



Principals

Sachin Anand, PE, LEED AP BD+C
 Victor Avila
 Ben Rubach, PE, LEED AP

Licensed Professionals

Sachin Anand, PE, LEED AP BD+C
 Joseph Clair, PE, LEED AP
 Claudia Fischmann, PE, LEED AP BD+C
 Alex Gofman, PE
 Yogesh Maniar, PE
 Anna Morton, PE, LEED AP BD+C
 Ben Rubach, PE, LEED AP
 Roy Sears, PE
 David Siegel, PE
 Aubrey Swift, AIA, LEED AP, QCxP
 Rose Winter, AIA, LEED AP BD+C

General Services

Design & Commissioning of Mechanical, Electrical, Plumbing and Fire-Protection BIM
 Sustainable Consulting
 Indiana/Michigan Retro Commissioning Provider
 Design of Refrigeration DX/Ammonia
 Design of Low-Voltage Systems, Fire Alarm, Building Management, Data, Clock/Bell and Communications
 Energy Modeling, Generation and Conservation Studies

Types of Facilities

Retail
 Commercial / Office / Industrial
 Multi-Family Residential
 Places of Worship
 Schools / Universities
 Municipal
 Institutional
 Medical

Partial Client List

State of Illinois (CDB)
 Studio Gang Architects
 Museum of Science and Industry
 Farr Associates
 Solomon Cordwell Buenz
 Chicago Public Schools (CPS)
 STR Partners
 University of Illinois
 Chicago Housing Authority
 John Ronan Architects
 David Woodhouse Architects
 Veterans Administration
 University of Chicago
 VOA

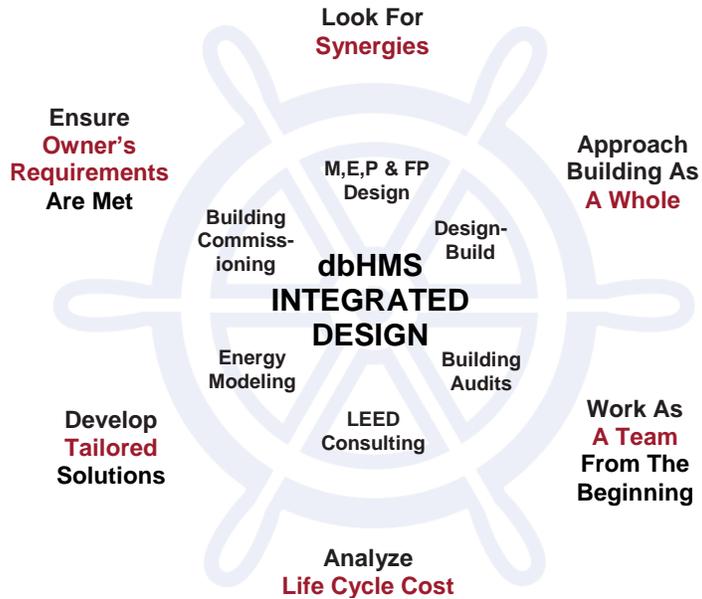
Technologies

AutoCAD
 Revit
 Navisworks
 TRNSYS
 eQuest
 Trace
 Ecotect

Introduction

dbHMS was founded in 2002 on the principles of integrated project delivery and sustainable design. We are a minority-owned business with 60 employees. Our project approach unites key stakeholders and creative design professionals letting us work collaboratively to deliver innovative engineering solutions. Our team of consultants provides a full range of services including mechanical, electrical, plumbing and fire protection design. We specialize in energy modeling, building commissioning, LEED consulting, computational fluid dynamics (CFD), and day-lighting studies. Additionally, dbHMS is proud to be part of the team of experts providing project review services to GBCI®.

dbHMS approaches all projects looking for opportunities to find new solutions to old challenges. All of our teams include a dedicated Project Manager which allows us to engage collaboratively from the beginning, adjust to changes, and deliver a tailored approach to engineered systems. Our commitment to this design philosophy has contributed to buildings we are proud of. These include the world renowned Aqua Tower, a high rise residential development, the Green Exchange which is the country's largest sustainable business community, and the IGI Airport in New Delhi, India. Additionally, dbHMS commissioned the Rivers Casino located in Des Plaines, Illinois within the past two years. Rivers Casino is the country's first LEED Gold certified casino.



