

# Proving Your Point: Researched Sustainable Strategies in Historic Housing applied and documented in contemporary practice.

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Good design  
makes a difference™



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**Value in Every Qualified Home**



Core  
Efficiency  
Measures

+

System  
Inspection  
Checklists

- For builders /developers /architects
  - Greater quality and process control.
  - Reduced costs from warranty issues & customer complaints.
  - Maximum value for money invested.
- For homeowners
  - Lower utility bills.
  - Better comfort, durability, and quality.
  - A more livable home.



**THE AMERICAN  
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OF ARCHITECTS**



**Louis Wasserman AIA**  
Principal Architect

**M. Caren Connolly**  
Landscape Designer

of Louis Wasserman & Associates

Submit a question to the moderator  
via the Chat box. They will be  
answered as time allows.



**Stephen Schreiber FAIA**

Professor and Architecture+Design Program Director  
Department of Art, Architecture, and Art History  
University of Massachusetts Amherst  
Moderator

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# Course Description

When architects innovate they have a responsibility to  
“Prove their Point.”

Wasserman and Connolly will demonstrate the innovative and sustainable building practices of historic residential architecture found in the homes they researched for their book *Wisconsin's Own: Twenty Remarkable Homes*. They will explain how one particular sustainable strategy: the Vent Chimney was researched and adapted to new projects. Wasserman and Connolly will show how they employed economical tools to gather the necessary data to  
“Prove their Point.”





# Learning Objectives

1. Explain the contribution that historic residential architecture makes to contemporary American architecture.
2. Evaluate an historic home's sustainable practices according to current environmental standards.
3. Discuss how sustainable strategies in historic residential architecture can actually be applied today.
4. Demonstrate how practicing architects can use economical and technical tools to gather data to demonstrate the efficacy of their design intent...to “prove their point.”





