

1 In the Kitchen

Location: 207 Unity Street

Owners: Jessica and Mataio Gillis, Ciao Thyme Catering

Ciao Thyme has always looked for ways to be earth conscious--from buying local and organic to composting waste. So, when it came time to find our new business "home," we wanted to make sustainable choices. We chose to buy an existing building, close to the town center. We are within 3 miles of our home. Also, we are within walking distance to Terra Organica and the Farmers Market; as well as many of the other businesses we work with on a weekly basis.

As owners, we chose to be the general contractors during the construction phase to allow us to keep control of the decision making. During the demolition phase we did much of the work ourselves and gave displaced concrete to friends for yard projects; reused wood and other usable materials; donated items to the Re-store; recycled metal and wires; and donated old windows to artists and builders.

We worked with local designer Luther Allen to design a space where we could house our catering equipment (eliminating the need for off-site storage); kitchen; dining room--for classes and special events; and future event space (on the second floor). We dreamed of creating a space where all of our services could be housed under the same roof.

QUICK ECO FACTS

- Rehab of existing space
- Smart location
- Reclaimed materials
- Dual flush toilets
- Efficient lighting



ciao thyme in the kitchen

QUICK DIRECTIONS

Head north on Cornwall Avenue, left on Flora Street, right on to Unity.

photos by Gabriel Rodriguez

The design process also helped guide our decision making process in regards to materials. We chose to stay with the existing concrete floor, rather than using new resources to build a false floor. We built insulated walls over the concrete walls in the heated spaces to increase energy efficiency. We added energy efficient windows to the design with opening windows—to allow air flow and offset the need for air conditioning. We chose lighting that could be used with fluorescent bulbs and dimmers and put different areas on individual switches to limit light to the areas being used at any given time.

We chose dual flush toilets for the restrooms to limit water usage. We bought tile and other materials from the RE Store. We designed the staircase and trim work with Two Dog Timberworks to use reclaimed fir and steel from the Morse Hardware and Waldron buildings. Finally, we chose many local artists to decorate our space including: Nancy Emerald's paintings, Janet Thompson's tapestry, La Tene's tiles, and Vernon Leibbrandt's wood bowls.

Now that we are moved in and using this space we are making decisions for our business to help lessen our environmental impact. We launder our own towels, strive for zero waste, and try to limit our energy usage by turning off pilot lights/heat and equipment when it's not needed. We are teaching people to cook with seasonal ingredients, because food is a basic need and eating from our local food-shed is the most responsible way to eat. Please join us for a class or dinner In the Kitchen at Ciao Thyme!

2 and 3 Columbia "Farm" 1.1 and 1.2

Location: 1814 and 1808 W. North Street

Owners: Neighbors Lee First and Susan Rose

Neighbors Lee First and Susan Rose have teamed up their gardens for the 2008 Tour. Both host amazing gardens with food production nearly throughout the entire year. Lot's of work has gone into transforming their lawns and pervious surfaces into this Columbia "Farm".

Lee's garden

The garden was started in 2003, when it was covered with a lawn and concrete (almost half the yard was covered in concrete; the other half was covered with sod). I hired a concrete cutting firm to remove most of the concrete, and then I rented a sod cutter to slice off the sod. I moved all the sod to the back yard, and composed it under plastic for two years, and then added the composted soil back into the garden.

All spring and summer, most of my immediate neighbors bring their lawn clippings to my yard and dump them over the fence. I let them compost for a few days, and then use them for mulching my crops. In the fall, most of my immediate neighbors bring over all their leaves and dump them over the fence. I make several large piles with the leaves, and sometimes layer the piles with some lime and soil to speed composting. One year, neighbors delivered over 100 bags of leaves over a one month period, and I was able to use all of them. During the mid-winter, I sometimes cover the leaf piles with tarps to speed composting. In late winter, I remove the tarps, spread the leaf mulch around the garden, and manually dig it into the soil with a shovel. I have never added any other soil amendments except for a couple of loads of llama and horse manure.

Overage greens, weeds, and other undesirable vegetation gets delivered to my neighbor Susan's chicken coup in the next yard over and almost all the stakes and poles for trellising comes from my own little patch of bamboo and coppiced willow.



Susan's garden

Susan city cottage host an array of features. With raised garden beds, variety of fruits, vegetables, flowers, and some garden art. In addition, her garden hosts large aviary: chickens, pheasants, doves, and sometimes turkeys.

Fruits in her garden: pear, plum, peach, apple, fig, blueberry, josinberry, grapes (wine!) red and golden raspberry, marionberry. **Vegetables:** broccoli, brusselsprouts, peppers, eggplant, horseradish, potato, artichoke, acorn, yellow crookneck, zucchini squash, tomato, corn, cucumber, carrots, soybean, green beans, onion, leek, chard, radish, lettuce, kale, bokchoy, herbs: rosemary, oregano, parsley, cilantro, sage, savory, dill, thyme

QUICK ECO FACTS

- Neighborhood composting
- Food for a year
- Bamboo harvesting
- Car free!
- Local fruits and veggies

QUICK DIRECTIONS

Head north on Elm Street, left on W. North Street. Located between Williams Street and Victor Street.

