THE ROOT

Yard to Home - Hands on Gallery

The concept for THE ROOT grew out of the clients, desire to transform a local brownfield site into a lush productive plot. Working in conjunction with the the City and a grant from the LeClure's to create a Yard to Home—Hands on Gallery featuring Back Yard—Sustainable Living, within the city limits. The Le'Clure's generous grant stems from their desire to see families living sustainably. The gallery becomes their way of "teaching a child to fish". There was a time when a family could provide for their needs just based on their "plot of land". Vanessa grew up on a farm and believes this art has been lost, and together with The ROOT Foundation, established in 2000, they want to bring awareness of this lifestyle option to children, and their parents in a fun, education-al, life changing way.



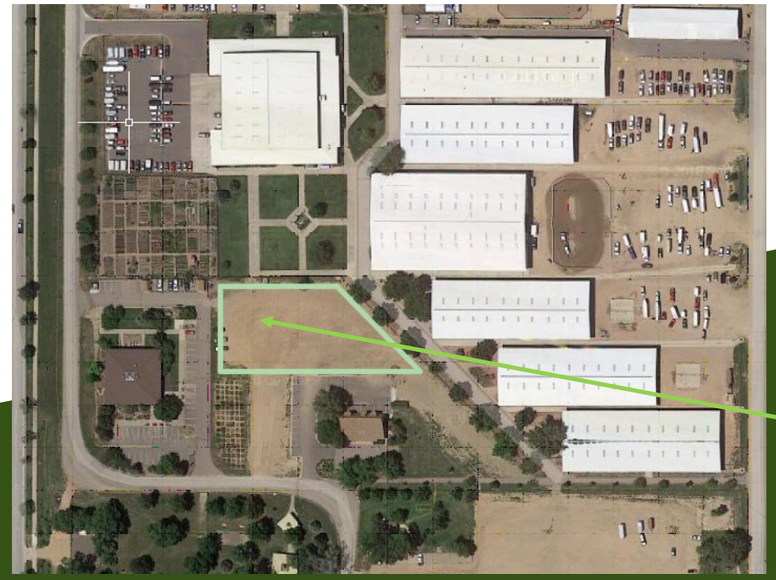
CASE STUDY: Using shipping containers to construct classrooms is a modern, green and efficient alternative traditional structures. As the majority of work on shipping container conversions is carried out off site, they can be installed on site in just a few weeks, which saves money and decreases disruption and risks associated with construction within a live school environment. This featured example at The St Bede Academy in Bolton, was constructed in two separate phases, one tier at a time, during the six week summer holidays, completely avoiding term time, which not have been possible with any other type of construction.

These classrooms feature:

18 individual 20ft high cube shipping containers. High cube containers give extra height as at 9ft 6in they stand a whole foot taller than standard containers.

https://www.shippingcontainersuk.com/m21b0s51p1820/CONTAINER-CONVERSION-CASE-STUDIES-School-classroom-block-CS10260

The space will provide an area for:
Animals
Dyeing & Knitting
Farming - Naturally
Composing
Food Preservation

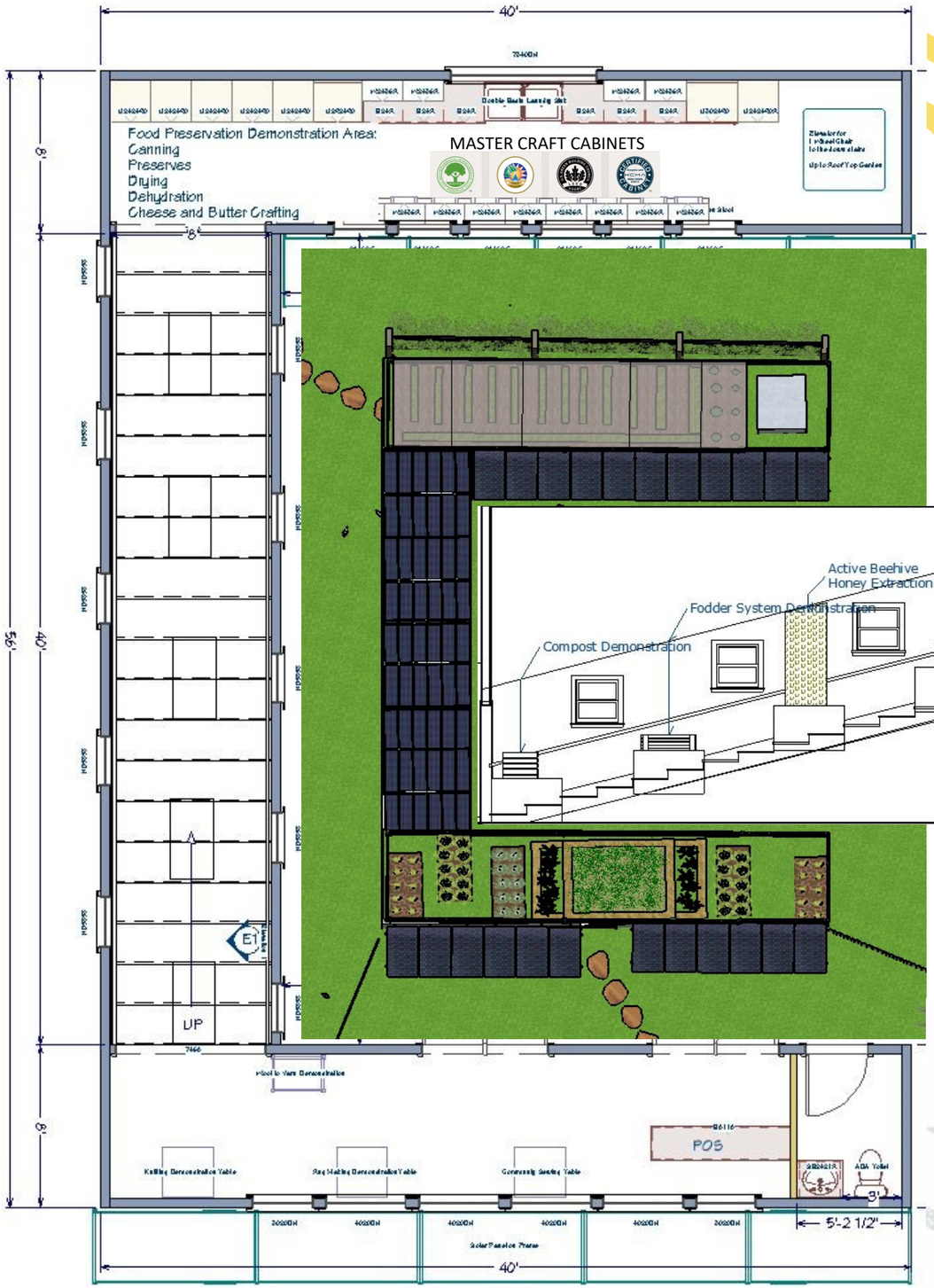


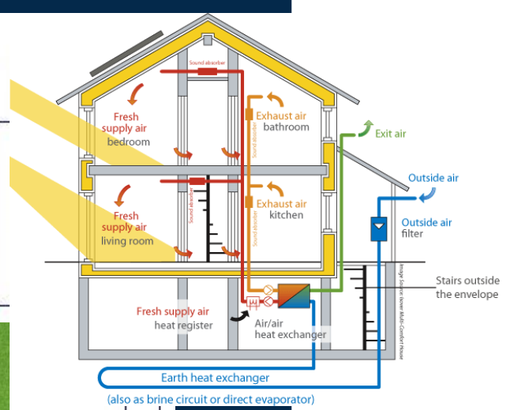
The center will, from an energy standpoint:

- Have self sustaining power.
- Have supplemental water supplied from the city.
- Contain materials that are sustainable, Reused, Recycled, Regionally Sourced & Rapidly Renewable

Located on the Boulder County Fairgrounds—
East of the CU-4-H Extension Office, South East of the Community Gardens