C

# WISCONSIN'S OWN

Twenty Remarkable Homes

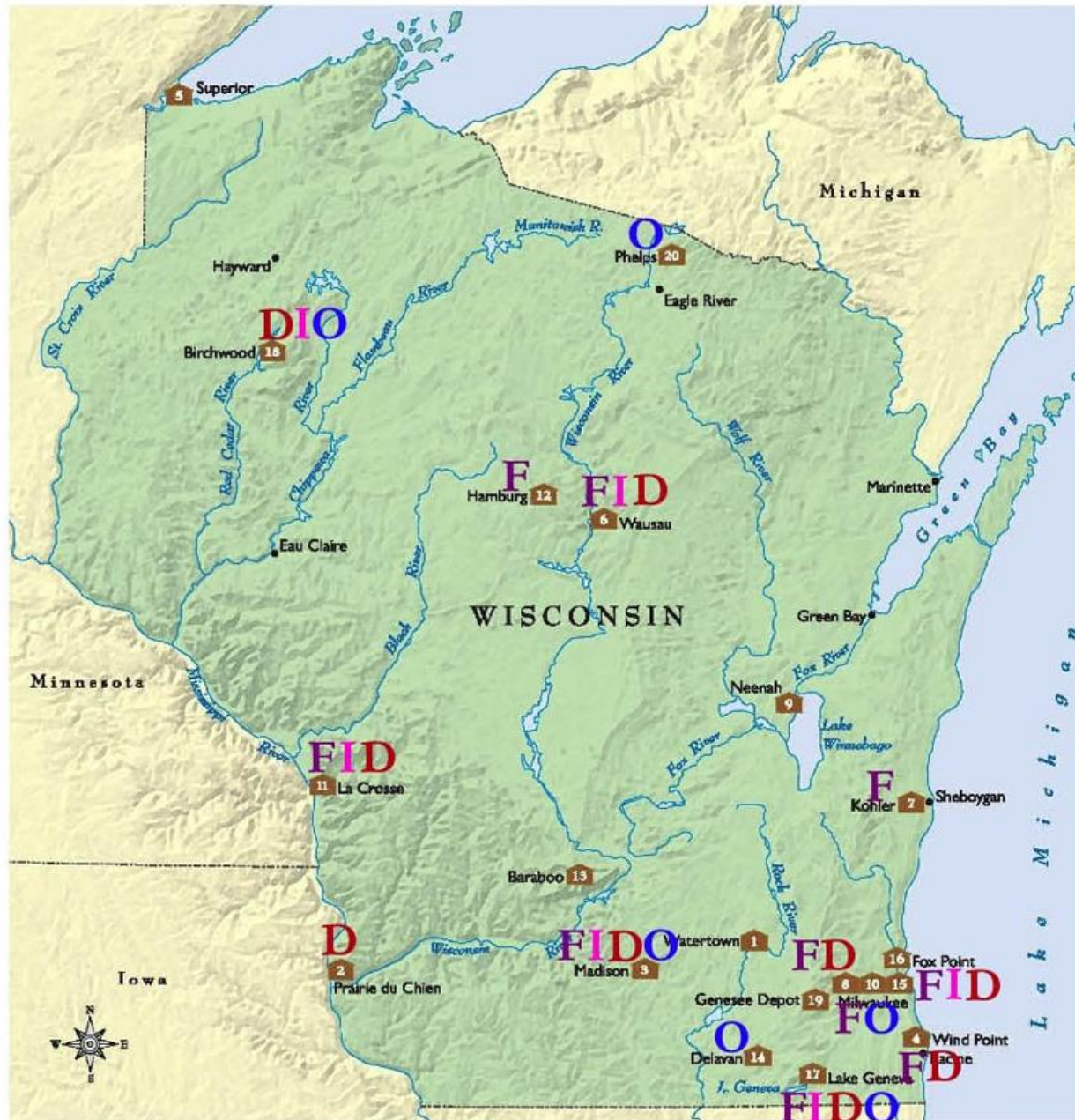
M. Caren Connolly  
& Louis Wasserman

PHOTOGRAPHY BY  
Zane Williams

ILLUSTRATIONS BY  
Louis Wasserman & M. Caren Connolly

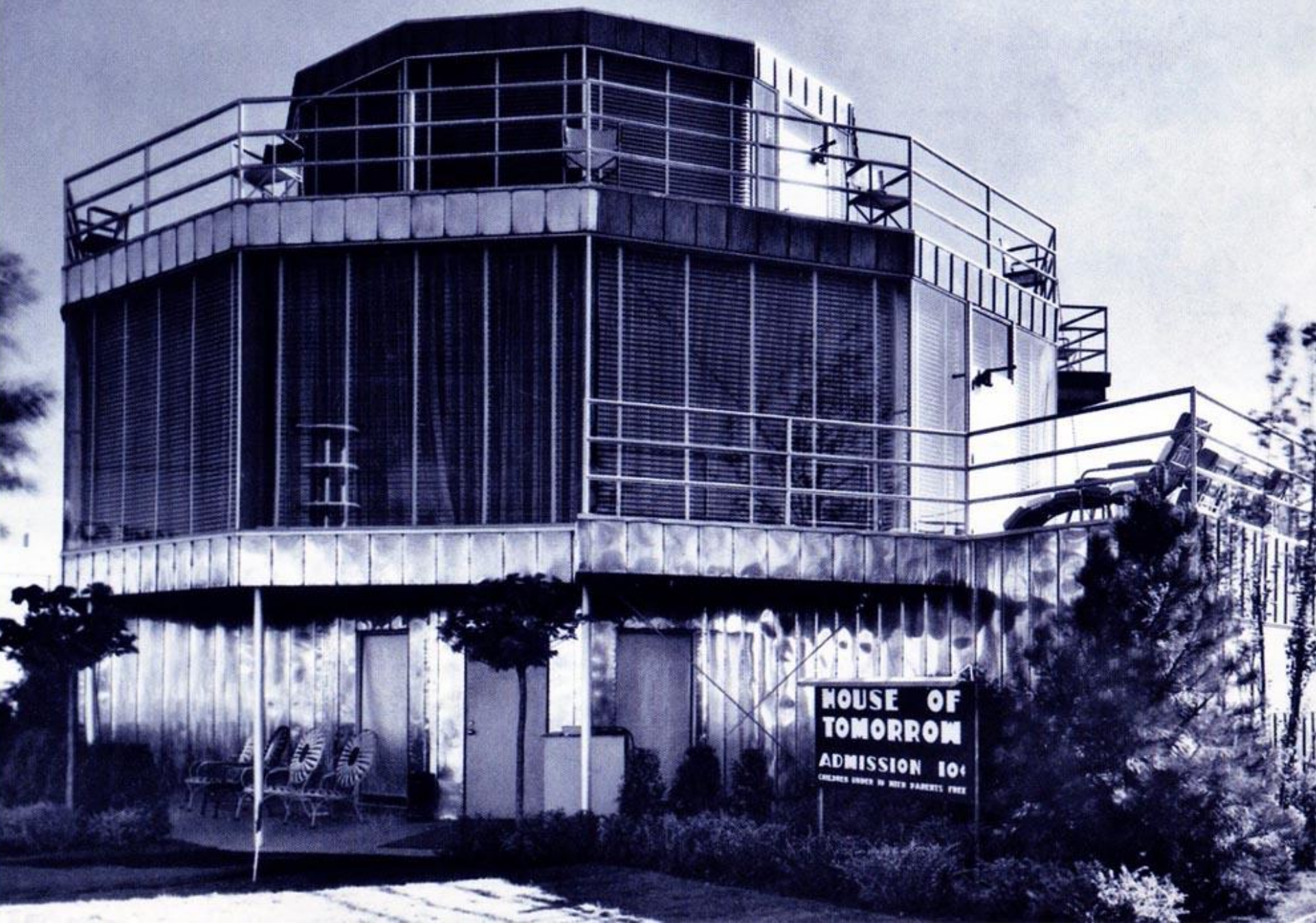


# Illinois Connections



1. OCTAGON HOUSE
2. VILLA LOUIS
3. HAROLD C. BRADLEY HOUSE
4. WINGSPREAD
5. FAIRLAWN
6. CYRUS C. YAWKEY HOUSE
7. RIVERBEND
8. VILLA TERRACE
9. HAVILAH BABCOCK HOUSE
10. CAPTAIN FREDERICK PARST MANSION
11. HENRY A. SALZER HOUSE
12. WALTER AND MABEL FROMM HOUSE
13. HOUSE OF SEVEN GABLES
14. ALLYN MANSION
15. ADAM J. MAYER HOUSE
16. BROOKS STEVENS HOUSE
17. WADSWORTH HALL
18. ISLAND OF HAPPY DAYS
19. TEN CHIMNEYS
20. FORT EAGLE



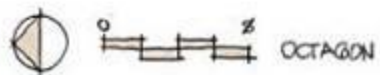


**HOUSE OF  
TOMORROW**  
**ADMISSION 10¢**  
CHILDREN UNDER 10 WITH PARENTS FREE



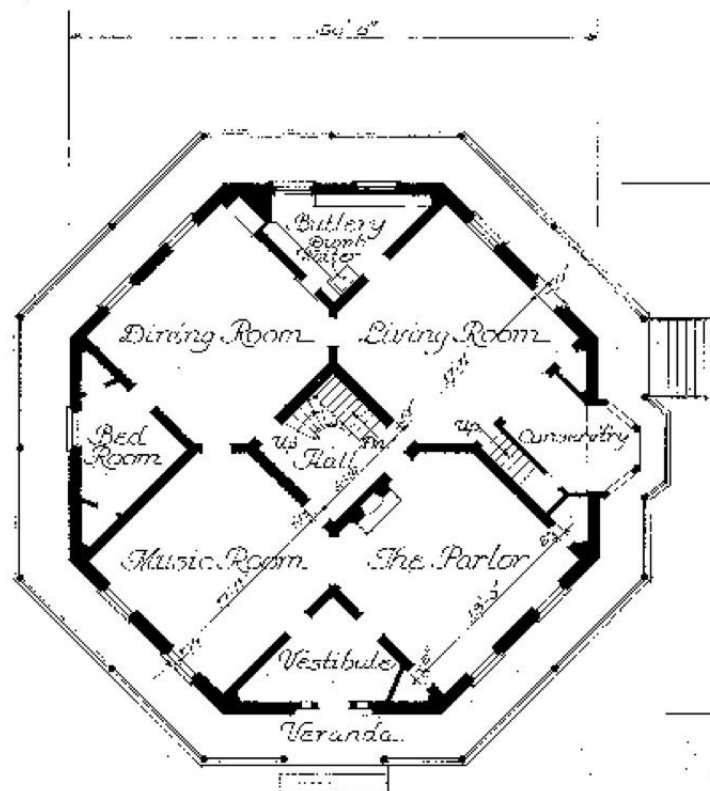
# Octagon House Watertown 1854











First Floor Plan.  
Scale  $\frac{1}{4}$ "-1'-0"

Foundation walls below grade, stone & brick above, 17" thick. Walls 13" & partitions 8" brick, except minor partitions of closet sets which are frame. Cistern walls 24" thick.