Other Services:

- Advanced Energy Modeling & Building Simulations
- Computational Fluid Dynamics (CFD)
- Daylighting Studies
- LEED Consulting
- Building System Commissioning
- Existing Building Audits
- Design-Build Engineering



Project Type

Sustainable
Mixed-Use
Hospitality
High-Rise
Residential
Commercial

Project Information

Owner:
Magellan Development

Area:
1.9 million sq ft

Client:
Studio Gang Architects
Loewenberg Architects

Total Project Cost:
\$300 million

dbHMS Scope:
Electrical Engineer of Record
LEED Consultant
Energy Modeling
Commissioning Authority

LEED:
Certified

Project Completion:
2009

Key Personnel:
Sachin Anand
Aubrey Swift
Anna Huttel
Mark Wisz

Awards:
AIA Design Excellence Award –
Honor Award, 2010

Aqua Tower Chicago, Illinois



This unique, 83 story high-rise hotel condominium in Chicago, designed by Studio Gang Architects and Loewenberg Architects, was topped out at the end of 2009. A 225 room hotel fills most of the base and the first 18 floors of the tower. Above that, there are 31 floors of apartments and 28 floors of condominiums. There are also 5 levels of parking included.

For success in the LEED process, dbHMS provided a broad perspective and informed judgment on how to complete templates and address USGBC comments. We predicted the effort needed for documentation and the likely reviewer response to strategies. For this project, defining the overall project boundaries and determining strategies for core and shell spaces was crucial to success.

An interesting feature of the design is the use of different glass shading qualities depending on the degree of balcony overhang. Energy modeling was much more complex as a result. Purchased chilled water keeps cooling energy costs low but also added to the complexity of modeling. The dbHMS team also assisted the project team in attaining a LEED certified status on this iconic project.



Project Type

Mixed-Use
Residential
High-Rise
Sustainable

Project Information

Owner:
M&R Development

Area:
356,000 sq ft

Client:
M&R Development

Total Project Cost:
\$59 million

dbHMS Scope:
Energy Modeling
Commissioning Authority

Project Completion:
2010

LEED:
Gold

Key Personnel:
Aubrey Swift
Anna Morton
Anna Huttel

Parc Huron Chicago, Illinois



This 21-story, 221 unit residential high-rise sought to provide high end apartment living while striving to be as sustainable as possible. It contains 3,000 sq ft of commercial space and special amenities including, a spa/sauna room, internet café, fitness center and theater room. The facility also includes four levels of enclosed parking with 200 spaces, carbon monoxide controlled ventilation, under-slab heating, and a green roof above with semi-private patios. dbHMS was contracted to provide energy modeling, a MEP Performance Specification, and commissioning.

dbHMS modeled the building to test HVAC systems and efficiency. The energy model showed that the Architect's 80% glazing design would not meet the energy goals. After multiple model iterations, a heat pump system was selected and the floor-to-ceiling vision glass was changed to spandrel glass to sill height; the final ratio was 54% glazing.

The commissioning group reviewed the contractor's design documents and worked closely with the design-build HVAC, electrical and plumbing contractors, recommending revisions to their condensate piping and correcting variable frequency drive pump and fan settings. The final outcome was a building with energy performance that surpassed the original intent and more LEED points than originally pursued.



Project Type

Commercial
Sustainable
High-Rise

Project Information

Owner:
Four Seasons Hotel

Area:
434 Guest Rooms

Client:
JMB Realty Corporation

Total Project Cost:
Confidential

dbHMS Scope:
Survey and Assessment

Key Personnel:
Aubrey Swift
Mark Wisz

Ritz Carlton – A Four Seasons Hotel Chicago, Illinois



Picture Courtesy of The Four Seasons Hotel

dbHMS provided consulting services to the Ritz-Carlton Chicago and their 434 guest room property set atop Water Tower Place, high above prestigious North Michigan Avenue. Using our background in commissioning, building systems design, and existing facility analyses, dbHMS performed a detailed site survey of the property air handling equipment. The existing infrastructure, having been in place for over thirty years, was found to be in various states of disrepair. Given the performance requirements of such a high profile property, the Ritz Carlton-Chicago required a life expectancy analysis and replacement strategy to aggressively and optimally address inefficient operation and failing equipment. dbHMS compiled detailed information on each unit, including photographic reports, to enable Ritz Carlton-Chicago to make educated financial decisions with regard to their near term equipment replacements and enhancements.



Project Type

Commercial
Sustainable

Project Information

Owner:

Midwest Gaming &
Entertainment LLC

Area:

600,000 sq ft

Client:

Development Management
Associates

Total Project Cost:

\$445 million

dbHMS Scope:

Commissioning Prerequisite
Commissioning Enhanced
Energy Credit Peer Review
Measurement and Verification
Credit Peer Review

LEED:

Gold

Personnel:

Aubrey Swift
Mark Wisz

Awards:

ENR Midwest, Award of Merit, Best
Green Building Project, 2012

Rivers Casino

Des Plaines, Illinois



Picture Courtesy of Klai Juba Architects

Midwest Gaming's new 600,000 sq. ft. casino in Des Plaines, Illinois is the first LEED Gold Certified casino in the U.S. The \$445 million casino and entertainment complex consists of 50,000 sq. ft. of gaming floor 100,000 sq. ft. of back-of-the-house operations and a 450,000 sq. ft. parking structure.

The casino floor and operation areas, as well as a multitude of food and beverage venues, are served by a variety of custom roof top units equipped with direct expansion refrigeration and energy recovery wheels. Roof top units also have the ability to convert to a central chilled water system in the future. Kitchens are served by make-up air units using evaporator coolers to moderate summer fresh air. Data Aire computer room units condition highly sensitive spaces even in low outdoor temperatures through crankcase and belly heaters. Radiant heaters tied to motion sensors serve exterior spaces and activate on ambient temperature and movement.

dbHMS commissioning included the emergency power systems vital for the 24/7/365 building. These consisted of a 2500 KVa generator, automatic transfer switches, and uninterrupted power systems with both battery and flywheel energy storage. The emergency power system serves emergency lighting, security and power to the gaming floor. Garage lighting is state of the art LED lighting with ultrasonic and infrared occupancy sensors.

dbHMS enhanced commissioning of the project began in design development and now continues into eight months of building operation. Our ongoing analysis of the systems has resulted in the correction of hundreds and issues and in re-writing of equipment sequences for a more efficient operation and better indoor environment. We are worked with the building operators from training forward to ensure comprehension of all building systems.



Sachin Anand, P.E., LEED AP BD+C

Education

Master of Science, Mechanical
Engineering, Oklahoma State
University, 1996

Bachelor of Engineering,
Mechanical, Delhi College of
Engineering, Delhi, India, 1994

Professional Affiliations

American Society of Heating,
Refrigeration And Air
Conditioning Engineers
(ASHRAE)

Adjunct Professor, College of
Architecture, Illinois Institute of
Technology

Registration & Certification

LEED Accredited Professional

Registered Professional Engineer
Illinois

Email

sanand@dbhms.com



Principal

Sachin Anand, Principal at dbHMS, brings over 15 years of diversified design, commissioning, and management experience to the field of engineering, uniting artistry and analytics into a unique approach based upon the client's needs. He runs his team with uncompromising quality checks at each design phase and strives to maintain the clients goals with creative design solutions.

Alongside his responsibilities at dbHMS Sachin is an Adjunct Professor at Illinois Institute of Technology's College of Architecture and frequently presents on topics of sustainability such as, ASHRAE 90.1, Energy Conservation Codes, Energy Modeling, LEED, Integrated Design, to multitude of audiences. Sachin is a LEED accredited professional and several of his award winning projects have been featured in national and local publications including the Chicago Tribune.

Publications, Presentations and Juries

- Speaker** BUILDINGChicago & Greening The Heartland, Chicago 2013
Adaptive Reuse as Sustainable Development: Strategies for Blending Historic Structures, Sustainability and Revitalized Communities
- Member** Water Reuse Task Force, Chicago 2013
The Public Building Commission
- Speaker** Greener by Design, Chicago 2012
Measurement & Verification: Designing for the Future by Learning from the Past
- Speaker** AIA South Atlantic Region Annual Conference, Atlanta 2012
Integrated Life Cycle Analysis for Integrated Design Approach

Awards

- 2014 Emerald Award Intent to Matter: Individual Leadership**
2013 ASHRAE Technology Award – Illinois Chapter Excellence in Engineering
Awarded by: ASHRAE Board Member
Project: Harmony House for Cats
- 2013 ASHRAE Technology Award – Illinois Chapter Excellence in Engineering**
Awarded by: ASHRAE Board Member
Project: Sarah E. Goode STEM Academy
- 2013 ASHRAE Technology Award – Illinois Chapter Excellence in Engineering**
Awarded by: ASHRAE Board Member
Project: Radio Flyer Corporate Headquarters
- 2011 ENR Midwest's "Top 20 Under 40" Winner**
2009 Consulting Specifying Engineer "40 Under 40" Winner