4 Post Frame & Reclaimed

Location: 4550 Rural Avenue

Owners: Scott & Cheryl Perry, Common Ground Construction, LLC

Sustainable Design/Construction Methods: All structures on the property are built using post frame construction. This can be compared to advanced framing in that it utilizes wall framing members at 24" on center. It becomes even more resource efficient in the fact that it only requires trusses and a pier foundation every 8'-12' on center. This eliminates most of the typical excavation/foundation requirements of traditional construction and significantly reduces the amount of required lumber. Design was such that the spaces could be used in a variety of ways allowing for greater long-term flexibility. The upstairs of the main home was designed to be a stand-alone 1250 SF 2-bedroom home. It's open, efficient design incorporates most of the spaces typically required in a home. The downstairs "basement" provides additional space for our business office, entertaining our large families, and the pool table for Scott's billiards lessons. The studio was designed to exhibit a compact (900SF) home or secondary space with a spacious open plan and lots of storage. This design would work well for a small home, office, or art studio. Building smaller and smarter is sustainable because it uses less resources to build and maintain.

Reclaimed Material: We checked the Re-Store, Craig's List and The Echo often throughout projects and purchased material there as it became available with always exhausting the possibilities for reusable material first. We saved reusable material left over from our job sites and attended auctions for remnant building materials. The main house included remnant bamboo and granite tile, interior doors salvaged from a school remodel, damaged sheetrock from the CB Wholesale that was destined for the dumpster. The studio included salvaged bamboo and granite tile leftover from the main house, windows, doors, and light fixtures from the RE Store, salvaged cabinetry and plumbing fixtures found by placing a "wanted" ad on Craig's List. In the shop, we recovered scrap insulation (destined for the dumpster) from one of our job sites to insulate the loft and exterior walls and built shelving out of the leftover ends of glu-lam poles.



Energy Efficiency: Both buildings included an insulation upgrade: R-49 @ ceiling and R-23 walls. The main house used blown in cellulose made from recycled newspapers and the studio used formaldehyde-free blown in fiberglass. Both buildings are heated using on-demand radiant floor heating powered by a tankless water heater. In both buildings, we utilized Energy Star light fixtures and appliances. The only ones that were not Energy Star Rated were reclaimed. We also incorporated natural ventilation and daylight into the design of the home. We have east-west openings that allow a great cross-breeze and when combined with ceiling fans and shading provide all the cooling we need, even on the hottest days.



Waste Management: We originally looked into constructing wetlands for our human waste, but a high water table and tight experimental regulations made it a difficult and expensive option for us. We opted to use composting toilets in combination with a Glendon Biofilter septic system for greywater and overflow from the composting toilet. We were able to reduce the size/cost of the septic system by 50% by utilizing composting toilets. They are low-water use, porcelain flushing toilets. Most people don't even notice that they are different except for the fact that they flush with a foot pedal. You can get a composting toilet that is more like an outhouse in concept, but we wanted something that seemed as "normal" as possible. They require relatively low maintenance and are pleasant to use. It requires once a week re-spray of the pile (system is built in—requires no touching or looking at waste) and turning of interior tines from an outside crank.

Supporting Local Businesses: Over 70% of all building materials and services were purchased from locally owned businesses. Examples include Westside Building Supply, Builder's Alliance, Hardware Sales, Stockton Paint, Eco-Design Woods, Ferndale Ready Mix, DeWaard and Bode, the RE Store, CB Wholesale, Evergreen Concrete Supply, and Clean Water Service.

QUICK ECO FACTS

- Radiant floor heat
- FSC decking/trim
- Composting toilet
- Advanced framing
- Reclaimed sheet rock, plumbing and insulation
- ENERGY STAR fixtures
- Bamboo flooring
- Re Store windows/door
- VOC free paint, stains, glues, insulation, natural ventilation



QUICK DIRECTIONS

Follow Marine Drive (west) to Bancroft (near the mini-mart). Right on Bancroft. Bancroft turns into Country Lane (keep left). Country Lane to Hoff Road. Right on Hoff Road. Follow for one mile and turn right onto Rural.

5 Natural Day-lit Haven (SUNDAY ONLY)

Location: 3410 Aldergrove Road

Owners: Sean & Jaimi Hegstad, Haven Design Workshop

Design Concepts:

The design language of the house is a blend of Northwest Contemporary, Native lean-to and Japanese design. The South facing portion of the house has lots of glass with large overhangs and solar shelves to allow winter solar gain and block summer heat gain. The cedar outriggers opposite the solar shelves are for future solar panels, which the house is pre-wired to receive. We placed a roof garden over the front entry, inspired by homes I saw while visiting Norway. The house was based on a 2' module in order to minimize construction waste and reduce cost. The use of custom parallel cord trusses for the sloped ceiling reduced cost, materials and waste. We made many of our product selections based on the environmental benefits but realized that you really have to work closely with your construction team in order for everything to go as planned.