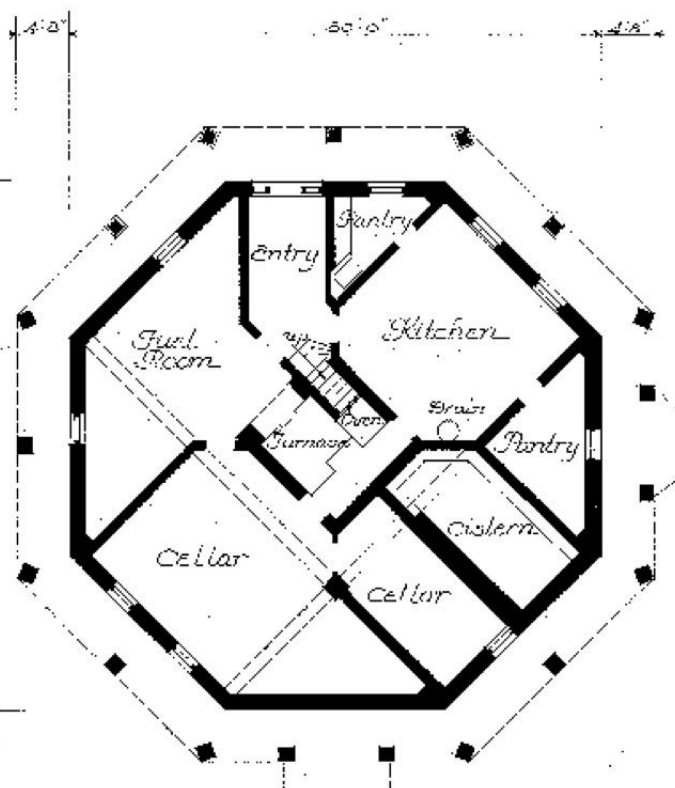
Delinators --

Hugo Legemann

E. H. Bernhard

A. F. Keymer

W. H. Mitterhausen



Ground Floor Plan.  
Scale  $\frac{1}{4}$ "-1'-0"

Wall around central square is two 4" tiers of brick with a 4" space between, which is divided to form 4 chimney flues and hot air ducts to each of the 12 major rooms.

Scale  $\frac{1}{4}$ "-1'-0"

Proportional Scale in Meters

Joists, rafters, studs & timbers are of oak. Floors of 1 1/2" M.D. white pine, 1 1/4" to 7/8" face. Ground floor Entry paved with 6 1/2" brick hexagons. Paper, smooth finish lime, on hard split lath.











# Practically Green: Sustainable Hallmarks

L

- \* Embodied Energy/Local Materials
- \* Vent Chimney & French Doors
- \* Central Heating w/Kitchen oven
- \* Grey Water
- \* Orientation & Siting
- \* Volume Enclosure
- \* Structural System
- \* Built to Last
- \* Daylighting

- \* 8" interior walls
- \* 13" Perimeter (3 wythe) walls
- \* 24" thick Cistern
- \* 17" Foundation Walls



## Gray Water System

1. Inverted roof collects rainwater
2. Water sent through core to reservoir
3. Delivered to bathtub & lavatories
4. Basement cistern receives overflow from reservoir and collects "gray" water.
5. Hot water heated through kitchen range coil then directed to 2nd & 3rd floor niches





### Summer Day: Expel Heat

- a. Hot air collects in stair tower.
- b. rises and is expelled through roof vents
- c. and expelled through vent chimneys

### Summer Evening Collect Cool Air

- d. Roof Vents & vent chimney collect cool evening air
- e. Heavy cool air falls through stair tower
- f. Cool air is collected in stone basement thermal bank





