

Passive House **Placetaylor** Style

“Passive House for You and Me!”

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Strategic Director



Placetaylor is an architecture, construction and development company committed to building high performance, energy efficient contemporary buildings.



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ARCHITECTURE

CONSTRUCTION

DEVELOPMENT

Passive House Projects **Placetaylor** Style

We designed, built, and developed the first Passive House in Boston!



Powahouse

Client: **Placetaylor**

3 units in Roxbury, MA

Designer/Builder/Developer

Built 2012

Costs: \$230/ft excluding PV

Net Positive

Passive House

Passive House Projects **Placetaylor** Style

We consulted and managed one of the first Net Positive Developments in the City of Boston!



E+

Client: **Urbanica**
4 units in Roxbury, MA
Consulting & Construction
Management
Built: 2014
Net Positive
LEED Platinum
Passive House

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Energy Efficient Homes on a Super Steep “Unbuildable” Site...



Cliff House

Client: **CCG LLC**

5 units in Roxbury, MA

Designer/Builder/Developer

Under Construction, 2018

Net Zero Ready

Energy Modeled to meet

Passive House

I like you guys! Let's design/build a **6-unit Workforce Housing** project in Dorchester.

Sure, what if it's a **Passive House** project?



Test whatever you want! As long as you can build it for **\$200/SF.**

We got this!

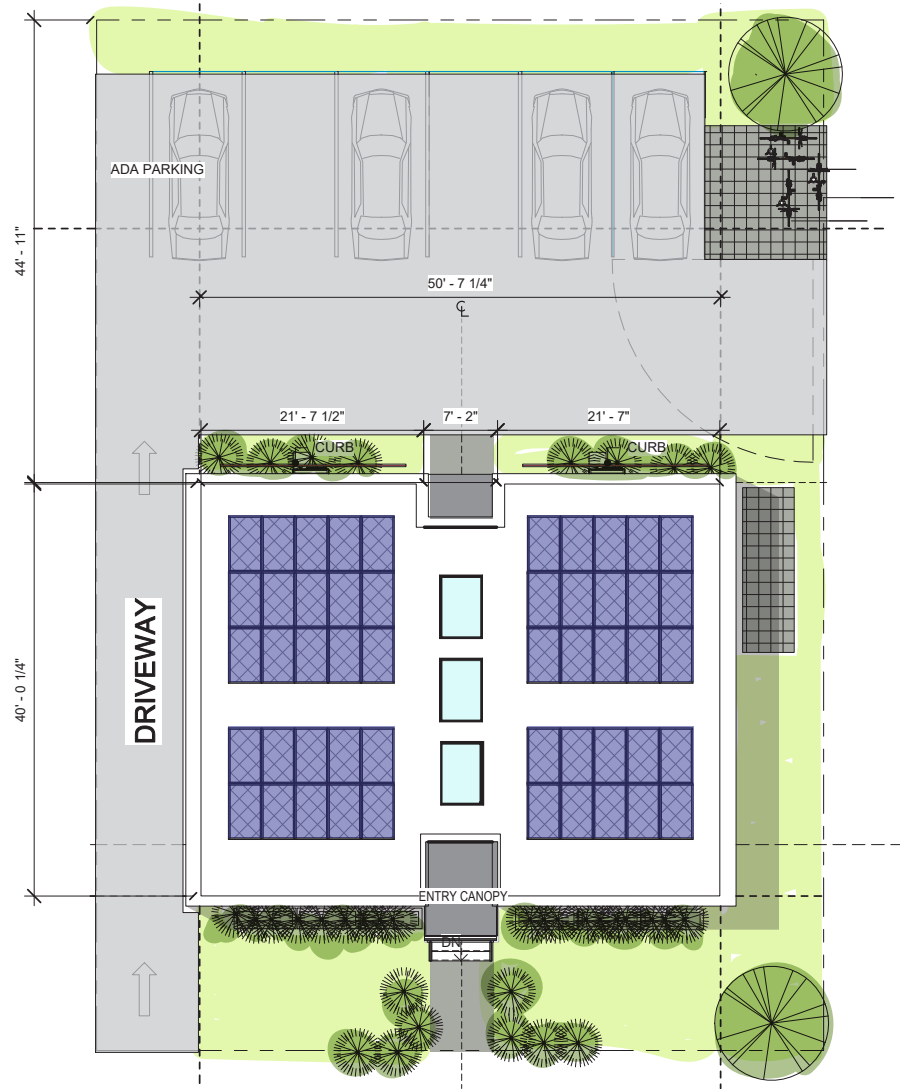
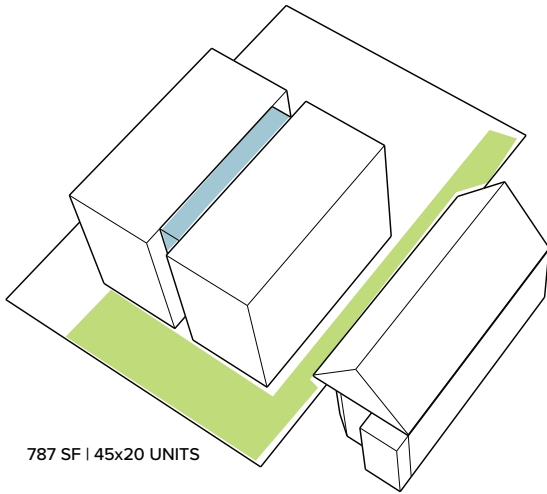