Site Planning/Landscape:

The primary factors for the house location were a comfortable distance from the road, solar gain, site contours, location of trees and other sensitive site features. The primary living space was to be oriented to the South with the private spaces toward the North. Our landscaping will be more organic in shape and layout to help soften the rectilinear shapes of the house and further ground it to the site. The landscape design includes many native and edible plants and will be low maintenance and have a Northwest/Pacific vocabulary.

Final Words:

As Architects, we create the spaces where life not only happens, but very often, where lives begin and understanding of the world is formed. Now that I've built my own home, I feel a greater connection to the needs of my clients and an even greater responsibility to work closely with them and listen well so I can craft a design to meet their needs. I look forward to continuing this exciting challenge in the years ahead at **Haven Design Workshop**.

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Featured Businesses

Haven Design Workshop – Architect (Sean Hegstad)
Skillman Construction – Contractor/Cabinets (Bob Skillman)
DVDT Engineering – Structural Engr. (Damon Van Den Top)
Sustainable Landscapes – Landscape Design/Install (Keith Rivard)
Sierra Pacific Windows – SFI Certified Windows & Doors (Rick Grant)
Bellefloors – Wood Floors
Munchkin/Radiant Floor Heat – (Bob Anderson)
Pangaea Natural Stone – Fireplace, Slate, & Master Shower (Sanjay Nikhanj)
Pacific Coast Metal - Metal Roof (Greg Beanblossom)



QUICK ECO FACTS

- Radiant floor heat
- Passive solar daylighting
- Natural materials
- FSC/SFI certified wood flooring and windows
- Resource efficient
- Native/edible landscaping

QUICK DIRECTIONS

From north-bound on I-5, take exit #262 (Main Street). Turn right (west) at the light onto Main Street, which turns in to Mountain View Road. Follow Mt.View to make a right turn onto North Star Road. Continue until you reach Aldergrove Road (turn right).

From site number 4, continue down Marine Drive, turning right onto Ferndale Road. Follow to Main St., turning left (west) on Main St. Main St. turns into Mountain View Road. Follow Mountain View to make a right turn onto North Star Rd. Continue until you reach Aldergrove Road (turn right).

6 Filling the Gap

Location: 2228 Humboldt Street

Owners: John Nelson, North Coast Builders, Inc.

Working within existing space and neighborhoods' this ENERGY STAR home features an emphasis on energy efficiency and rainwater catchment. Built on a rare "in-fill" lot in an established neighborhood this home is bike and pedestrian friendly close to Downtown Bellingham, BHS, Trader Joe's, Youngstock's Produce and Broadway Park.

Special Eco - Friendly Features - Advanced framing techniques used allowed for 20% less wood to be used in the house without sacrificing strength, while increasing the area that could be insulated. Wood, by itself, is a poor insulator -- a 2X6 stud has a rating of about R6. In a conventionally built new home, the insulated cavity next to the stud is usually insulated to the code requirement of R21 with fiberglass bats; however conventional building allows more air movement in the walls which reduces the function and effectiveness of the fiberglass bats. In this home, the cavities between studs have been first sealed with a sprayed-on expanding foam, adding a layer of insulation with a minimum value of R4. Then layers of sheetrock, OSB and siding reduce air infiltration and combine their insulating values; the total wall insulation here is around R30, much higher than is normally possible without going to 2x8 framing. Less than a quarter of the usual amount of landfill trash was produced in building the house.

The ceiling of the home has R60 insulation. The usual amount of insulation used in new construction is about R38. The siding used is CertainTeed cement board, a product which has a 25 year warranty. The colored surface of the siding is a factory finish which is much more durable and maintenance free than any kind of paint would be—the finish as well as the siding has a warranty. CertainTeed siding is a more environmentally-friendly product than the more commonly used Hardi-plank, because it does not contain toxic silica.

Solar gain is maximized by locating more windows on the South side of the house than the North. Also, the total glazed surface (square footage of window surface) relative to the square footage of heated space in the home has been carefully controlled in order to avoid losing too much heat back out through the windows. The windows of this home use Flex-Wrap, Weather-guard tape, and metal flashings layered to form a flashing system that is the most advanced flashing system currently available to prevent moisture intrusion.

The Heating System is a 96.6% efficient gas furnace—the highest rating available. All ductwork in this home is inside the heated envelope of the house. This eliminates a great deal of wasted energy that occurs when ducts are located in the crawl space or attic and heat is lost into those unheated areas.

Fresh Air Circulation a mechanical timer is connected to a motorized fan which automatically draws fresh air into the house every 4 hours, even in warm weather when the furnace is not in use.

