

Waldsee BioHaus FACT SHEET

Waldsee BioHaus serves as a living and learning facility where students and visitors are immersed in the German language, culture and the study of sciences through world-class design. It brings to life the Concordia Language Villages' mission – “to prepare young people for responsible citizenship in our global community.”

While it is part of the German Language Village, Waldsee BioHaus benefits the entire community of Concordia Language Villages, giving it the physical space it needs to serve more villagers as well as expanding the ability of Concordia Language Villages to teach environmental studies, conduct outreach and provide a look into modern German culture.

As the first certified Passivhaus in North America, Waldsee BioHaus' cutting-edge design facilitates environmental living and learning. The building showcases new approaches to energy conservation and innovations in sustainable building design, including:

- Energy-standard-based design using the German Passivhaus (Passive-house) standard, the world's premier test of energy efficiency
- Use of alternative and renewable energy resources
- Extensive green roof
- Low impact and healthy building materials
- Simple building design and technology
- Low-energy-use mechanical equipment and appliances

OPENED August 11, 2006

LOCATION Waldsee German Language Village
Concordia Language Villages
Bemidji, MN 56601

Waldsee BioHaus is the first Passivhaus built in such a cold winter climate.

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Building Details

	Area [m ²]	Area [sft]
Dormitories		
Number of Dorms	4	4
Size of Dorm	17,85	192
Total	71,40	768
Circulation Area		
Lounge / Hall — Lower Floor	35,70	384
Foyer / Hall — Upper Floor	35,70	384
Total	71,40	768
Bathroom Facilities		
Toilets / Shower	8	8
Size total	27,60	297
Total	27,50	297
Small Apartment		
Bedrooms	2	2
Bedrooms total	26,00	280
Living/Dining	28,30	304
Bathroom	3,70	40
Total	58,00	624
Common Room / Studio		
Common Room	85,50	920
Studio	25,70	276
Kitchen	19,30	208
Storage	4,00	43
Total	134,50	1,447
Mechanical Room		
Mechanical Room	101,10	1,088
Total	101,10	1,088
Total Area	464,00	4,992

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WALDSEE BIOHAUS DESIGN

Waldsee BioHaus design combines two main elements:

- Private areas containing dormitories and an apartment at the base or rear of the building as represented by the areas finished in blue stucco and its massive walls
- Public areas for gathering, playing and learning located in the areas finished in the light-reflective aluminum siding with thinner walls, that rate at essentially the same R-value as thicker walls due to the application of innovative insulation materials.

Stephen Tanner, the architect of record, from INTEP, LLC, worked with three core themes, *Durchblick*, *Einblick* and *Ausblick*, all which are based on his vision of immersion learning, inside/outside relationships and establishing an understanding of nature.

Durchblick

Upon entering the building, one experiences the *Durchblick* – “seeing through” the building from west to east toward the lake. The immediate sensation is one of experiencing the building’s transparency. In a more figurative sense, *Durchblick* refers to a deeper understanding one gains of a subject or life in general, or in this case, a deeper immediate understanding of Waldsee BioHaus.

Ausblick

Ausblick is the view “seeing out” into the forest to the south from the large windows in the Common Room and the Studio. The term *Ausblick* also refers to the outlook one gains on life or an issue. In the case of Waldsee BioHaus, it may refer to the new perspective, the new understanding a visitor may gain by “looking inside” first.

Einblick

Einblick or “seeing into” is reflected in a small, elongated window in the Studio and reflects the task of exploring something in detail. *Einblick* plays on the ideas of being able to “look in” and to gain insight into the inner works of Waldsee BioHaus.

FEATURES/ SPECIFICATIONS

Mechanical room that showcases the building’s technology.

- Building management system that monitors the building’s vital signs in real time and online (www.waldseebiohaus.com).
- Environmental learning studio
- Lower level lounge
- Solar powered showers
- Low-emission building products, materials and chemicals.
- 100 percent fresh-air; no re-circulated indoor air is used to heat or cool the building.
- Environmental-friendly building products and materials used in the construction of Waldsee BioHaus.
- Full range of communications systems including data networks and WiFi.
- Green roof planted with low-growing, sun-and drought-resistant ground cover.

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**CONCORDIA
LANGUAGE
VILLAGES**

Christine Schulze

Executive Director/CEO, Concordia Language Villages
Vice President for International Development, Concordia College

**PROJECT
TEAM**

Christine has been the executive director and CEO of Concordia Language Villages since 1989. In 2006, she was appointed vice president for international development at Concordia College, Moorhead, MN. She has been a Concordia Language Villages staff member for 32 years and was a Spanish villager for one year. She served as dean of Lac du Bois, the French Language Village, and directed the French Village Weekends for six years. Schulze also was the first leader of French Voyageurs and co-led an abroad program to Switzerland. She is fluent in French and has studied German and Spanish. She has presented extensively nationally and internationally on language and global education.

Christine graduated from Concordia College, Moorhead, with majors in French, history-political science and a minor in German with secondary education certification. She studied in Rennes, France, and taught French at Concordia for a year. She attended an international law study program in Lyon, France, and earned a juris doctorate from the University of Minnesota Law School. She was admitted to the State Bar of Minnesota.

Dan Karl Hamilton

Dean of Waldsee, German Language Village

Dan has been engaged with Concordia Language Villages since 1968. With strong dedication, creativity and energy he has led Waldsee particularly in curricular and staff development, program innovation, fundraising and outreach. He holds a Ph.D. and MA with distinction from Johns Hopkins, a B.S. from Georgetown University, and a Doctor of Humanities h.c. from Concordia College, Moorhead, MN.