Urban infill in
Dorchester, and near
the T, I like it!

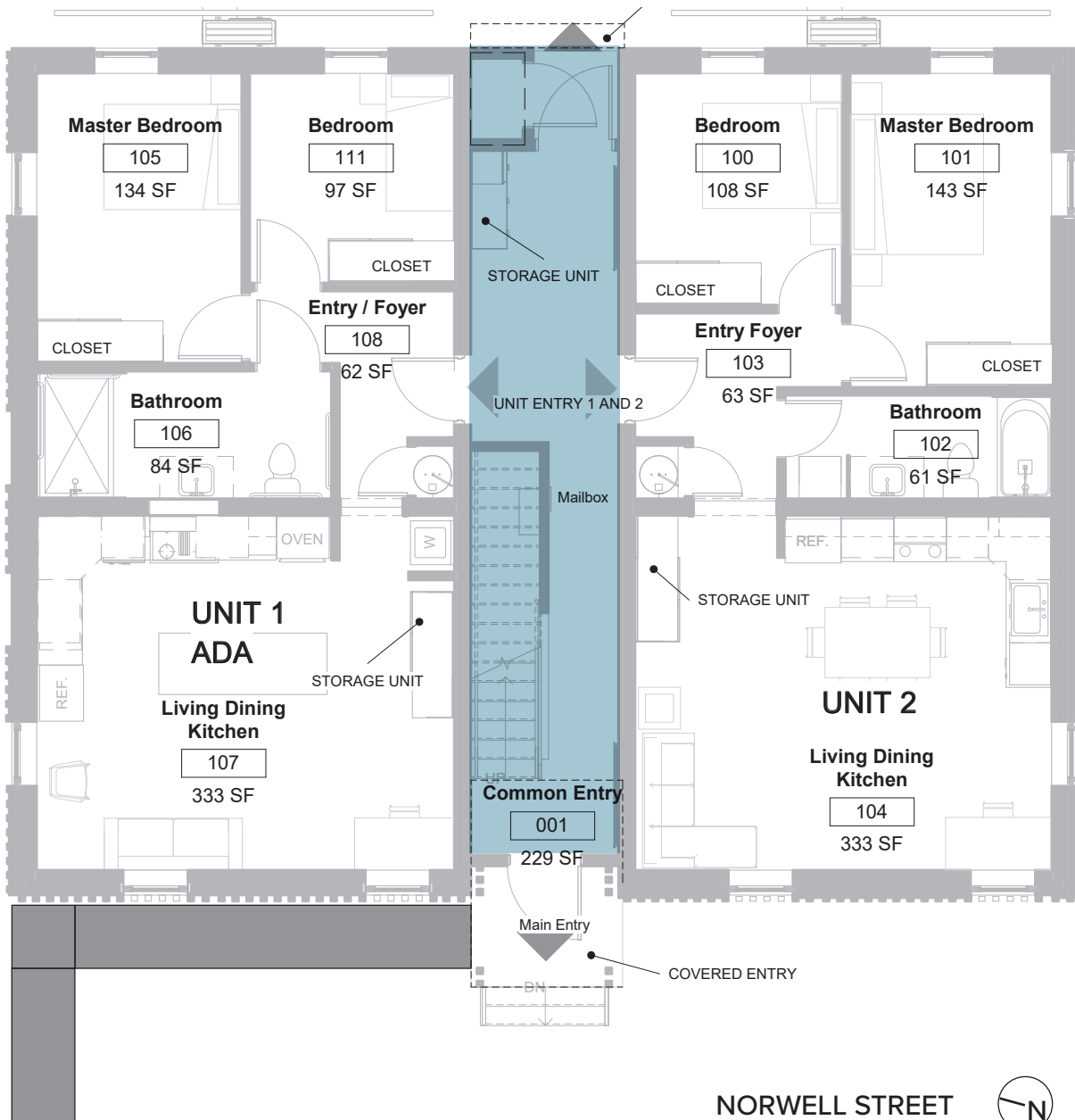
What can
we test?