Pandi Spence
Sustainable Design



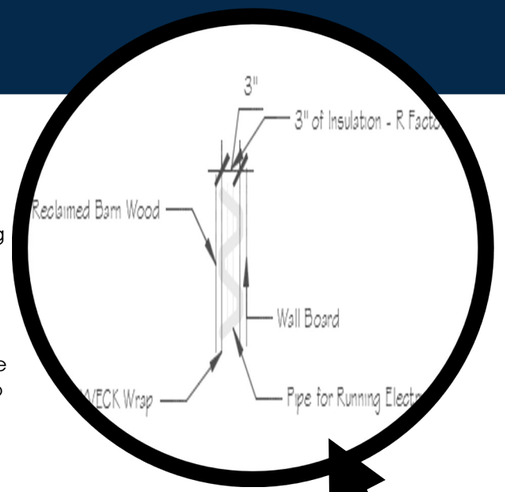




FEAURE	MANU-FACTURER	Recycled Reclaimed Renewable Regional	MAERIAL	SPECS
Roof	Green Roof Technology	Regional Renewable	Green Roof	Decreased heat, AC, municipal sewer system fees via a green roof. Green roofs capable of cooling indoor air by 3.6° F in summer, reducing annual energy demand by 6%.Green roofs contain 50 – 80% of annual precipitation.
Insulation	Foam it Green Insulation	No use of additional framing	Foam Insulation—Low Pressure Spray Reduces VOC's	Anti-Microbial Fire Retardant. Fills all gaps and waves Vapor Barrier 3" = R Factor 21
Walls	Amorim Cork Composites	Renewable	Cork blocks Floor to Ceil-	Thermal & Acoustic Insulation
Flooring	Nora Floors	Recycled Regional Reclaimed	Virtually No VOC—Contributes to Indoor Air Quality	LEED Credits based on the following: - Construction and Demolition Waste Management – Environmental Product Declarations (EPDs) – Material Ingredient Reporting: Health Product Declarations (HPDs)
Siding	Beetle Kill	Regional Reclaimed	4" lap siding	
Windows	Alpen—ryrol Series	N/A	fiberglass windows	Alpen High Performance Products became the *first* U.S. window manufacturer to receive Passive House US (PHIUS) Heating climate zone accreditation. Advanced, customized suspended coated film glazing
Ceiling	N/A	N/A	Exposed Metal—Green Roof Provides Insulation	
Lighting	Standard Fixtures— LED Lighting	N/A	LED LIGHTING DAY LIGHTING	
Water System	Sloan's AQUS	Reclaimed Recycled	Grey Water Toilet /Sink GardenSystem	Consumes on average 40% of a household's water use . Save up to **6,000 gallons** each year .
Solar Passive & Heat	Cogenra Solar	Regional Renewable	Photovoltaic used to heat water.	Produces hot water and electricity through a combined photovoltaic and thermal module. The waste heat from the back of the PV cells heats the water, which is then used in the facility. Roughly 4 additional units of energy on top of the electric energy are produced,
Cabinetry	Master Craft—		Elkay Cabinetry	LEED: Materials and Resources and Regional Materials.
Appliances	Kitchen	Energy Star Rated		Water Gardens Below Roof Level
*Fencing	Pallets	Reclaimed Repurposed		Entire Property fenced in wood from pallets.

SUSTAINABLE

CASE STUDY: U OF TEXAS A&M



The main campus at Texas A&M boasts over 7 million square-feet of spray-applied polyurethane foam (SPF) roofing – almost **no other system has been installed for the past 30 years. Why? Proven sustainability and energy efficiency.**

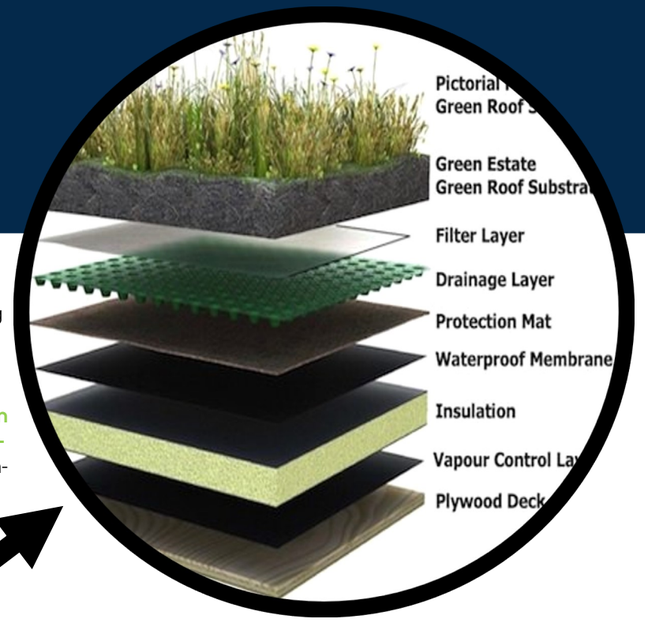
In 1974, dissatisfied with the performance of their traditional tar and gravel built-up roofing (BUR) systems, the Physical Plant Department at Texas A&M began looking for alternatives. The BURs were leaking constantly after an average of five years of service, and isolating the sources of the leaks was next to impossible. The university selected SPF because it is seamless, monolithic and fully adhered. *And because it is lightweight, a complete tear-off of the existing BUR could be avoided.*

http://superiorsprayfoam.ca/superior-spray-foam/Case%20Studies

CASE STUDY: EPA

Green Roofs and Solar Panels: The Future of Renewable Energy Adding a green roof to a building offers several benefits, including **reducing harmful stormwater runoff, lessening the "heat island" effect,** conserving energy and noise, **containing air pollution and greenhouse gas emissions**, and extending roof life. Green roofs have been shown to increase people's productivity and offer a new habitat for plants and animals. According to an EPA estimate, the "**heat island" effect– when highly developed urban areas are significantly warmer than their less developed surroundings 1 – is responsible for 5 – 10% of community-wide electricity demand**.2 Building owners can save money through **lower heating and air conditioning bills** and decreased municipal sewer system fees via a green roof. A 2012 study revealed green roofs to be capable of cooling indoor air by 3.6° F in summer, reducing annual energy demand by 6%.3 Green roofs contain 50 – 80% of annual precipitation, according to Green Roof Technology.

