

# 9th Edition Stretch Code Modeling Analysis

3800 sq. ft. 3 BR Single Family Electric Heat  
Worcester, MA

## 2015 BASE CODE Three Compliance Options

### HERS Index (ERI)

Base	57
------	----

Energy Rating Index (HERS)

PASS ☐

Cost Alternative

PASS ☐

REScheck – UA Alternative

PASS ☒



Electric Heat Pump

ERI compliance requires a HERS Index of max. 55 and a Certified HERS Rating

## 2015 STRETCH CODE HERS (ERI) Compliance Option

### HERS Index (ERI)

Stretch	47
---------	----

Energy Rating Index (HERS)

PASS ☒

### Changes to meet STRETCH CODE

Cost or (Savings)

#### Builder Costs

Estimated cost of adjustments + HERS Rater fee

\$2,003

Utility rebates<sup>1</sup>

(\$4,793)

Cost compared to BASE CODE

(\$2,790)

#### Homebuyer Costs

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

(\$1,144)

Change to downpayment<sup>3</sup>

(\$279)

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

(\$144)

Year 1 cash flow

(\$1,567)

Year 2+ cash flow

(\$1,288)

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

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

3800 sq. ft. 3 BR Single Family Electric Heat  
Worcester, MA

## 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 2</i>
HEATING	<i>10 HSPF Heat Pump</i>
COOLING	<i>19 SEER Heat Pump</i>
DHW	<i>0.95 EF Tank Electric Resistance WH</i>
DUCT LEAKAGE TO OUTSIDE	<i>N/A Ductless</i>
AIR INFILTRATION	<i>3.0 ACH50</i>
LED/CFL LIGHTING	<i>75%</i>

## 2015 STRETCH CODE HERS (ERI)

### HERS Index (ERI)

Base	57
Stretch	47

## Adjusted Features

## Construction Cost/(savings)

HERS Rating	\$1,350
Floor R30 Grade 2	(\$111)
Walls R21 Grade 2	(\$154)
11.3HSPF/19.1SEER Heat Pump	\$500
3.25 EF Heat Pump DHW	\$419
LED Lighting 100%	\$0
Total Cost	\$2,003

## MassSave Incentive Breakdown

## Incentive

RNC Program Tier II	\$1,250
Heat Pump – MassSave and MassCEC	\$2,593
Heat Pump Water Heater Incentive	\$750
RNC Program LED light bulbs <sup>4</sup>	\$200
Total Incentive	\$4,793
Total Cost compared to BASE CODE	<u>(\$2,790)</u>