEVELOPER

2009

Gunnar developed an online course in Integrated Sustainable Design offered through Red Vector/ University of Tennessee. The 10-course program leads to a Certificate in Sustainable Design & Green Buildings and enhances students' knowledge, skills and leadership in LEED concepts and sustainable design.



BALL STATE UNIVERSITY VISITING FACULTY

1994 to 1995

While working at Yestermorrow Design/Build School, Gunnar organized seven faculty members to co-teach a design/build studio and sustainable design seminar through Ball State's architecture department. Each faculty member would travel to Muncie, Indiana, for a week at a time, ensuring to overlap with the next person. Gunnar organized the curriculum, taught, and was the primary contact to the department head.

Charettes & Workshops 21

One of Gunnar's core beliefs is the power of an integrated design approach, and one of his greatest strengths is his inherent finesse in building collaboration. He firmly believes charrettes and workshops are essential in creating high-impact change and building relationships on a project of any size. From LEED training workshop to greening the White House, he builds consensus toward a better built environment.

AIA RELATED



Introduction to LEED v4 AIA Convention 2014, Chicago, Illinois, June 2014



Setting and Achieving Energy Goals with Integrated Design AIA+2030 Professional Series/Maine AIA, Portland, Maine, September 2012

LEED 201 Core Concepts & Strategies Workshop Green Drinks China & AIA Hong Kong, Shanghai, China, September 2012

Setting and Achieving Energy Goals with Integrated Design

2030





Aggressively Passive: Employing Passive Systems for Load Reduction AIA+2030 Professional Series, Boston Society of Architects, Boston, Massachusetts, July 2011

AIA+2030 Professional Series/AIA New Hampshire, Concord, New Hampshire, March 2014

ATA Maine

AIA Hong Kong and Design Professions, Hong Kong and Shanghai, China, 2010

LEED and Three Star Comparison AIA Hong Kong and Design Professions, Hong Kong, Beijing and Shanghai, China, 2009

Sustainable Design Charrette AIA Hong Kong, Hong Kong and Shanghai, China, 2009

LEED Workshop AIA Hong Kong and McGraw Hill, Shanghai, China, 2008 **AIA** HK

Green Rating Systems AIA Hong Kong, Hong Kong, China, 2008



LEED RELATED

LEED V4 Workshop USGBC Greenbuilding Brasil International Conference and Expo, Sao Paulo, Brazil, August 2014

LEED 201: Green Associate Exam Prep Course USGBC Greenbuilding Brasil International Conference and Expo, Sao Paulo, Brazil, August 2013



LEED v4 Workshop Goldman Sachs, New York, New York, 2013

LEED Workshops and Training

USGBC, Portland, Maine, 2007, 2012 to present

LEED Green Associate Exam Prep Course



Internal Sustainability Boot Camp

Thornton Tomasetti, Worldwide, 2012 to present



Gunnar teaches LEED and green building courses internally to his company's more than 800 employees in 28 offices worldwide. Staff can participate in LEED continuing education seminars, and LEED accreditation exams and continuing education are supported financially by the corporation.

LEED 201: Core Concepts & Strategies

LEED BD+C 301: Implementing the Building Design + Construction LEED Rating System LEED 251: Strategies for Success in LEED

Sweden Green Building Council, Stockholm, Sweden, 2011 and 2012



LEED BD+C 251: Understanding the Building Design + Construction LEED Rating System USGBC's Greenbuild International Conference and Expo, San Francisco, California, November 2012

LEED Green Associate Study Class Wasco, Portland, Maine, 2010

LEED Green Associate Study Class



LEED for New Construction Associated Builders & Contractors, Portland, Maine, 2010



LEED for Existing Buildings Vornado Realty Trust, New York, New York, 2009



LEED for Existing Buildings Maine Realtors Association, Portland, Maine, 2009



CBRE Group, Boston, Massachusetts, 2009 **LEED Rating Systems** Golder Associates, Shanghai, China, 2008

LEED for Commercial Interiors

Overview of LEED NC, CI, CS, ND and Green Materials



Introduction to LEED for Schools Construction Specifications Institute (CSI) Maine Chapter, Portland, Maine, 2007



LEED Exam Prep Zachau Construction, Wright/Ryan Construction, Olympia Development, Portland, Maine, 2005 and 2006

OTHER VENUES

KPF. London, UK. 2008



Managing the Integrated Design Process Ontario Association of Architects Conference, Toronto, Ontario, Canada, May 2011

Green 2.0 Charrette

schmidt/hammer/lassen architects, Aarhus, Denmark, June 2010



Sustainable Design Charrette Workshop USGBC's Greenbuild International Conference and Expo, Chicago, Illinois, November 2010

Harvard Green Building Charrette

The Clark Group and Sloss Real Estate, Cambridge, Massachusetts, September 2007

Bowdoin

Building Momentum: Green Design Comes of Age

Cannon Design, New York, New York, 2005

Green Materials

Bowdoin College (Lecture followed by a workshop), Brunswick, Maine, February 2005



Integrated Design Workshop USGBC's Greenbuild International Conference and Expo, Portland, Oregon, 2004 and Pittsburgh, Pennsylvania, 2003



Energy Efficiency and Indoor Air Quality Maine Indoor Air Quality Council Lecture Series, Boothbay, Maine, 2003

Sustainability Workshop Maine Bureau of General Services, Building Department, Augusta, Maine, 2003

YESTERMORROW

Los Angeles Greening Affordable Housing Global Green USA, Downey, California, 1997

Resource Efficient Design and Construction Habitat for Humanity, Oakland, California, 1997

Habitat

Sustainable Education Ecological Design Education Network, Big Sur, California, 1996

Yestermorrow Design/Build School, Warrren, Vermont, 2000



Sustainable Design Charrette United World College, Singapore, 1996

Greening of Habitat for Humanity



Navy Housing Charrette US Navy, Washington, DC, 1996

Ecological Design/Build

Duke University

Habitat for Humanity, Atlanta, Georgia, 1996 Home Design/Build

Duke University Continuing Education, Durham, North Carolina, 1995



Design/Build University of Oregon, Eugene, Oregon, 1995



Design/Build AIAS Forum (American Institute of Architecture Students), Portland, Oregon, 1994

Greening of the White House

Department of Energy and the Environmental Protection Agency, Washington, DC, 1994

2.1 Presentations

Gunnar is frequently called upon by professional associations, private corporations and universities to share his insight — particularly on green systems. His ability to translate information — from highly technical concepts to sustainability basics — into understandable, persuasive messages is key to his effectiveness.

