

# A sustainable renovation project in the heart of historic downtown Nantucket: *22 Federal Street*



January 2016

**Background.** Situated on the corner of Broad and Federal Streets, this historic building occupies a prime location in downtown Nantucket, but many years of deferred maintenance had contributed to its deterioration: wood decay, water damage, and questionable structural integrity. A significant amount of mold, lead paint and asbestos made the structure even healthier and more challenging. In 2012, the Town of Nantucket vacated the building, as these issues rendered it unfit for employee use. It remained unoccupied until 22 Federal LLC purchased it from the Town in 2014.



22 Federal Street 2012



22 Federal LLC is a subsidiary of ReMain Ventures, an organization which seeks to spark for-profit innovation and create jobs that enhance the health of the community year round. Its projects conserve the historic downtown buildings, improve their energy profile and performance, and create spaces for businesses that contribute to the vibrant street life of downtown in all seasons. ReMain's philosophy is that encouraging and mentoring new entrepreneurs to bring their unique business ideas to the downtown will create vitality for town and for the whole community.

ReMain's vision for this property was a new culinary center to complement Nantucket's reputation as a world-class dining destination and work collaboratively with Nantucket's chefs and innkeepers to provide a

## 22 Federal Street:



unique experience to visitors and residents alike. The idea was to renovate this deteriorating historic building on a critical corner in downtown Nantucket, and create a commercially-viable, environmentally-friendly food-orientated gathering place that is a year-round culinary destination. Two distinct cultures would be created a lower level café where the community could gather over coffee and take-out food in an alcohol-free space from early morning into the evening, and demonstration and interactive kitchens on the upper floors where classes about food, wine, and cooking skills could be taught, and parties and events could be hosted.

Now that construction is complete, the building at 22 Federal reflects ReMain's commitment to a healthy, environmentally friendly, year-round facility. The building's tenants, Greg and Joy Margolis who opened the Nantucket Culinary Center and The Corner Table Café in January 2016, share those same values. Their business seeks to reconnect people with their food by teaching them techniques to process, prepare and preserve food grown and harvested locally, and to provide a community-gathering space in which delicious, thoughtfully prepared, nutritional food is served in an environmentally-friendly manner throughout the year.

Scattered signage throughout the building enables patrons of the Culinary Center and The Corner Table Café to learn about and be reminded of the sustainable choices that were made during the renovation. What follows is a more detailed look at those decisions as they are embodied in the renovated structure.

**Historic Background.** While much of downtown was quickly rebuilt after the Great Fire of 1846, this site remained empty until 1872 when Samuel Swain, who started his career in the whaling industry and went on to be a merchant and public servant built himself a home there. One hundred years later, Robert F. Mooney, local historian and lawyer, acquired the building to use it for offices and retail space, including a bookstore in the basement at one point, and a small studio apartment in the attic. The Town of Nantucket bought the building in 1996 as an office annex to the Town and County Building which is located across Federal Street.

**Materials Re-Use.** This historic building's studio apartment on the third floor was small, and there were very low ceilings throughout the structure. In order to create a sense of airiness and increase the natural light within the core of the building, the third floor and the interior partitions of the historic structure were removed. The original flooring and floor joists were reused as the ceiling of the lower level cafe. Framing that is compliant with modern building codes was installed. The original door and many of the historic windows were



**Foundation water-proofing**



**Structural re-framing**

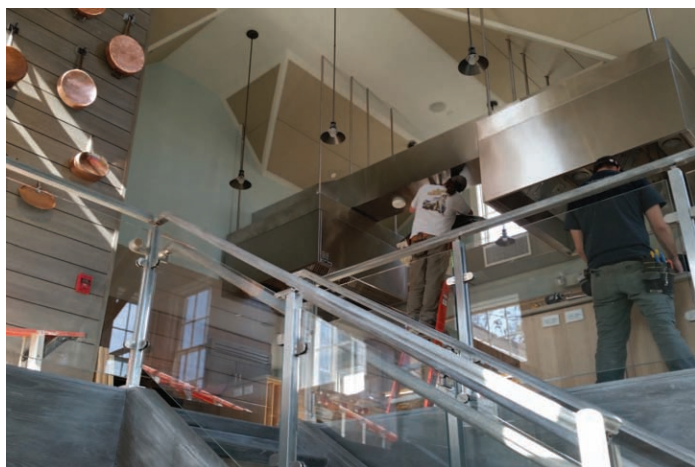
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able to be restored and reused in the structure. An addition to the south side was planned as well as a deeper, structurally sound foundation that would be water-tight for the first time. Many of the bricks from the original foundation were reused as to face the exterior of the new foundation.

In addition to reusing as much of the historic building's fabric as possible, construction waste was recycled, and the project gave priority to construction materials with a high recycled content, regionally processed or manufactured, or certified by the Forest Stewardship Council. Locally sourced materials are featured throughout.

**Energy Efficiency.** On-site renewable energy through either geo-thermal wells or solar panels was considered. However, given site constraints and historic district architectural regulations, on-site generation could not be implemented. Instead, mechanical systems in this kitchen-intensive use were designed to be as energy efficient as possible. All of the kitchen and food service equipment is Energy Star rated, which certifies that it has a high level of energy efficiency without sacrificing performance.



*Commercial hoods for the interactive kitchen*

The hot water comes from a high-efficiency gas-fired condensing boiler which operates at a 93% thermal efficiency compared to 70%-80% thermal efficiency of conventional hot water heaters. All boilers produce water vapor as a waste gas when the fuel source is burned; a condensing boiler is able to extract additional heat from that waste gas - increasing efficiency and therefore requiring less fuel. Some condensing boilers run in condensing mode only on initial heat-up and lose efficiency thereafter. At 22 Federal, the boiler stays in condensing mode whenever it is in operation.

Kitchen exhaust hoods which are required over the food preparation and cleaning equipment remove air from the building, and create negative pressure that

must be counteracted with "make-up air" that has been heated or cooled to replace the air that has been exhausted. All of this takes a tremendous amount of energy. The hoods in our kitchens use a system which automatically varies the exhaust rate for each hood based on the amount of cooking activity and balances it with the needed supply of make-up air. This demand controlled ventilation system reduces the amount of energy required by up to 64% over traditional systems.

**Healthy Environment.** Because Volatile Organic Compounds ("VOCs") release gas into the air and can be harmful to people, low VOC paints and sealants were used to improve air quality in the building. The bathrooms are equipped with touchless flush toilets, door handle sanitizers, automatic faucets and hand dryers to create the cleanest environment possible for all food handlers both staff and students.

**Water conservation and waste reduction.** Low flow plumbing fixtures and efficient dishwashing equipment help conserve water. Hand dryers and re-usable packaging materials reduce waste. The still and carbonated water on tap in the café provides free water refills and discourages single-use plastic bottles. Appropriate containers for recycling allow patrons to sort their waste products.



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**Controlled Lighting.** Additional windows added into the new foundation increase the natural light in the lower level, and the open floor plan on the second floor brings natural light to that entire space. The lighting systems have been designed to include multiple programmable controls for the users so that the right amount of light can be created without over-lighting the space. High efficiency fixtures, occupancy sensors, and timers to automatically shut off certain lights help insure that the lighting system is as energy efficient as possible.

**Landscaping.** Rainwater run-off from the roof is fed into rain barrels on the patio, and these are then used to water the plantings. Drought-resistant plantings have been selected to minimize the need for water to maintain the landscaping.



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