

TOWN OF LEE, MA

Thermal Conservation Project

*Central Fire Station
&
South Lee Fire Station*

Energy Efficiency Conservation Block Grant

FINAL REPORT



**Submitted to the Massachusetts Department of Energy Resources
September, 2011**

PROJECT SUMMARY

The EECBG grant awarded to the Town of Lee was designed to address energy efficiency improvements in 2 municipal buildings, the Central Fire Station and the South Lee Fire Station.

The Central Fire Station is a 5,244 square foot, 2 story building located at 195 Main Street. The original building was constructed in 1850. There are no regular hours of operation so the building is used based on need: for emergencies, meetings and fire department functions. The 2009 Center for Ecological Technology (CET) Energy Audit recommended that, among other measures, this building receive 8" of blown in cellulose in the attic flat, as well as weather stripping and/or foam sealing around pipes and other areas of infiltration. CET projected an estimated energy savings of 128 gallons of oil, and \$385 saved in heating costs.

In February of 2009, an Energy Audit was also performed by CET on the South Lee Fire Station, located at 1380 Pleasant Street in the Town of Lee. This audit resulted in a number of recommendations, or Energy Conservation Measures (ECM's), for the Town's consideration. The options provided for a potential savings of 69% on fuel and 34% on electricity, at an estimated cost of \$55,000.

The South Lee Fire Station is a 2,722 square foot, 1 story building, constructed in 1959. Approximately 2/3 of the building serves as a firehouse. The remainder of the building is rented to the US Postal Service and serves as the South Lee Post Office. Occupancy is year-round with approximately one to two employees present in the post office 40 hours per week. Many box holders stop in briefly each day. The firehouse portion of the building has variable occupancy, based on need as well as scheduled training sessions, meetings, etc.

The building is constructed of masonry block. The roof was originally constructed with a flat surface; a pitched roof was added approximately 20 years ago. The flat roof has 4 inches of Styrofoam insulation from the original construction. The masonry block was hollow, and contained no insulation in the interior. All windows in the building were single pane.

Although the Energy Audit included several additional recommendations regarding replacement of the building heating system and other improvements, for budgetary reasons the Town confined the scope of this project to building envelop improvements. These included replacing windows and adding 3 inches of rigid foam insulation to the exterior of the building. A moisture barrier and new siding was added. Eight inches of blown-in cellulose was added to the ceiling above the existing foam.

PROJECT TIMELINE

November 2, 2010: RFP for Designer Services Issued

November 16, 2010: Contract Executed between Town and Bradley Architects, Inc. Pittsfield, MA

January 17, 2011: RFP issued for Central Fire Station Boiler (later removed from scope of project)

January 31, 2011: RFP issued for South Lee Fire Station Project (MGL c.149)

February 7, 2011: RFP issued for Central Fire Station Insulation Project (MGL c.149)

February 10, 2011: Boiler Proposals opened and subsequently rejected due to lack of budget support; Project scope later modified and approved by DOER

February 28, 2011: Insulation Project Proposals opened

March 1, 2011: Insulation Project contract awarded to Northeastern Commercial Services, Inc., of Pittsfield, MA

April 6, 2011: Proposals opened for South Lee Fire Station

April 12, 2011: Pre-construction Meeting for Central Fire Station Insulation Project

April 26, 2011: Select Board awards South Lee Fire Station Contract to Salco Construction Co, Inc. of Pittsfield MA

April 26, 2011: Select Board awards South Lee Fire Station Exterior Insulation and Finish System to G & R Construction of Hartford, CT.

