

9th Edition Stretch Code Modeling Analysis

770 s.f. 1 BR Multifamily Unit Electric Heat, Bottom Floor
Worcester, MA



2015 BASE CODE Three Compliance Options

HERS Index (ERI)

Base	64
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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	52
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Energy Rating Index (HERS)

PASS

Changes to meet STRETCH CODE

Changes to meet STRETCH CODE		Cost or (Savings)
Builder Costs	Estimated cost of adjustments + HERS Rater fee	\$919
	Utility rebates ¹	(\$1,500)
	Cost compared to BASE CODE	(\$581)
Homebuyer Costs	Estimated energy cost change per year ²	(\$476)
	Change to downpayment ³	(\$58)
	Change to annual mortgage payment ³	(\$30)
	Year 1 cash flow	(\$564)
	Year 2+ cash flow	(\$506)

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>Slab on Grade</i>
Slab perimeter/Under Slab	<i>R-5/R-5</i>
WALLS	<i>R21 fiberglass Grade 2</i>
WINDOWS (U-VALUE/SHGC)	<i>0.30/0.30</i>
CEILING	<i>N/A – Bottom Floor Unit</i>
HEATING	<i>8.2 HSPF Heat Pump</i>
COOLING	<i>14 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>
HIGH EFFICACY LIGHTING	<i>75%</i>

2015 STRETCH CODE HERS (ERI)

HERS Index (ERI)		Adjusted Features	Construction Cost/(savings)
Base	64		
Stretch	52	HERS Rating	\$500
		3.25 EF Heat Pump DHW	\$419
		100% LED lighting	\$0
		Total Cost	\$919

Incentive Breakdown	Incentive
MassSave RNC Program Tier I	\$650
MassSave RNC Program LED light bulbs ⁴	\$100
Heat Pump Water Heater Incentive	\$750
Total Incentive	\$1,500
Total Cost compared to BASE CODE	<u>(\$581)</u>