ACCESSIBLE GREEN HOME

1030 S. TAYLOR AVE.

DETAILED PLANS SUBMISSION

JUNE 02, 2008

OAK PARK RESIDENCE CORPORATION

ARCHITECTURAL CONSULTING ENGINEERS

NIERMANN BUILDERS

TOM BASSETT-DILLEY ARCHITECT, LTD

I. PROJECT OVERVIEW

VISION

Our team's vision is to develop a home that would be unique in Oak Park, a home which offers "green" technology (using LEED for Homes as the rating system) and is built to an adaptable standard for later conversion to full handicapped accessibility. Our goal is also to offer this home at a price point that is affordable to a middle income homebuyer. We believe that our prototype home would be the first such home in Oak Park and probably in the Chicago metropolitan area.

Although all of our team participants are committed to the preservation of Oak Park's historical character and architecture, we have determined that demolishing the existing home at 1030 South Taylor and replacing it with a newly constructed home is preferred to attempting to preserve an obsolete building (see explanation in "Design Concept/Site" portion of proposal).

Our target buyer for this home is an elderly couple who are planning ahead for the time that they would need to convert the home to take advantage of its accessible design. Alternatively, the home is designed so that a family which includes a parent or child with disabilities can immediately take advantage of the home's adaptable design and convert it to full accessibility.

Because of our desire to provide both affordability and accessibility, the home is a single story structure that retains a linkage with its neighborhood. The residents of the home will have a front patio offering unobstructed views of Barrie Park and also the privacy of a side and rear yard. The size and scale of the house will also be compatible with the surrounding structures.

The home's affordability is enhanced by its low operating cost. The use of geo-thermal heating and cooling and the passive solar features of the

home will reduce the costs of operating the home to less than one-half of the costs of a conventional home.

We believe that our vision for this home is in keeping with the Village of Oak Park's long standing position as a leader in the housing field. Sustainability, accessibility and affordability are the hallmarks of our design.

DEVELOPMENT TEAM

Our team is composed entirely of Oak Park participants. Detailed credentials for our development team are found in our initial response to the Village's Request for Proposals.

The developer for the project is the Oak Park Residence Corporation. For more than forty years, the Residence Corporation has partnered with the Village of Oak Park in rehabilitating and preserving some of the most important multi-family rental buildings in the community. The Residence Corporation has also been a leader in rehabilitating deteriorated single family homes that have fallen into foreclosure.

Our team architect is Tom Bassett-Dilley. Tom's architecture practice focuses on creating a new vernacular architecture: resourceful, ecological, fitting and inspiring in simplicity. Our design for the 1030 South Taylor site reflects Tom's architectural vision.

Our Mechanical Engineer and Geo-thermal expert is Mark Nussbaum of Architectural Consulting Engineers (ACE). Mark has extensive experience in designing energy systems that are "green" and sustainable.

Drew Niermann of Niermann Builders will serve as the general contractor for our home. Niermann Builders, Inc. is a residential remodeling and new construction firm that has worked extensively in our community and has incorporated "green" development features into its buildings.

II. DESIGN CONCEPT

SITE

1030 S. Taylor is a lot in southeast Oak Park, a neighborhood characterized by urban-scaled single family and multiple family dwellings. It faces Barrie Park to the west, and is 1/4 mile from the Harrison Street Arts/commercial district (to the north) and the Roosevelt Road to the south.

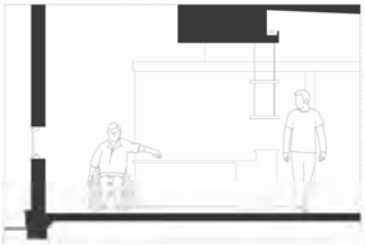
LEED for Homes Credit LL-5 (Community Resources and Transit) awards for points for proximity to transit and neighborhood services. There are more than 14 legitimate neighborhood services within a half mile of the site, including Irving School, Barrie Park and Barrie Center, Rehm Park and pool, and markets, restaurants, cleaners, and other services on Harrison and Roosevelt.

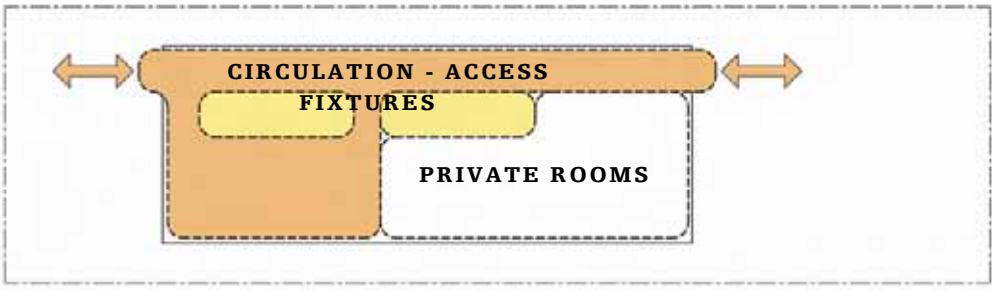
Originally we intended to remodel the existing house that exists on the site. However, our inspection revealed insufficient structure and insulation, plumbing, mechanical, and electrical systems in need of replacing, and worse, a foundation of insufficient depth to support the existing house or future improvements. Therefore we determined that a salvage/recycle demolition was preferable to trying to maintain the existing structure.

DESIGN PARAMETERS

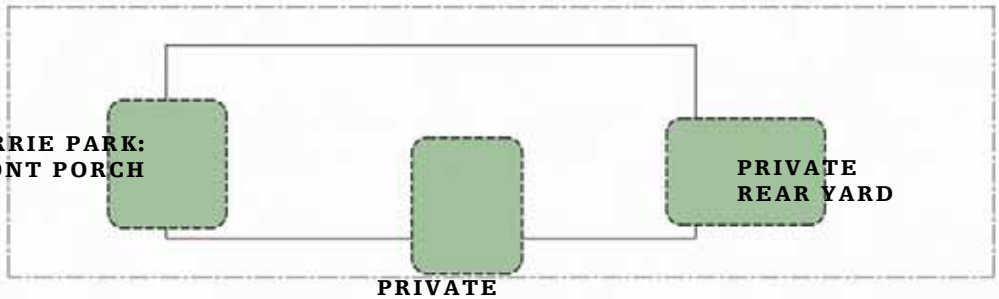
The primary parameters affecting the design were accessibility considerations, site and passive solar optimization, use of healthy and sustainable building materials, and optimized energy performance.

Universal accessibility is characterized by minimized barriers and adequate working space at fixtures. The floor plan was conceived as an open-plan type, with circulation space doubling as fixture-access.

