

Case Study #1 – Energy Efficient Rehab

Low-Income Multifamily Energy (LIME) Loan

Middletown Heritage Associates – Heritage Commons, Middletown, CT

Capital for Change

2016

This property is a privately owned 89-unit retirement home that predominantly serves elderly residents on fixed incomes. It was constructed as elderly housing in 1988 and is a grade C level building. There are four stories, no basement, double pane windows, and a flat roof with a rubber membrane. The building is constructed with masonry and steel framing and brick veneered.

The building is 92,501 square feet in total, and the apartment breakdown is as follows: 10 efficiency units; 59 1-bedroom units; 19 2-bedroom units; 1 3-bedroom unit. The retirement home is staffed by 52 employees and support staff, working in three shifts to provide a complete array of support, recreation and health services to the residents.

78 of the 82 current residents (95%) have incomes below 80% of area median income (AMI), which satisfies the LIME program requirement that 60% of units must be affordable at or below 80% AMI. In addition, there are existing Connecticut Housing Finance Authority (CHFA) affordability restrictions in place at the property, which will remain until the maturity of the LIME loan (the financing will co-terminate with the CHFA mortgages).

At the time of the energy contractor's proposal, all 87 existing units were leased, with 4 units having been recently upgraded and 2 units being converted from common area spaces. Units continue to be upgraded while they are unoccupied.

In terms of capital needs, the interior lighting was upgraded four years ago. The building also boasts a forced-draft cooling tower, installed in 2011. However, 104 of the 106 heat pump units were original to the building, as were both oil-fired hot water boilers. These needs inspired Middletown Heritage Associates (MHA) – the borrowing entity – to look into a set of comprehensive energy efficiency improvements, and they worked with Trane, Inc. over the last two years to develop a strategy and budget for those upgrades.

The investment grade energy audit that was produced by Trane in December, 2015, identified a set of 6 recommended energy conservation measures for the owner to install. Eversource also offered a comprehensive incentive package, through an executed Letter of Agreement (LOA) in November, 2015.

Project Development Team

Trane's Building Advantage team is serving as the owner's Energy Services Company (ESCO) and contractor, and generated the Investment Grade Energy Audit for MHA. Trane is accredited by NAESCO and certified through Canadian Federal Buildings Initiative. The Trane Building Advantage portfolio of offerings provides a broad range of energy solutions, including design

and implementation of energy savings projects, retrofitting and improving existing systems, energy conservation, energy infrastructure outsourcing, power generation and energy supply, and risk management solutions.

C4C also engaged Phase Zero Design, a third-party architectural/engineering firm to review those projections and conduct their own independent analysis of the energy savings that would result from the proposed upgrades. Our satisfactory review of that report was a condition of closing.

Collateral / Security Description / Loan-to-Value

The property has two mortgages with CHFA that are secured by the real estate and personal property of the borrower.

The LIME loan product is unsecured by design, to solve the issue posed by CHFA-financed projects that have difficulty securing financing for renovations and improvements, because of the restriction imposed by the existing agreements on additional liens.

ANNUAL SAVINGS

YEAR	Energy Savings	O/M Savings	Total Savings	DSCR
1	\$48,579	\$49,900	\$98,479	1.30
2	\$49,793	\$49,651	\$99,444	1.31
3	\$51,038	\$49,402	\$100,441	1.32
4	\$52,314	\$49,155	\$101,470	1.34
5	\$53,622	\$48,909	\$102,532	1.35
6	\$54,963	\$48,665	\$103,628	1.36
7	\$56,337	\$48,422	\$104,758	1.38
8	\$57,745	\$48,179	\$105,925	1.39
9	\$59,189	\$47,939	\$107,127	1.41
10	\$60,669	\$47,699	\$108,367	1.43
10 Year Total	\$544,249	\$487,921	\$1,032,170	
10 Year Avg.	\$54,425	\$48,792	\$103,217	1.36

The O/M (operations and maintenance) Savings numbers were derived from an analysis of two years of historical repair and maintenance costs for the existing heat pumps, rooftop units, boilers, and lighting fixtures. The replacement of those units as part of this project scope would negate those costs, going forward.

It had been costing the owners an average of \$36,000 in annual service calls for the heat pumps, \$10,000 for the rooftop units, \$3,500 for the boilers, and \$400 for the lighting fixtures. Given the inevitable reduction over time in the efficiency of the replacement units, the annual maintenance savings are underwritten to degrade over the life of the loan.

The energy savings that have been projected by Trane to result from the proposed energy efficiency upgrades will yield \$98,478 in additional NOI in year one. The payments on the existing two loans secured by the property are currently covered at a 1.22 ratio. With the addition of the subject loan, the new global DSCR on the property will improve slightly to 1.23.

Measure	Savings
Lighting Upgrades	\$ 2,004
Boiler Replacements (Oil to Gas)	\$ 32,210
Heat Pump Replacements	\$ 48,460
Rooftop Unit Replacements	\$ 11,496
Variable Frequency Drives	\$ 4,308
Total Savings	\$ 98,478

Projected Debt Service Analysis

Budgeted NOI	\$ 647,706
Projected Energy Savings	\$ 98,478
Total Projected NOI	\$ 746,184

CHFA Mortgage 1	\$ (320,568)
CHFA Mortgage 2	\$ (210,120)
Total Existing Debt Payments	\$ (530,688)

C4C LIME Loan	\$ (76,005)
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Original DSCR	1.22
LIME Loan ESCR	1.30
Total Projected DSCR	1.23

SOURCES

C4C LIME Loan	\$ 960,000
Utility Company Incentives	\$ 111,274
Borrower Reserves	\$ 20,898
TOTAL Sources	\$ 1,092,172

USES

Project Costs	Cost
Energy Saving Measures	
Lighting Upgrades	\$ 16,108
Boiler Replacements (Oil to Gas)	\$ 219,123
Heat Pump Replacements	\$ 635,055
Rooftop Unit Replacement	\$ 70,325
Total Energy Saving Measures	\$ 940,611
Health and Safety Measures	
Roof Coating	\$ 130,811
Total Health and Safety Measures	\$ 130,811
Lender Fees	
Legal Fee - Susman Duffy Segaloff	\$ 2,000
Technical Review Fee - PZD	\$ 750
C4C Origination	\$ 18,000
Total Lender Fees	\$ 20,750
TOTAL USES	\$ 1,092,172

Projected Revenue / Expenses / Cash Flows

LIME loans are underwritten to determine the savings that will result from a given energy efficiency improvement project scope. As described above, the initial annual savings for this project are estimated to be \$98,478. This should provide over \$22,000 in surplus cash flow to the borrower, who will be able to make additional capital improvements that will provide deeper health, environmental and safety benefits to the elderly tenants.

Those savings are expected to grow to over \$108,000 per year by the end of year 10, and will result in a significant boost to economic performance of the property as whole. The 1.30 minimum DSCR is designed to allow for a cushion in the event that human behavior or adverse weather/environmental conditions reduce the actual savings from the projected levels.

Operating Risks/Inefficiencies

As with all energy efficiency upgrades, there is a chance that the behavior of the tenants will reduce the savings from the projected calculations. The inclusion of training programs for both staff and tenants, along with the planned site visits and ongoing WegoWise monitoring package, will serve to reduce the risk of inefficiencies resulting from human operators.