

# 9<sup>th</sup> Edition Stretch Code Modeling Analysis

2200 sq. ft. 3 BR Single Family Natural Gas Heat  
Worcester, MA

## 2015 BASE CODE Three Compliance Options

### HERS Index (ERI)

Base	62
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Energy Rating Index (HERS)

PASS ☐

Cost Alternative

PASS ☐

REScheck – UA Alternative

PASS ☒



Natural Gas Heat  
ERI compliance requires a  
HERS Index of 55 and a  
Certified HERS Rating

## 2015 STRETCH CODE HERS (ERI) Compliance Option

### HERS Index (ERI)

Stretch	55
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Energy Rating Index (HERS)

PASS ☒

### Changes to meet STRETCH CODE

Cost or (Savings)

#### Builder Costs

Estimated cost of adjustments + HERS Rater fee

\$2,017

Utility rebates<sup>1</sup>

(\$2,050)

Cost compared to BASE CODE

(\$33)

#### Homebuyer Costs

Estimated energy cost change per year<sup>2</sup>

(\$165)

Change to downpayment<sup>3</sup>

(\$33)

Change to annual mortgage payment<sup>3</sup>

\$0

Year 1 cash flow

(\$198)

Year 2+ cash flow

(\$165)

1 - Incentives revised annually  
around July 1

2 - Energy costs are based on 21  
cents/kWh / \$1.01/therm, savings  
are compared with BASE CODE  
home

3 - 30 Year Mortgage assumes 10%  
downpayment at 4% APR

March 2016

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## BASELINE FEATURES

FOUNDATION	<i>Unconditioned, uninsulated basement</i>
FLOOR	<i>R30 fiberglass Grade 1</i>
WALLS	<i>R21 fiberglass Grade 1</i>
WINDOWS (U-VALUE/SHGC)	<i>0.30/0.30</i>
CEILING – FLAT	<i>R-19 + R-30 fiberglass cross</i>
CEILING – SLOPED	<i>R-30 fiberglass Grade 1</i>
HEATING	<i>92% Furnace x1</i>
COOLING	<i>13 SEER x1</i>
DHW	<i>0.62 EF 40 gallon tank</i>
DUCT LEAKAGE TO OUTSIDE	<i>4%</i>
AIR INFILTRATION	<i>3.0 ACH50</i>
HIGH EFFICACY LIGHTING	<i>75%</i>

## 2015 STRETCH CODE HERS (ERI)

HERS Index (ERI)		Adjusted Features	Construction Cost/(savings)
Base	62		
Stretch	55		
		HERS Rating	\$1,350
		Floor R30 Grade 2	(\$64)
		95% Furnace x1	\$639
		0.95 Tankless DHW	\$92
		100% LED lighting	\$0
		Total Cost	\$2,017

Incentive Breakdown	Incentive
MassSave RNC Program Tier I	\$750
MassSave RNC Program LED light bulbs <sup>4</sup>	\$200
Furnace ≥95% AFUE rating equipped with ECM	\$300
On-Demand, Tankless Water Heater with an Energy Factor ≥0.94 and electronic ignition	\$800
Total Incentive	\$2,050
Total Cost compared to BASE CODE	<u>(\$33)</u>