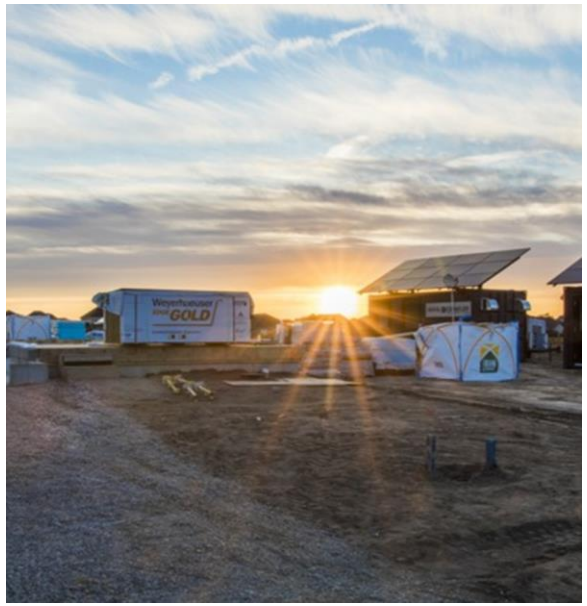
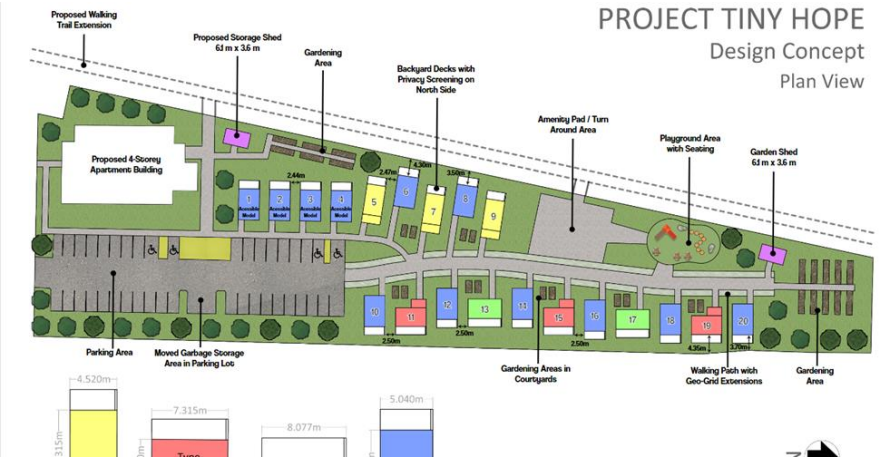


DOUG TARRY HOMES

Hope

Always leave the campsite better than you found it

We believe that this sentiment should extend to ALL people within a community.



Everyone Deserves Hope

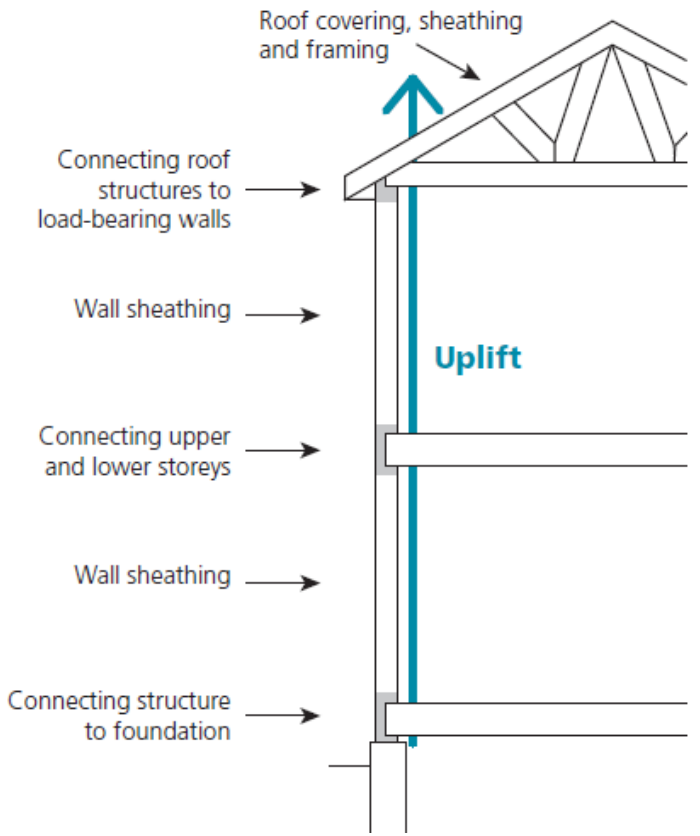
- Hope Agua Vida (2017)
  - After the devastation of Hurricane Maria DTL lead a group down to Puerto Rico to help rebuild a community
  - Provided demonstration and education around sustainable building practices
- Project Hope (2017)
  - 3-day blitz build for a community member in St. Thomas
- Tiny Hope (current)
  - A partnership with the YWCA
  - Community includes an apartment building and 20 NZR tiny homes