Selected Project Experience

Commercial

- Green Exchange** – Sustainable Business Incubator – Chicago, IL (LEED Gold)
- Radio Flyer Corporate Headquarters** – Chicago, IL (LEED Platinum)
- Baja Fresh Restaurant** – 3 Locations – Chicago, Lombard, Riverwoods, IL
- Elephant Bar Restaurant** – CA
- ESPN Zone** – Chicago, IL



Sachin Anand P.E., LEED AP BD+C

(Continued)

McHugh Office Building – Mechanical and Plumbing Upgrades – Chicago, IL
Herman Miller Showrooms – Washington DC, Dallas, TX, New York, NY (LEED Gold)
Tuthill Corporation Headquarters – Offices – Burr Ridge, IL

Education

Northeastern Illinois University, Carruthers Center for Inner City Studies (CCICS) – Chicago, IL
University of Chicago, Neubauer Family Collegium for Cultural Society – Chicago, IL
University of Chicago, Axelrod – Chicago, IL
University of Chicago, Chicago Theological Seminary – Chicago, IL (LEED Gold)
University of Chicago, Becker Friedman Institute – Chicago, IL (LEED Gold)
University of Illinois Urbana-Champaign, Public Safety Building – Urbana, IL
Sarah E. Goode STEM Academy – CPS – Chicago, IL (LEED Platinum)
Ogden Elementary School – CPS – Chicago, IL (LEED Gold)
UNO Charter School – Chicago, IL (LEED Gold)
University Café Renovation – Northwestern University – Evanston, IL
Underground Book Storage Facility – Northwestern University – Evanston, IL
Joliet Junior College Facility Building – Joliet, IL (LEED Gold)
Joliet Junior College Greenhouse – Joliet, IL (LEED Silver)
Joliet Junior College Campus Center – Joliet, IL (LEED Gold)
Columbia College Media Center – Video and Sound Stages – Chicago, IL (LEED Gold)

Institutional

Chicago Botanic Garden Children’s Learning Center Building – Chicago, IL
Morton Arboretum Visitor’s Center – Visitor Center and Café – Lisle, IL
Shellbourne Conference Center Expansion – Valparaiso, IN
Chicago Christian Industrial League – Mixed-Use Development – Chicago, IL
Chicago Temple – High-Rise Infrastructure Replacement – Chicago, IL
Science Storms Exhibit – Museum of Science and Industry – Chicago, IL
Blue Planet Red Planet Exhibit – Museum of Science and Industry – Chicago, IL
e-Suites Remodeling – Museum of Science of Industry – Chicago, IL
Yellow Mezzanine Offices – Museum of Science of Industry – Chicago, IL
West Pavilion HVAC Upgrade – Museum of Science and Industry – Chicago, IL
Blue Wall Center – Nature Center – Cleveland, SC (LEED Platinum)
Main and Osage – Mixed-Use – Normal, IL (LEED Silver)
Gary Comer Youth Center – Mixed-Use Community Center – Chicago, IL (LEED Silver)
Oakbrook Public Library – Oak Brook, IL
Zion Benton Library – Zion, IL
Poetry Foundation Library Center – Chicago, IL (LEED Silver)

Healthcare

Ottawa Regional Hospital Mental Health Facilities – Ottawa, IL (LEED Platinum)
Pilsen Mental Health Facility – Chicago, IL
Saint Matthews Center for Health – Chicago, IL
The Women’s Treatment Center – Chicago, IL
Serenity House, Treatment Facility – Addison, IL
MHSI ISACC COGGS Dental Clinic – Silver Springs, WI
University of Chicago Medical Center, Goldblatt Pavilion – Chicago, IL
University of Chicago Medical Center, Billings Hospital Renovation – Chicago, IL
University of Chicago Medical Center, Brain Surgery – Chicago, IL

Industrial

Bolingbrook Corporate Center – Warehouse – Bolingbrook, IL (LEED Silver)
Christy Webber Landscapes – Office and Warehouse – Chicago, IL (LEED Platinum)
28th Ward Yard – Chicago, IL (LEED Gold)

Government

Village of Matteson – New Village Hall – Matteson, IL
Ford Calumet Environmental Center – Chicago, IL (LEED Platinum)
Aurora Police Station – Aurora, IL (LEED Gold)