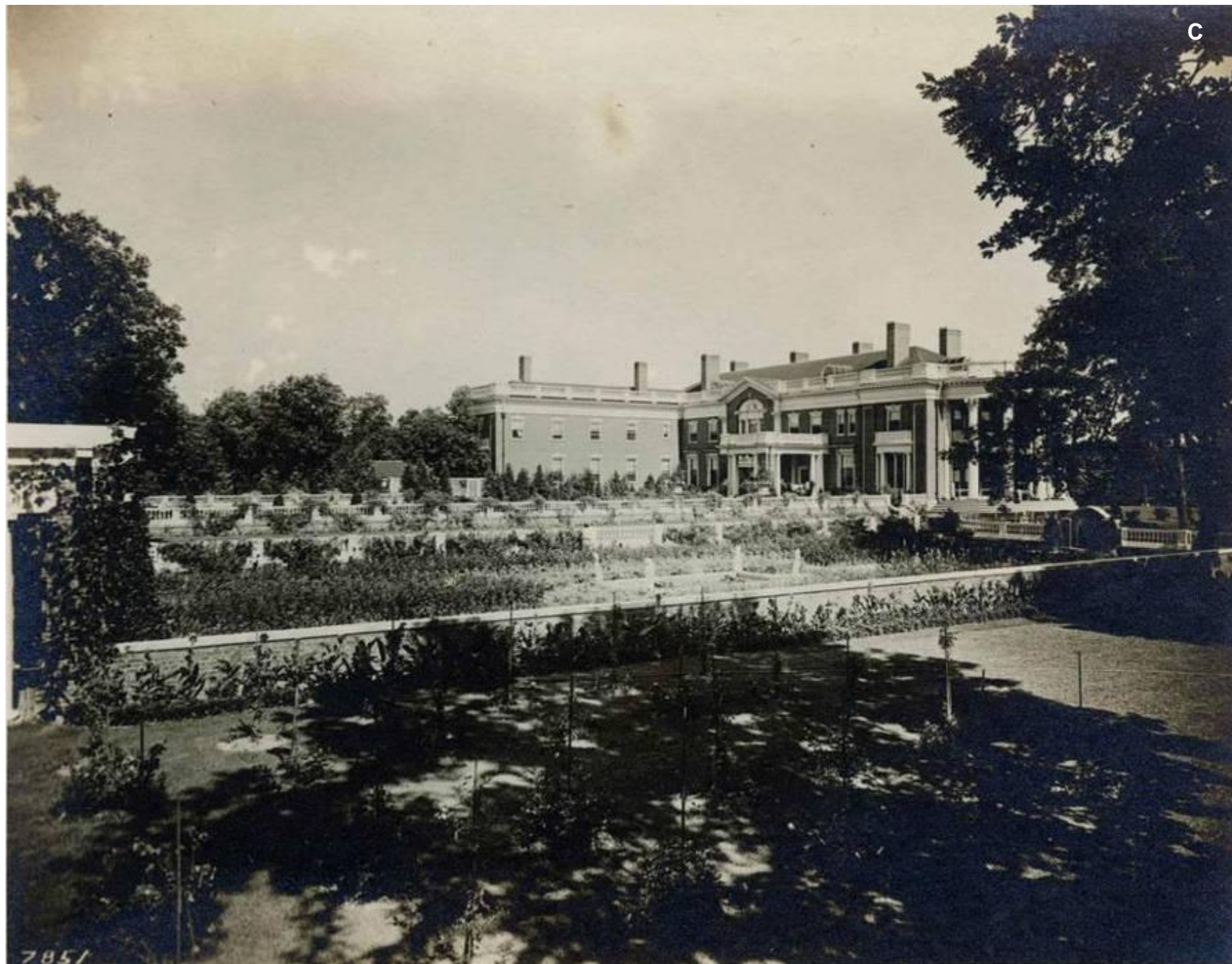
# Wadsworth Hall, Lake Geneva

Olmsted Brothers  
1905

C













# Riverbend Kohler

Olmsted Brothers  
1921-1923



# Brooks Stevens House Fox Point 1939



BROOKS STEVENS











# Captain Frederick Pabst Mansion Milwaukee 1892



0 10 20 30 feet



























A Prairie Style Home in Middleton Hills



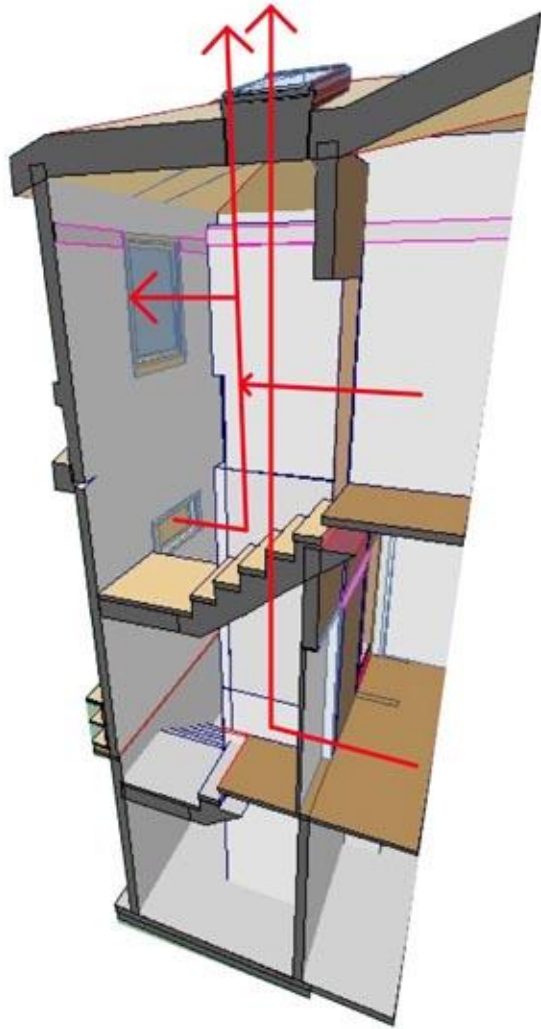




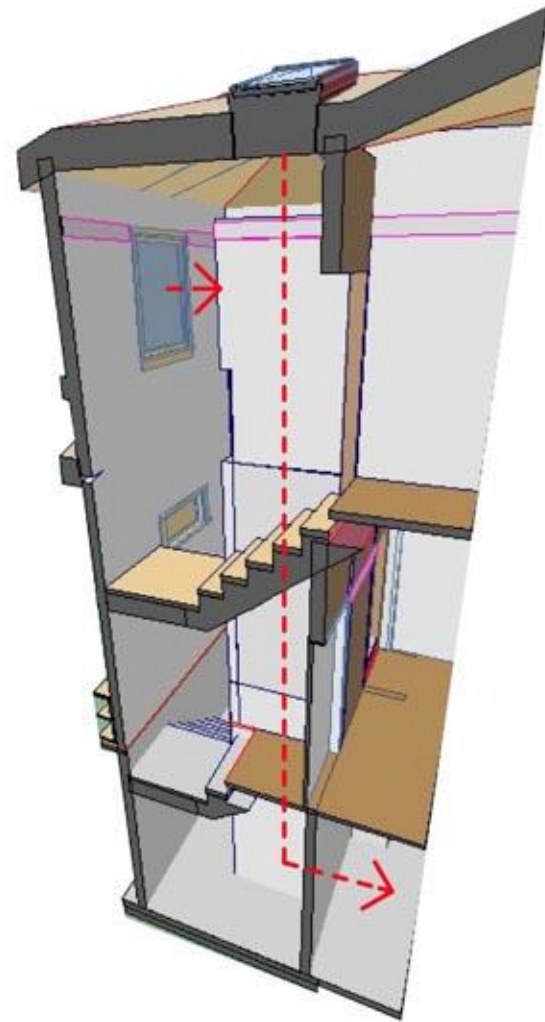




## 2 Summer Day: Expel Heat



## 3 Summer Night: Collect Cool Air



Ventilation Chimney  
Notes for Summer  
Cooling Cycle

1. Mechanical system provides conditioned air.
2. Hot air collects in Stair Tower aided by building fan at roof of tower and is expelled by skylights, windows and building fan.
3. At evening/cool cycle stair and vent shaft collect outside cool air and store in basement thermal mass then distribute to floors above.

