

AIR LEAKAGE REPORT

Date:	October 24, 2008	Rating No.:	292059 1801RIVER
Building Name:	E2 House	Rating Org.:	Leuthold Plbg, Htg, & Elec Inc
Owner's Name:		Phone No.:	712.478.4646
Property:	1801 River Bluff	Rater's Name:	Mark Leuthold
Address:	Brandon, SD 57005	Rater's No.:	292
Builder's Name:	Lebert Construction		
Weather Site:	Sioux Falls, SD	Rating Type:	Site Visit
File Name:	292059 eStar TC NR 1801RIVER.blg	Rating Date:	9/30/08

Whole House Infiltration	Blower door test	
	<i>Heating</i>	<i>Cooling</i>
Natural ACH:	0.03	0.03
ACH @ 50 Pascals:	0.58	0.58
CFM @ 25 Pascals:	161	161
CFM @ 50 Pascals:	253	253
Eff. Leakage Area:	13.9	13.9
Specific Leakage Area:	0.00003	0.00003
ELA/100 sf shell:	0.23	0.23

Total Duct Leakage to Outside	
CFM @ 25 Pascals:	0
CFM25 / CFMfan:	0.0000
CFM25 / CFA:	0.0000
CFM per Std 152:	N/A
CFM per Std 152 / CFA:	N/A
CFM @ 50 Pascals:	0
Eff. Leakage Area:	0.00
Thermal Efficiency:	N/A

Ventilation	
Mechanical:	Balanced
Sensible Recovery Eff. (%):	75.0
Total Recovery Eff. (%):	0.0
Rate (cfm):	70
Hours/Day:	24.0
Fan Watts:	240.0
Cooling Ventilation:	Natural Ventilation

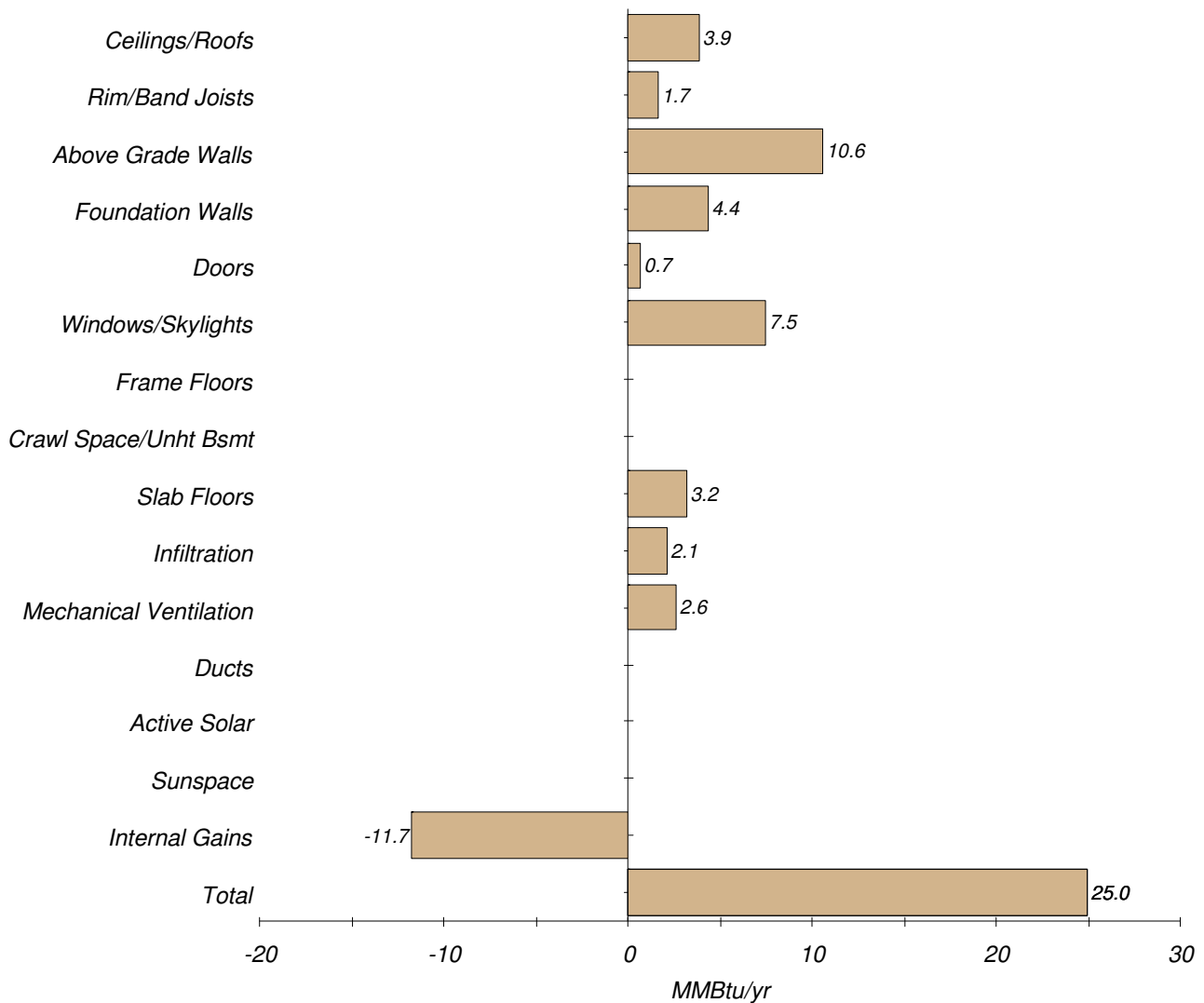
ASHRAE 62.2 - 2003 Ventilation Requirements