Energy Star Certification - To be called an Energy Star home, the house must feature energy saving light fixtures and appliances throughout and must meet a certain threshold of energy savings over conventionally built homes. Objective tests, such as pressurizing the house to determine how well it is sealed, have been done on this home to verify that energy saving goals have been met. The appliances in the home (a refrigerator, gas range/oven, & built in microwave, plus a front-loading Frigidaire washer and dryer) are all included, and they are all Energy Star certified models.

Hot Water - This home features a Rinnai Tankless, On-Demand hot water system. A conventional hot water tank typically uses as much as four times the energy that this system will. The house has been designed with short plumbing runs, so wait times for hot water are short and energy waste is minimized. Estimated utility bills to be **55 to 75% less** than what the costs would be to maintain a comparable conventionally built home.

Storm water Management - The roofs and other impervious footprints of homes increase rainwater runoff, which strains the city's storm water management system. This home features 100% water catchment—the water that runs off the roof is captured in tanks, and some of it can be strategically reused by the homeowner.



QUICK ECO FACTS

- Smart location
- ENERGY STAR certified
- 100% rainwater catchment
- Advanced framing
- Tankless water heater
- R-60 insulation in ceiling



QUICK DIRECTIONS

Located two blocks off the south side of Alabama Street.

7 Double your pleasure, double your SUN

Location: 2919 Racine Street
 Owners: Liz Washburn

An excellent use of space, TWO homes sharing the same lot. Liz has been retro fitting her home with energy efficient upgrades over the last few years. Check out this sunny duplex and prepare yourself for an informed collection of tips, strategies and other money saving ideas.

Lower Unit (owner occupied)

- Lightbulbs all replaced with compact fluorescents
- Low-flow showerheads
- Carpet replaced with engineered wood flooring over concrete slab
- Mormoleum natural linoleum flooring installed over old vinyl flooring in kitchen/dining area
- Walls painted with non-VOC paint
- Outside-facing walls mixed with Insuladd insulating additive to increase R-value
- Rennai tankless water heater replaced 40-gal. natural gas water heater
- Visible hot water pipes insulated
- Frigidaire 15cu ft refrigerator replaced 18cu ft (new rated at 1.2kWh/day but using only 540w)
- Front-loading Frigidaire washing machine replaced top loading (matching dryer)

- Double honeycomb top-down/bottom up custom-fit blinds replaced venetian blinds for thermal quality
- Timers installed on bathroom fans
- Programmable thermostat replaced old on/off model
- Electronics on powerstrips
- Specific laundry area created for drying clothes outside
- Lawn replaced with low-maintenance landscaping featuring fruit trees and bushes, raised vegetable beds
- **Rainbarrels** under two gutter downspouts on house
- **Solar System** – a 1.7kWh grid-tied installed on roof of carport (designed at optimal angle of 34 degrees, specific metal roofing for panel clips and engineering for increased roof load)

Upstairs Unit (tenant occupied)

- Lightbulbs all replaced with compact fluorescent
- Low-flow showerheads
- Walls painted with non-VOC paint
- Timers installed on bathroom fans
- Programmable thermostat replaced old on/off model
- Insulated blinds on west windows to reduce heat gain in summer

Existing Building (10 years old)

- Exterior wall insulation R19
- Attic/Roof insulation R30-38
- Low-E vinyl windows
- Whole-house ventilation system



Future considerations - Solar attic fan, increased attic insulation or Reflectix on rafters, more energy efficient pump and fan for hydroheat system, solar air heater on south wall of living room.

QUICK ECO FACTS

- 1.7kWh grid-tied Solar System
- Efficient lighting
- Smart location
- Tankless water heater
- Rain barrels

QUICK DIRECTIONS

Off Alabama Street, turn north on to Pacific Street, turn right on E. Illinios Street, left on Racine Street.

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8 LEED-Gold: a watershed pilot

Location: 3015 Huntington Street

Owners: Corry Morris, HBC Homes, LLC

Overview

The Huntington St. LEED Project began to take form with the purchase of two raw building lots in the Silver Beach neighborhood. The lots are 6500 sq. ft. each, with views to Lake Whatcom, the San Juans, and Barkley Hill. Based on the size of the lots (7 building lots per acre), the location in the Lake Whatcom watershed, and the desire of the builder to move practices to green building, the project was a perfect fit for LEED homes and Built Green, meeting and/or exceeding both criteria.

Other Details

Low/zero maintenance exterior: Galvalume roof and fascia with lifetime warranties, hardi panel and hardi plank exterior cladding, aluminum clad windows with lifetime warranty, triple powdercoated steel railing for deck railing, FSC certified teak decking with stainless fasteners, UV tinting for sunlight protection, drought resistant landscaping with over 400 native plants rooted, TWO separate green roofs with waterproof membrane systems, High efficiency heat pump/furnace system with A/C, Tankless hot water system with recirculation, Radiant floor heating in the basement, with a stair tower design for heat travel, Vertical Bamboo flooring (stair treads, benches and panels), 90% of flooring is hardwood, stone and heated concrete (for minimal dust entrapment). High performance Honeywell electronic air cleaner, Complete duct sealing for the lowest possible air loss for heating and cooling.

Toto toilets featuring either dual flush or 1.28 gallon flush, Native/Local materials used in finishes (sandstone, Vertical and Flat Grain Douglas Fir and Western Red Cedar). Recycled Carpet in guest bedrooms, Energy Star appliances and windows, R-38 insulation in ceiling / vaulted area, Exhaustive foaming/sealing of all window, door and joist bay openings.



QUICK ECO FACTS

- Green roof
- Radiant floor heat
- Duel flush toilets
- FSC certified teak decking
- Drought resistant landscaping
- Native Plants
- Energy Star appliances
- Tankless water heater

QUICK DIRECTIONS

From Northshore Drive, head up Academy Street, turn left on to Huntington Street.

Builder Overview

After several custom projects involving the craftsman aesthetic and large square footage, we at HBC Homes decided to move to a green approach to building and shifted to the clean lines of modern architecture. This decision is slightly more expensive and time consuming but satisfying knowing that the building is performing better for the new owners, costing them less and promoting long term health as well.

As mentioned above, 90% hard surfaces, tight piled recycled carpet, a hybrid radiant and heat pump system, duct sealing, and electronic air cleaning ensure tremendous indoor air quality. The building performed well during leakage testing with a blow door test of fewer than 4 air exchanges an hour (the average home is at 7). The air tight home is managed by whole house fans that keep fresh air exchanging constantly.

9 Put a LID on it: prefab and BuiltGreen

Location: 3021 Huntington Street

Owners: Heather Shepherd

By purchasing a home "package" we were able to reduce our waste by the tons and recycled everything possible here on site (we only filled one 40 yard bin with trash the entire construction project besides the weekly garbage pickup of our green bin), everything else was reused or recycled. We installed materials with longer life cycles (lifetime warranty on flooring, lifetime warranty on roof, etc.) Used materials made within the Pacific Northwest (our cabinets were made in Monroe from sustainable wood). Care was taken in preserving existing native vegetation as landscaping as well as setting aside a percentage of the site to be left undisturbed as well as replanting existing vegetation that was removed. We took many precautions during construction to avoid moisture problems in the future, such as 3 french drains and placing a water membrane between the dirt and the basement walls. In addition, we followed the BuiltGreen residential checklist throughout construction of the site – gaining enough points to achieve 4-Stars.

Other details

100% pervious materials for all of our areas outside the footprint and no impervious surfaces outside the dripline of the home, onsite job recycling, compost/ Food Plus Recycling, native landscaping, no carpet, metal roof, Tankless hot water system (located near kitchen and laundry room), 98% efficient furnace, no A/C, ENERGY STAR appliances & windows with a U-factor of .35 or better and solar heat gain coefficient less than .35, west southwest facing windows for for max sunlight/passive solar



QUICK ECO FACTS

- FSC certified wood
- Tankless water heater
- ENERGY STAR appliances
- Lifetime roof/floor
- Native landscaping

QUICK DIRECTIONS

From Northshore Drive, head up Academy Street, turn left on to Huntington Street.



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10 Breaking-up (concrete) is hard to do

Location: 623 Gladstone Street

Owners: Chris Sunde and Stina Olson

When Chris Sunde and Stina Olson purchased the house in the summer of 2004, all that was planted on the property, besides the obvious established trees, was “green acres” of grass and one garbage-filled juniper bush. Having had work experience in environmental restoration, they both knew the beauty and necessity of native plants. Every planting season since then they have done their best to learn which plants are appropriate to the differing light and soil conditions on the property. Every plant in the soil, save the edibles and a few ornamentals that they received for free back in 2004, are native to the Northwest. Container pots house bamboo and some non-native grasses.



QUICK ECO FACTS

- Local Veggies
- Native plants
- Salvaged wood
- Reclaimed concrete
- Smart location

A small vegetable garden tripled in size and now partially provides the produce for the business that Chris owns with his friend, Azizi, Brandywine Kitchen. Previously in this space was a sport-court with a basketball hoop. When they broke the court up, one ton of concrete shrapnel went to be ground up and resold at the dump, and the rest forms pathways and walls throughout the garden. (The two designed the fence after purchasing and planing some wood found in a Craig's list ad and buying additional cedar boards to match). The cedar in the three older-looking vegetable boxes came from a deck tear-off two doors up and the wood for the green house was milled on Vashon Island by Chris' father.



QUICK DIRECTIONS

From Lakeway Drive, turn north on to Humboldt Street, right on to Gladstone Street.

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11 Food Not Lawns (and rain barrel demonstration)

Location: 1421 Iron Street
Owners: Robin & Karl Frank

When we moved to Bellingham, we knew we wanted to grow as much of our own food as possible and hoped to work with others in our neighborhood and community to create community gardens. Given the current situation with oil, we felt a pressing need to model some of the post war Victory Gardens and say goodbye to our lawn in order to make room for some plants with a purpose. After seeing an announcement through Sustainable Bellingham looking for a house to host a workshop for an "Edible Forest Garden", we threw our names in the hat and were fortunate enough to be chosen to be the yard to host the workshop.

For the two weeks prior to the workshop, we collected previously used cardboard reclaimed from dumpsters and acquired three loads of wood chips donated by Hosanna Tree Service. On Saturday morning, 30-40 volunteers took tape off of all of the cardboard and began digging holes for the plants. By lunchtime, all of the plants were in place and we were ready to sheet mulch (lay down cardboard). After an amazing potluck lunch, four layers of cardboard were placed over our lawn and then most of the wood chips were laid atop the cardboard. With so many hands doing the work, things went very quickly and the entire backyard was converted from lawn to mulch and woodchips with new edible plants in place before we ended the day around 4:00. We did the same process on the front yard only it was done by lunchtime as we had only two monkey puzzle trees left to plant.



By the end of the weekend, we had successfully relocated several non-edible and non-native plants to new homes thanks to Craigslist volunteers who took them away and the backyard which previously had a mature pear, plum and nectarine tree, was now home to four hardy kiwis, two hazelnuts, one York elderberry, two serviceberries, one American persimmon, one Taylor Paw Paw, three varieties each of raspberry bushes, blueberry bushes and apple trees, one Autumn olive rounded out the plantings as well as a fig and tea tree which have not done very well. We have also planted many vegetables in the preexisting beds using seeds from Uprising Seeds and starts from Uprising Organics and Joe's Garden. Since the yard conversion, we have acquired two chickens due to start laying eggs in July from Holcomb Farms and built fences to keep the young plants safe from dogs and kids using reclaimed materials from the Re-Store.

We are inspired by so many in Bellingham that have already done so much in the area of permaculture and hope that in a few years we will be able to share the fruits of our labors with neighbors and those in need. Our hope is to have a space in a few years that resembles the woodland forests that so beautifully grace these parts while being able to involve our children in growing, tending and eating food from our own yard.



Build your own rain barrel!

Need a rain barrel or want to learn how to make one? Volunteers will be on site during the entire tour to show you how to make a rain barrel out of commonly available materials. There are also barrels for sale, just \$25, sold on a first come first served basis.

If you live in the Lake Whatcom Watershed, you could be eligible to participate in the City's Residential Stormwater Retrofit Program. The City recently received a stormwater grant from the Washington State Department of Ecology to install up to 3 rain barrels on homes within city limits to reduce stormwater pollution and promote water conservation. Participants will receive free rain barrels, free installation, and a free workshop on stormwater education and water conservation. For eligibility requirements and more information, contact Anitra Accetturo at 778-7732.

QUICK ECO FACTS

- Lawn removal
- Reclaimed materials
- Local fruits and veggies
- Native plants
- Smart location

QUICK DIRECTIONS

From Lakeway Drive, turn north on to Humboldt Street, at stop sign, turn right on to Potter Street. Make a left turn on Iron Street.

12 Southside Solar

Location: 520 Ridgeway Drive
Owners: Cindy Franklin

This beautiful, one year old solar home has received Energy Star certification for its energy-efficient design elements as well as the installation of all Energy Star rated appliances. The homeowners purchased the south-facing lot with the intent of remodeling the existing home, incorporating solar systems and adding a 2nd floor master bedroom. However, structural and foundational problems led to a contract with the REStore to deconstruct the original house; the REStore was able to recycle or sell over 90% of the entire house.

Although the home faces south and has many windows to the west, even on the hottest days of our Northwest summer, the interior of the home remains quite cool. This is due to the substantial amount of insulation, as well as two design elements that were carefully thought out in advance: 1) The overhanging south-facing eaves permit winter sunlight to shine into the home, warming and lighting the interior. But, in the summer, the sun at its higher elevation, is prevented from shining directly onto the windows. Also, 2) the home was carefully constructed to incorporate the existing large birch tree to the west which provides much needed west shading in the summer.

Landscaping - Many of the original trees and perimeter vegetation remain. An enormous asphalt parking area was removed from the west side of the home and replaced with garden area, thereby reducing the total overall impervious surface areas of the lot. All planting areas are on a drip and automatic irrigation system. By removing almost all grass on the lot and planting large areas of ground cover and mostly native plants, the required water use is further reduced. The homeowners are avid gardeners, and are continuing to add design features to the landscape.



QUICK ECO FACTS

- 6KW solar photovoltaic
- Solar hot water
- blown-in cellulose insulation
- Bamboo flooring
- bamboo and wheat grass cabinets
- low-VOC paints and finishes
- whole-house HEPA heat-recovery ventilation system
- Trex decking



QUICK DIRECTIONS

From High Street, wind up the hill to Highland Drive, turning right. Continue on Highland Drive, making a left Adams Ave.