# Allyn Mansion Delavan

## 1884-1885

C

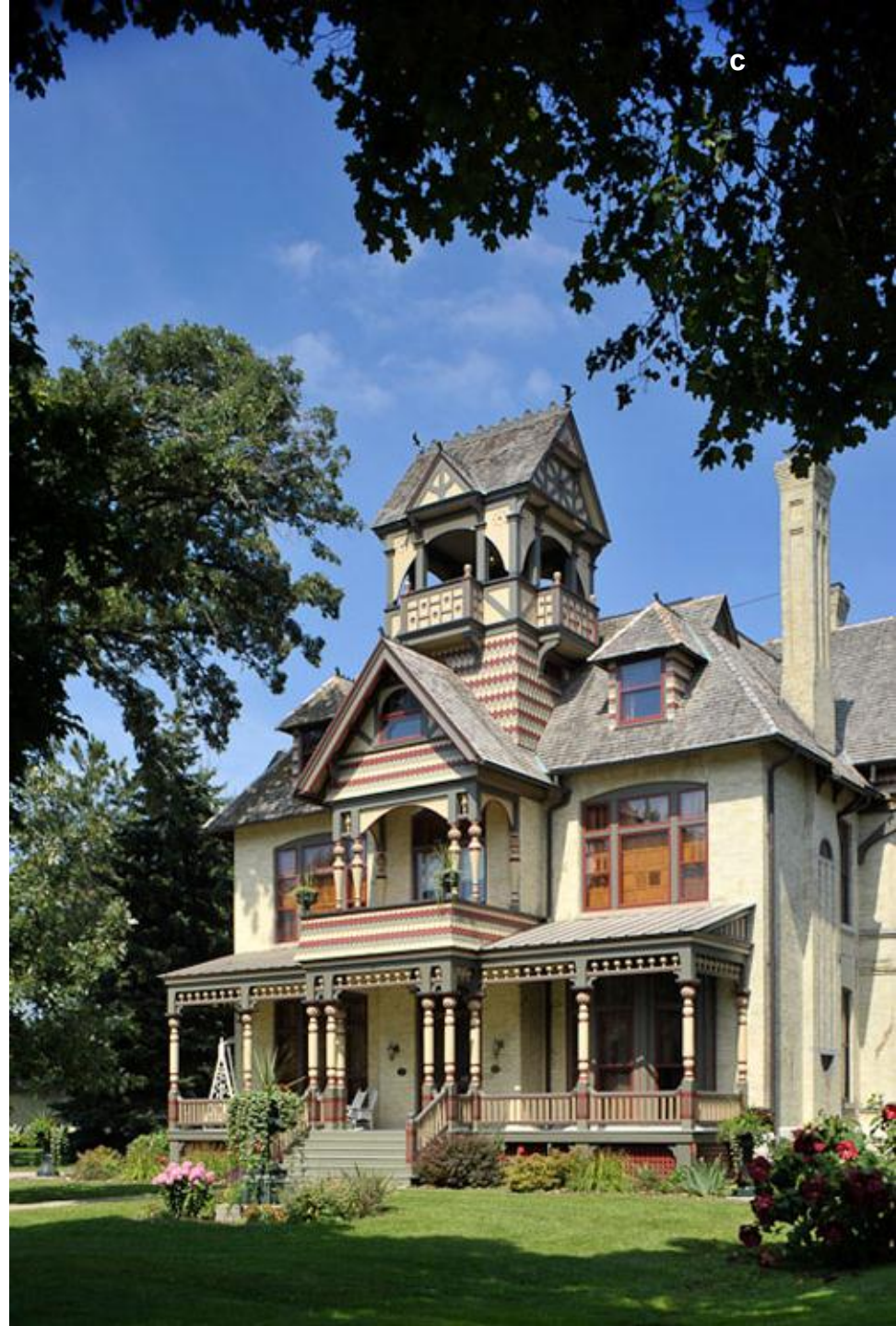




Residence of A. H. Allyn, Delavan, Wis.











