Carlisle Road, Acton, MA

North Central Habitat overcame surprise obstacles to create a sustainable home, well-loved by both the homeowners and the town. This was the fifth time the affiliate had built the single-story, 3-bedroom design, which made it an ideal setting to incorporate and experiment with new technology such as wool insulation and ducted heat pumps. They were able to meet stretch energy codes by using this new technology, engaging knowledgeable partners, and learning from past builds of this design.

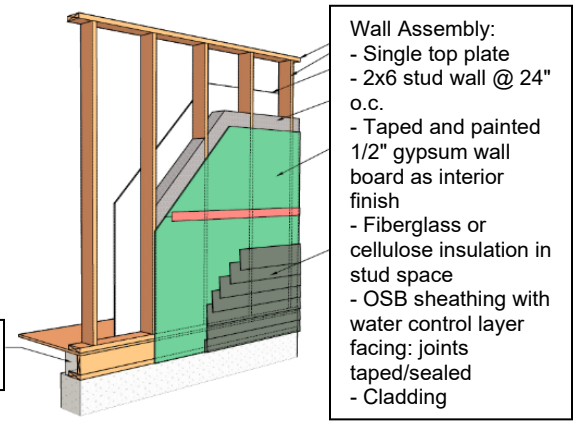
Design:

- Three-bedroom, two bath unit with 1,176 sq. ft. of space and an accessible floor plan featuring cathedral ceilings in the living room and an extended roof overhang for passive solar shading
- Has solar and an exterior EV plug-in; Town of Acton required that the build meet stretch energy code
- Ducted air source heat pump used for improved heat distribution, ERV used for ventilation
- Walls have continuous insulation R-6.6, and 5.5 inches of pre-consumer recycled wool insulation at R-21
- Other sustainable elements included low argon windows, ENERGY STAR appliances, and low flow toilets
- Significant site work costs due to necessary environmental remediation, demolition, and water tie-in

Financing:

House	$139,500
Land and site work	$37,500
Donated land	$1
General and soft costs	$11,900
Total cost*	**$188,901**

*not including site work overages, site-specific soft costs



Lessons Learned

- Innovative, all-electric homes have a broader range of fundraising opportunities from community members, grantors, and CPA or town housing trust funds than traditional builds. These opportunities, as well as donations received by Habitat affiliates, help offset any additional costs that come with all-electric builds.
- More towns are requiring that new builds meet stricter energy codes; teaching homeowners, volunteers, and vocational school students how to build to meet those codes now will only be beneficial for future projects.
- North Central met budget goals for the house itself, including all energy-efficient features. All unexpected expenses were related to the site itself and soft costs; especially as a nonprofit developer, building on challenging sites with remediation requirements can be expensive.
- Partnering with a local trade school for carpentry, electrical, and plumbing helped to keep costs low.
- Design elements that were challenging to build, such as cathedral ceilings and roof overhangs, were worth the end result for added architectural interest to the space and additional energy efficiency.