Two separate solar energy systems:

The 6 KW solar photovoltaic system on the south-facing upper roof provides more electricity than the home needs on sunny days. Since the system is tied into the PSE power grid, the homeowners sell back the excess power and, on cloudy days, draw needed power from PSE.

Two banks of Thermomax 30 solar hot water tubes are clearly visible on the roof above the entry. This system provides domestic hot water as well as radiant floor heat throughout the house. Even in winter, the energy from the sun provides hot water for the home. A natural gas boiler provides back up heating.

Outside viewing only please, home is closed to the public.

13 Matthei Place

Location: 1500 Harris Ave

Owners: Kulshan Community Land Trust

Project Summary

Matthei Place is KulshanCLT's first new home project and is comprised of 14 single-family homes on less than one acre. Matthei Place helps to prove that homes can be, simultaneously, green and affordable for low- to moderate-income families. KulshanCLT is proud of what our community has created together: fourteen beautiful, photogenic homes clustered on just under one acre, designed to remain green and affordable in perpetuity.

Goals of the Project

Matthei Place was created in response to a growing need for quality, green-built, energy-efficient, affordable homes in an area where local home prices are appreciating well beyond national averages, and twice as fast as median income gains. The project's goals were three-fold: 1) to utilize the community land trust strategy in a smart-site location to create as many units of quality-built, energy efficient, permanently affordable homeownership as would be appropriate to the site; 2) to utilize the City of Bellingham's *Demonstration Program for Innovative Permanently Affordable Homeownership Projects* to demonstrate that density and urban infill can be achieved in a positive, neighborhood compatible, sustainable and affordable way and can serve as a model for KulshanCLT to replicate in subsequent projects; and 3) to become a successful pilot project for the LEED for Homes rating system.



Matthei Place is served by three municipal bus lines with five buses per hour, 6am to 6pm, and other transportation options like bike and walking trails, ferries, national bus service, and AMTRAK. The compact site plan, accommodating 14 homes on one acre, is made possible by an underground stormwater detention vault that is shared with the adjacent firestation. Stormwater is gravity fed through a filter system, slowing and detaining the water flow before entering the sewer system. Matthei Place hosts a shared bike port, designed and volunteer constructed by Cascade Joinery, offers architectural beauty, function and secure storage for up to 28 bicycles. The homes are built of long-lasting materials following a Leadership in Energy and Environmental Design (LEED) durability plan. All plumbing fixtures meet or exceed Energy Star standards: 1.5 gals/minute aerators used in all lavatory faucets and showerheads, plus 1.5 gal/flush toilets, reduce water use and sewage outflow. The parking areas are permeable concrete with rainwater storage underneath that allows rainwater to infiltrate slowly into the ground. Matthei Place homes demonstrate equivalent energy consumption to an Energy Star home, representing a 15% to 20% improvement, compared to a code-built home.

QUICK ECO FACTS

- Permeable concrete
- Native plants
- LEED-H pilot
- Smart location
- Low Impact Development
- Zero VOC paints
- Energy Star lighting and appliances
- Water efficient fixtures



KulshanCLT
a community land trust

QUICK DIRECTIONS

From 12th Street, turn right (south) onto Harris Avenue, continuing to just before the Bellingham Fire Station.

14 Detox Rehab and Salvage

Location: 2203 22nd Street

Owners: Robyn du Pré & Dan Remsen

Owners Words

We purchased this house just days before the end of 2002. Frankly, it was a wreck and our friends thought we were crazy to think we could restore this 100 year old farmhouse on our own. Add to that a major fire in 1937, which was poorly patched up and another fire in 1974, and we found ourselves the owners of a demolition candidate. Our first green choice was to save the house rather than knocking it down and starting over. Our goal in re-building this house was to keep the original form and to enhance the farmhouse feel. We wanted to bring in the light and to make the flow between indoors and outdoors easy. As well, we wanted to use materials that did not create a toxic burden in their manufacture or their disposal. And, of course, we wanted to re-use whatever we could and find as many materials that could be re-used as they were or even re-purposed.

We made extensive structural repairs, using a combination of used timbers and some new lumber. Since the house was gutted, we were able to insulate to the maximum allowed by framing. Since our roof is built with 2 x 4 construction, we needed to make it as energy efficient as possible, but could not incur the expense of re-building the entire roof. We used poly-isocyanurate foam board for the roof, gaining as much insulation per inch as possible. For the walls, we chose recycled denim insulation—allowing us to avoid the toxicity and energy consumptive manufacture of fiberglass insulation while making installation a breeze!



With the exception of efficient windows and front door, just about everything else you'll see in our house is made from used materials. All of the interior doors, the wood for the stairway, all of the trim, everything in the bathroom, even the wainscoting in the screen porch is made from re-purposed panel doors!



We want to emphasize one other aspect of our home: its location. It was very important to us to choose a home that allowed us to easily commute and run errands without using a car. While we own a car, we will often go weeks at a time without driving, choosing instead to ride our bikes, haul groceries in a trailer, and make every commute a fun opportunity for a ride along the bay or a stroll through the arboretum.