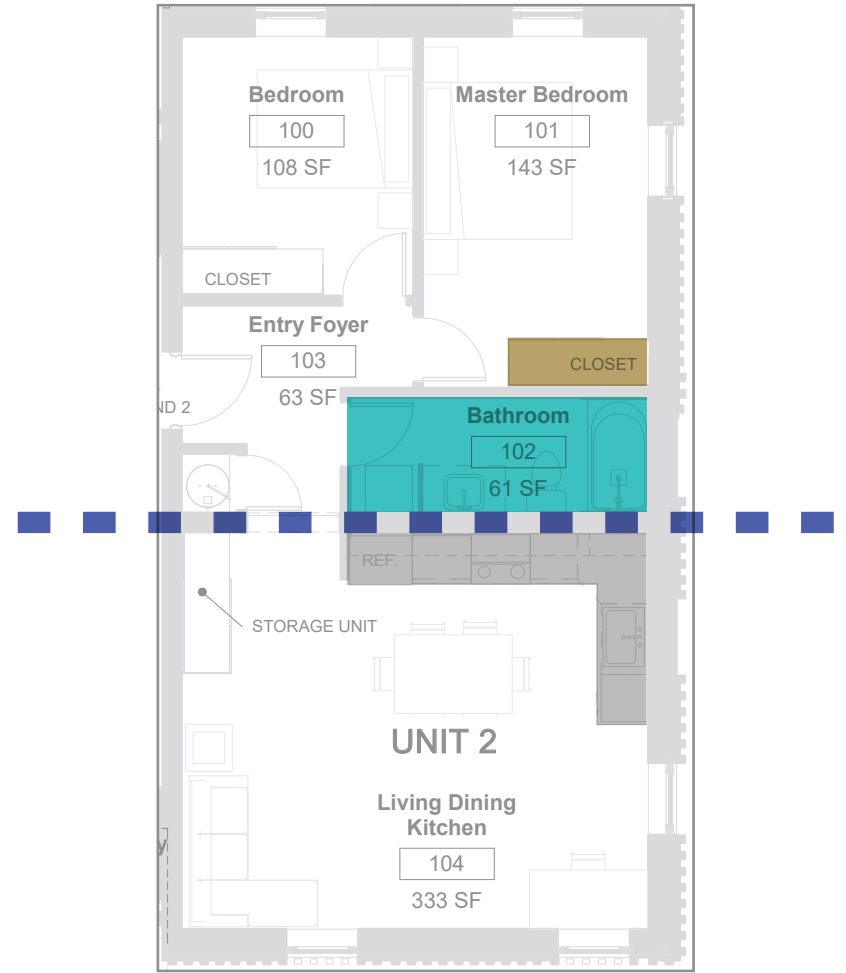
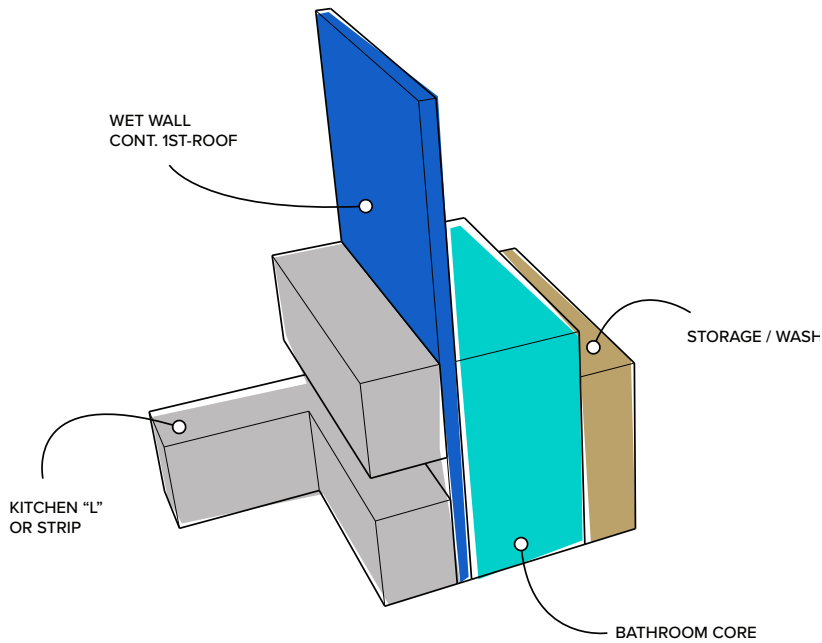
Let's start with a
simple box!