May 12, 2011: Pre-Construction Meeting for South lee Fire Station

May 19, 2011: Notice to Proceed

June 1, 2011: EECBG Grant Extension approved by DOER

August 15, 2011: Substantial Completion

September 27, 2011: Final DOER Inspection

PROJECT BUDGET:

The project budget can be summarized* as follows:

SOURCE	AMOUNT
EECBG Grant	\$62,000.00
<u>Town</u>	<u>\$45,147.00</u>
Total	\$107,147.00

COMPONENT	COST
South Lee Fire Station	\$83,190.00
Central Fire Station	
Insulation	\$4,277.00
Design & Const. Oversight	\$13,480.00
<u>Administration</u>	<u>\$6,200.00</u>
Total	\$107,147.00

**Additional Information Located in Appendix C*

PROJECT TEAM:

Robert Nason, Lee Town Administrator

Bob MacIntosh, Bradley Architects, Project Design

Jack Barbara, Bradley Architects, Construction Oversight

Patricia Mullins, Berkshire Regional Planning Commission

Melissa Provencher, Berkshire Regional Planning Commission

Salco Construction, Pittsfield, MA

G & R Construction, Hartford, CT.

PROJECT IMPLEMENTATION & RESPONSIBILITIES:

The Town Administrator, Robert Nason, is responsible for issuing, through the Select Board, all procurement for the Town of Lee. He is also responsible for the overall management of grants and grant-funded projects, and oversees the review process and payment of all invoices from project contractors and vendors. In general Mr. Nason manages all grant related activities, including design, administration and construction.

Bradley Architects, Inc. of Pittsfield was the designer of this project, compiled the bid and procurements documents for the Town, and provided construction oversight

As Grant Administrators, BRPC was responsible for assisting the Town with preparing all procurement and meeting all reporting requirements. BRPC received excellent cooperation in the collection of certified payrolls and worker demographics from the General Contractors, Salco and G & R. As the project progressed, it soon became apparent that a greater challenge lay in guiding some of the smaller sub contractor firms in completing and submitting the ARRA required payroll forms, and this task required a great deal of patience and cooperation between BRPC, the GC and the subs.

Once notice to proceed was issued, all members of the Project Team met in a pre-construction meeting at the construction site. This included the Architect's Representative, BRPC Senior Planner (Grant Administrator), representatives from both Contractors, Salco and G&R. During this meeting the project schedule and responsibilities were confirmed, special ARRA project requirements were discussed.

PROJECT CHALLENGES:

The initial solicitation of replacement of the boiler in the Central Fire Station was a disappointment for the Town and for Bradley Architects, when only one firm bid on the project and that bid was far outside of the budget. Bradley recommended to the Town that this part of the project be put on hold pending other funding options and the Town in turn requested a change in scope for the EECBG grant. DOER subsequently approved the change, and those funds originally budgeted for the boiler were directed to other elements of the project. That left only the insulation project at the Central Fire Station, a portion of the overall project that was too small to interest many contractors, especially in consideration of the reporting and other ARRA requirements. Fortunately for the Town, one local company was interested, and the project was eventually successfully completed.

The South Lee Fire Station project had other challenges. The Exterior Insulation Finish System portion of the project had to be bid separately from all other work due to insurance issues. Most local General contractors do not carry the type of insurance required to sub out the EIFS work,

requiring separate solicitations and administrative follow-up. Finding EIFS contractors with proper insurance was difficult, but eventually bids were received and the Town was able to contract the work with G & R construction from Hartford, Ct.

Towards the end of the project there was a further delay in completing the punch list work when a strike by Verizon held up the relocation of incoming wires. This situation is was completely out of the hands of the Town, the Architect, or the Contractors, and eventually the strike ended, Verizon technicians were able to return to the task at hand, and the project was completed.

RECORD KEEPING:

All records pertaining to this project, including financial records, procurement files, specs and plans, payroll and other required reports and documentation, and communications, including emails, will be stored at the Lee Town Hall under the direction of the Town Administrator for a period of 6 years after the close out of the grant.

PROJECT LESSONS:

Through the implementation of this project, the Town of Lee gained valuable experience with designing, funding and conducting a complex vertical municipal construction project; utilizing federal funds and meeting state and federal procurement laws; implementing the Davis Bacon laws, and coordinating multi-professional teams of professionals. This experience will be especially useful in implementing future projects.

EDUCATION AND OUTREACH:

Information regarding this EECBG project will be disseminated to the public through publication of press releases in the Berkshire Eagle, the Berkshire Record, and the BRPC newsletter. The Final Report on this project will be posted on the official Town of Lee website.