For this home to comply with ASHRAE Standard 62.2 - 2003 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, a minimum of 68 cfm of mechanical ventilation must be provided continuously, 24 hours per day. Alternatively, an intermittently operating mechanical ventilation system may be used if the ventilation rate is adjusted accordingly. For example, a 136 cfm mechanical ventilation system would need to operate 12 hours per day, as long as the system operates to provide required average ventilation once each hour.

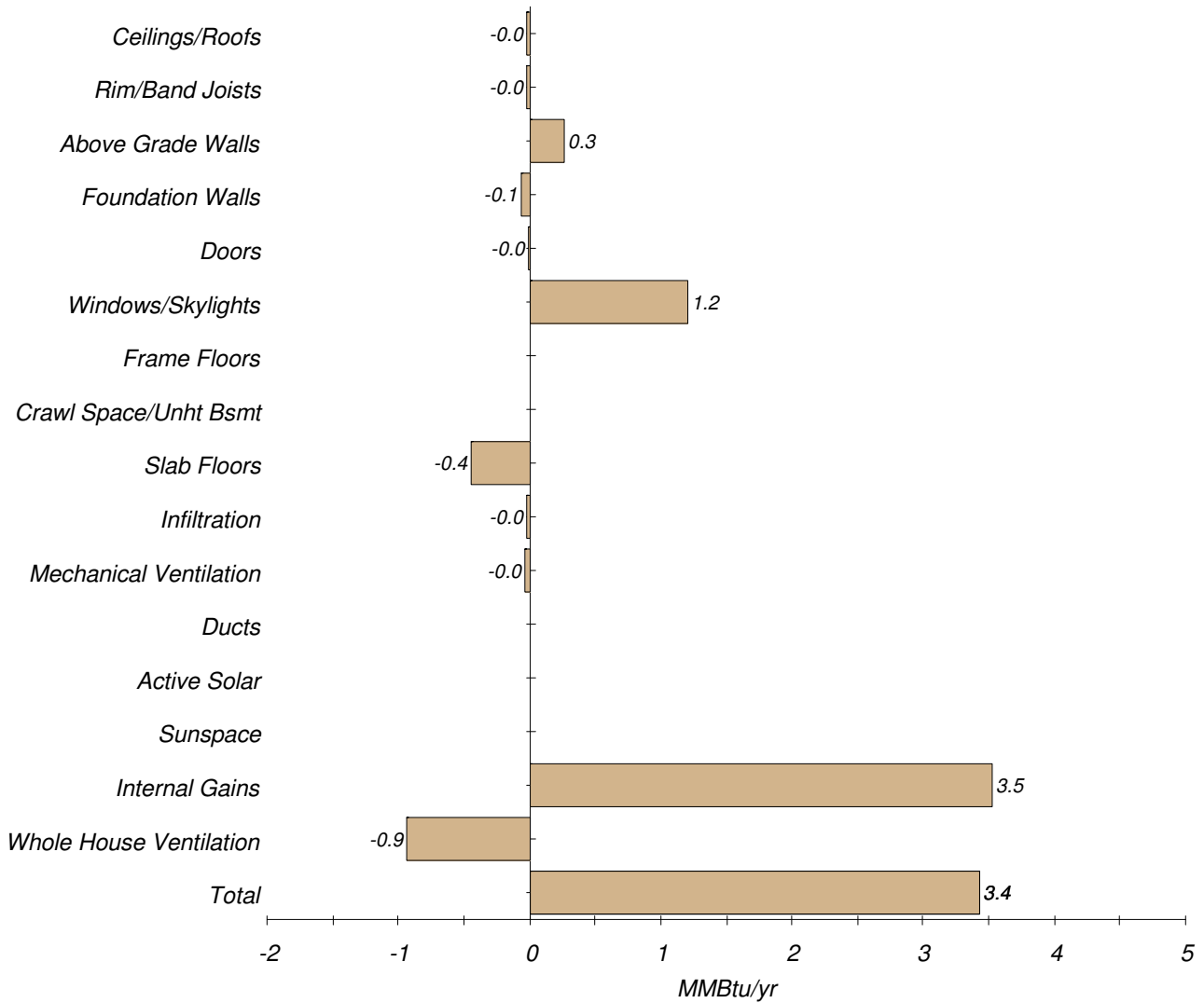
COMPONENT CONSUMPTION SUMMARY

Date:	October 24, 2008	Rating No.:	292059 1801RIVER
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Heating Season



Cooling Season



EQUIPMENT SIZING SUMMARY

Date:	October 24, 2008	Rating No.:	292059 1801RIVER
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E2 House

HEATING

Calculated Peak Load (kBtu/hr)	22.9
Sizing Factor (%)	100.0

HEATING EQUIPMENT CAPACITY (kBtu/hr)

Required	22.9
Specified	82.0

COOLING

Calculated Peak Load (kBtu/hr)	11.5
Sensible	9.2
Latent	2.4
Sizing Factor (%)	100.0

COOLING EQUIPMENT CAPACITY (kBtu/hr)

Required Total	11.5
Specified Total	30.6

Required Sensible	9.16
Specified Sensible	24.48

Required Latent	2.38
Specified Latent	6.12

2005 EPACT ENERGY EFFICIENT HOME TAX CREDIT

Date:	October 24, 2008	Rating No.:	292059 1801RIVER
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Normalized Energy Consumption (MMBtu/year)

	<i>2004 IECC</i>	
	<i>50% Target</i>	<i>As Designed</i>
Heating:	33.9	21.3
Cooling:	4.0	2.4
Total:	37.9	23.6

Envelope Loads (MMBtu/year)