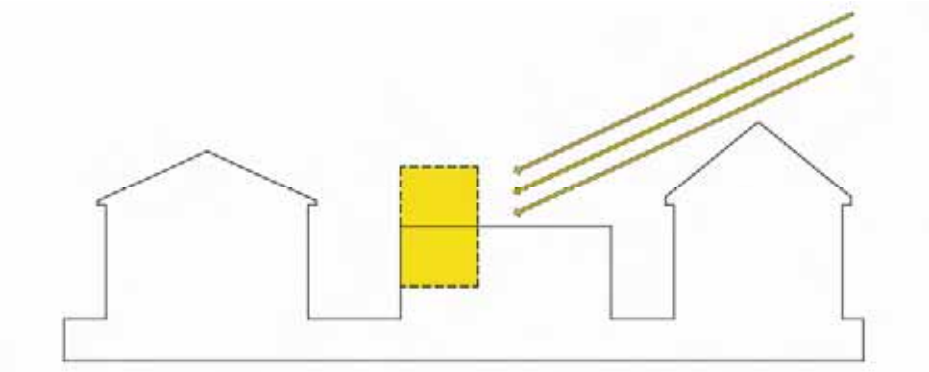




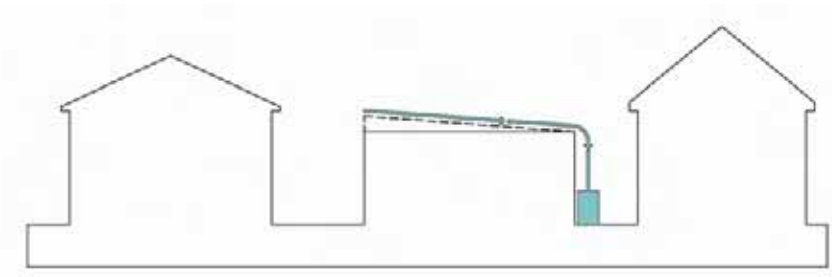
The site has the benefit of facing Barrie Park; for anyone, and especially someone of limited mobility, we saw the front as an opportunity to partake in the social life of the public space. But, a private dwelling still needs private outdoor space, so we looked to create courtyard and indoor-outdoor connections.



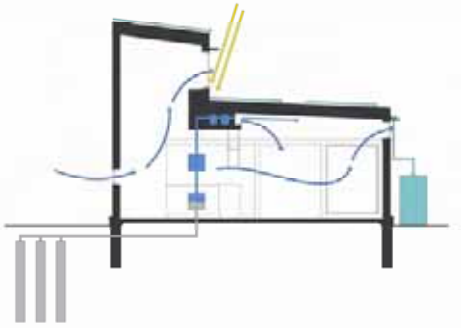
Environmental considerations began with sunlight. The more the house captures the sun in the cold months and shades it in the warm months, and the more it can use natural light, the more the inside comes alive with light, and the less artificial lighting and heat is required.



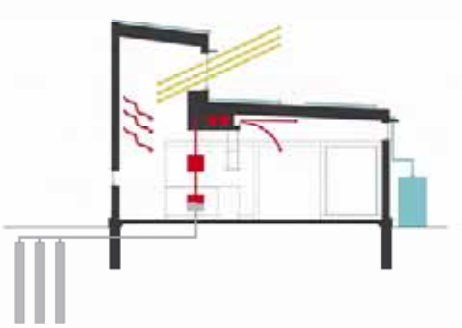
The flow of water on the site shapes the roof form: instead of the traditional "shedding" shape of the roof, water is gathered along a single edge and directed into rain barrels.



Like a deciduous tree, the house is designed to adjust to the seasons, gathering and delivering heat in the winter, while shading and removing heat in the summer; yet always gathering water and providing fresh air via natural and energy recovery ventilation.

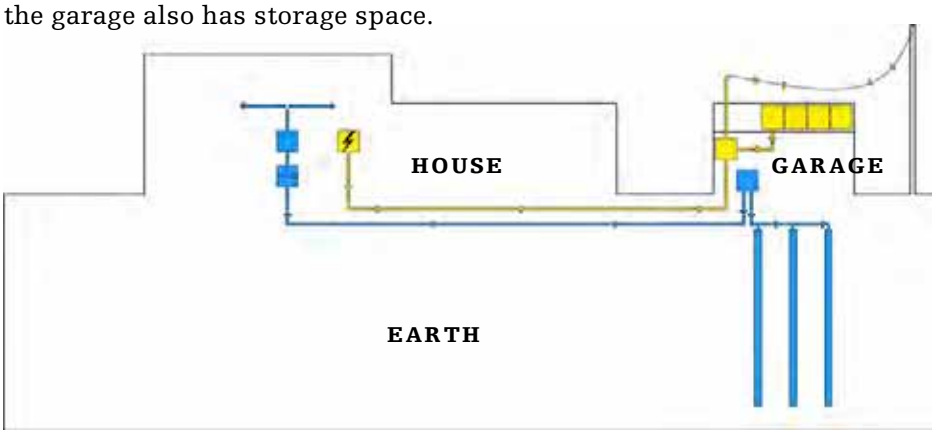


SUMMER FUNCTION



WINTER FUNCTION

The garage was in worse shape than the house, so we saw that as another opportunity: the geo-wells can be drilled there (minimizing site disturbance), photovoltaic cells can be installed on the roof, the electrical drop can terminate at the garage, and all heating and power can be run underground to the house: the garage acts as a power plant. The roof can be improved with green roof and patio for accessible users, and a future second story could be added. In addition to the mechanical room, the garage also has storage space.