http://www.greenrooftechnology.com/case-studies



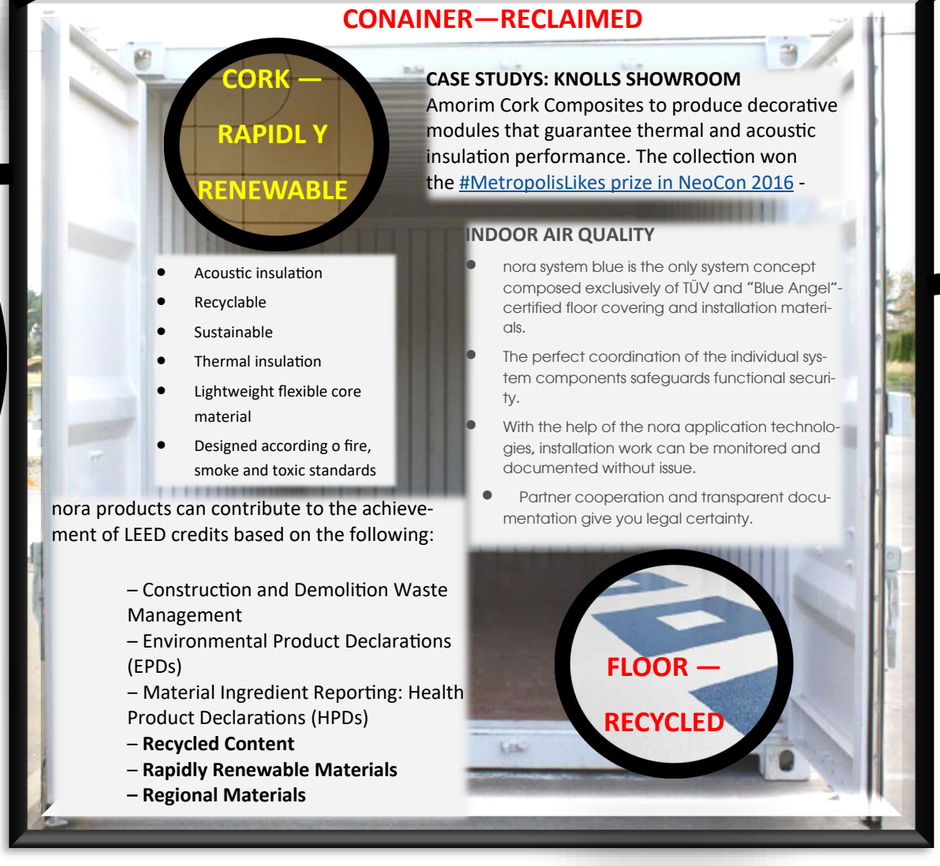


CASE STUDY : GENERAL HDROPONICS

Cogenra Solar installed an innovative solar photovoltaic **electricity and water heating co-generation system** at General Hydroponics, a leading developer of hydroponic agricultural systems, nutrient formulas, and related products. Solar cogeneration produces hot water and electricity through a combined photovoltaic and thermal module. **The waste heat from the back of the PV cells heats the water,** which is then used in the facility. Roughly 4 additional units of energy on top of the electric energy are produced, resulting in at least double the customer savings versus a traditional PV array.

https://www.allenergysolar.com/blog/made-in-minnesota-solar-panels-are-here/

CONAINER—RECLAIMED





BEETLE KILL SIDING If harvested within a five year period following an infestation and demise of the once live tree, all wood retained can be used for any number of projects including: paneling, flooring, cabinets, doors, and furniture. These pieces will have the unique blue hue which can often appear grey, purple, and a variety of different shades created from the fungus passed to the tree from the mountain pine beetle.

CASE STUDY: SRACUSE UNIVERSITY

In Syracuse, NY, is an internationally acclaimed and prestigious school steeped in history. Founded in 1870, the university educates a student body of approximately **21,000 each year. With 70 percent of students living in the school's 22 residence halls,** the team overseeing housing has much to consider as they work to keep dormitories comfortable, safe and up-to-date. Searching for a floor covering that could stand up to high-volume traffic and the brutal Syracuse winters, while offering a streamlined maintenance routine, the team selected **nora®** rubber flooring to cover dorm entrance areas, corridors, common spaces and stairwells. Over the past seven years, the floor has outperformed expectations. "The versatility of nora® lends itself to many different spaces," says Robert J. Spagnoletti, manager of maintenance, "and it performs in all of them, functionally and aesthetically." Whether your space is for healing, learning, or working, nora system blue is the right decision.