	<i>2004 IECC</i>	
	<i>90% Target</i>	<i>As Designed</i>
Heating:	67.4	30.7
Cooling:	20.1	9.3
Total:	87.5	40.0

This home MEETS the requirements for the residential energy efficiency tax credits under Section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005.

As demonstrated above, this dwelling unit has a projected level of annual heating and cooling energy consumption that is at least 50% below the annual level of heating cooling energy consumption of a reference dwelling in the same climate zone, and the building envelope components improvements alone account for at least 10% of those savings. The projected heating and cooling energy savings above have been calculated in the manner prescribed in Section 2.02 of Notice 2006-27 of the Internal Revenue Service. Field inspections of the dwelling unit performed by the undersigned eligible certifier during and after the completion of construction have confirmed that all features of the home affecting such heating and cooling energy consumption comply with the design specifications provided to the undersigned certifier.

Building Features

Ceiling Flat: R-50w/RB	Slab: R-0.0 Edge, R-10.0 Under
Vaulted Ceiling: NA	Duct: Uninsulated
Above Grade Walls: R-23	Window: U-Value = 0.320, SHGC = 0.330
Foundation Walls: R-18.0	Air-Source HP: Electric, Htg: 8.9 HSPF. Clg: 15.0 SEER.
Exposed Floor: NA	

Under penalties of perjury, I declare that I have examined this certification, including accompanying documents, and to the best of my knowledge and belief, the facts presented in support of this certification are true, correct, and complete.