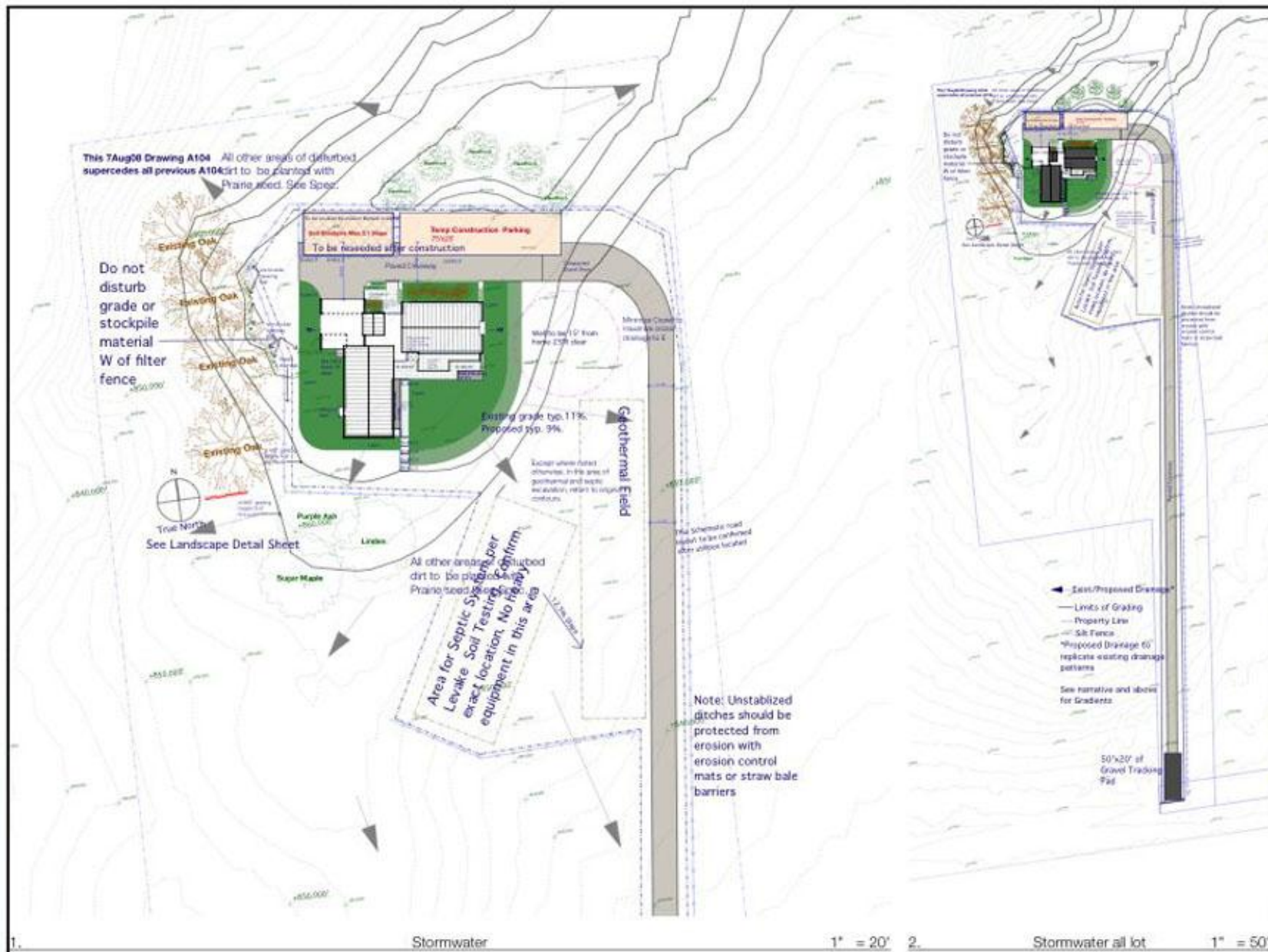






# A family home on 80 acres in Whitewater<sup>L</sup>





**Wasserman Connolly**  
Landscape Architecture, Inc.

**Studio On Broadway**  
1000 Broadway, Suite 1000  
New York, NY 10003  
Tel: 212 675 1000  
Fax: 212 675 1001  
www.studioonbroadway.com

**CONSULTANTS**

H. Cohen Connolly  
Landscape Architecture

Mike West,  
Computerized Structural Design

William Yablonsky  
Revolutionary Architecture, Gardenland

**A Home for Nola, Kate, Aidan,  
Jessica and Joe Coburn**  
1000 Broadway, Suite 1000  
New York, NY 10003

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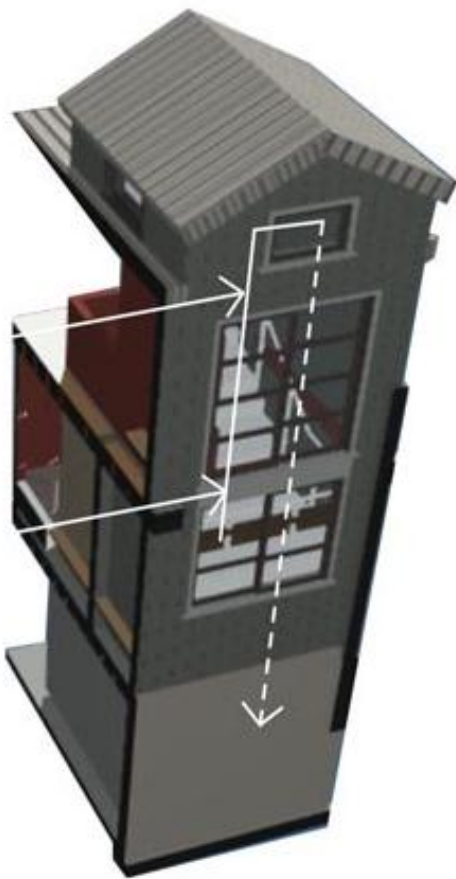
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SHEET 4 OF 27



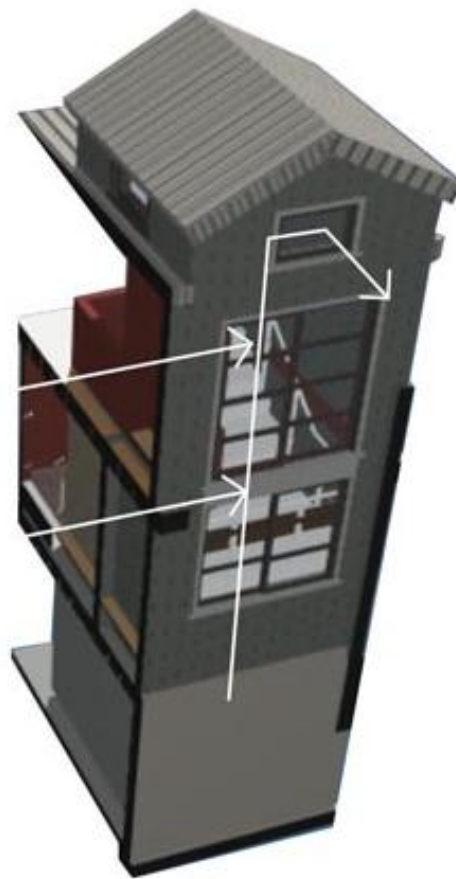




## Winter

Ventilation Chimney Notes for Winter Heat Cycle

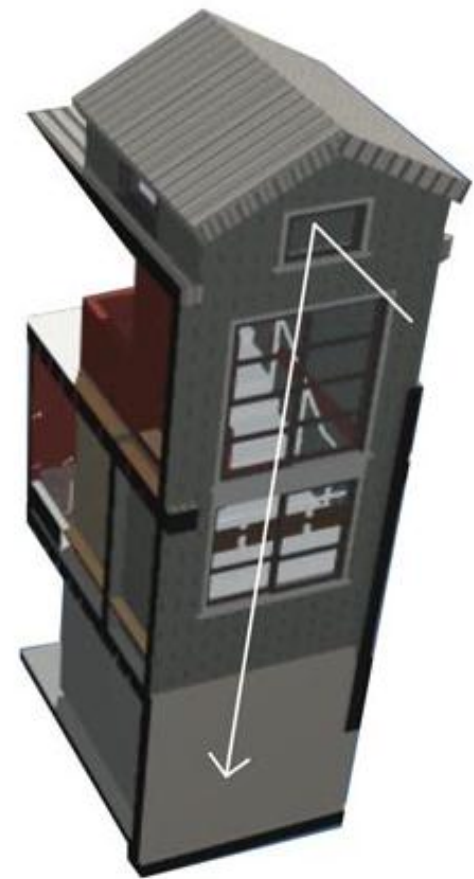
1. Mechanical system provides heat.
2. Stair tower collects rising heat aided by building fan at roof of tower
3. Vent shaft collects hot air at top of stair tower and redirects to first floor aided by fan at base of vent shaft.



## Summer Day

Ventilation Chimney Notes for Summer Cooling Cycle

1. Mechanical system provides conditioned air.
2. Hot air collects in Stair Tower aided by building fan at roof of tower and is expelled by skylights, windows and building fan.
3. At evening/cool cycle stair and vent shaft collect outside cool air and store in basement thermal mass then distribute to floors above.