Extreme weather events are on the rise

Climate Resiliency Pilot Project

- In 2019 ICLR and Western co-authored and published the report, “Increasing High Wind Safety for Canadian Homes: A Foundational Document for Low-Rise Residential and Small Buildings”
- The work explored elements within the continuous vertical load path
  - Focusing on roof-to-wall connection
- Basis for development of commonly acceptable, relatively straightforward wind risk reduction measures
- DTL was the builder partner for in-field implementation

Figure A: Elements in the continuous vertical load path



Source: Increasing High Wind Safety For Canadian Homes: A Foundational Document for Low-Rise Residential and Small Buildings (2019)

Western

DOUG TARRY HOMES

Institute for Catastrophic Loss Reduction

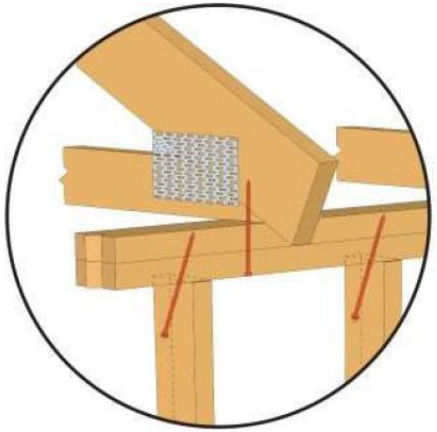
Building resilient communities

The Builder Solution

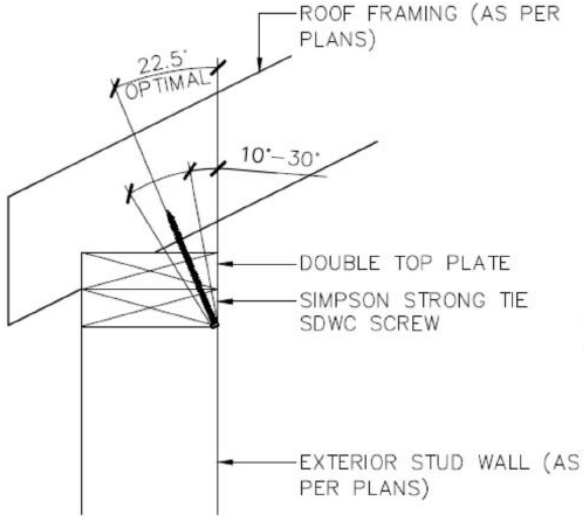
- Simpson Strong Ties used to anchor the truss to top plate (roof to wall connection)

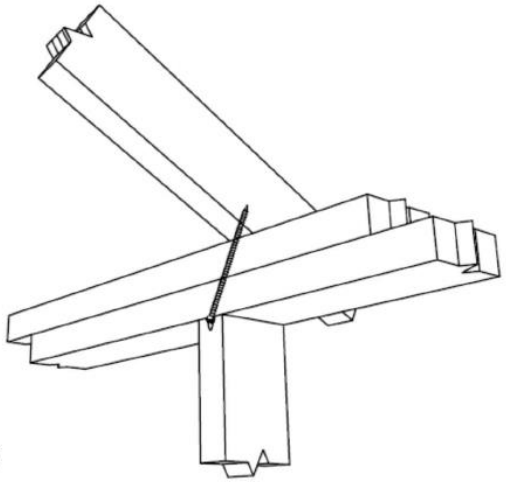
Simpson Strong-Tie SDWC Screw

- Significantly more uplift resistance vs toe nails
- Can be installed from the floor
- Easier to install than SST H2.5A



SDWC SCREW BY SIMPSON STRONG-TIE





WALL TO ROOF FRAMING CONNECTION (ANCHOR INSTALLED DIAGONALLY)

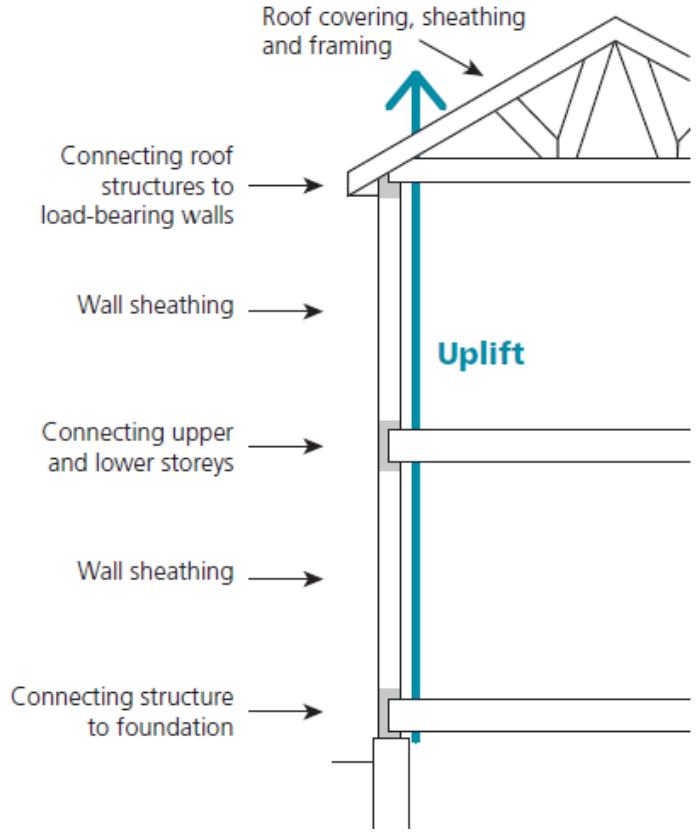
Next Steps

We want to continue to work with ICLR and Western to define measures that have not been researched in detail but have been identified as integral to the development of a “builder-led solution” to high wind load protection.

These include:

- Bracing and securing of gable end walls
- Sheathing size and orientation at the ridge lines
- The wall to floor connection

Figure A: Elements in the continuous vertical load path



Source: Increasing High Wind Safety For Canadian Homes: A Foundational Document for Low-Rise Residential and Small Buildings (2019)

That’s not all…

With the help of RWDI, we’re working on the development of LifeARK™, a program framework to support resiliency.

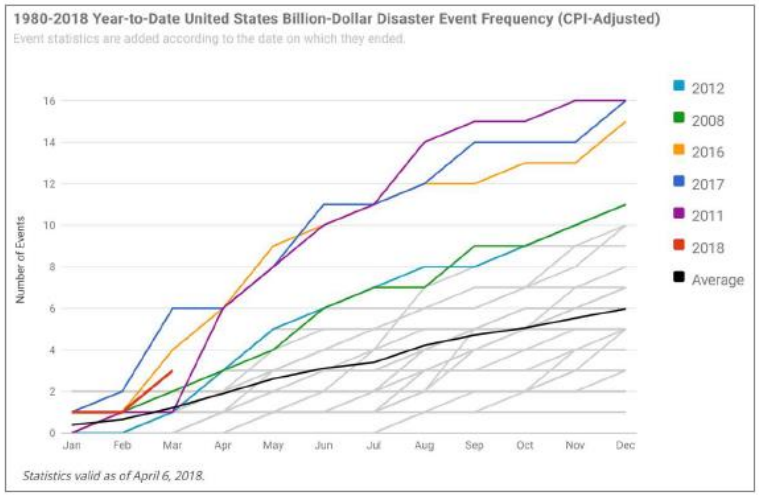
This framework focuses on three key areas:

1. Passive Design

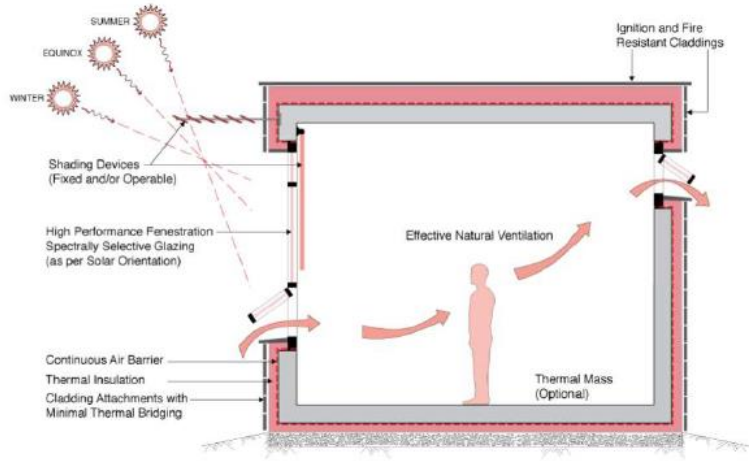
   Thermal autonomy
2. Adaptive Design

   Storm, hurricane, flood protection
3. Backup Power and Critical Operations

   Includes understanding of the need for a balance between energy and carbon



Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2018). https://www.ncdc.noaa.gov/billions/



Thermal resilience involves the application of basic building science. Passive measures for buildings have the advantage of requiring no external energy sources to deliver habitable shelter under a variety of extreme conditions.

Thermal Resilience Design Guidelines, Ted Kesik, William O’Brien and Aylin Ozkan, June 2019

That’s not all…

To build on this, we’ve engaged EQ Building Performance to provide a “Sustainable Survivability” analysis.

This involves an exploration of passive survivability and the need to define our critical loads and potential backup power sources for future builds.

Passive Survivability – 300 Manor Building 1

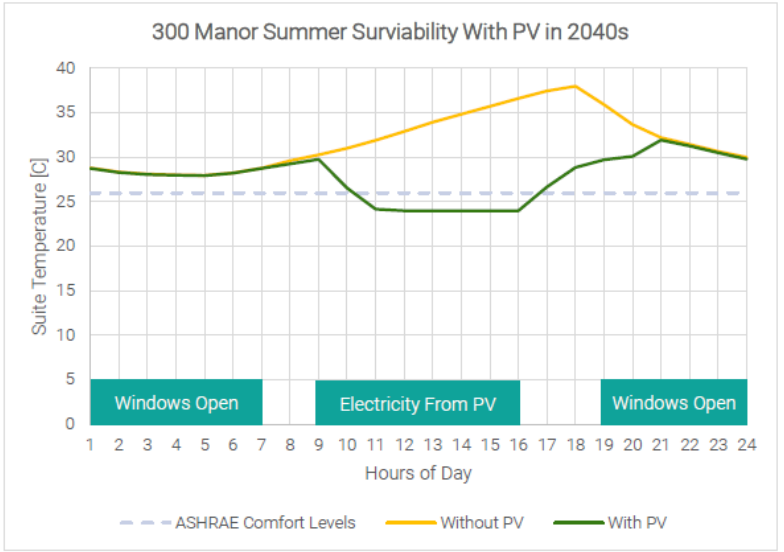


Figure 6: Comparison of indoor suite temperatures at 300 Manor Building 1 during a summer power outage with and without solar PV backup for heating and cooling modelled using a 2040 weather file.

We all deserve Hope for the future.