Name: <u>Mark Leuthold</u>	Signature: _____
Company: <u>Leuthold Plbg, Htg, & Elec Inc</u>	Date: <u>October 24, 2008</u>
Address: <u>, ,</u>	



ENERGY STAR HOME REPORT

Date:	October 24, 2008	Rating No.:	292059 1801RIVER
Building Name:	E2 House	Rating Org.:	Leuthold Plbg, Htg, & Elec Inc
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Normalized, Modified End-Use Loads (MMBtu/year)

	<i>ENERGY STAR</i>	<i>As Designed</i>
Heating:	59.9	22.1
Cooling:	17.9	7.5
Water heating:	11.9	14.9
Lighting & Appliances:	28.6	40.4
Total:	118.3	84.9
HERS Index:	80	54

ENERGY STAR Mandatory Requirements

- | | |
|---|--|
| <input checked="" type="checkbox"/> Thermal Bypass Inspection Checklist * | <input checked="" type="checkbox"/> ENERGY STAR Products * |
| <input checked="" type="checkbox"/> Ductwork Requirements | <input checked="" type="checkbox"/> ENERGY STAR Scoring Exceptions |

* Thermal Bypass Checklist and ENERGY STAR Products are not checked in REM/Rate at this time.

This home MEETS OR EXCEEDS the energy efficiency requirements for designation as an EPA ENERGY STAR Qualified Home.

Pollution Prevented

<i>Type of Emissions</i>	<i>Reduction (lb/year)</i>
Carbon Dioxide (CO2)	17867.5
Sulfur Dioxide (SO2)	58.8
Nitrogen Oxides (NOx)	70.1

Energy Cost Savings (\$/year)

Heating:	\$872
Cooling:	\$101
Water Heating:	\$25
Lights & Appliances:	\$-104
Total:	\$894

The energy savings and pollution prevented are calculated by comparing the Rated Home to the Reference Home as defined in the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET). In accordance with these guidelines, building inputs affecting setpoints, infiltration rates, window shading and the existence of mechanical systems may have been changed prior to calculating loads.

REM/Rate - Residential Energy Analysis and Rating Software v12.6

This information does not constitute any warranty of energy cost or savings.
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ENERGY STAR HOME VERIFICATION SUMMARY

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Building Information

Conditioned Area (sq ft):	3057	Housing Type:	Single-family detached
Conditioned Volume (cubic ft):	26021	Foundation Type:	Conditioned basement
Insulated Shell Area (sq ft):	5957	HERS Index:	54 *****+
Number of Bedrooms:	4		

Building Shell

Ceiling w/Attic:	11/2 CCP R-50 U=0.020, with Barrier	Window/Wall Ratio:	0.12
Vaulted Ceiling:	None	Window Type:	And400 HP Low-E
Above Grade Walls:	R-3.5/R-19 CC polyu U=0.048	Window U-Value:	0.320
Found. Walls (Cond):	R-5/R-13 G1 R=18.0	Window SHGC:	0.330
Found. Walls (Uncond):	None	Infiltration:	Htg: 253 Clg: 253 CFM50
Frame Floors:	None	Measured Duct Leakage:	0.00 CFM25
Slab Floors:	R-10 G1 U=0.079	Leakage to Outside:	0.00 CFM

Mechanical Systems

ASHP: Htg: 82.0 kBtuh, 8.9 HSPF. Clg: 30.6 kBtuh, 15.0 SEER.
Water Heating: Conventional, Elec, 0.91 EF.
Programmable Thermostat: Heat=Yes; Cool=Yes

Note: Where feature level varies in home, the dominant value is shown.

This home MEETS OR EXCEEDS the EPA's requirements for an ENERGY STAR Home.



An ENERGY STAR[®] Qualified Home

This home built at

1801 River Bluff, Brandon, SD

by Lebert Construction

has been verified by Leuthold Plbg, Htg, & Elec Inc, an independent professional or organization,
to meet or exceed strict energy efficiency guidelines
set by the U.S. Environmental Protection Agency.

HERS Index: 54

9/30/08

A handwritten signature in black ink, appearing to read "David Lee".