NORWELL STREET 



...Design it
 to a 4'x8'
module.

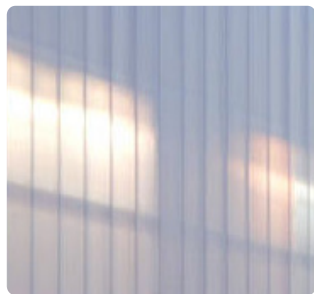




...Modest, **efficient,**
compact units. Let's
 align all the plumbing!



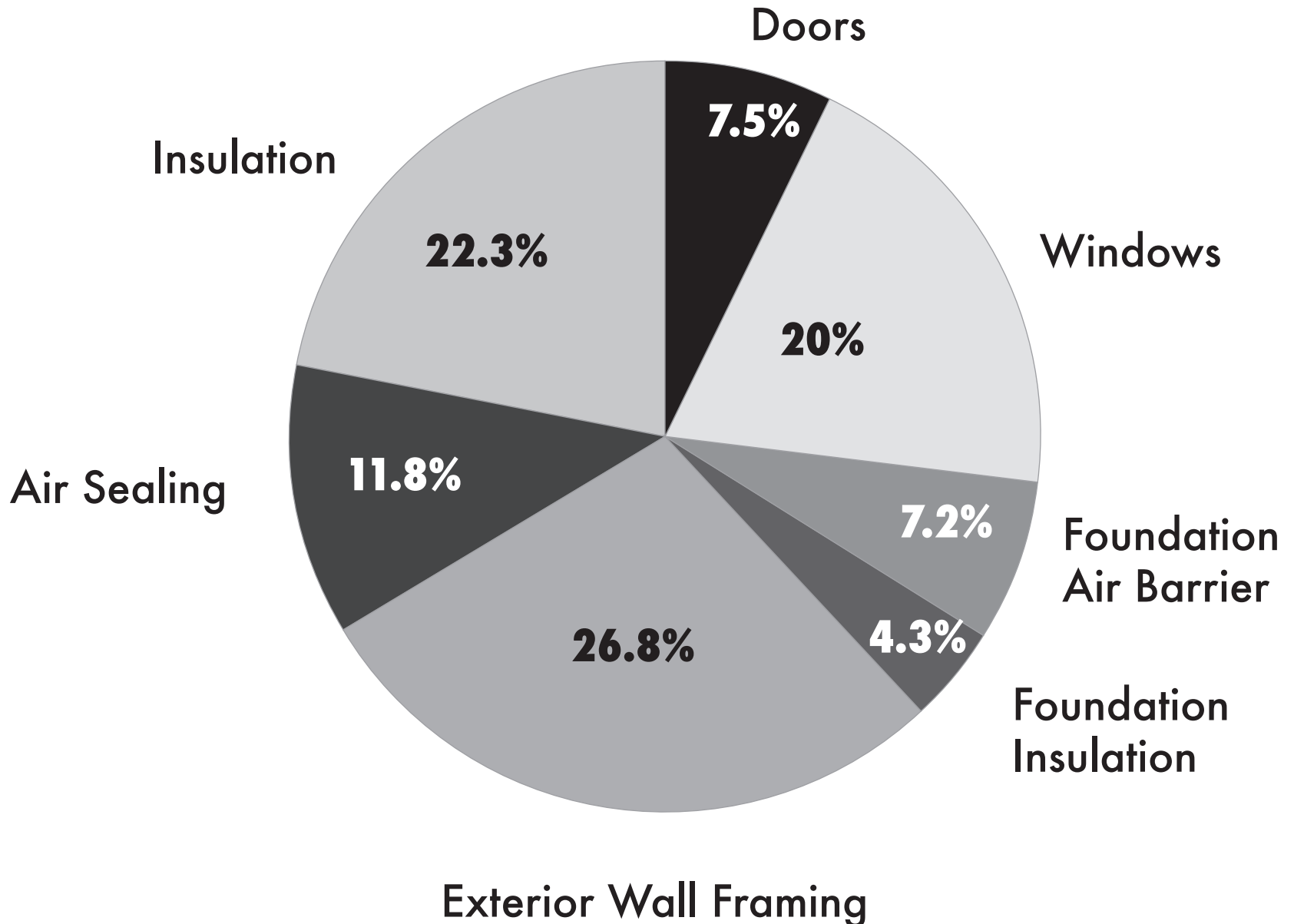
NORWELL STREET FACADE



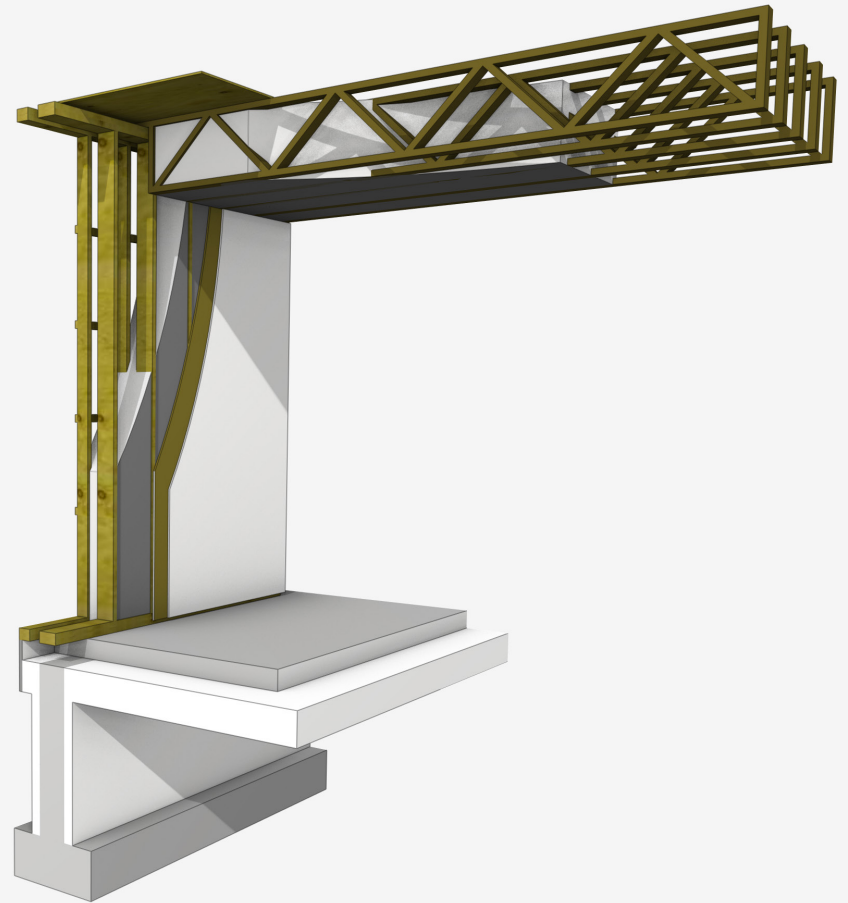
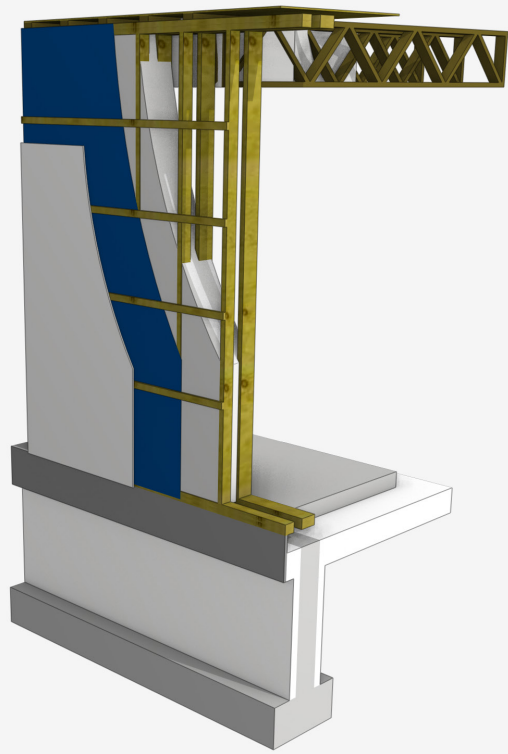
...Simple
materials &
symmetry!



% Additional Cost per “Additional Cost Assembly”



