

Stafford House, Laconia

Ready for the next 100 years

29% Energy Savings \$23,500 Annual Savings

Year built: 1912; Year renovated: 2015; SF: 36,352

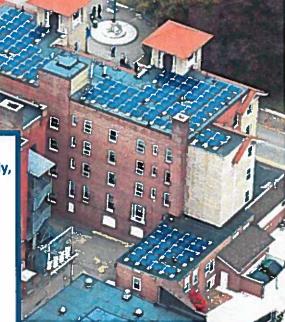
<u>Building use:</u> 50 independent living apartments for elderly, low-income, and people with disabilities

<u>Services provided by RBG:</u>

- Energy Audit
- Funding & Finance Advocacy
- Energy-Centric Construction Management
- Commissioning
- Energy Monitoring & Verification

Upgrades made:

- Comprehensive airsealing & insulation
- 149 triple pane low-e krypton-filled windows
- LED lighting with smart controls in common areas
- 50 1.28-gallon toilets replaced 4.5 gallon units
- 34.6 kW photovoltaics solar-electric system
- New efficient entry way and vestibule



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ENERGY EFFICIENCY MEASURES INSTALLED	ENERGY SAVED	ESTIMATED \$ SAVED (ANNUAL)
ATTIC INSULATION/AIR SEALING	358,000 Kbtu	\$ 3,580
1" AIR SEALING FOAM BOARD		
16" (RSO) CELLULOSE		
PIPE INSULATION (R6) IN ALL UNITS/HALLS	42,000 Kbtu	\$ 420
TRIPLE PANE WINDOWS	20,000Kbtu	\$ 200
LOW FLOW TOILETS (4.Sgal to 1.28gal)	32S,000 gal	\$ 5,750
LED LIGHTING (ALL COMMON AREAS)	36,333KwH	\$ 5,450
REFRIGERATORS (REPLACE SO UNITS)	15,333KwH	\$ 2,300
PHOTOVOLTAIC SYSTEM	38 ,6 66KwH	\$ 5,800
TOTAL SAVINGS		\$23,500

WORK SCOPE

INSULATION/AIR SEALING

- 4th Floor attic
 - Install 1" fire rated foam board between rafters
 - o Foam in for complete air sealing
 - o Install 16" of fire treated cellulose
- 1st Floor roofs
 - o Attach 4" of foam board on underside of roof
 - Attach 4" of foam board to exterior walls
- Individual units and hallways
 - o Block all holes with foam board and spray foam

PIPE WRAP

- All units and Hallways
 - Wrap all heat pipes with R6 pipe insulation

WINDOWS

Replace all windows with a triple pane unit

TOILETS

Replace 52 existing 4.5 gal flush toilets with new toilet and 1.28 gal sloan valve

LIGHTING

- Replace all common area fixtures and high-use office fixtures with LED fixtures
- Install wall mount motion detectors in offices and Community Room
- Install web controlled lighting controls in hallways that reduce output to 30% after 10 minutes of inactivity and active to 80% upon motion.

REFRIGERATORS

Replace all unit refrigerators with a Utility supplied Energy Star unit.

PHOTOVOLTAIC SYSTEM ROOF INSTALLATION

 Install a 34.5K roof mounted system on the 4th level roof and 1st level roof to produce renewable solar energy that will be fed into the meter system. System can be monitored through web base system to observe output and confirm efficiency of system. System will meet new "Net Metering" rules by the Public Utilities Commission. LHA is eligible to sell Renewable Energy Credits on the market at the current estimated rate of \$3,000/yr.

ATTIC WORK

Before any work



Installed foam



16 inches of cellulose