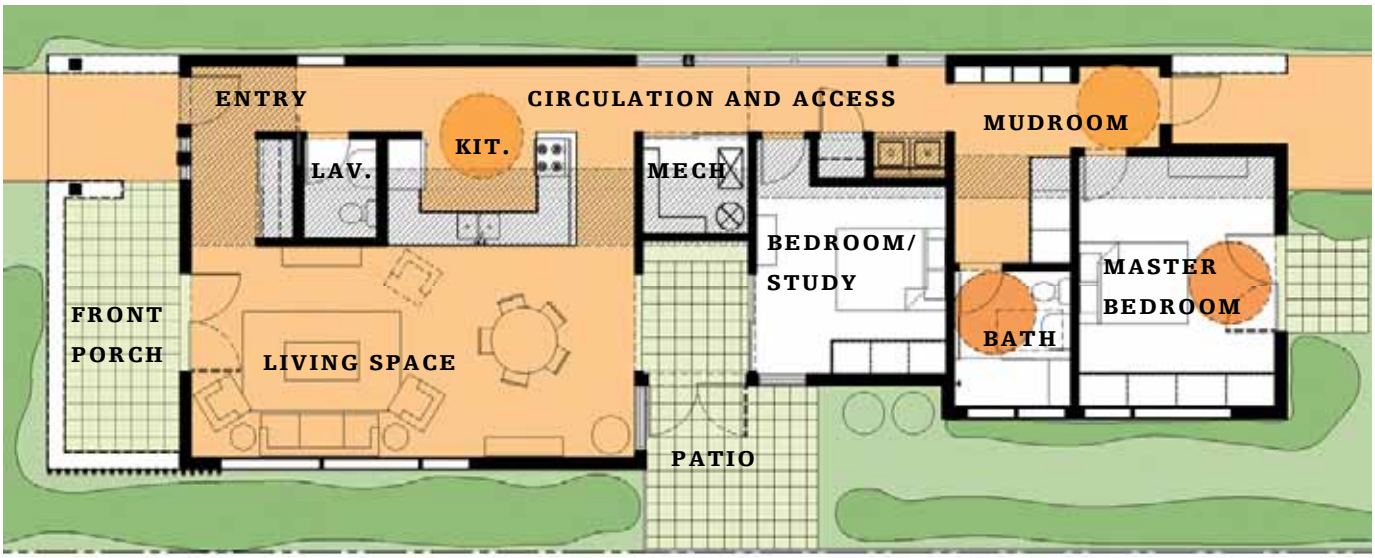


III. PROPOSED DESIGN

SEE APPENDIX D FOR DETAILED PLAN

SITE PLAN and FLOOR PLAN

Entry north of trellised front porch;
Story-and-a-half, clerestory-lit circulation and access zone;
Open plan living space;
Patio and "greenhouse" open up house between Living and Bedrooms;
Master Bedroom opens to rear yard;
Rear entry mudroom area has accessible storage.



VIEW FROM BARRIE PARK

VIEW OF ENTRY FROM NORTHWEST

VIEW OF BACK ENTRY FROM GARAGE

VIEW OF INTERIOR: LIVING ROOM TO KITCHEN

MODEL VIEW: AERIAL FROM SOUTHWEST

MODEL VIEW: NORTHWEST

IV. FINANCIALS and SCHEDULE

PRO FORMA

The feasibility of the project is due in part to the fact that the developer is a not-for-profit corporation. A NFP does not require the same market-rate return on capital and risk that for-profit housing developers require. Also, as a NFP, the OPRC enjoys access to a pool of donated or discounted construction materials and services that are unavailable to for-profit developers - and this "savings" is passed on in the form of better, more energy efficient product and a less expensive purchase price. The proposal maximizes the capital resources available for "green value/product output" while reducing the purchase price requirements - and, uniquely, provides an accessibility option. In our analysis, a for-profit proposal would require a sales price well above the neighborhood average, and above our intended market. Even so, when we analyzed our numbers, it left only a small amount for land purchase. Here is a brief summary prior to the detailed spreadsheet (see Appendix A):

- Land purchase: $10,000
- Construction Hard Cost: $284,500
- Soft Costs: $29,900 (see Appendix A for Bank letter)
- Anticipated sale price: $400,000 (see realtor letters in Appendix A)
- Surplus Proceeds: $12,600 (to cover risk of cost overruns, increased interest rate, or long market time)

SCHEDULE

We anticipate the following timeline for construction:

- Construction Start: Spring 2008
- Construction Completion: Fall/Winter 2009
- Building Tours: Winter 2009
- Closing: Spring 2010

IV. LEED, ENERGY , and EDUCATION

GREEN CONSTRUCTION FEATURES

Keeping with the concept of a modern vernacular ecological architecture, we have sought out materials and technologies that are local, efficient, economical, and healthy. Key features include:

- Ground-source heat pump: this is the best way to reduce energy consumption on a new building. To heat, cool, light, and power the house would cost less than $1,000 per year at current rates (see Appendix B)
- Structural Insulated Panel (SIP) wall and roof construction: factory-made in Holland, MI (only 157 miles away), these super-insulating components greatly reduce energy costs, labor costs, construction time, and construction site waste compared to conventional frame construction.
- Concrete: locally produced, and using local labor, concrete is an inert, inexpensive, and durable material that provides the benefit of thermal mass, helping to reduce heating and cooling loads.
- Energy Star or greater windows, appliances, and lighting, and water-efficient plumbing fixtures.
- Energy Recovery Ventilation for continuous fresh air supply: in a tightly sealed building such as this, fresh air needs to be supplied. In cool weather, the energy recovery keeps up to 75% of the heat of exhaust air from being lost to the outdoors.
- Non-toxic paints, sealers, and finishes to keep the indoor healthy and free from VOC off-gassing.
- Basic infrastructure for photovoltaic solar collectors will be installed, but purchase of the panels themselves will be by the end owner, who can directly qualify for the various tax and rebate incentives. Panels could be installed on the garage or as the roof over the walkway from garage to back door.

LEED RATING

We anticipate a Platinum level of certification for this home. Please see Appendix C for the LEED-H checklist.

EDUCATION PLAN

Education is an important part of leadership-quality projects: by sharing the resources and lessons learned in the project, the end user and larger community benefit. We have set up a web log at www.oakparkgreenaccess.blogspot.com to post information through the project, including design information, LEED-H process, materials, consultants, and suppliers used, photos and videos of construction progress, and a running conversation with people interested in knowing more about the project. We feel that the web is the best way to interact with a broad public.

Secondly, we propose community outreach through the Oak Park Education Foundation "Architecture Adventure" after-school and summer programs for middle school students, and two evening or weekend site tours followed by question-and-answer sessions at the Buzz Café.

We anticipate magazine publication, and will aim for Dwell, Architectural Record, Chicago magazine, and others.

[END OF BODY TEXT]

APPENDIX LIST:

- A: PROJECT COST WORKSHEET, REALTOR and BANK LETTERS
- B: ENERGY CALCULATIONS and COMPARISON
- C: LEED-H CHECKLIST
- D: FLOOR PLAN
- E. OAK PARK EDUCATION FOUNDATION LETTER

1030 S. Taylor Street

Cost and Sale Analysis

Sale Price				**$400,000**
	Days From Prior Event			
Events				
Acquisition Date		Jul 1, 2008		
Demolition & Construction Commences	92	Oct 1, 2008		
Construction Completed	123	Feb 1, 2009		
Closing	181	Aug 1, 2009		
Total Days from Demo thru Closing (a/k/a loan term)	305	= count of days of construction interest		
Total Months from Demo thru Closing	10.2			
Total Days from Acquisition thru Closing	397			
Total Months from Acquisition thru Closing	13.3			
Construction loan interest rate	6.00%			
Average loan % outstanding balance over 305 days	75%			
Land Acquisition Cost				**$10,000**
Construction Hard Costs				
Demolition & Construction Cost		$245,000		
Project Management		$15,000		
Misc & Construction Overrun [% Construction Costs]	10.0%	$24,500		
Total Construction Hard Costs		**$284,500**	$284,500	
Construction Soft Costs				
Insurance		$500		
Taxes		$5,000		
Administrative, Legal, Bookkeeping, Office		$5,000		
Permits		$3,500		
Construction interest [rounded up]		$11,700		
Sub-Total Hard & Soft Construction Loan	$310,200			
Loan points [rounded up]	1.0%	$3,200		
Other loan & acquisition costs		$1,000		
Total Construction Soft Costs		**$29,900**	$29,900	
Total Construction Hard & Soft Costs			**$314,400**	
Total Costs before Deferred & Sale Costs				**$324,400**
Deferred Costs				
Engineer		$2,500		
Architect		$7,500		
Builder		$15,000		
Total Deferred Costs		**$25,000**	**$25,000**	
				$349,400
Sale Costs				
Broker's Commission	5.0%	$20,000		
Closing Costs & Fees		$8,000		
Total Deferred Costs		**$28,000**	**$28,000**	
TOTAL COSTS FROM ALL SOURCES				**$377,400**
Sale Proceeds				**$22,600**
minus Acquisition Costs				$10,000
Surplus Proceeds				**$12,600**

RE/MAX In The Village, REALTORS
189 S. Oak Park Ave.
Oak Park, IL 60302
708-386-1400

RE/MAX. Outstanding Agents. Outstanding Results.

May 21, 2008

Tom Bassett-Dilley, AIA
301 Harrison St.
Oak Park, IL 60304

Dear Tom,

Thank you for the opportunity to present some basic valuation information for the property at 1030 Taylor, Oak Park, IL

Items considered in Valuation:

New construction premium as compared to other neighborhood projects

Market Conditions

Items Not yet considered in Valuation:

Specific client need (ADA compliant features)

Environmentally conscious project

Project Sale Valuation: $418,000.00 (conservative figure)

Range of New Construction Sale Price in Oak Park
$250—$310 per square foot

Thank you for your consideration on this project. I look forward to working with you.

Sincerely,

Javier E. Pujals
RE/MAX In The Village, REALTOR

GLOOR REALTY
114 NORTH OAK PARK AVENUE
OAK PARK, IL 60301
708.524.1100 FAX 708.524.1286

May 19, 2008

Edward Solan, Executive Director
Oak Park Residence Corporation
29 South Boulevard
Oak Park, IL 60302

Dear Ed,

Thanks for the opportunity to review the plans of 1030 S. Taylor, Oak Park. In our opinion, given current market conditions this unique home could be listed up to $420,000, with a probable sale price between $370,000 and $400,000. As a unique two bedroom home it is geared to a limited segment of the market. The fact that it is on a slab maybe an issue for potential buyers. Its energy efficiency and green qualities will be a huge asset, appealing to many.

These numbers reflect today's market conditions and we will be pleased to review them when the home is built.

Sincerely,

Richard C. Gloor, DR

Marjorie H. Greenwald, GRI

PARK NATIONAL
BANK

May 30, 2008

Oak Park Residence Corporation
Ed Solan, Executive Director
21 South Boulevard
Oak Park, Illinois 60302

RE: Green Home Project-1030 S. Taylor

Dear Ed,

This letter serves as confirmation of our telephone conversation last week regarding the referenced project.

Based on our long term relationship with the Oak Park Residence Corporation; Park National Bank is pleased to consider partnering with your organization to provide construction financing for the Green Home Project located at 1030 S. Taylor, Oak Park (The Barrie Park Neighborhood).

Please keep me posted as you progress through the various phases of this project. Ed, I appreciate you considering Park National Bank to assist the Oak Park Residence Corporation in this project.

Sincerely,

Thomas M. Dwyer
Vice President

Green Demonstration House

Location	**1030 Taylor, Oak Park**
Building owner	
Program user	**Mark Nussbaum**
Company	**ACE**
Comments	

By	**Architectural Consulting Engineers**
Dataset name	**C:\CDS\TRACE700\Projects\08108-2 green house.trc**
Calculation time	**12:11 PM on 05/30/2008**
TRACE® 700 version	**6.1.2**

Location	**Chicago Midway Airport, Illinois**	
Latitude	**42.0**	**deg**
Longitude	**88.0**	**deg**
Time Zone	**6**	
Elevation	**610**	**ft**
Barometric pressure	**29.2**	**in. Hg**
Air density	**0.0743**	**lb/cu ft**
Air specific heat	**0.2444**	**Btu/lb·°F**
Density-specific heat product	**1.0894**	**Btu/h·cfm·°F**
Latent heat factor	**4,795.2**	**Btu·min/h·cu ft**
Enthalpy factor	**4.4565**	**lb·min/hr·cu ft**
Summer design dry bulb	**91**	**°F**
Summer design wet bulb	**73**	**°F**
Winter design dry bulb	**-10**	**°F**
Summer clearness number	**0.85**	
Winter clearness number	**0.85**	
Summer ground reflectance	**0.20**	
Winter ground reflectance	**0.20**	
Carbon Dioxide Level	**400**	**ppm**

Design simulation period	**January - December**
Cooling load methodology	**TETD-TA1**
Heating load methodology	**UATD**

Energy Cost Budget / PRM Summary

By Architectural Consulting Engineers

Project Name: Green Demonstration House	Date: May 30, 2008
City: 1030 Taylor, Oak Park	Weather Data: Chicago Midway Airport, Illinois

Note: The percentage displayed for the "Proposed/ Base %" column of the base case is actually the percentage of the total energy consumption.

* Denotes the base alternative for the ECB study.

		* Alt-1 Baseline - 90-2-2004			Alt-2 Proposed System - GSHP		
		Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh	Energy 10^6 Btu/yr	Proposed / Base %	Peak kBtuh
Lighting - Conditioned	Electricity	4.5	6	2	4.5	100	2
Space Heating	Electricity	15.3	20	38	5.2	34	6
Space Cooling	Electricity	16.4	21	13	3.1	19	4
Pumps	Electricity	0.0	0	0	0.2	0	0
Heat Rejection	Electricity	1.5	2	2	0.0	0	0
Fans - Conditioned	Electricity	39.8	51	5	16.7	42	2
Total Building Consumption		**77.5**			**29.8**		

		* Alt-1 Baseline - 90-2-2004	Alt-2 Proposed System - GSHP
Total	**Number of hours heating load not met**	60	87
	Number of hours cooling load not met	0	0

	* Alt-1 Baseline - 90-2-2004		Alt-2 Proposed System - GSHP	
	Energy 10^6 Btu/yr	Cost/yr $/yr	Energy 10^6 Btu/yr	Cost/yr $/yr
Electricity	77.5	2,951	29.8	1,133
Total	**77**	**2,951**	**30**	**1,133**

System Checksums

System - 001 **Water Source Heat Pump**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 7 / 16
Outside Air: OADB/WB/HR: 90 / 73 / 95

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	716	0	716	3
Glass Solar	12,203	0	12,203	56
Glass Cond	1,659	0	1,659	8
Wall Cond	3,275	0	3,275	15
Partition	0		0	0
Exposed Floor	0		0	0
Infiltration	2,679		2,679	12
Sub Total ==>	20,532	0	20,532	94
Internal Loads				
Lights	0	0	0	0
People	0		0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			1,257	6
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Reheat at Design			0	0
Grand Total ==>	20,532	0	21,789	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	716	4
Glass Solar	12,203	64
Glass Cond	1,659	9
Wall Cond	3,275	17
Partition	0	0
Exposed Floor	0	0
Infiltration	1,249	7
Sub Total ==>	19,102	100
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	19,102	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: -10

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-2,648	-2,648	9.39
Glass Solar	0	0	0.00
Glass Cond	-8,575	-8,575	30.41
Wall Cond	-6,979	-6,979	24.75
Partition	0	0	0.00
Exposed Floor	-3,666	-3,666	13.00
Infiltration	-6,326	-6,326	22.44
Sub Total ==>	-28,194	-28,194	100.00
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	0	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Grand Total ==>	-28,194	-28,194	100.00

TEMPERATURES

	Cooling	Heating
SADB	60.9	88.8
Plenum	75.0	68.0
Return	75.0	68.0
Ret/OA	75.0	68.0
Fn MtrTD	0.1	0.0
Fn BldTD	0.2	0.0
Fn Frict	0.6	0.0

AIRFLOWS

	Cooling	Heating
Vent	0	0
Infil	74	74
Supply	1,248	1,248
MinStop/Rh	0	0
Return	1,322	1,322
Exhaust	74	74
Rm Exh	0	0
Auxiliary	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	0.84	0.84
cfm/ton	687.05	
ft²/ton	820.04	
Btu/hr·ft²	14.63	-18.93
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	1.8	21.8	20.4	1,247.5	75.3	62.6	66.5	60.3	56.7	64.8
Aux Clg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.8	21.8								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,489		
Part	0		
ExFlr	188		
Roof	1,489	0	0
Wall	2,606	445	17

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-28.2	1,247.5	68.0	88.8
Aux Htg	0.0	0	0	0
Preheat	0.0	0	0	0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-28.2			

System Checksums

System - 001 **Single Zone**

COOLING COIL PEAK

Peaked at Time: Mo/Hr: 8 / 15
Outside Air: OADB/WB/HR: 89 / 72 / 91

	Space Sens. + Lat. Btu/h	Plenum Sens. + Lat Btu/h	Net Total Btu/h	Percent Of Total (%)
Envelope Loads				
Skylite Solar	0	0	0	0
Skylite Cond	0	0	0	0
Roof Cond	3,381	0	3,381	10
Glass Solar	19,541	0	19,541	58
Glass Cond	2,099	0	2,099	6
Wall Cond	4,044	0	4,044	12
Partition	0		0	0
Exposed Floor	0		0	0
Infiltration	2,398		2,398	7
Sub Total ==>	31,463	0	31,463	93
Internal Loads				
Lights	0	0	0	0
People	0		0	0
Misc	0	0	0	0
Sub Total ==>	0	0	0	0
Ceiling Load	0	0	0	0
Ventilation Load	0	0	0	0
Adj Air Trans Heat	0		0	0
Dehumid. Ov Sizing			0	0
Ov/Undr Sizing	0		0	0
Exhaust Heat		0	0	0
Sup. Fan Heat			2,213	7
Ret. Fan Heat		0	0	0
Duct Heat Pkup		0	0	0
Reheat at Design			0	0
Grand Total ==>	31,463	0	33,677	100.00

CLG SPACE PEAK

Mo/Hr: Sum of
OADB: Peaks

	Space Sensible Btu/h	Percent Of Total (%)
Envelope Loads		
Skylite Solar	0	0
Skylite Cond	0	0
Roof Cond	3,381	11
Glass Solar	19,541	65
Glass Cond	2,099	7
Wall Cond	4,044	13
Partition	0	0
Exposed Floor	0	0
Infiltration	1,143	4
Sub Total ==>	30,208	100
Internal Loads		
Lights	0	0
People	0	0
Misc	0	0
Sub Total ==>	0	0
Ceiling Load	0	0
Ventilation Load	0	0
Adj Air Trans Heat	0	0
Ov/Undr Sizing	0	0
Grand Total ==>	30,208	100.00

HEATING COIL PEAK

Mo/Hr: Heating Design
OADB: -10

	Space Peak Space Sens Btu/h	Coil Peak Tot Sens Btu/h	Percent Of Total (%)
Envelope Loads			
Skylite Solar	0	0	0.00
Skylite Cond	0	0	0.00
Roof Cond	-4,471	-4,471	11.73
Glass Solar	0	0	0.00
Glass Cond	-11,953	-11,953	31.37
Wall Cond	-8,024	-8,024	21.06
Partition	0	0	0.00
Exposed Floor	-7,332	-7,332	19.24
Infiltration	-6,326	-6,326	16.60
Sub Total ==>	-38,107	-38,107	100.00
Internal Loads			
Lights	0	0	0.00
People	0	0	0.00
Misc	0	0	0.00
Sub Total ==>	0	0	0.00
Ceiling Load	0	0	0.00
Ventilation Load	0	0	0.00
Adj Air Trans Heat	0	0	0
Ov/Undr Sizing	0	0	0.00
Exhaust Heat		0	0.00
OA Preheat Diff.		0	0.00
RA Preheat Diff.		0	0.00
Additional Reheat		0	0.00
Grand Total ==>	-38,107	-38,107	100.00

TEMPERATURES

	Cooling	Heating
SADB	62.4	83.9
Plenum	75.0	68.0
Return	75.0	68.0
Ret/OA	75.0	68.0
Fn MtrTD	0.1	0.0
Fn BldTD	0.2	0.0
Fn Frict	0.6	0.0

AIRFLOWS

	Cooling	Heating
Vent	0	0
Infil	74	74
Supply	2,197	2,197
MinStop/Rh	0	0
Return	2,271	2,271
Exhaust	74	74
Rm Exh	0	0
Auxiliary	0	0

ENGINEERING CKS

	Cooling	Heating
% OA	0.0	0.0
cfm/ft²	1.48	1.48
cfm/ton	782.82	
ft²/ton	530.58	
Btu/hr·ft²	22.62	-25.59
No. People	0	

COOLING COIL SELECTION

	Total Capacity ton	Total Capacity MBh	Sens Cap. MBh	Coil Airflow cfm	Enter DB °F	Enter WB °F	Enter HR gr/lb	Leave DB °F	Leave WB °F	Leave HR gr/lb
Main Clg	2.8	33.7	32.4	2,196.9	75.0	62.5	66.5	61.5	57.4	65.6
Aux Clg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Opt Vent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2.8	33.7								

AREAS

	Gross Total	Glass ft²	Glass (%)
Floor	1,489		
Part	0		
ExFlr	188		
Roof	1,489	0	0
Wall	2,606	445	17

HEATING COIL SELECTION

	Capacity MBh	Coil Airflow cfm	Ent °F	Lvg °F
Main Htg	-38.1	2,196.9	68.0	83.9
Aux Htg	0.0	0	0	0
Preheat	0.0	0	0	0
Humidif	0.0	0	0.0	0.0
Opt Vent	0.0	0	0.0	0.0
Total	-38.1			

APPENDIX C

LEED for Homes Checklist

Builder Name:	NIERMANN BUILDERS / OPRC
Project Team Leader (if different):	TOM BASSETT-DILLEY
Home Address (Street/City/State):	1030 S. TAYLOR, OAK PARK, IL

Project Description:

Building Type:

# of Bedrooms: *0*

Project type:

Floor Area: *0.0*

Adjusted Certification Thresholds

Certified:	*45.0*	Gold:	*75.0* 77
Silver:	*60.0*	Platinum:	*90.0* 92

PER HOME SIZE ADJUSTMENT

Project Point Total: 0	**ID:** 0	**SS:** 0	**EA:** 0	**EQ:** 0	
Certification Level: Not Certified	**LL:** 0	**WE:** 0	**MR:** 0	**AE:** 0	

Notes:
1. Detailed information on measures below are provided in the LEED for Homes Rating System
2. ✍ Indicates measures that must be documented using the Accountability Form

					Max Points Available	Project Points Y / Pts	No	Maybe
Innovation and Design Process (ID) (No Minimum Points Required)								
1. Integrated Project Planning		1.1	Preliminary Rating		Prerequisite	✓		
		1.2	Integrated Project Team		1	1		
		1.3	Professional Credentialed with Respect to LEED for Homes		1			✓
		1.4	Design Charrette		1			✓
		1.5	Building Orientation for Solar Design		1	1		
2. Durability Management Process		2.1	Durability Planning		Prerequisite	✓		
		2.2	Durability Management		Prerequisite	✓		
		2.3	Third-Party Durability Management Verification		3			✓
3. Innovative or Regional Design	✍	3.1	Innovation #1		1	1		
	✍	3.2	Innovation #2		1			✓
	✍	3.3	Innovation #3		1			✓
	✍	3.4	Innovation #4		1			
			Sub-Total for ID Category:		*11*	3	*0*	
Location and Linkages (LL) (No Minimum Points Required)				*OR*		Y / Pts	No	Maybe
1. LEED ND		1	LEED for Neighborhood Development	**LL2-6**	10			
2. Site Selection	✍	2	Site Selection		2	2		
3. Preferred Locations		3.1	Edge Development		1		✓	
		3.2	Infill	**LL 3.1**	2	2		
		3.3	Previously Developed		1	1		
4. Infrastructure		4	Existing Infrastructure		1	1		
5. Community Resources		5.1	Basic Community Resources		1			
		5.2	Extensive Community Resources	**LL 5.1, 5.3**	2			
		5.3	Outstanding Community Resources	**LL 5.1, 5.2**	3	3		
6. Access to Open Space		6	Access to Open Space		1	1		
			Sub-Total for LL Category:		*10*		*0*	
Sustainable Sites (SS) (Minimum of 5 SS Points Required)				*OR*		Y / Pts	No	Maybe
1. Site Stewardship		1.1	Erosion		Prerequisite	✓		
		1.2	Minimize Disturbed Area of Site		1	1		
2. Landscaping	✍	2.1	No Invasive Plants		Prerequisite	✓		
	✍	2.2	Basic Landscape Design	**SS 2.5**	2	2		
	✍	2.3	Limit Conventional Turf	**SS 2.5**	3	3		
	✍	2.4	Drought Tolerant Plants	**SS 2.5**	2	2		
	✍	2.5	Reduce Overall Irrigation Demand by at Least 20%		6	—		
3. Local Heat Island Effects	✍	3	Reduce Local Heat Island Effects		1	1		
4. Surface Water Management	✍	4.1	Permeable Lot		4	2		
		4.2	Permanent Erosion Controls		1	2		
		4.3	Management of Run-off from Roof		2	2		
5. Nontoxic Pest Control		5	Pest Control Alternatives		2	1		
6. Compact Development		6.1	Moderate Density		2			
		6.2	High Density	**SS 6.1, 6.3**	3	3		
		6.3	Very High Density	**SS 6.1, 6.2**	4			
			Sub-Total for SS Category:		*22*		*0*	

(3) (8)

(10)

(19)