Frame one wall...then another...**easy!**

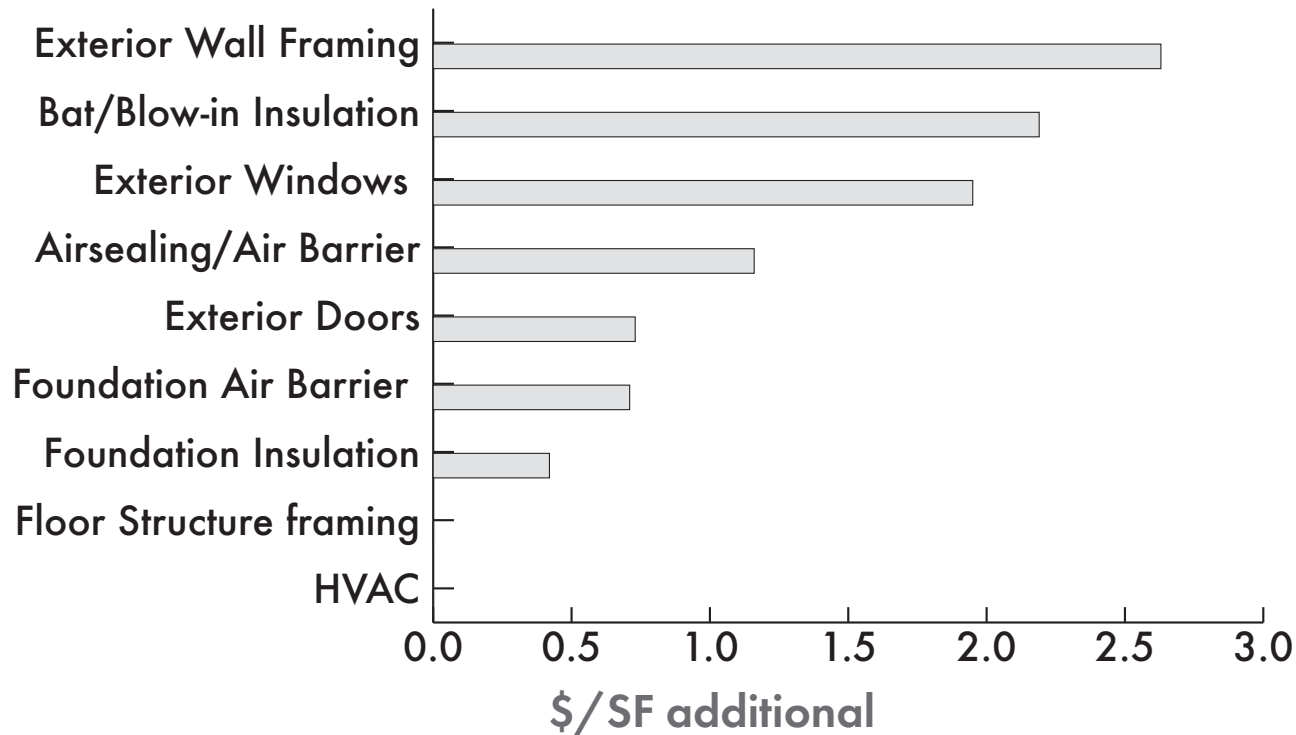


Additional Cost*

Assembly	Square foot Costs	High Performance	Code built	High Performance - Code Built	% cost increase	% of total cost increase
Exterior Wall Framing	\$2.63	\$30,481	\$15,241	\$15,241	-50%	15.4%
Bat/Blow-in Insulation	\$2.19	\$25,382	\$12,691	\$12,691	-50%	12.8%
Exterior Windows	\$1.95	\$45,351	\$34,013	\$11,338	-25%	11.4%
Airsealing/Air Barrier	\$1.16	\$11,191	\$4,476	\$6,715	-60%	6.8%
Exterior Doors	\$0.73	\$8,507	\$4,254	\$4,254	-50%	4.3%
Foundation Air Barrier	\$0.71	\$4,112	\$0	\$4,112	-100%	4.2%
Foundation Insulation	\$0.42	\$4,095	\$1,638	\$2,457	-60%	2.5%
Floor Structure framing	\$0.00	\$35,068	\$35,068	\$0	0%	0.0%
HVAC	\$0.00	\$65,717	\$65,717	\$0	0%	0.0%

Additional Cost

(To go from code minimum building to same exact building but Passive House)



Total: **\$56,806**

5%

\$10/SF

Passive House

Energy Cost/ Year/ Building

\$3,523

Energy Cost/ Unit/ Month

\$49

kWh/ Year

21,556

Code Minimum

Energy Cost/ Year/ Building

\$10,068

Energy Cost/ Unit/ Month

\$139

kWh/ Year

61,018

Annual Savings: **\$6,544.20**

Simple Pay Back: **8.6 years**

Return on Investment: **100% in 30 Year Term**

Pay Additional **\$56,806** up front to make **\$56,778** in Savings in 30 years

**all costs estimated from EPA data and energy modeling.*

A Passive House sheathingless wall assembly, but do we hit **\$200/SF?**

Even better:

- **\$191/SF!**
- **65%** energy savings
- **under** market rent
- **& breaking ground today!**



Passive House Projects **Placetaylor** Style

“Passive House for You and Me,” in Dorchester, MA



Norwell Workforce Housing

Client: **T.Lee**

6 units in Dorchester, MA

Designer/Builder

Under Construction: 2018

Costs: \$191/ft excluding PV

Net Positive

Passive House Modeled

Total: **\$1,109,581**

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