

ERIE ELLINGTON

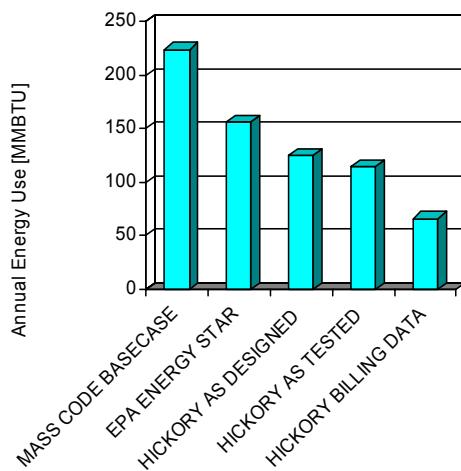
UPDATE: ACTUAL PERFORMANCE FIGURES

Erie-Ellington Homes is an urban low income project incorporating the Hickory Consortium's **EcoDynamic Specifications**, which seek to apply a systems approach to building combining ecological and economical performance. Through Hickory's unique systems approach, these energy efficient high quality buildings were completed at an astonishingly low cost, roughly 25% below typical local costs. After 1 ½ years of operation, data from actual utility bills for the project were analyzed with dramatic results. Total energy and water cost savings approached 50% compared to standard construction.



Hickory members provided architecture, energy systems design, systems and process consulting to the Codman Square Neighborhood Development Corporation in Dorchester, MA which developed the 50 unit low income project. This was a subsidized low income development and the overall objective was to decrease the energy and water usage while improving home quality and reducing construction cost.

Energy Use Compared to Design Standards



Compared to a base case building conforming to the stringent Massachusetts building code, the performance of the typical Erie Ellington home used 42% less space heating energy, 27% less domestic hot water heating energy, and 59% less electricity. The dramatic increase in utility prices within the past five years makes these savings even more important to the owners. Within that period, gas prices increased by 45%, electric prices by 102%, and water prices by 38%. The fundamental energy savings were reflected in even greater dollar savings due to the price increases for utilities. On a dollar cost comparison basis, the data shows the owners paid: a 62% less for space heating, 42% less for domestic water heating, 75% less for electrical use, and 9% less for water consumption.



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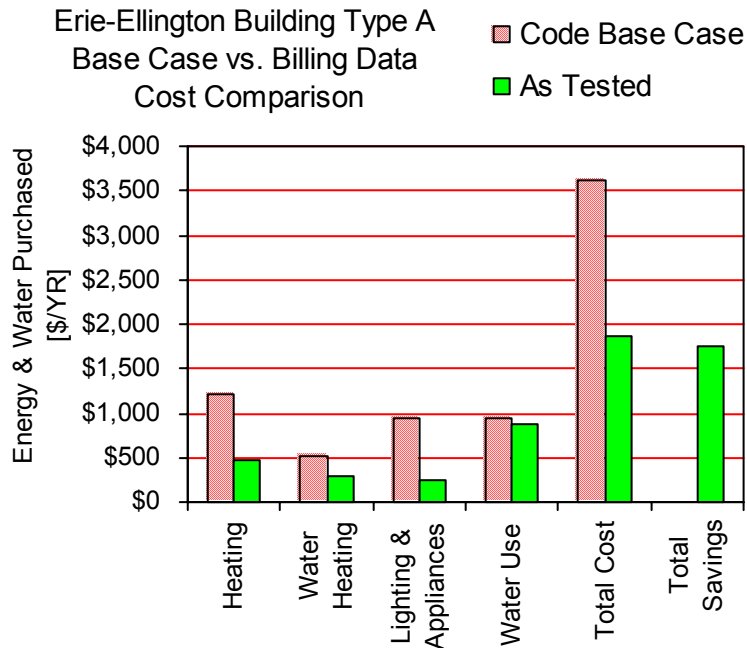
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Hickory's systems based approach helped to produce housing with both tighter construction and better ventilation. Healthy materials choices, like natural linoleum, certified carpet, and wood flooring also helped create a healthier indoor environment. Post construction tracer gas tests showed the ventilation system providing an ideal .35 air changes per hour – plenty of fresh air for occupant health and moisture removal. Interviews with new residents report good health results as well: symptoms were noticeably reduced in 8 out of 18 children with asthma problems.

Finally, a side by side comparison of the dollar costs of each resource shows a total savings for a triplex building of \$2448, with a \$750 contribution from decreased space heating demand, \$216 from domestic hot water use reduction and efficiency, \$714 from lighting and appliance conservation, and \$74 from reduced water consumption. This results in an overall cost reduction today of 49%.



Recognizing that housing quality and energy efficiency are part of the same process, Hickory's systems engineering approach led to success through integration of a complete program for construction. This included a strong emphasis on partnering with builder CWC/Thomas and highly skilled trade union workers, who's enthusiastic adoption of sustainable construction principles made for a smooth and cost saving process.

Hickory's EcoDynamic specifications include performance requirements which exceed USDOE/EPA Energy Star requirements, and the strong support of Conservation Services Group, the local Energy Star Certifier, provided that testing necessary to assure success. The Hickory Consortium is a partner in the US Department of Energy's Building America Program, which seeks to apply systems engineering solutions for cost effective, energy efficient and environmentally sound housing.