					Max Points Available	Project Points Y / Pts	No	Maybe
Water Efficiency (WE) (Minimum of 3 WE Points Required)				*OR*				
1. **Water Reuse**		1.1	Rainwater Harvesting System	**WE 1.3**	4	3		
		1.2	Graywater Reuse System	**WE 1.3**	1			
	✍	1.3	Use of Municipal Recycled Water System		3		—	
2. **Irrigation System**	✍	2.1	High Efficiency Irrigation System	**WE 2.3**	3			
		2.2	Third Party Inspection	**WE 2.3**	1			
	✍	2.3	Reduce Overall Irrigation Demand by at Least 45%		4	4		
3. **Indoor Water Use**		3.1	High-Efficiency Fixtures and Fittings		3	3		
		3.2	Very High Efficiency Fixtures and Fittings		6		—	
				Sub-Total for WE Category:	**15**		**0**	
Energy and Atmosphere (EA) (Minimum of 0 EA Points Required)				*OR*		Y / Pts	No	Maybe
1. **Optimize Energy Performance**		1.1	Performance of ENERGY STAR for Homes		Prerequisite			
		1.2	Exceptional Energy Performance		34			
7. **Water Heating**	✍	7.1	Efficient Hot Water Distribution		2			
		7.2	Pipe Insulation		1			
11. **Residential Refrigerant Management**		11.1	Refrigerant Charge Test		Prerequisite			
		11.2	Appropriate HVAC Refrigerants		1			
				Sub-Total for EA Category:	**38**		**0**	
Materials and Resources (MR) (Minimum of 2 MR Points Required)				*OR*		Y / Pts	No	Maybe
1. **Material-Efficient Framing**		1.1	Framing Order Waste Factor Limit		Prerequisite	✓		
		1.2	Detailed Framing Documents	**MR 1.5**	1	1		
		1.3	Detailed Cut List and Lumber Order	**MR 1.5**	1			
		1.4	Framing Efficiencies	**MR 1.5**	3			
		1.5	Off-site Fabrication		4	4		
2. **Environmentally Preferable Products**	✍	2.1	FSC Certified Tropical Wood		Prerequisite	✓		
	✍	2.2	Environmentally Preferable Products		8	6		
3. **Waste Management**		3.1	Construction Waste Management Planning		Prerequisite	✓		
		3.2	Construction Waste Reduction		3	2		
				Sub-Total for MR Category:	**16**		**0**	
Indoor Environmental Quality (EQ) (Minimum of 6 EQ Points Required)				*OR*		Y / Pts	No	Maybe
1. **ENERGY STAR with IAP**		1	ENERGY STAR with Indoor Air Package		13			
2. **Combustion Venting**		2.1	Basic Combustion Venting Measures	**EQ 1**	Prerequisite	✓		
		2.2	Enhanced Combustion Venting Measures	**EQ 1**	2	2		
3. **Moisture Control**		3	Moisture Load Control	**EQ 1**	1	1		
4. **Outdoor Air Ventilation**	✍	4.1	Basic Outdoor Air Ventilation	**EQ 1**	Prerequisite	✓		
		4.2	Enhanced Outdoor Air Ventilation		2	2		
		4.3	Third-Party Performance Testing	**EQ 1**	1			—
5. **Local Exhaust**	✍	5.1	Basic Local Exhaust	**EQ 1**	Prerequisite			
		5.2	Enhanced Local Exhaust		1	1		
		5.3	Third-Party Performance Testing		1			—
6. **Distribution of Space Heating and Cooling**	✍	6.1	Room-by-Room Load Calculations	**EQ 1**	Prerequisite	✓		
		6.2	Return Air Flow / Room by Room Controls	**EQ 1**	1			
		6.3	Third-Party Performance Test / Multiple Zones	**EQ 1**	2			
7. **Air Filtering**		7.1	Good Filters	**EQ 1**	Prerequisite			
		7.2	Better Filters		1			
		7.3	Best Filters	**EQ 7.2**	2	2		
8. **Contaminant Control**	✍	8.1	Indoor Contaminant Control during Construction	**EQ 1**	1	1		
		8.2	Indoor Contaminant Control		2	2		
	✍	8.3	Preoccupancy Flush	**EQ 1**	1	1		
9. **Radon Protection**	✍	9.1	Radon-Resistant Construction in High-Risk Areas	**EQ 1**	Prerequisite	✓		
	✍	9.2	Radon-Resistant Construction in Moderate-Risk Areas	**EQ 1**	1			
10. **Garage Pollutant Protection**		10.1	No HVAC in Garage	**EQ 1**	Prerequisite	✓		
		10.2	Minimize Pollutants from Garage	**EQ 1**	2			
		10.3	Exhaust Fan in Garage	**EQ 1**	1			
		10.4	Detached Garage or No Garage	**EQ 1, 10.2, 10.3**	3	3		
				Sub-Total for EQ Category:	**21**		**0**	
Awareness and Education (AE) (Minimum of 0 AE Points Required)						Y / Pts	No	Maybe
1. **Education of the Homeowner or Tenant**	✍	1.1	Basic Operations Training		Prerequisite	✓		
	✍	1.2	Enhanced Training		1	1		
	✍	1.3	Public Awareness		1	1		
2. **Education of Building Manager**	✍	2	Education of Building Manager		1	—		
				Sub-Total for AE Category:	**3**		**0**	
				LEED for Homes Point Totals: (Certification level)	**136**		**0** Not Certified	

(10)

SEE P. 3

(12)

(15)

(2)

94

PLATINUM

Project Checklist, Addendum A
Prescriptive Approach for Energy and Atmosphere (EA) Credits

Points cannot be earned in both the Prescriptive (below) and the Performance Approach (pg 2) of the EA section

Energy and Atmosphere (EA) (No Minimum Points Required)				OR	Max Points Available	Project Points Y / Pts	No	Maybe
2. **Insulation**		2.1	Basic Insulation		Prerequisite	✓		
		2.2	Enhanced Insulation		2	2		
3. **Air Infiltration**		3.1	Reduced Envelope Leakage		Prerequisite	✓		
		3.2	Greatly Reduced Envelope Leakage		2			
		3.3	Minimal Envelope Leakage	EA 3.2	3	3		
4. **Windows**		4.1	Good Windows		Prerequisite			
		4.2	Enhanced Windows		2	2		
		4.3	Exceptional Windows	EA 4.2	3			
5. **Heating and Cooling Distribution System**		5.1	Reduced Distribution Losses		Prerequisite	✓		
		5.2	Greatly Reduced Distribution Losses		2	2		
		5.3	Minimal Distribution Losses	EA 5.2	3	~~3~~		
6. **Space Heating and Cooling Equipment**	✍	6.1	Good HVAC Design and Installation		Prerequisite			
		6.2	High-Efficiency HVAC		2			
		6.3	Very High Efficiency HVAC	EA 6.2	4	4		
7. **Water Heating**	✍	7.1	Efficient Hot Water Distribution		2			
		7.2	Pipe Insulation		1	1		
		7.3	Efficient Domestic Hot Water Equipment		3	3		
8. **Lighting**		8.1	ENERGY STAR Lights		Prerequisite	✓		
		8.2	Improved Lighting		2	2		
		8.3	Advanced Lighting Package	EA 8.2	3			
9. **Appliances**		9.1	High-Efficiency Appliances		2	2		
		9.2	Water-Efficient Clothes Washer		1	1		
10. **Renewable Energy**	✍	10	Renewable Energy System		10			
11. **Residential Refrigerant Management**		11.1	Refrigerant Charge Test		Prerequisite	✓		
		11.2	Appropriate HVAC Refrigerants		1	1		
			Sub-Total for EA Category:		**38**		**0**	

(23)

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been met for the indicated credits and will, if audited, provide the necessary supporting documents.