INTERNATIONAL VENUES



"Energy Efficiency Programming: Integrating Structure, Façade and Sustainability"
Greenbuilding Conference, Sao Paulo, Brazil, August 2013

"Cities and Communities of the 21st Century" International Green Building Summit, Istanbul, Turkey, February 2013



Guest Lecturer Biberach University of Applied Sciences, Biberach, Germany, March 2011

"Teaching Creativity"

Poggenpohl Brain Trust, Hong Kong, China, May 2010

DOMESTIC VENUES

"Bring the Outside In: Using the Outdoors to Create Indoor Comfort" USGBC Massachusetts Chapter, Boston, Massachusetts, October 2014



"Bring the Outside In: Using the Outdoors to Create Indoor Comfort" AIA Convention 2014, Chicago, Illinois, June 2014

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"Bring the Outside In: Using the Outdoors to Create Indoor Comfort"
USGBC's Greenbuild International Conference and Expo, Philadelphia, Pennsylvania, November
2013
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"Resiliency in the Eye of Disaster: Lessons from Sandy" International Living Future unConference, Seattle, Washington, May 2013

"Biophilic Design: The Architecture of Life" US Green Building Council, Portland, Maine, January 2013



"Energy Matters: Alternative Solutions for the AEC Industry" Society of Marketing Professionals (SMPS) Colorado Chapter, Denver, Colorado, December 2012

"2030 Challenge – Setting + Achieving Energy Goals with Integrated Design" AIA Maine +2030 Professional Series, Boothbay, Maine, September 2012



"Sustainable Building and Site Development Trends Forum" E2Tech (Environmental and Energy Technology Council of Maine), Portland, Maine, May 2012

"The Art of Pursuing International Work"

SMPS New York Chapter, New York, New York, May 2012 "Commercial Real Estate 2030: Mega Trends, Mega Impacts" Maine Real Estate & Development Association 2011 Annual Spring Conference, Portland, Maine, May 2011



"Cool Buildings for a Cool Planet: Examples and Ideas for Embracing Change in Designing Sustainably Built Environments"

Yestermorrow Design/Build School, Warren, Vermont, July 2010



"Cool Buildings for a Cool Planet: Examples and Ideas for Embracing Change in Designing Sustainably Built Environments"

University of Oregon, Eugene, Oregon, October 2009

"Daylighting and Business Climate Change" Wasco Products Meeting, Las Vegas, Nevada, June 2008

"Zero Energy Buildings, Site Design and Orientation" Construction Specifications Institute (CSI) Northeast Region Conference Portland, Maine, August 2007



"Green Design"

Hospitality Conference, Atlanta, Georgia, October 2007

"The Selection and Role of Materials in Green Design" CSI Conference, Lewiston, Maine, March 2007

"Architecture & Remaking the Way We Make Things" Middlebury College, Middlebury, Vermont, October 2005

"Building Momentum: Green Design Comes of Age" Bowdoin College, Brunswick, Maine, February 2005

GSA

"LESS in More: The Stop & Shop grocery store" USGBC, Austin, Texas, November 2002

Climate Change and Civil Society Conference, Tufts University, Boston, Massachusetts, April 1999

"Performance-Based Fee Structures" General Services Administration, Boston, Massachusetts, 1997



"Green Fees: Performance-Based Fee Structures" American Solar Energy Society, Annual Conference, Washington, DC, 1996

"Barriers and Opportunities in Green Development" Austin Green Builder Conference, Austin, Texas, 1996

"Green Fees: Getting Paid for Getting It Right" Energy Efficient Building Association Conference, Minneapolis, Minnesota, 1996



"Design/Build: Architecture in the Making" ACSA/AIA Teacher's Seminar on Sustainability and Design, Bloomfield Hills, Michigan, 1994 2.2 Awards & Honors

PERSONAL RECOGNITION



2012 LEED FELLOWSHIP

Gunnar was among the second annual class of fellows to be honored with this prestigious designation, recognizing exceptional contributions to green building and significant professional achievement. The title is held by fewer than 200 professionals worldwide and is the highest distinction offered by the Green Building Certification Institute (GBCI), which administers the LEED professional credentialing and project certification programs.

LEED Fellow responsibilities include sharing knowledge and experience through teaching and mentoring, by participating in committees related to LEED and through speaking engagements, published articles and other materials that support green building.

Requirements:

- LEED AP for at least eight years and have earned a LEED AP with Specialty
- 10 years of professional green experience and work on LEED-certified projects
- Nomination by a peer
- Mastered the elements of: technical proficiency (required), education and mentoring, leadership, commitment, and service and advocacy
- Chosen by a committee of LEED Fellows and industry peers

THE 2011 NEXT LIST

Mainebiz Magazine Named one of "Ten People shaping the future of Maine's economy"

AIA AWARDS

2013

Boston Society of Architects **Design Excellence Citation** *Bigelow Laboratory for Ocean Sciences*

Boston Society of Architects **Sustainable Design Award** *Bigelow Laboratory for Ocean Sciences*

Maine AIA **COTE Award, Citation** Bosarge Family Education Center

2012

AIA Vermont **Excellence in Architecture Design Awards, Citation** Bosarge Family Education Center

2011

Boston Society of Architects **Design Excellence Citation** Bowdoin College, The Peter Buck Center for Health and Fitness

2006

New Hampshire AIA Merit Award, **Excellence in Sustainable Design and Development Award** *East End School*

2003

AIA Maine Honorable Mention Waynflete Arts Center Addition (Phase 1)

OTHER AWARDS

2014

R&D Magazine, Laboratory of the Year Awards Honorable Mention Bigelow Laboratory for Ocean Sciences

General Services Administration **Design Award, Honor Award** *Thurgood Marshall U.S. Courthouse*

2013

Northeast Sustainable Energy Association **Zero Net Energy Building Award** Bosarge Family Education Center at Coastal Maine Botanical Gardens

Associated General Contractors (AGC) of Massachusetts Build New England

Grand Honor Award Bigelow Laboratory for Ocean Sciences

United States Congress, Congressional Historic Preservation Caucus **Preservation's Best Award** *Elm Terrace Apartments*

Maine Preservation **Adaptive Use Award** *Elm Terrace Apartments*

U.S. Green Building Council New York Chapter **EBie Award, The All-Rounder: Performance Excellence in Multiple Sustainability Categories**

Vornado Realty Trust (1740 Broadway)

2012

Construction Management Association of America, New England Chapter **Project Achievement Award** *Genzyme Corporation, Biologics Support Center*

U.S. Green Building Council **LEED for Homes Outstanding Affordable Housing Developer** *Oak Street Lofts (Avesta Housing)*

International Council of Shopping Centers (ICSC) VIVA **"Best-of-the-Best" Award for Sustainability** *CityCenter Las Vegas, Block C, Crystals*

