Preserving the Past Protecting the Present Preparing for the Future

The State of Florida Department of Community Affaires / Energy Office

University of South Florida USF

ENERGY CONSERVATION ASSISTANCE PROGRAM

A cost free service of the USF Small Business Development Center

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Survey Results

Center for Sustainable Living

113 Calhoun St. Charleston, South Carolina

On November 21st & 22nd, 2000 a survey was conducted at the above 125 year old facility, in accordance with the **S**tate of **F**lorida **E**nergy **O**ffice / **ENERGY CONSERVATION ASSISTANCE PROGRAMS Designation:**

ECAP-CTLH-1-99
Test Method for Comparing the Thermal Loads in Historic Buildings.

The objective of this procedure is to determine the impact of the "As Built Conditions" and "As Installed Equipment" on the heating and air conditioning loads in occupied historic buildings.

The focus of this procedure is to provide ***a comparison*** to known standards, for all parties interested in using alternative energy devices, to displaced conventional heating, air conditioning and lighting loads.

This procedure addresses the thermal properties of the equipment and structural envelope tested and has no relationship to structural, electrical or fire code requirements.

- Our survey indicates that your building's heating and cooling loads are being reduced **35 to 46%** by the ***Alternative and Sustainable E***nergy ***C***onservation ***M***easures ***(ECM's),*** being employed to date.

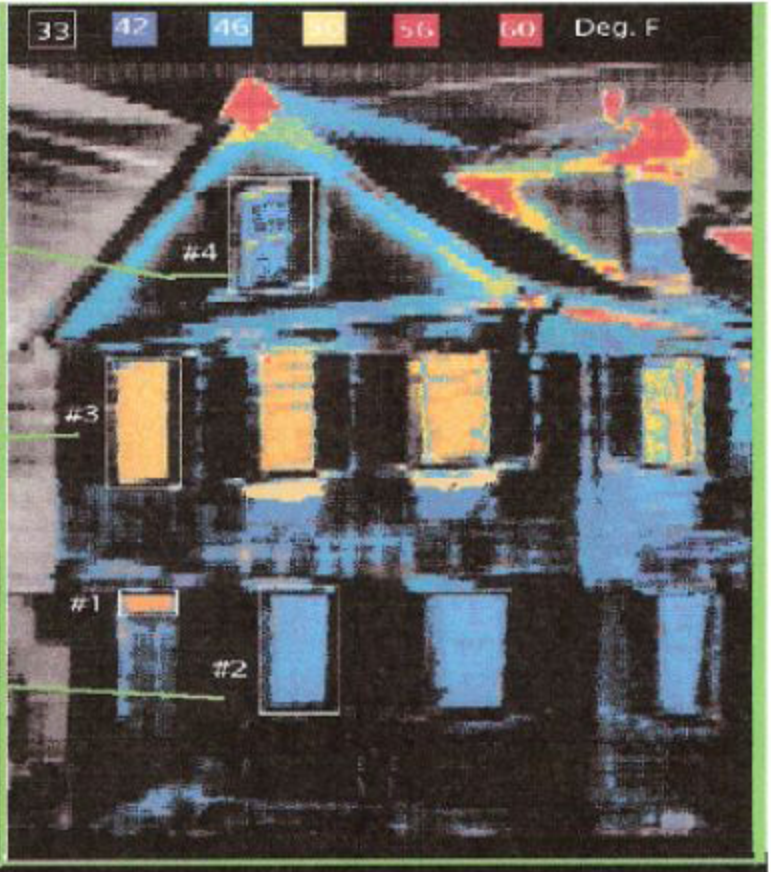
Additionally, these savings are being accomplished ***without any negative effect on the building's original architectural aesthetics*** and include structural enhancements to meet modern Storm and Disaster preparedness building codes.

Weather conditions during the test period were as follows;

Average High Temperature	66 Deg. F. /	Average Low Temperature	33 Deg. F
Average Wind Speed	11 MPH /	Average *UV* intensity	99 A+B
Average High Humidity	38% /	Mostly sunny conditions	

HEAT FLUX TEST RESULTS

COMPONENT	**BTU's / Per square foot / per hour**
Standard glass inside surface 1st Floor.	220
Standard wood window frame inside surface.	5
Standard window with Winsulator 1st Floor.	60
Standard storm window 2nd Floor.	212
Window frame 2nd Floor.	108
Double pane insulated window 3rd Floor.	107
Window Frame 3rd Floor.	45
Double pane insulated window with Winsulator 3rd Floor.	50
Wall inside surface with moisture barrier only.	30
Wall inside surface with 100% insulation retrofit.	5
Ceiling inside surface.	8
Floors.	12
Incandescent Lighting.	**257**
Total structure load prior to retrofits.	***275 BTU/SF/HR.***
Structure load after standard storm window retrofits.	***268 BTU/SF/HR.***
Structure load after double pane insulated window retrofits.	***202 BTU/SF/HR.***
Structure load after Winsulator Interior storm window retrofits over Standard 125 year old glazing system.	***110 BTU/SF/HR.***
Structure load after Winsulator Interior storm window retrofits over Double pane insulated glazing system.	***100 BTU/SF/HR.***
Structure load after Winsulator Interior storm window retrofits over Standard 125 year old glazing system and 100% Wall, Roof and Flooring Insulation .	*81 BTU/SF/HR.*



1 125 Year Old Window
R-Value 1 / 260 BTU Load loss

2 125 Year Old Window with WINSULSTOR SYSTEM.
R-Value 9 / 60 BTU Load loss

3 Standard Glass Storm Window System.
R-Value 3 / 220 BTU Load loss

4 Double Pane Insulated Window with Winsulators.
R-Value 12 / 56 BTU Load loss