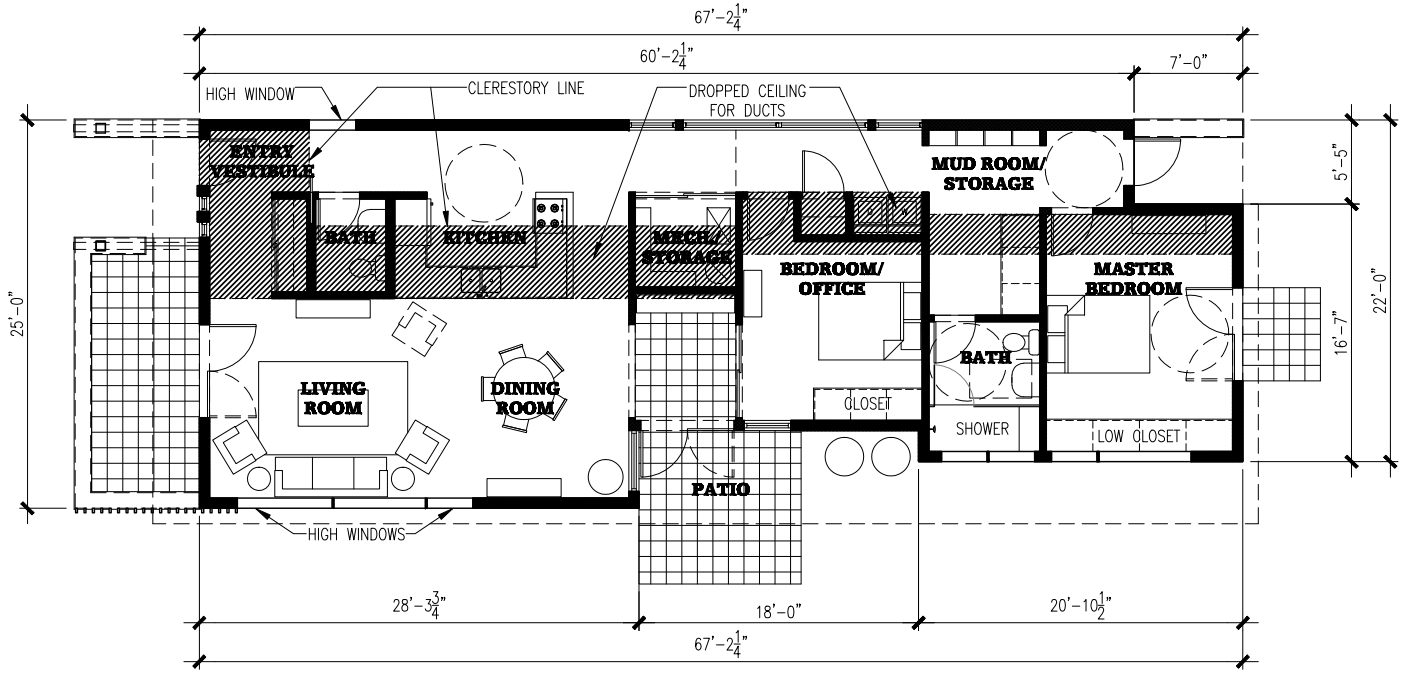
Project Team Leader _____ Company _____
Signature _____ Date _____

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

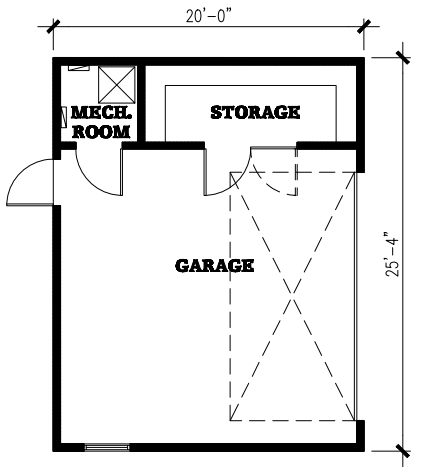
Rater's Name _____ Company _____
Signature _____ Date _____

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

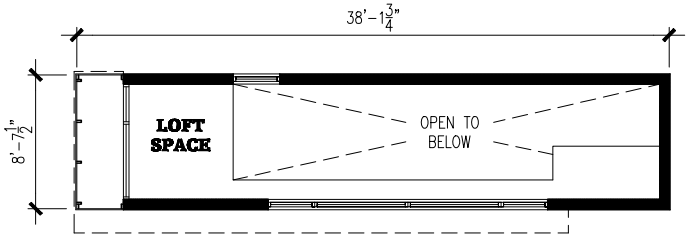
Provider's Name _____ Company _____
Signature _____ Date _____



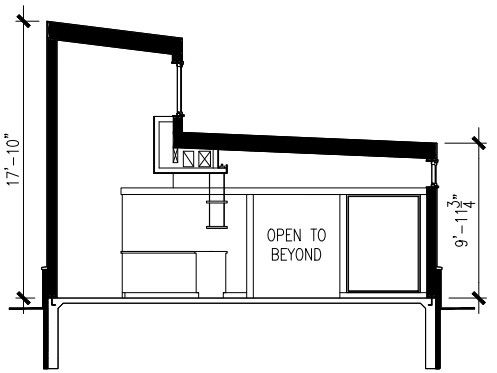
FIRST FLOOR PLAN 1
1/8" = 1'-0"



GARAGE PLAN 2
1/8" = 1'-0"



LOFT PLAN 3
1/8" = 1'-0"



BUILDING SECTION 4
1/8" = 1'-0"

FLOOR PLANS / BUILDING SECTION

A1.1

■ TOM BASSETT-DILLEY ARCHITECT, LTD.
301 HARRISON STREET OAK PARK, IL 60304
WWW.DRAWINGONPLACE.COM

ACCESSIBLE GREEN HOME
1030 TAYLOR AVE.
OAK PARK, IL

06.02.08 DETAIL PLAN SUBMITTAL

Appendix E: Oak Park Education Foundation "Architecture Adventure"

A Brief History:

The Oak Park Education Foundation was founded in 1989 by a coalition of parents, educators, and community leaders. Our aim was to raise private funds to launch innovative, curriculum-enriching programs above and beyond regular school programs funded by taxpayers. Since then, the Foundation has been bringing experts from the community into District 97 public school classrooms to conduct hands-on projects with students and teachers. These experts share their passion for their work with students and teachers. They inspire and act as role models for our children.

Architecture Adventure, takes advantage of Oak Park's wealth of architecture and professionals in the field to inspire student learning. This program was designed to increase students' knowledge, understanding and appreciation of the arts, science and culture through architecture. Through architecture, students learn problem-solving and decision-making strategies that make successful adults. In the 2007-2008 school year, the program's 2nd year, we were able to reach over 900 students. We would like to reach more.

Green Architecture:

The Oak Park Education Foundation and their Architecture Adventure Program has an opportunity to be involved in the Green Home Design Project near Barrie Park sponsored by the Village of Oak Park. Tom Bassett-Dilley Architect, Ltd. has opened their doors to use as a resource to collaborate on an exceptional education program to be offered in Oak Park.

Spring After-School Workshops:

Architecture Adventure runs an after school program at both Percy Julian and Gwendolyn Brooks Middle Schools. This project presents many exciting prospects for hands-on learning and field activity that will be particularly inspiring for our middle school participants. It gives us a unique opportunity for the students to learn about environmental design challenges in a very direct and compelling way.

We propose that the students work alongside the architects to get a step by step understanding of the critical choices made in the process of developing green design features. Because of the proximity of the jobsite, the students will be able to follow the design and construction process and directly experience the impact of the design to its site.

Summer Camp Program:

The building site and these professional resources will form the basis for our Architecture summer camp offered in June. Students can witness how architect's ideas are transformed into real-life buildings and consider how and why buildings can be optimized to be more energy efficient.

Students work with a modified version of LEED (Leadership in Energy and Green Design) checklist to create a model of a green structure. The checklist will challenge students to think about the importance of site planning, improving energy efficiency, conserving materials and resources, enhancing indoor environmental quality, and capturing rain and gray-water for reuse.

The design plans, elevations and models will be discussed by a panel of architects in a "jury" style setting. This panel of architects will include professionals we have met during this process and brought in by Tom Bassett-Dilley Architect, Ltd. An exhibition of the models will be on view for the community at the close of the project.