2011

ICSC Gold Sustainable Design Award

CityCenter Las Vegas, Block C, Crystals

2010

American Institute of Steel Construction (AISC) **IDEAS2 Merit Award, Projects Greater than \$75 Million** *CityCenter Las Vegas, Block C, Crystals*

Council on Tall Buildings and Urban Habitat **Best Tall Building, Americas – Finalist** *CityCenter Las Vegas, Block C, Veer Towers*

2009

U.S. Green Building Council **LEED for Homes Award for Innovation** *BrightBuilt Barn*

Forest Stewardship Council **Best Commercial Project** *CityCenter Las Vegas, Block C*

2008

U.S. Green Building Council **Outstanding Multi-Family Housing** *Pearl Place, Phase 1*

2003

Illuminating Engineering Society of North America International Lighting Design Award Clackamas High School

Publications 73

AUTHORED BY GUNNAR HUBBARD



SUSTAINABLE PORTLAN

Official Blog of the U.S. Green Building Council

"Governor's Action Defies Logic and Economics" Op/Ed Piece Dec. 14, 2011

Sustainable Portland: Incorporating sustainability into everyday decision-making

City of Portland, Maine 2006

Green Building Standards

Maine State Housing Authority 2005

Renewables 1 Take (Co.

"Building Momentum: National Trends and Prospects for High-Performance

Green Buildings" U.S. Senate Public Works and Environment Committee April 2003 White Paper based on an April 2002 roundtable convened and project managed by Gunnar Hubbard.

which highlights the components of green building and outlines recommendations for expanding the movement within the U.S. government

"Renewables are Ready: A Guide to Teaching Renewable Energy in Junior and Senior High School Classrooms"

Union of Concerned Scientists and Chelsea Green Publishing 1995

ABOUT GUNNAR HUBBARD'S WORK AND PROJECTS



2014

The New Net Zero Leading-Edge Design and Construction of Homes and Buildings for a Renewable Energy Future, (Chelsea Green Publishing), June 2014, William Maclay

Environmental Building News, September 2014, "Onsite Verification Part of LEED's Global Vision"

Lab Manager magazine, July 10, 2014, "Designing for Science"

R&D magazine, June 4, 2014, "A Platinum Solution for Ocean Sciences"

Maine Home and Design, June 2014, "Trumpeting the Sustainability Horn"

High Performance Buildings, Spring 2014, "Inspired by Nature"

Engineering News-Record, July 8, 2013, "The Top 100"



2013

Building Commissioning & Retrofitting, "How Building Skins Impact High-Performance Buildings" Commercial Property Executive, Dec. 4, 2013, "Zurich North America Reveals Team to Develop and Design New North American Headquarters in Schaumburg"



Crain's Chicago Business, Nov. 25, 2013, "Zurich North America unveils design for Schaumburg headquarters"

arch daily, Oct. 29, 2013, "Culture in Progress: Museum of the Built Environment/FXFowle Architects" Chicago Sun-Times, Sept. 12, 2013, "Zurich Insurance moving to Motorola site in Schaumburg" National Real Estate Investor, August 9, 2013, "10 Green Medical Centers"

CHICAGO

Huffington Post, July 4, 2013, "World Architecture Festival Awards 2013 shortlist announced"

THE TOP 100 m LEED to Living Build

2012

RMI Outlet (Rocky Mountain Institute blog), Dec. 13, 2012, "RMI Alumni Build Big and Build Green" NBC News, WCSH-Portland, Sept. 14, 2012, "Architect says buildings must protect the planet" Becoming a Green Building Professional: A Guide to Careers in Sustainable Architecture, Design, Engineering, Development, and Operations, (Wiley), July 2012, Holley Henderson ED+C magazine, May 1, 2012, "Water Conservation 101: The Elements of Facility Design" Mainebiz, Feb. 9, 2012, "Fore Solutions sold to NYC firm"



Buildin

2011





Perspective Global, May 2010, "Teaching Creativity" contract, April 9, 2010, "Hannaford Pilots Platinum LEED Supermarket" Architect, March 2010, "City on the Strip" arch daily, Feb. 25, 2010, "City Center Las Vegas: 6 LEED Gold certifications"



2009

New York Post, November 23, 2009, "CityCenter cometh"

Mainebiz, Aug. 24, 2009, "Taking the LEED | From the newest Hannaford store to projects in China, a Portland consulting firm puts its all into green"

Mainebiz, Aug. 11, 2009, "Fore Solutions gains global rep as green building consultant"

contract

Greenbiz.com, July 23, 2009, "New Hannaford Supermarket is First to Achieve LEED-Platinum Green Rating"



TreeHugger, July 13, 2009, "First Platinum LEED Grocery Store Opens in Maine"

The Integrative Design Guide to Green Building: Redefining the Practice of Sustainability, (Wiley), April 2009, 7group and Bill Reed

Zurich 2008



Inhabit, June 9, 2008, "Las Vegas CityCenter Set to Green Sin City" NPR's All Things Considered, May 7, 2008

NPR, July 27, 2009, "Nation gets first top-rated 'green' supermarket"



ARCHITECTURAL RECORD

2007

GOOD, September 2007, "Education By Design" Designing the Sustainable School, (Images Publishing) July 2007, Alan Ford

2006

Contemporary World Interiors, June 2006 (Susan Yelavich, Phaidon)

2005

Architectural Record, December 2005, Daylighting in Schools: Assisting daylight delivery while controlling electric light"

The Middlebury Campus, Oct. 27, 2005, "Hubbard advocates green architecture"



2004

Fine Homebuilding, November 2004, "Bearing down on lunch"

Architectural Record, March 2004, "Clackamas High School"

Mainebiz, "Feb. 2, 2004, "Easy being green | A new standard in environmentally sustainable building offers opportunities"

2003

Metropolis, March 2003, "Light Fantastic"



1999

"Climate Change and Civil Society: Acting Now to Protect Our Future," April 24, 1999, Conference Proceedings

1997

Learning by Building: Design and Construction in Architectural Education, (Wiley), 1997, William J. Carpenter, AIA

Devil's Workshop: 25 Years of Jersey Devil Architecture, (Princeton Architectural Press), 1997, Susan Piedmont-Palladino and Mark Alden Branch

1994

The Christian Science Monitor, Aug. 9, 1994, "Making Dream Homes Come True"

1992

The Eugene (Oregon) Register-Guard, April 7, 1992, "Solar energy expert to give talks"

3.0 Exhibits

	3.1	CITYCENTER LAS VEGAS, BLOCK C
		MANDARIN ORIENTAL, VEER TOWER, THE SHOPS AT CRYSTALS AND HARMON HOTEL Las Vegas, Nevada
a.d.		Completed 2009
	3.2	BIGELOW LABORATORY FOR OCEAN SCIENCES East Boothbay, Maine Completed 2012
THE A	3.3	BOSARGE FAMILY EDUCATION CENTER AT COASTAL MAINE BOTANICAL GARDENS Boothbay, Maine Completed 2011
	3.4	HANNAFORD SUPERMARKET Augusta, Maine Completed 2009
	3.5	ONE BRICKELL CITY CENTRE Miami, Florida 2018
	3.6	THE ALBERT SHERMAN CENTER AT THE UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL Worcester, Massachusetts Completed 2013
	3.7	ZURICH NORTH AMERICA HEADQUARTERS Schaumburg, Illinois 2016 (Under construction)
D	3.8	VASAKRONAN REFURBISHMENTS Various cities, Sweden Completed 2012
Q1	3.9	SHANGHAI INTERNATIONAL FINANCIAL CENTER Shanghai, China 2017
	3.10	MUSEUM OF THE BUILT ENVIRONMENT Riyadh, Saudi Arabia 2017 (Under construction)



3.1 CityCenter Las Vegas, Block C

ARCHITECT OF RECORD

AAI Architects

DESIGN ARCHITECTS

Gensler (Executive) Foster + Partners, Harmon Hotel JAHN, VEER Towers KPF, Mandarin Oriental Studio Daniel Libeskind and Rockwell Group, The Shops at Crystals

COMPLETION DATE

ROLE OF NOMINEE LEED Consultant

AWARDS

2012 VIVA "Best-of-the-Best" Award for Sustainability, International Council of Shopping Centers (ICSC)

2011 Gold Sustainable Design Award, ICSC

2010 IDEAS2 Merit Award, AISC

2010 Best Tall Building, Americas – Finalist, CTBUH

2009 Best Commercial Project, Forest Stewardship Council

SELECT PUBLICATIONS

WSJ Magazine, June 10, 2010, "Glass Menagerie"

Architect, March 2010, "City on the Strip"

arch daily, Feb. 25, 2010, "City Center Las Vegas: 6 LEED Gold certifications"

New York Post, November 23, 2009, "CityCenter cometh"

Inhabit, June 9, 2008, "Las Vegas CityCenter Set to Green Sin City"

NPR's All Things Considered, May 7, 2008

Numerous references in online media, including Inhabit, Treehugger, Jetson Green, Planetizen

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: ✓ Project under his management direction

Bill Bradley, Partner, AAI Architects, Inc. *Technical Partner*



The 76-acre CityCenter development is one is one of the world's largest sustainable complexes (\$8.4 billion, 18 million sf) in the United States. The four projects in Block C, for which Gunnar provided LEED consulting, total 6 million sf, and each had its own world-renowned architect. This city-within-a-city has introduced more than 10,000 construction trade and craftsmen to an array of green building techniques.

GUNNAR'S ROLE: As principal in charge of one of the largest LEED consultancy contracts to date, Gunnar led a collaboration of sub consultants and guided 45 interior designers and a separate landscape architect for each building. On an intense schedule over three years, he spent extensive time with the owner, contractor and design teams, sourcing local materials, reviewing LEED-related submissions and focusing on water conservation. He also created guidelines for tenants of the Crystals tower providing direction on how to replicate sustainable efforts during fit-out and identify areas with LEED for Commercial Interiors certification potential.

CHALLENGES: How to achieve LEED Silver, if not Gold, certification on a project of this scale; a fast-paced 24/7 construction schedule; tight budgets; designers who were new to LEED; and sub contractors who were used to building in a "Las Vegas way". Tax incentives were linked to the project, which provided a significant carrot that kept green building at the forefront during scheduling, cost and design meetings.

RESULTS: The key to success laid in the relationship building and Gunnar's consistent presence in the design team meetings providing problem solving. A project of this scale demands a range of approaches to get to LEED certification, but aligning aesthetic and budget goals took an advanced skill set to ensure success. With high stakes and equally high client commitment, expectations were exceeded by achieving LEED Gold certification on all four buildings when the target was Silver.

"Gunnar brought clarity and importance to the sustainability issues during a fast-paced design process. His ability to listen to the client and align with our design intention was crucial. We hired him again for the New York City Public Library for this very reason."

Russell Hales, Partner, Foster + Partners

KEY GREEN FEATURES

- First energy-generation on The Strip through its 8.5 megawatt natural-gas generation plant, providing efficient electricity on site, reducing emissions and using "waste heat" to provide domestic hot water
- World's first fleet of stretch limos powered by clean-burning compressed natural gas
- Water conservation technology that will save between 30% and 43% of water indoors and 60% outdoors, for an overall savings of 50 million gallons annually
- Energy-efficiency initiatives providing a savings equivalent to powering 8,800 households annually
- Development of slot machine bases that serve as floor air-conditioning units, efficiently cooling guests from the ground up, rather than wasting energy by cooling from the ceiling
- Large-scale recycling operation that recycled or reused 260,000 tons of construction waste, more than 80% of the imploded Boardwalk Hotel







Bigelow Laboratory for Ocean Sciences

EAST BOOTHBAY, MAINE

ARCHITECT OF RECORD Perkins + Will with WBRC

3.2

COMPLETION DATE

2012

ROLE OF NOMINEE LEED Consultant Charrette Facilitation

AWARDS

2014 Laboratory of the Year Awards Honorable Mention, R&D Magazine

2013 Sustainable Design Award, Boston Society of Architects

2013 Design Excellence Citation, Boston Society of Architects

2013 Build New England Grand Honor Award, Associated General Contractors of Massachusetts

SELECT PUBLICATIONS

Lab Manager magazine, July 10, 2014, "Designing for Science"

R&D magazine, June 4, 2014, "A Platinum Solution for Ocean Sciences"

Portland Press Herald, Jan. 2, 2011, "Architect of Bigelow lab meets oceanic challenges"

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: ✓ Project under his management direction

Gary Shaw AIA, Principal, Perkins + Will *Principal in Charge*



Bigelow Laboratory is dedicated to analyzing ecosystems of the world oceans and the impacts on local and global environments, so sustainability was a critical goal for their new, 65,000-sf facility. Sitting on 64 acres overlooking the Damariscotta River Estuary in Maine, the completed three wings house separate laboratories and research spaces. The selection of environmentally sensitive materials, careful harvesting of daylight, and the integration of building mechanical systems create a facility that is operationally efficient, environmentally respectful and inspiring for its researchers.

Working with an undeveloped site, the design team positioned the new building in a way that preserved existing ecosystems including deer wintering areas, old growth vegetation and upland vernal pools. In order to maintain a strong connection to the natural surroundings and respect the context, a compact development area leaves much of the available site undisturbed.

GUNNAR'S ROLE: Gunnar provided the front-end work with the board and staff to show them what is possible for the project. He facilitated a charrette early in the design to help set the performance goals, and then, as LEED consultant, helped exceed these goals. Daylight harvesting and passive strategies, such as orientation and a high-performance building envelope, were key elements he put forward.

CHALLENGES: The client was targeting major research grants to help pay for the project, yet it was unclear if these would be awarded at the same time or over multiple years. This meant a potential phasing of the project had to be considered.

"The laboratory has exceeded all our expectations...Gunnar was critical at the start to stress the importance of an integrated design approach. He helped us set a metric that our board could approve and really get behind."

Graham Shimmield, Executive Director, Bigelow Laboratory

KEY GREEN FEATURES

- High-pressure low-flow water fixtures achieve a 45 percent reduction in water use
- 66 photovoltaic panels installed on the roof provide 19.21 kW of energy
- Enthalpy-based energy recovery air-handling units recover 70 to 85 percent of the heating/cooling energy annually.
- Total energy usage for the threewing complex comes in at only 53% of the ASHRAE base design requirements

RESULTS: Bigelow Laboratory has the distinction of being the first research laboratory to achieve LEED Platinum in Maine. The building's unique daylighting design is a key feature. Solar orientation, paired with open courtyards between each wing, helps maximize natural light creating a comfortable and energy-efficient work environment. Elements such as window shading, daylight-responsive lighting controls and dimmable ballasts also lower lighting demand.







3.3

Bosarge Family Education Center at Coastal Maine Botanical Gardens

BOOTHBAY, MAINE

ARCHITECT OF RECORD

Scott Simons Architects in collaboration with William Maclay Architects and Planners

COMPLETION DATE 2011

ROLE OF NOMINEE

Owner Sustainability Representative LEED Consultant Energy Modeler

AWARDS

2013 Zero Net Energy Building Award, Northeast Sustainable Energy Association

2013 COTE Award, Citation, Maine AIA

2012 Excellence in Architecture Design Awards, Citation, AIA Vermont

SELECT PUBLICATIONS

High Performance Buildings, Spring 2014, "Inspired by Nature"

Mainebiz, July 22, 2011, "Coastal Maine Botanical Gardens' new green education center"

Portland (Maine) Press-Herald, July 14, 2011, "Maine's 'greenest building' is designed to educate"

DECLARATION OF RESPONSIBILITY

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Scott Simons, AIA, Principal, Scott Simons Architects Principal in Charge and Design Architect



The Bosarge Family Education Center is an important addition to the Coastal Maine Botanical Gardens' environmental program. The 8,000-square-foot facility is a high-performance structure designed to operate with net-zero energy use. The center functions as a teaching tool by hosting tours, interpretive signage, programs and classes focused on its details about energy savings and environmentally friendly features. A flat screen in the atrium displaying a web page that provides real-time energy and water-metering data on site and online.

GUNNAR'S ROLE: The client initially approached Gunnar with aspirations and questions about net-zero energy and LEED. Once Gunnar began answering questions and educating the board and staff, he was an integral project leader. His responsibilities involved retaining the architectural team, full sustainability and LEED consulting, and energy modeling. His team also facilitated several visioning and schematic design charrettes with the staff, board and design team. His services continued for one year of operations to ensure net zero was tracked and achieved. He also led the development of a comprehensive approach to education and oversaw all media content.

CHALLENGES: It was a race against the clock to build the project at the budget targeted and beat the schedule to achieve LEED Platinum in time for the summer season at the Botanical Gardens.

RESULTS: A net-zero energy building and LEED Platinum certification were both achieved, completed three months ahead of schedule. The center is Maine's first commercial building designed to produce more power annually than it uses and its second commercial LEED Platinum building.

- "I have known Gunnar since he was the director of Yestermorrow, where his leadership significantly moved the school forward in its environmental, design and building mission.
- "At the Borsarge Family Education Center, his role guiding the client's decision to pursue net zero energy was a game changer. He was an instrumental player...without whom the project never would have happened at the same level."

Bill Maclay, AIA, and author of The New Net Zero

KEY GREEN FEATURES

- The efficient building envelope provides more than 50 percent reduction in energy usage
- About 70 percent of heat is recovered from exhaust air using energy recovery ventilators
- An estimated 60 percent reduction in energy usage is from lighting and daylight strategies
- Solar panels, which capture and convert the sun's energy into hot water and electricity produce approximately 55,000kWh of energy annually resulting in \$7,600 in energy cost savings per year
- Rainwater is collected in a 1,700-gallon cistern to use for toilets
- Special triple-glazed windows provide passive solar gain in the winter, while keeping out heat in the summer



SOLAR AND DAYLIGHTING STRATEGIES

Hannaford Supermarket

3.4

AUGUSTA, MAINE

ARCHITECT OF RECORD

Next Phase Studios with WBRC

COMPLETION DATE 2009

ROLE OF NOMINEE

Owner Sustainability Representative LEED Consultant

SELECT PUBLICATIONS

contract, April 9, 2010, "Hannaford Pilots Platinum LEED Supermarket"

Mainebiz, Aug. 24, 2009, "Taking the LEED | From the newest Hannaford store to projects in China, a Portland consulting firm puts its all into green"

NPR, July 27, 2009, "Nation gets first top-rated 'green' supermarket"

Greenbiz.com, July 23, 2009, "New Hannaford Supermarket is First to Achieve LEED-Platinum Green Rating"

TreeHugger, July 13, 2009, "First Platinum LEED Grocery Store Opens in Maine"



The nation's first LEED Platinum-certified supermarket opened in July 2009 with a goal of redesigning supermarket retailing in an environmentally, socially and financially sound manner. The effort was part of USGBC's retail pilot program to develop a new green building standard for the retail sector. Gunnar's firm, Fore Solutions, directed all green design features including daylighting, solar photovoltaic panels, geothermal heating and cooling, high-efficiency refrigeration, energy-efficient lighting and an advanced recycling program.

GUNNAR'S ROLE: Gunnar guided the architecture and construction division of Hannaford on all decisions for achieving LEED Platinum, presenting options along the way. Gunnar presented the integrated design process, and the importance of an educated, collaborative team. He helped hire the design team, additional consultants for high performance, and managed LEED and energy modeling through completion of the project.

CHALLENGES: This was a ground-breaking exercise to identify how a big box grocery store chain can embrace sustainability throughout the design, construction and operations of its store, while maintaining their brand recognition and undertaking a cost-benefit analysis.

RESULTS: The first LEED for Retail Platinum project in the world. Due to the significance and ripple effect of this achievement, the project received extensive media coverage, including the Associated Press, Reuters, ABC News, CBS News and NPR, as well as in major environmental publications.

DECLARATION OF RESPONSIBILITY

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Rick Ames, AIA, LEED AP, Founder/ Principal, Next Phase Studios *Design Architect* "The two-day design charrette Gunnar ran changed the way we approach design at our company, hands down. He is making a big difference in the future of our impact on the planet."

Fred Conlogue, Director of Design, Hannaford

KEY GREEN FEATURES

- Hannaford uses 50 percent less energy than a typical grocery store
- Reclaimed heat from the GreenChill refrigeration system meets almost 100 percent of the store's heating needs
- Two geothermal wells located 750 feet below ground regulate the store's interior temperature along with a 41-kilowatt solar array providing on-site power
- The team recycled or reused 96 percent of demolition debris and 99 percent of the contents of the building from the previously developed site
- More than 70 percent of the wood used in the store is FSC certified
- Interior daylighting is maximized through windows, a clerestory, skylights and solartubes
- A 7,000-sf green roof reduces water runoff, increases biodiversity on the site and helps insulation



One Brickell City Centre

ARCHITECT OF RECORD Arquitectonica

3.5

COMPLETION DATE

ROLE OF NOMINEE

Sustainability Consultant LEED Consultant Energy Modeler



This 82-story 1,049-feet tall mixed-use supertall highrise in Miami will be one of the tallest in the southeast. The plans include 70,000 sf of premium boutique retail, 687,000 sf of Class A office space, 256 condominiums and 108 5-star hotel rooms. The tower will also include a lounge and restaurant on the 73rd floor.

During Schematic Design, Gunnar directed Thornton Tomasetti's sustainability team to perform analysis in the areas of whole building usage, daylight studies, water reuse for flush fixtures, glazing and shading effects on energy use, and alternative energy (solar photovoltaic) usage integrated into the building. Currently (fall 2014), Gunnar is collaborating with his company's Building Skin Practice on several building performance studies that are being incorporated into the architectural energy conservation measures (ECMs) for the next iterations of the energy model. He and his team will continue to identify additional ECMs and analyze their impact on operating cost, lifecycle cost and LEED certification.

Thornton Tomasetti is carefully tracking sustainable strategies and evaluating their impact on LEED credits throughout the design process. LEED Platinum in the Core & Shell rating system (v2009) is being targeted, and the project is well on its way to achieving this goal.

GUNNAR'S ROLE: As principal in charge, Gunnar strategizes how to meet LEED Platinum and achieve the highest performance. He attends all high-level design meetings and provides a critical link between TT's sustainability team and building skin team, also working on the project. Gunnar has encouraged a true integrative design process during Schematic Design, with all team members present for productive discussions and healthy debates.

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: ✓ Project under management direction of nominee

Charles Crain, AIA, LEED AP, Senior Project Manager, Arquitectonica *Project Architect* "We selected Gunnar for his depth of experience, diverse technical skills and comprehensive methodology. He promptly demonstrated an ability to recognize the challenges, propose compelling ideas and advance our design intent in a fully collaborative manner."

Charles Hugh Crain, AIA, LEED AP, Arquitectonica **CHALLENGES:** The 2.6-million-sf size makes it daunting to achieve the targeted LEED certification. As a mixed-use building in a single tower, multiple load conditions and system choices have to be balanced with architectural considerations. With a cooling load at almost 30% of the total building energy, Gunnar looks for architectural solutions first to solve energy challenges. In this case, he has brought forward critical passive energy solutions, such as shading systems and fritted glass, prior to looking for mechanical system solutions.

RESULTS: Schematic Design documents have been submitted, with a clear path forward to achieve LEED Platinum. Multiple analyses and reports have been integral to the design decisions of the team. The energy modeling is showing several energy conservation measures to pursue as the design evolves and systems and controls are refined.



3.6

The Albert Sherman Center at the University of Massachusetts Medical School

WORCESTER, MASSACHUSETTS

ARCHITECT

ARC/Architectural Resources Cambridge

COMPLETION DATE 2013

ROLE OF NOMINEE

LEED Consultant Energy Modeler

AWARDS

2013 Best Green Practices, Boston Business Journal

2013 Merit Award for Higher Education & Research, ENR New England

SELECT PUBLICATIONS

High Profile, Nov. 7, 2013, "How the Albert Sherman Center Exceeded its Sustainable Goal"

Laboratory Design, April 29, 2013, "University of Massachusetts Medical School, Albert Sherman Center"



DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: Project under management direction of nominee

Arthur Cohen, FAIA, LEED AP, Principal, ARC/Architectural Resources Cambridge *Partner in Charge*



The \$400 million Albert Sherman Center is a 512,000-sf facility for biomedical research and education. The state-of-the-art building expands and unifies the UMass Medical School's Worcester campus, doubles its research capacity and supports the school's new learner-centered curriculum. The facility includes wet and dry research laboratories, a vivarium, clean rooms and core research spaces, a 350-seat auditorium, conference and seminar spaces, a cafeteria, teaching areas and a library.

GUNNAR'S ROLE: Gunnar facilitated the first sustainable design charrette to organize the project team and client toward a high-performance solution early in the process and continued to engage throughout. He developed the project guidelines for success and then oversaw the successful LEED certification and energy modeling.

CHALLENGES: The original building massing for the site and context was calling for a west-facing configuration that did not bode well for a high-performance building. A concept-level energy analysis undertaken by Gunnar's team to evaluate various building schemes and orientations was highly influential in arriving at the final design concept, achieving the right balance of transparency and thermal performance, and enabling significant energy savings.

RESULTS: The analysis convinced the architect and the owner to go with the south-facing massing, with the dry labs and office space flooded with natural light, and the north-facing wet labs getting even north light. The final LEED Gold-certified, climate-responsive solution is noted for its performance, occupant comfort, and now, with over a year of operations, has proven operating data showing the targeted savings.

- "In the early design phases, when we were considering two schemes, Gunnar skillfully guided us to a clear direction. His charrette helped balance massing, building layout, seasonal load impacts and long-term performance — a difficult task he made appear easy.
- "A LEED Gold building such as the Sherman Center will give the university tools to truly manage and monitor energy usage like never before and provide safe, effective lab environments without sacrificing energy performance."

Mark Dolny, AIA, LEED AP, ARC

KEY GREEN FEATURES

- An overall 25 percent energy cost savings from ASHRAE 90.1
- 4.1 million fewer kilowatt hours of electricity consumed, 30 percent less water used, and carbon dioxide emissions cut by 4.5 million pounds annually, compared to similar buildings of standard design
- The energy-efficient façade comprises glass, aluminum, terracotta and granite elements creating 1,775 panels. Long windows with spandrel glass sections on all sides were installed to allow as much natural light as possible.
- Heat recovery wheels allow the building to exhaust stale air and draw in fresh air while retaining most of the heat in the building
- A sophisticated "building automation system" monitors operations every 15 minutes and adjusts systems for maximum efficiency
- 95 percent of the steel used was made from recycled material made in a steel fabrication plant nearby











3.7

Zurich North America Headquarters

SCHAUMBURG, ILLINOIS

ARCHITECT OF RECORD

Goettsch Partners

2016

ROLE OF NOMINEE

Sustainability Consultant Energy Modeler

SELECT PUBLICATIONS

Commercial Property Executive, Dec. 4, 2013, "Zurich North America Reveals Team to Develop and Design New North American Headquarters in Schaumburg"

Crain's Chicago Business, Nov. 25, 2013, "Zurich North America unveils design for Schaumburg headquarters"

Chicago Sun-Times, Sept. 12, 2013, "Zurich Insurance moving to Motorola site in Schaumburg"

Construction is underway on the new 780,000-sf office complex for Zurich Insurance's new North American headquarters. It will ultimately service 2,500 workers on a 40-acre site. The design incorporates multiple sustainability strategies to achieve targeted LEED Platinum. The 11-story building is comprised of three primary "bars" stacked and arranged to maximize views of the surrounding landscape, optimize solar orientation and provide programmatic flexibility not found in typical office buildings.

The massing features a narrow floor plate to allow daylight in to all the occupied zones. A ventilated double-wall façade is on the lower portion of the south-facing, three-story cafeteria. Thornton Tomasetti provided CFD modeling on the double wall to verify performance and optimize operations of the façade.

During Schematic Design, Gunnar oversaw water-balancing studies and developed multiple gray water and rainwater strategies for water reuse. Exterior shading devices were analyzed and adjusted at each orientation to maximize performance. Detailed daylighting studies were carried out to evaluate the effects of automated interior blinds. He is also overseeing energy-modeling efforts for the whole building, the tuning of the featured double wall on the south façade, and tuning of the horizontal shading devices.

GUNNAR'S ROLE: As the sustainability consultant, Gunnar is supporting the architect's vision for the building while driving for high-performance solutions and a path toward Platinum. He has brought clarity to sustainable possibilities while engaging with the design team, developer and owner. He continues to help balance design implications with cost implications, bringing his years of experience to drive decisions for design integration.

DECLARATION OF RESPONSIBILITY

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Joseph Dolinar, AIA, Partner, Goettsch Partners, Inc. Partner in Charge "Gunnar Hubbard is a trusted collaborator and true steward for the environment: he preaches a holistic approach to sustainability that weaves all aspects of the design and building process together in a manner that can be understood by multiple audiences. He is generous with his knowledge, a congenial mentor, but ardent in his beliefs. His professionalism earns the respect of the team every time and always results in more thoughtful and integrated solutions." **CHALLENGES:** The climate of Chicago is challenging: hot and humid in the summer, cold and windy in the winter. The project has an aggressive timeline and bold commitments for performance. A guaranteed maximum price effort led to certain system decisions that created both limitations and opportunities. Yet the team, with Gunnar's input and collaboration, met them head on and ultimately found solutions to meet the architect's vision and the owner's expectations.

RESULTS: While the project is under construction in a fast-track mode and the design continues to be fine tuned, many benefits of a sustainable approach can already be identified. For instance, excellent daylighting, advanced controls, electric lighting reduction and a double wall with integrated shades will result in an estimated 30% energy consumption in the adjacent space. The target for LEED Platinum is on track for success, with the majority of energy points being achieved.

Paul De Santis, Principal, Goettsch Partners





AIR FLOW: SPRING, WINTER, SUMMER







3.8

Vasakronan Refurbishments

ARCHITECT OF RECORD Varies: Existing buildings

COMPLETION DATE

ROLE OF NOMINEE LEED Consultant



Gunnar provided LEED consulting for three mixed-use commercial projects acquired by Sweden's largest property holder, Vasakronan, a carbon-neutral company that places a high priority on sustainability. Properties involved included Klara Zenit, a mixed-use office block of more than 70,000 sm; Kista Entré, a commercial space and a hotel in the Silicon Valley neighborhood of Stockholm; and phase two of refurbishments to Lappstiftet, a well-known 30,000-sm; commercial office building on prime waterfront in Gothenburg.

The sustainability team facilitated the initial design charrette to align the project team in support of a sustainable facilities program for the three buildings and pursuit of LEED for Existing Buildings: Operations and Maintenance (EBOM) certification. Services included workshops, reviews, strategies, analysis and clarification of LEED opportunities. Kista Entré and Lappstiftet earned an EPA Energy Star score of 95 and 96, respectively, out of 100 possible points (50 is the U.S. average). Kista Entré takes advantage of Stockholm's district heating and cooling systems. Lappstiftet uses district heat but utilizes the adjacent river as a heat sink for cooling. The buildings overall have low energy use, ISO 14001 certification, renewable energy and climate-neutral operations.

GUNNAR'S ROLE: Gunnar approached Vasakronan during one of his first visits to Sweden to learn about the company and their green building efforts. He further established credibility with them as he was the exclusive LEED instructor for the Swedish Green Building Council for several years. He was quickly invited to help them achieve the LEED EB: OM certification on the three projects.

DECLARATION OF RESPONSIBILITY

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Anna Denell, Head of Sustainability, Vasakronan *Project Manager* "Gunnar's enthusiasm for education and collaboration made us confident he and his group were the right choice. The success of the first three buildings led us to hire them again to guide us in certifying 50 more buildings throughout Sweden."

Fredrik Wirdenius, CEO, Vasakronan

CHALLENGES: It was a challenging but highly educational exercise to learn the codes of Sweden, and another extraordinary effort to understand Scandinavian building management. Gunnar then reinterpreted this knowledge to align with the American compliance for LEED certification.

RESULTS: All three projects successfully earned the certification, which led to Gunnar's firm winning the contract to oversee certification for another 50 buildings. Sweden is a world leader in energy-efficient building and Vasakronan's portfolio is exceptional. This opportunity has advanced Gunnar and his team's understanding of green regulations and approaches, leading to greater international cross-pollination as LEED continues to evolve.







The process included adapting a number of Swedish standards to LEED standards.



3.9

Shanghai International Financial Center

SHANGHAI, CHINA

ARCHITECT OF RECORD

JAHN

COMPLETION DATE 2017

ROLE OF NOMINEE LEED Consultant

SELECT PUBLICATIONS

Chicago Tribune, Feb. 21, 2014 "Designed in Chicago, Made in China"



Thornton Tomasetti is providing LEED Core and Shell (CS) consulting for this 5-million-sf office complex that was recently pre-certified LEED Gold. The high-rise ensemble consists of three towers connected by a three-story bridge.