LINKS:

Town of Lee, MA: <http://www.lee.ma.us/>

Berkshire Regional Planning Commission:

http://www.berkshireplanning.org/about/newsletter/documents/2011_November_December-Electronic.pdf

**ONGOING ENERGY PROJECTS:
November 23, 2011**

The Town of Lee is working on the following alternative energy generation projects:

Solar Power Generation on Town-owned Land

Working with the neighboring Town of Lenox and through a request for proposal process, we have chosen to negotiate a Power Purchase Agreement (PPA) with Broadway Electric, a Massachusetts company that has been in business for some 75+ years and has been in the solar business for over 36 years. Under the PPA, Broadway will be responsible for engineering, installation and operation of the solar arrays, and we will agree to purchase the electricity generated for a period of 20 years. Negotiations are ongoing and the PPA will be subject to Town Meeting approval. At this time it appears that on Town of Lee sites we may be able to generate twice as much electricity as the town consumes for all school and municipal uses.

Wind Power on Town-owned Land

The Town of Lee plans to apply for a Massachusetts Clean Energy Center (Mass CEC) grant to monitor the wind speed at a Town-owned property of determined potential for locating a small, utility-scale, municipal wind project. Based on the October 2008 preliminary site evaluation by the Renewable Energy Research Laboratory at the University of Massachusetts' Department of Mechanical and Industrial Engineering, the Town is reasonably confident that its application will be funded. Since a full year of data is required to determine the viability of the site, the Town has taken steps to accelerate the data collection. Weather Flow has agreed to provide a sonic wind measuring device without charge on speculation that the Town will be awarded the grant and that if the grant is awarded, the Vendor will offer the winning bid to provide the service. On November 21, 2011, a trailer-mounted Triton Sonic Wind Profiler was installed on our Upper Reservoir dam.

ENERGY REPORTING - CONTACT INFORMATION:

All energy consumption documents (electricity and heating fuel bills) are held at the Lee Town Hall. Further questions and future reporting issues should be addressed to:

Robert Nason
Town Administrator
32 Main Street
Lee, MA 01238
413-243-5501

TABLE 2. – Energy Conservation Measures

Town of Lee	Location:	Building Footprint:	Energy Consumption one year prior to implementation of project	Projected Annual Energy Savings (Native Units)	Actual Energy Savings since date in service	Projected Annual Cost Savings (\$)	Actual Cost Savings since date in service
	Central F.S.	5,244 sq ft	2,458g. oil	128g.	N/A	\$385.00	N/A
	South Lee F.S.	2,722 sq ft	1,964g. oil	1323g.		\$3,308.00	

FINAL ACTUAL COSTS

**ATTACHMENT C:
Final Accounting Template**

	Budgeted Cost	EECBG Funded Amount	Other Sources of Funding Amount	Final ACTUAL Cost
<u>PERSONNEL:</u>				
Project Management	<\$10,000.00		\$13,480.00	\$13,480.00
Administration (10% limit)	\$6,200.00	\$6,200.00		\$6,200.00
<u>Installation:</u>				
Central F. S. Insulation		\$2,277.00		\$2,277.00
South Lee F.S. Exterior		\$22,392.00		\$22,392.00
South Lee F.S. Windows & Air Sealing		\$3,731.00	\$8,705.00	\$12,436.00
Installation Total		\$28,400.00	\$8,705.00	\$37,105.00
<u>MATERIALS:</u>				
Central F.S.: Insulation		\$2,000.00		\$2,000.00
South Lee F.S.: Exterior		\$15,000.00		\$15,000.00
South Lee F.S.: Air Sealing and Windows		\$9,792.00	\$22,927.00	\$32,719.00
<u>Materials Total:</u>		\$26,792.00	\$22,927.00	\$49,719.00
<u>OTHER:</u>				
Bonds		\$608.00		\$608.00
<u>TOTAL:</u>		\$62,000.00	\$45,112.00	\$107,112.00

PROJECT PHOTOS

BEFORE:





AFTER:







