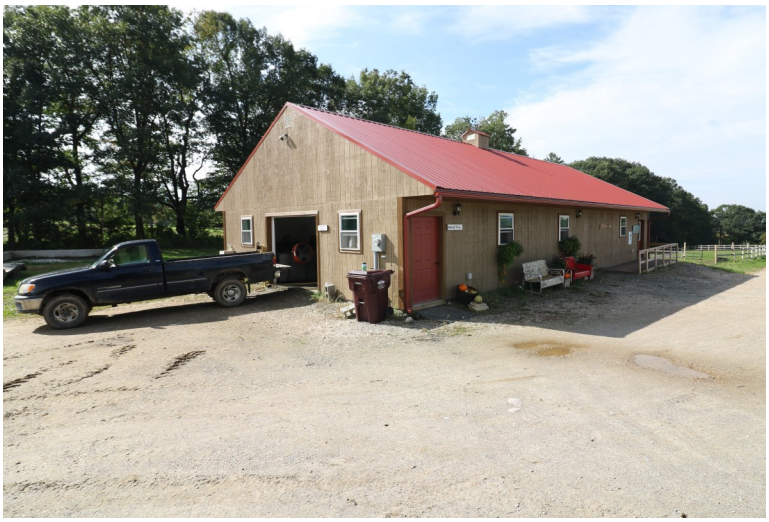
Mighty Clean and Comfortable

A New Wash and Pack Shed at Mighty Food Farm

Lisa MacDougall has led Mighty Food Farm through start-up, relocation from rented land to owned land and now through the construction of a brand-new 60 ft x 90 ft wash and pack shed. She's done this all while producing a diverse mix of organic vegetables, tree fruit and berries on fourteen acres, now, in Shaftsbury.



The packshed has become the central "hub" of the farm boasting new, slab on grade construction with a large overhead door on the east side for receiving from field and packing out for market, person-door for crew access on the northeast corner, and a second person-door for retail and CSA access on the northwest corner.

One of Lisa's primary goals in her new location was "a proper P-shed"; a pack shed where she and her crew could comfortably and safely wash, store, and pack produce for delivery to her customers year-round. Mighty Food Farm serves retail farm stand, farmers market, CSA, and wholesale customers.

"It was 10 years of just slogging through the process every time we had to pack out at our prior location." says MacDougall, "It's what we do all of this work for, to bring fresh, awesome produce to our customers. And the final step was just... not very enjoyable. Every week." Lisa also noted that drainage was really poor in her prior location. Packing out for market in winter would inevitably mean negotiating ice or slush with arms full. They had a door that you had to duck through if you were over 5'9".

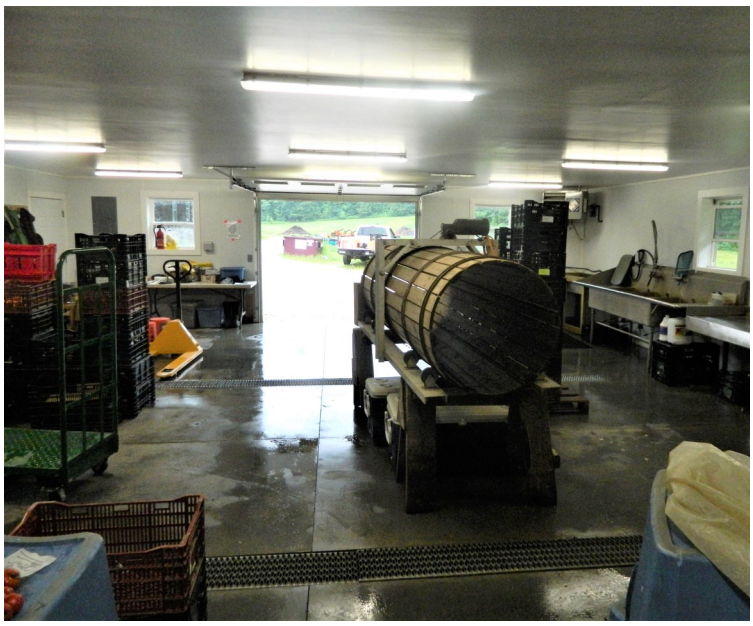
About the Project

Overview: New, slab-on-grade construction 30'x60 (1,800 sq. ft.), single story. Mixed use of wash/pack, storage, retail/CSA, and crew space.

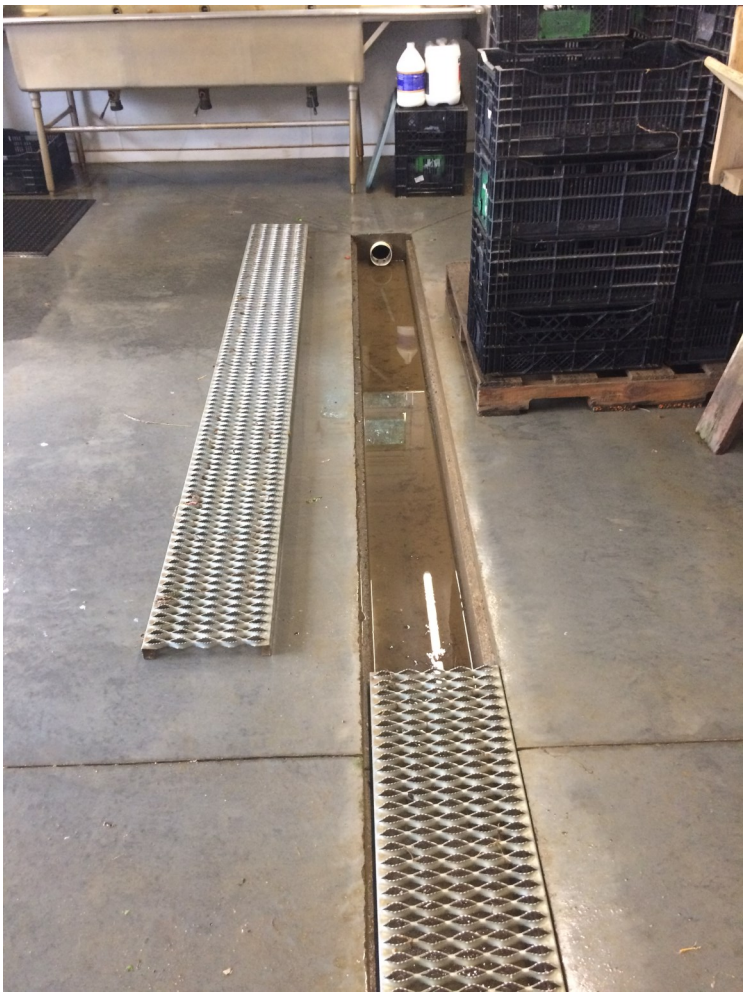
About Mighty Food Farm

- Location: Shaftsbury, VT (previously in Pownal, VT)
- Acreage: 14 acres in production
- Crops: lettuce, kale, mixed greens, winter greens, scallion, onion, winter squash, carrot, tomato, cucumber, strawberries, blueberries, apples, pears and plums.
- USDA Sales bracket: $100,000-249,999
- Markets: CSA, On-farm Retail, Farmers Markets, Wholesale
- Crew: Summer (May-September) is 7; Fall (September-November) is 5; Winter (December-March) is 1.
- Wash/Pack Operations: Triple bay greens washing with gently shaken crate for drying, Barrel/drum washer, bunch washing in spray sink, 3 coolers (CoolBots)

Before deciding to build from scratch, Lisa considered retrofitting a space into an existing, relatively new horse



A large open pack shed, with large doors, cleanable walls and ample lighting provides an efficient and comfortable work space. Trench drains in the floor provide for easy and safe drainage.



A trench drain (12"x20', top grate removed for photo) provides an efficient drain option that also allows for things to be rolled over it. The slightly elevated outlet on the far end of the photo allows sediment to settle out and be scooped out by a 12" shovel. The new space has two of these drains which are directed outside to a vegetative area for discharge.

barn. Walking through the space with some rough floor plan sketches in hand she explored the pro's and con's. Finally, she landed on new construction so that she could get just what she wanted. She also felt converting a perfectly good horse barn to a vegetable wash/pack could reduce the future value of the horse barn and also her use of it for her own horses. Ultimately, the new construction added approximately 20% to the project cost. Though not insignificant, the additional cost was well worth the benefits for Mighty Food Farm.

What was at the top on the list? Comfort, efficiency, and safety.

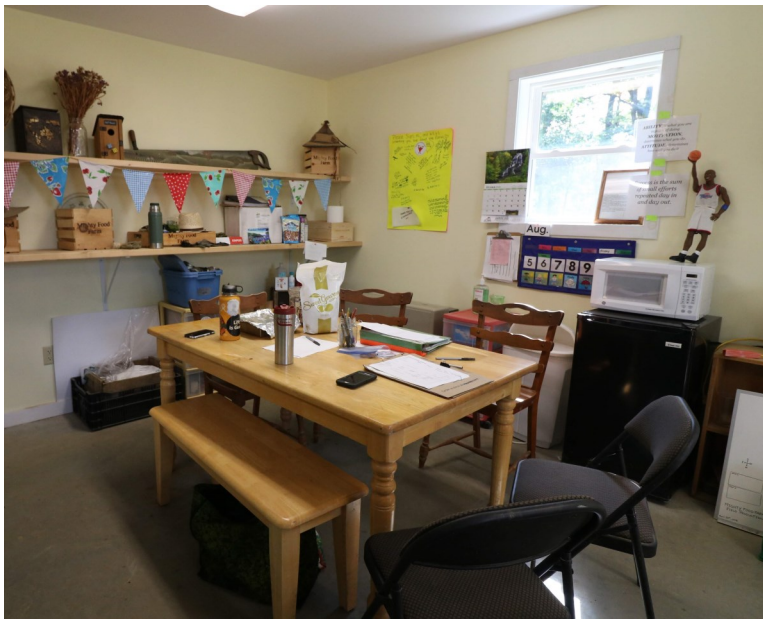
Lisa knew she wanted large doors and shaded floor space to "stage" produce coming in from the field and out to market. Her previous washpack required maneuvering crates in both hands up and down stairs, through narrow doors and around corners. The need for more space was a given; her previous location was about one-third the size of the new building.

"I've realized that there is a key question you need to ask yourself as a growing farm." she notes, "Am I going to be a fork truck farm or a not?" Lisa decided that the right scale for her was supported by harvesting into handheld crates not pallet bins and that the majority of product movement could be in crates. Once in the packshed and storage coolers, the crates can be palletized and moved with a simple pallet jack. The smooth, continuous concrete floor serves the need for storage in both cartons and pallets.

A key feature of the new wash area are two central trench drains. Trench drains provide for a high volume floor drain that is flush with the floor surface and able to accommodate solids and sediment. They are also easier to clean regularly. "The steel grates pop off and a standard 12" square shovel can scoop out the soil", MacDougall pointed out. These drains can also fully dry once cleaned which is an added produce safety benefit.

"It's just clean and bright. We like to be in the space." Lisa noted as she pointed out smooth and cleanable wall finishes making use of fiber reinforced plastic (FRP), also known as "dairy board." Ample, energy efficient LED lights overhead also make for an improved workspace.

The space is so new, clean, and bright that the contractors commented on the "old", "used" wash equipment being moved back in "messing up the place." Lisa actually helped complete the construction crew with some of her farm crew who had some building experience.



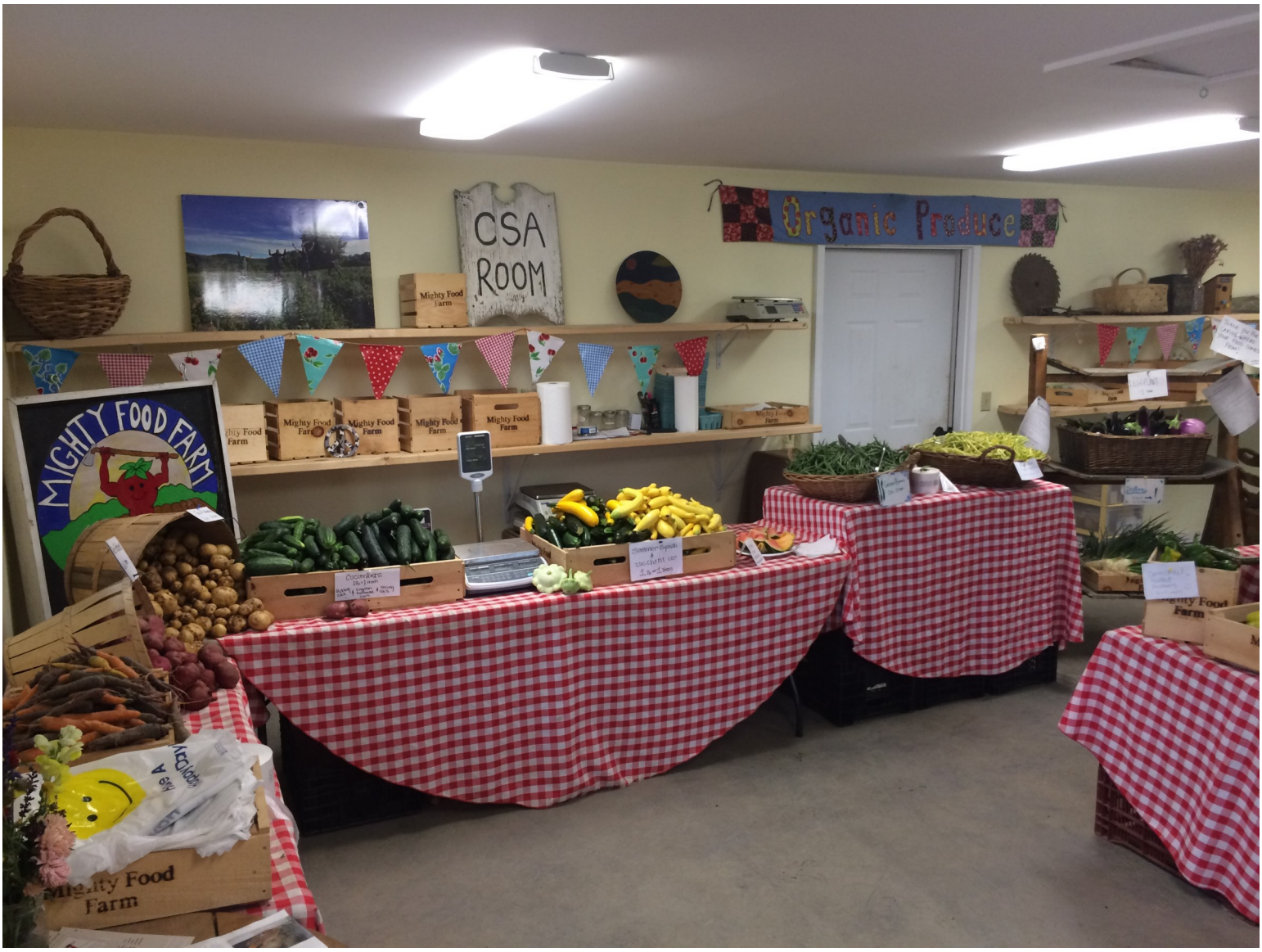
A crew break area. Comfortable, out of the elements, and great for morale.

Lisa also wanted to provide a space for the crew to actually take a break and eat lunch, not to mention having a dedicated sink for handwashing. “Once you have a crew of more than three people, you really need to provide a dedicate break area.” She also wanted a clean and comfortable place for customers to visit for retail purchases and CSA pickup. The western third of the new building serves these needs. “The wash/pack has really become ‘the hub’ for the farm.”

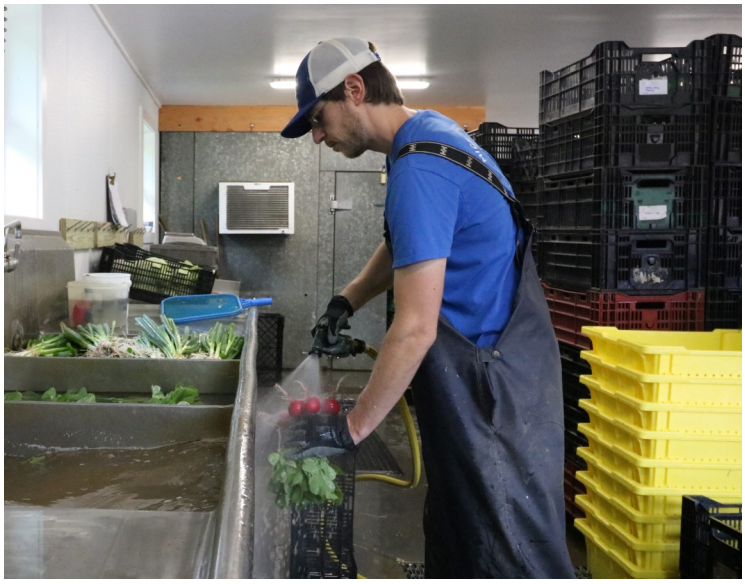
“I just feel better about my product and my crew.”

Looking back on the project there are a few things that Lisa would spend a little more attention on. She knows she’ll have to add some ventilation into the space eventually and it might have been easier to do from the start. There is no toilet in the new building which was avoided due to the need for septic system (though there are facilities nearby). The building is a “dry building” with the only water source being a frost-free hydrant outside which is currently brought in by hose. Wash water is sent to a vegetative swale.

Lisa notes that the project has really opened up a lot of possibilities for Mighty Food Farm. The farm was previously limited by cold storage capacity and was able to build additional storage space as part of the construction. It is easier to maintain a high crew morale thanks to some of the softer aspects of the project such as making it a clean and bright space and providing a dedicated place for breaks. Lisa is proud to have a great crew with longevity and aims to keep them as long as possible. Coolers and CoolBots are easier to maintain indoors and the life of the CoolBots have been increased. Lisa has also noticed a marked improvement in her



The new retail shop at the farm is on the west end of the new building. It also serves as the CSA pickup location.



The coolers are now easy to access from the wash/pack area and the CoolBots seem to run better, are easier to maintain, and add some heat to the space.

ability to regulate cooler temperatures with the coolers inside. Product quality has also improved with a dedicated, clean space to efficiently wash, pack and store. Produce safety practices are much easier to achieve in the new space. Record keeping and crew organization has also been improved now that there is a central "hub" for activity.

Acknowledgments

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Favorite Things

Large Overhead Door—$3,000

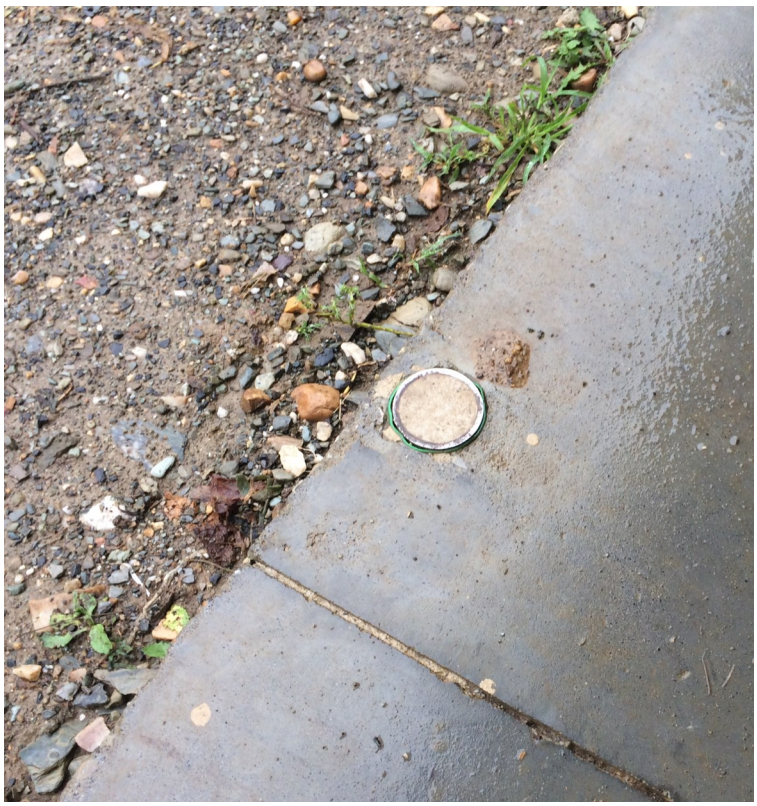
Landing Zone for Harvest and Packout— about $6.00 per square foot. $1,500 to 15,000 depending on the size of slab and features (drains, etc.) - go.uvm.edu/floors

Heated Space - Propane unit heater—$1,000-3,500 depending on size and efficiency.

Bright Cleanable Walls - FRP - go.uvm.edu/smoothnclean - about $1.00 per square foot.

Trench Drains - Two 12"x20' - Included in slab.

Techno Post Helical Pile vs. traditional footings for slab on grade - www.technometalpost.com - Saves $4,000 on concrete (no footings).



Techno Posts (circular shape in center of photo) were used in place of traditional poured footings to reduce construction cost. This photo shows the top of a post on the east edge of the slab at the large overhead door opening. Techno Posts are helical piles that "screw" into the ground to provide foundational stability (https://www.technometalpost.com/en-US/). They avoid the need for formed footings beneath the slab.

Agricultural ENGINEERING

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An online version of this publication is available at go.uvm.edu/mightyfoodcase

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