Dan has served in a variety of functions in the U.S. Department of State and now serves as the Richard von Weizsäcker professor and the director of the Center for Transatlantic Relations at SAIS as well as the executive director of the American Consortium on European Union Studies. He serves on a number of boards, has been awarded Germany's Federal Order of Merit (*Bundesverdienstkreuz*), and is a regular media commentator on international relations and education.

Martin Graefe

Director of Year-round Programs
Concordia Language Villages

Martin is the director for year-round programs. Graefe has been on staff at Concordia Language Villages for 19 years, including 10 years as the associate director for operations. He is a native of Germany and has studied French. He met his wife Lisa at Waldsee, the German Language Village; their three sons have been villagers at Waldsee, Skogfjorden and Lac du Bois. The family resides in Bemidji, MN and has attended all Waldsee family weekends, which Lisa coordinates and leads.

Graefe received his bachelor's degree from the University of North Dakota, Grand Forks, ND, and a masters degree in business administration from the Carlson School of Management at the University of Minnesota.

Since joining the Villages he has been involved with Rotary International and the American Camp Association, occasionally presenting at its national conference.

Martin's involvement with the Waldsee BioHaus started in the fall of 2004 and included the selection of the architectural firm, attending the Passivhaus conference in the spring of 2005 and contributing to the overall planning team throughout the construction process.

Edwin Dehler-Setzer

Environmental Education/Natural Resource Management Specialist
Concordia Language Villages

A native of Fulda, Germany, Edwin is a widely recognized expert in the field of environmental education and immersion learning. He has led the environmental program at Waldsee and Concordia Language Villages for 18 years. He holds an M.S. in environmental studies with specialization in environmental biology from the Antioch New England Graduate School in Keene, New Hampshire, and acquired his teacher certification in biology and physical education from the University of Regensburg, Germany.

Edwin's early dreams of a residence at Waldsee that focuses on community living inspired what now has become Waldsee BioHaus. His enthusiasm for learning, education, and environmental stewardship has spread into an unmatched passion for every aspect related to using the BioHaus as the educational tool it is envisioned to be. His construction journal on Waldsee BioHaus can be found at www.ConcordiaLanguageVillages.org (click on German – das BioHaus – Construction Journal).

**CONCORDIA
LANGUAGE
VILLAGES**

Architect of Record
Stephan Tanner, AIA
INTEP, LLC; Minneapolis, MN

**DESIGN
TEAM**

Stephan has won several national and international awards for designs in housing, commercial and institutional planning projects in Switzerland. He's also led planning and design projects for a variety of high-performance real estate projects in the U.S., Europe, China and Korea. Now a licensed architect in Minnesota, Stephan continues to pursue his passion for people and their diverse ways of "place-making" through innovative projects like Waldsee BioHaus.

Mechanical Concept
Rene Sigg, PE
Petra Benkhoff, PE
INTEP, GmbH, München, Zürich

Sustainability
Thomas Rühle, PE
INTEP, GmbH
München, Zürich

Joel Schurke, Principal
INTEP, LLC
Minneapolis, MN

Structural Concept
David Morris, PE
David Morris Structural
Eden Prairie, MN
Construction Team

General Contractor
Howie Zetah and Doug Pearson
Zetah Construction
Bemidji, MN

Plumbing
Wes' Plumbing
Bemidji, MN

Heating & Ventilation
Peterson Sheet Metal
Bemidji, MN

Electrical
Wiebolt Electric
Bemidji, MN

Insulation
North Country Insulation
Bemidji, MN

**TECHNOLOGY/
MATERIALS
PARTNERS**

Amvic
www.amvicsystem.com
Products:
Insulated Concrete forms (ICF)
Expanded polystyrene insulation (EPS)

Emory Knoll Farms
www.greenroofplants.com
Products:
Extensive green roof plants

INTEP, LLC
Minneapolis, München, Zürich
www.intep.com
Services:
Architect of Record
Sustainability concept and passive house
standard implementation

Optiwin/Müller Fensterbau
www.optiwin.net/de/
Products:
Passive house certified wood windows
and doors

**OTHER KEY
BUILDING
COMPONENTS/
SERVICES:**

Icynene
www.icynene.com
Product: Spray foam insulation

Industry & Design Light, Inc.
www.dl-lighting.us
Product: Lighting

Luefta GmbH
www.luefta.de
Product: Heat recovery unit

**REHAU (+ REHAU North America), Energy
Dynamics/Hydron Module and Euroline
Windows**

www.rehau-na.com/
www.energy-dynamics.com/
www.euroline-windows.com/
Products:
AWADUCT®: Earth-tube collector
RAUSOLAR Solarthermal hot water system
RAUGEO® + Hydron Module®; Ground source
heat pump system
Radiant floor heating system
Domestic water and wastewater piping systems
Euroline Windows

Siemens and Staefa Controls
www.siemens.com
www.staefa.com
Products:
Kitchen and building monitoring/control systems

Sto
www.stocorp.com
Products:
Sto-Guard®, Building Wrap/Air Barrier System
EIFS NExT®, Exterior Insulated Wall Cladding
System

Porextherm Dämmstoffe GmbH
www.porextherm.com
Product: Vacuum Insulated Panels

Sarnafil
www.sarnafilus.com
Product: Roof membrane

WAREMA Renkhoff GmbH
www.warema.com/en
Product: Shading device

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