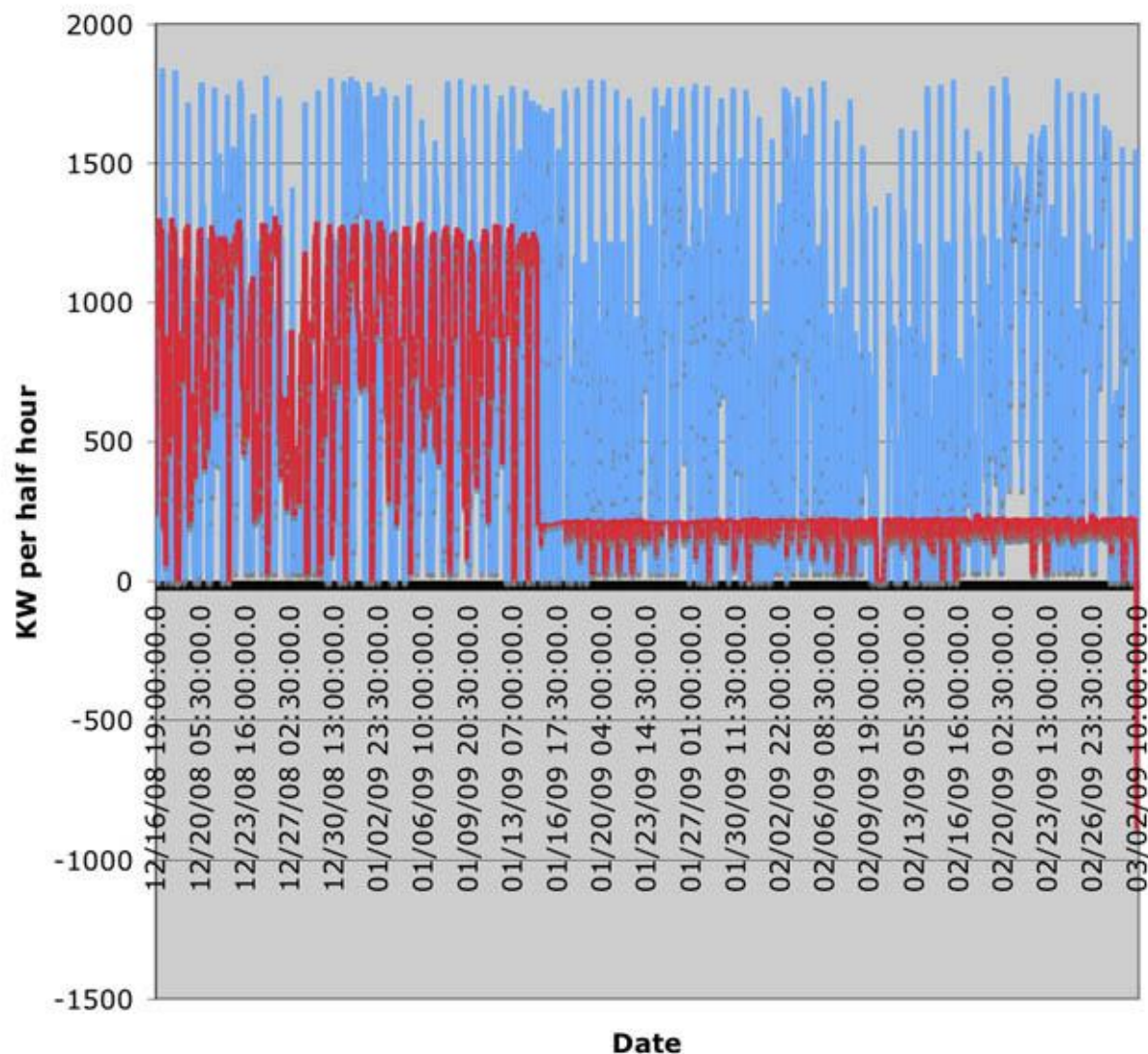
## Summer Night



# The Wisconsin Energy Conservation Corp & The Energy Center loaned data loggers



# Coburn Geo Dec-Mar09



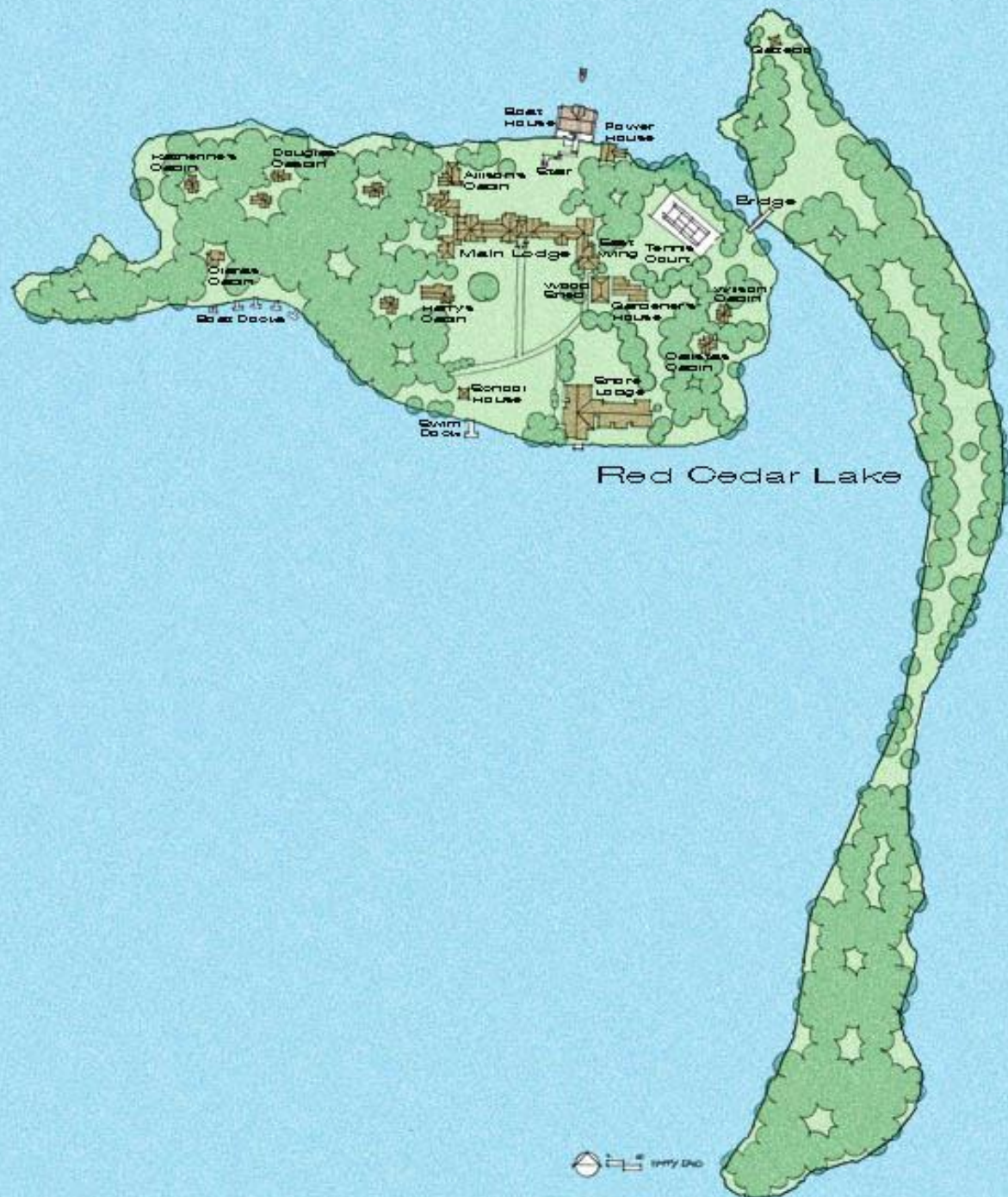
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 921 930 1235 1831 1372 1580 1549  
 1764 1795 1687 1682 1625 1462  
 1396 23 0 268 791 930 1227