David Lee
Chief
ENERGY STAR Residential Branch

A handwritten signature in black ink, appearing to read "Sam Rashkin".

Sam Rashkin
National Director
ENERGY STAR for Homes

www.energystar.gov

REMRate - Residential Energy Analysis and Rating Software v12.6

Home Energy Rating Certificate

1801 River Bluff
Brandon, SD 57005



**5 Stars Plus
Site Visit**

Uniform Energy Rating System

1 Star	1 Star Plus	2 Stars	2 Stars Plus	3 Stars	3 Stars Plus	4 Stars	4 Stars Plus	5 Stars	5 Stars Plus
500-401	400-301	300-251	250-201	200-151	150-101	100-91	90-86	85-71	70 or Less

Energy Efficient

HERS Index: 54

General Information

Conditioned Area: 3057 sq. ft. HouseType: Single-family detached
 Conditioned Volume: 26021 cubic ft. Foundation: Conditioned basement
 Bedrooms: 4

Mechanical Systems Features

Air-source heat pump: Electric, Htg: 8.9 HSPF. Clg: 15.0 SEER.
 Water Heating: Conventional, Electric, 0.91 EF, 105.0 Gal.

Duct Leakage to Outside: 0.00 CFM.
 Ventilation System: Balanced: HRV, 70 cfm, 240.0 watts.
 Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: R-50w/RB Exposed Floor: NA
 Vaulted Ceiling: NA Window Type: And400 HP Low-E
 Above Grade Walls: R-23 **Infiltration:**
 Foundation Walls: R-18.0 Rate: Htg: 253 Clg: 253 CFM50
 Slab: R-0.0 Edge, R-10.0 Under Method: Blower door test

Lights and Appliance Features

Percent Fluorescent Pin-Based: 0.00 Clothes Dryer Fuel: Electric
 Percent Fluorescent CFL: 98.00 Range/Oven Fuel: Electric
 Refrigerator (kWh/yr): 547.00 Ceiling Fan (cfm/Watt): 0.00
 Dishwasher Energy Factor: 0.80

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

REM/Rate - Residential Energy Analysis and Rating Software v12.6

This information does not constitute any warranty of energy cost or savings.
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Rating Number: 292059 1801RIVER

Certified Energy Rater: Mark Leuthold

Rating Date: 9/30/08

Rating Ordered For:

Estimated Annual Energy Cost

Use	Site Visit		
	MMBtu	Cost	Percent
Heating	21.3	\$406	26%
Cooling	2.4	\$47	3%
Hot Water	15.5	\$302	19%
Lights/Appliances	35.4	\$690	44%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$123	8%
Total		\$1567	100%

**This home meets or exceeds the minimum
criteria for all of the following:**

TITLE

Company

Address

City, State, Zip

Phone #

Fax #

RESNET HOME ENERGY RATING Standard Disclosure

For home located at: 1801 River Bluff

City: Brandon

State: SD

1. The Rater or the Rater's employer is receiving a fee for providing the rating on this home.
2. In addition to the rating, the Rater or Rater's employer has also provided the following consulting services for this home:
- A. Mechanical system design
 - B. Moisture control or indoor air quality consulting
 - C. Performance testing and/or commissioning other than required for the rating itself
 - D. Training for sales or construction personnel
 - E. Other (specify below)

3. The Rater or Rater's employer is:
- A. The seller of this home or their agent
 - B. The mortgagor for some portion of the financed payments on this home
 - C. An employee, contractor or consultant of the electric and/or natural gas utility serving this home

4. The Rater or Rater's employer is a supplier or installer of products, which may include:

	Installed in this home by:		OR	Is in the business of:	
HVAC systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Thermal insulation systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Air sealing of envelope or duct systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Windows or window shading systems	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Energy efficient appliances	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Construction (builder, developer, construction contractor, etc.)	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	
Other (specify below):	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer	

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 4.C.8 of the standard and are posted at <http://www.natresnet.org/accred/standards.pdf>. This home may have been verified under the provisions of Chapter Six, Section 603, "Technical Requirements for Sampling" of the Standard.

Mark Leuthold

Rater's Printed Name

292

Certification #

October 24, 2008

Date

Rater's Signature