Unique sustainable strategies include large glass atriums that reduce the need for artificial light; roof gardens with water collection systems; and an advanced façade design that features floor-toceiling glass utilizing high-performance, low-E coating exterior mullions with automated shading. Additional features include operable windows, under-floor air distribution, ice storage cooling and photovoltaic panels. These combined features allow considerable reduction in the towers' air conditioning and heating loads. When complete, the gray water usage should result in savings of more than 50 percent of potable water when compared to a typical office building. As well, the energy model shows an anticipated energy savings of up to 30 percent compared to a minimally code-compliant building.

Gunner is pursuing the China Green Building Three Star certification, (their green building rating system that parallels LEED), while also pushing the project to additional levels of sustainability, such as a mandatory post-occupancy measurement and verification study of water and energy use. The team has been working with the Shanghai Research Institute of Building Science to ensure all local sustainability requirements are met.

GUNNAR'S ROLE: Gunnar was instrumental in forming the early path for compliance with the design team and the owner. He educated the team during key design meetings in Shanghai and Chicago on the implications of sustainability solutions for long-term energy efficiency, air quality and water conservation.

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: VProject under management direction of nominee

Francisco J. Gonzalez-Pulido, President, JAHN Principal in Charge "We had great success with Gunnar on VEER towers at CityCenter, and he is proving himself again on this challenging Shanghai project." Helmut Jahn, FAIA, CEO, JAHN **CHALLENGES:** The project is for three different government agencies, which all have different agendas and expectations. This has made it challenging to align a consistent path forward. Delays have occurred in the decision-making, and leadership changes have occurred on the client side, requiring extra rigor in maintaining the performance and certification goals of the project.

RESULTS: The building, now under construction, has already been pre-certified as LEED CS Gold. This gives the owners the advantage of being able to market the proposed green features of the property to potential tenants looking to occupy LEED-certified space.



3.10

Museum of the Built Environment

RIYADH, SAUDI ARABIA

ARCHITECT OF RECORD

COMPLETION DATE 2017

ROLE OF NOMINEE Sustainability Consultant

AWARDS AND HONORS

2014 Venice Biennale, U.S. Pavilion Selection

2013 World Architecture Festival Award, Future Projects, Culture

2012 International Design Award, Gold Award — Institutional

SELECT PUBLICATIONS

arch daily, Oct. 29, 2013, "Culture in Progress: Museum of the Built Environment/FXFowle Architects"

Huffington Post, July 4, 2013, "World Architecture Festival Awards 2013 shortlist announced"

e-architect, June 24, 2011, "Museum of the Built Environment"

Architectural Record, May 27, 2011, "AR Exclusive: FXFowle Unveils Design for MOBE in Saudi Arabia"

worldarchitecturenews.com, June 14, 2011, "Between a rock and a hard place ..."

DECLARATION OF RESPONSIBILITY

I have personal knowledge of the nominee's responsibility for the sustainability aspects of the project listed above. That responsibility included: ✓ Project under management direction of nominee

Sudhir Jambhekar, FAIA, Senior Partner, FXFOWLE *Principal in Charge*



The Museum of the Built Environment is a unique public building dedicated to exploring the development of sustainable architectural design and the arts specifically within Saudi Arabia and the surrounding region. On a large public plaza in the King Abdullah Financial District, the new museum will house 340,000 sf of exhibit space, office and administrative functions, a 150-seat auditorium and a restaurant, in addition to a transportation hub. Thornton Tomasetti provided sustainability consulting during the Concept and Schematic Design phases. Services included climate analysis, biomimicry consulting, natural ventilation studies, daylighting studies, sustainability programming and materials research.

To address the challenges associated with designing a building in a desert climate, the sustainability team developed a new approach called sustainability programming. This strategy incorporated elements of low-energy design early in the programming phase that helped maximize space efficiency and the potential for finding more sustainable solutions for natural ventilation, daylighting and energy performance.

Thermal massing and indirect daylighting techniques were inspired by local building practices that have been used for centuries. Proposed solutions included an east-facing clerestory that takes advantage of natural light, a light shaft that illuminates underground parking, and natural ventilation that takes advantage of cooler night air.

GUNNAR'S ROLE: Gunnar was instrumental in design team meetings and proposing ideas to advance the design. In particular, he facilitated an energy programming exercise that organized spaces based on comfort - overlaying allowable ranges of temperature and humidity with access to views and quality light - with daylight prioritized.

CHALLENGES: Given the harsh climate of Riyadh, the challenge was how to recommend costeffective solutions to support the innovative architecture. An additional complication was that the building footprint was fixed by the approved master plan, necessitating creative responses to the various exposures. "Working in close collaboration with Gunnar from the early stages, we were able to raise the sustainability aspirations of our client and set higher goals. Energy metrics and analysis influenced building form and facades, further enhancing the organization of the building program." **RESULTS:** This beautifully crafted building will have strategic punctures in the façade and roof to allow natural light in, while limiting overheating and direct light. Ultimately, the building's exterior chiseled, crystalline form and cladding express its programmatic functions; the lower public floors are transparent, while upper levels are more opaque, clad with prismatic laminated glass panels which create a varied textural quality, allow daylight to penetrate at controlled locations and cover an inner insulated, weather-tight envelope.

Sudhir Jambhekar, FAIA, Senior Partner, FXFOWLE

SUN PATH PERSPECTIVE









DAYLIGHT NEED ASSESSMENT

DAYLIGHT ANALYSIS

4.0 References

1 Bob Berkebile, FAIA

Principal BNIM Architects Inc. 1735 Baltimore Ave., Suite 300 Kansas City, Missouri 64108

Professional relationship: Mentor, colleague, collaborator

2 William McDonough, FAIA, Int. FRIBA

William McDonough + Partners 700 E. Jefferson Street Charlottesville, Virginia 22902

Professional relationship: Mentor, colleague, collaborator

3 Christine E. Bruckner, Ph.D., FAIA, HKIUD, LEED AP, BEAM

President AlA International Region 24/F Lippo Leighton Tower 103 Leighton Road Causeway Bay Hong Kong

Professional relationship: Colleague

4 Joseph G. Burns, S.E., P.E., F.ASCE, FAIA, LEED AP

Managing Principal Thornton Tomasetti 330 N. Wabash Ave., Suite 1500 Chicago, Illinois 60611

Professional relationship: Colleague

5 Scott Simons, AIA

Principal Scott Simons Architects 75 York St. Portland, Maine 04101

Professional relationship: Client, colleague

6 Rick Fedrizzi

President, CEO and Founder U.S. Green Building Council 2101 L St., N.W., Suite 500 Washington, DC 20037

Professional relationship: Colleague

7 Piers Heath

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