Geotherm2 Counts (#) 4093 0 206  
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 976 896 1045 1004 1054 889 750  
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 Number Memory Size (Bytes)  
 Deployment Series Info Points Used  
 First Point Last Point Duration Stats  
 Wrap Count Max Value Min Value Avg  
 Value Launch Parameters Load Time  
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 data in the series 3704 12/15/08  
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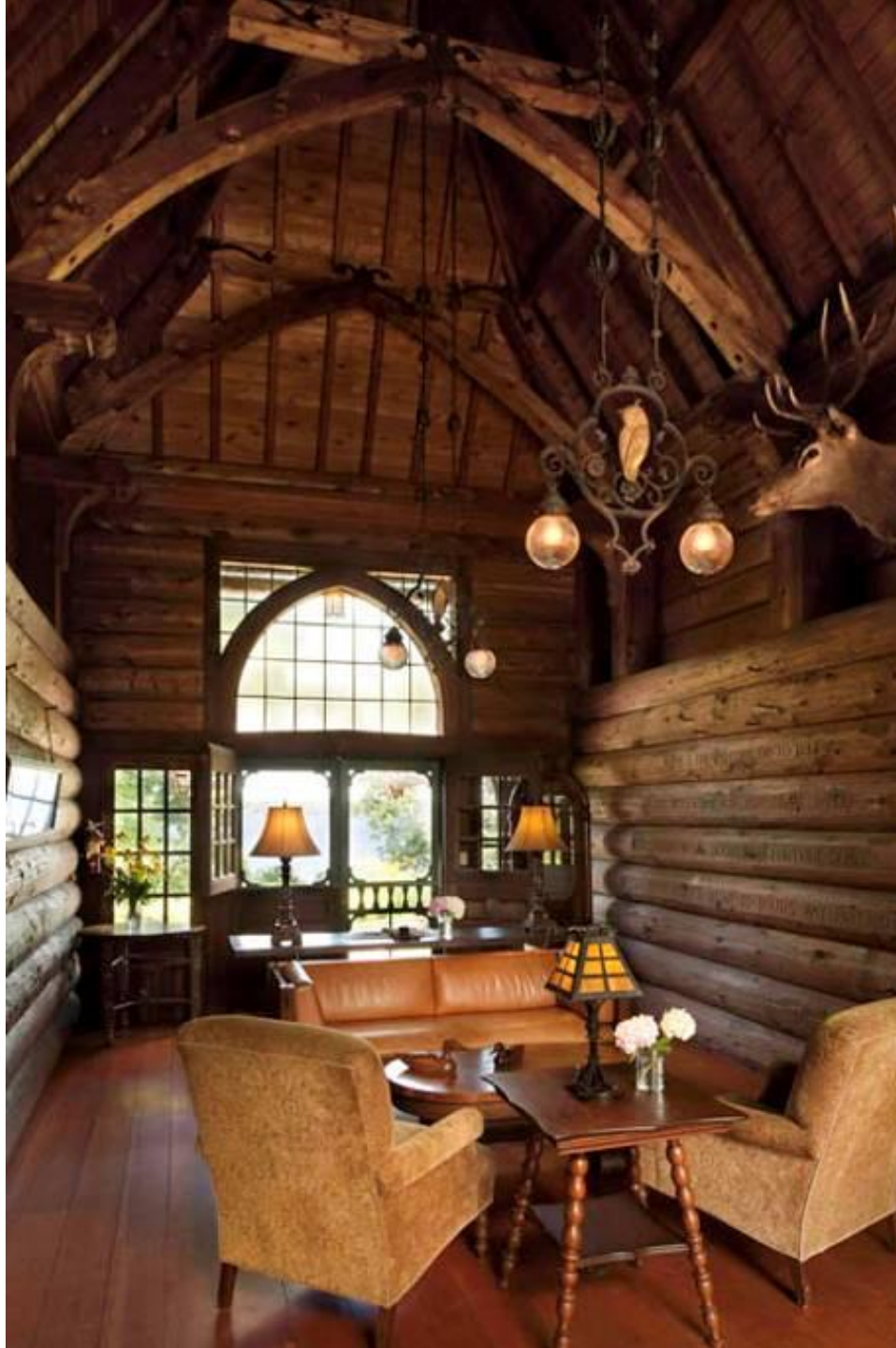


















M. Caren Connolly & Louis Wasserman  
Architecture Landscape Architecture

[www.louiswassermanandassociates.com](http://www.louiswassermanandassociates.com)



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Principal Architect

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**Stephen Schreiber FAIA**

Professor and Architecture+Design Program Director  
Department of Art, Architecture, and Art History  
University of Massachusetts Amherst  
Moderator



# Thank you for joining us!

This concludes the AIA/CES Course #H12003.

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