Lastly, we want to encourage people to think about doing some of the work on their homes themselves. Dan had some basic carpentry skills, but neither of us were finish carpenters going into this project. But, with help from the library and those great staff at Hardware sales, we were able to do all of the work on this house (except the downstairs drywall) ourselves. Today, we have a home that we love and have built our skills, helping us become more self-reliant. In the end, learning how to make or repair things yourself may be a very green choice as you then de-link a bit more from a cultural imperative that insists that we must always buy more things in order to be happy. We are very happy in our restored farmhouse, partially because we did it our selves!

Local Businesses Featured

The RE store, Duluth Mill, Environmental Home Center, Seattle's Best Paint, Hardware Sales, New Whatcom Interiors, Bellingham Public Library (for all those how-to books that showed us that we could do this project ourselves!)

QUICK ECO FACTS

- Existing home rehab
- Smart location
- Chalk board countertops
- Low-toxicity paints and finishes
- Re-used and recycled materials
- 100% wool carpet
- Native yard restoration


Used Building Materials & More

QUICK DIRECTIONS

From west-bound on Fairhaven Parkway (I-5 exit #250), turn left (south) onto 22th Street.

From south-bound on State Street (turns into 12th Street in Fairhaven), turn left (east) on to Old Fairhaven Parkway. Turn right (south) on to 22nd Street.

15 Floating House

Location: 2303 36th Street

Owners: Roland Trube (Architectural Designers: **Green Door Design**, Builder: **Sustainable Building Systems**)

Original built circa. 1930, and located in the Happy Valley area, she contains old growth lumber original used in Fairhaven's original Pacific American Fisheries Co. cannery building. In the 1990's her roof ridge was removed to accommodate her move under the I-5 overpass and up onto 36th Street, where she would float 12 feet in the air (sometimes in a pool of water) on cribbing for 8 years without electricity, water or a permanent roof: hence her endearing nickname "The Floating House". By 2005 she had become an eye sore and hazard to the city and she was slated for demolition if something was not done to her soon! But the "Floating House" had charm, character and good bones and someone seeing that decided to take the time, care and money necessary to give her a new life.



QUICK ECO FACTS

- Existing home rehab
- Reclaimed lumber
- Recycled materials
- Radiant floor heat
- Low VOC finishes
- Energy star appliances
- Smart location

Emphasis was on using both green building materials (marmoleum, wool and recyclable carpet, low VOC cabinets, low VOC finishes, Energy Star appliances and products, solid cedar decking material, concrete, etc.) and recycled/reused materials (church pews and wood table at the breakfast nook, stair rail post at the top floor, original exterior cedar shingles, and 99.9% of the wood trim used has been reclaimed from the original construction, this being old growth straight grain fir that is nearly impossible to attain today!), as well as local suppliers. We retained as much of her original walls, fir floors and ceilings, built-ins, doors and their unique hardware as possible. All of the new plumbing and lighting fixtures blend with the original feel of the home. Yet, the spaces have been opened up increasing her functionality for today's lifestyle. She was removed of all of her internal workings (pipes, wires, ducts, etc.) and is enjoying the energy and water once again flowing through her new parts! Finally, her original frame work has been carefully placed atop a completely new lower level, adding to her square feet without changing her original footprint.

Under the new drywall of the Main and Top Floor is original $\frac{3}{4}$ " x 8" solid fir plank sheathing, "Honesty Walls" located between the dining and living area and at the Powder Room show this construction. Extremely efficient solid foam insulation has been sprayed into the walls of the original construction making the home completely airtight, the radiant floor heating in the lower level alone is capable of heating the entire house! The new walls on her lower level are 15" thick, with 3" of foam on both sides of the concrete interior! These details make her exceptionally cool in the summer, warm in the winter and quiet. The front deck was fully flashed during construction and the back porch is concrete, both will last a life time and attest to the thoughtfulness of the builder.



Featured Local Businesses

Millwork Supply Company, Louis Auto Glass, Village Lighting, Stockton Paints, Thiel Plumbing, Walkers Carpet One, DeWaard & Bode Appliances, Andgar Corp., Stonwest, Hardware Sales, NW Plumbing, Cowden Sand & Gravel, Baron Heating, Construction Supply Co., All American Gutter, Whatcom Powder Coating, Logix Insulated Concrete Forms, Environmental Home Center, Restore, Flor Modular Floor Covering, Godfrey Hirst Carpet, Z Recyclers Inc., Fourth Corner Nursery, DeWilde's Nursery, and Smit's Dairy Compost.

QUICK DIRECTIONS

From southbound I-5 take exit #250 (Old Fairhaven Parkway). Turn left (east) on to Old Fairhaven Parkway (this turns in to Connelly Avenue) and head up the hill that switch-backs up to 36th Street.

From Samish Way, turn right on to 40th Street. At the stop sign, turn right on to Broad Street and follow around the corner, switchbacking down the hill to 36th street.