

355 11th Street: The Matarozzi/Pelsinger Multi-Use Building

Project Overview

*Front Facade - Photo Credit:
Matthew Millman*

355 Eleventh is a LEED-NC Gold adaptive reuse of a historic and previously derelict turn-of-the-century industrial building. The owner's intention was to adapt the existing warehouse located in the industrial SOMA area of San Francisco into a multi-tenant office building. In evaluating the building and its relationship to the site and the neighborhood, the architects advocated for the inclusion of a restaurant within the building to bring a more public use to the area. Reinterpreting zoning codes for the area, they further suggested that the parking area in front of the building be reduced significantly for the creation of an urban street-front courtyard. With these adaptations, the building now houses not only the originally envisioned office spaces but also a LEED-CI Platinum restaurant on the ground floor. The former parking lot has now been transformed into an outdoor dining courtyard and organic garden where herbs are grown for use within the restaurant, de-privatizing this space.

For both the LEED-NC Gold adaptive reuse for the building and the LEED-CI Platinum restaurant build out, the focus was on creating meaningfully sustainable spaces that engage the public and support the owner's focus on Green building. The sustainable strategies used throughout have been very successful for the Owner, the building inhabitants as well as visitors.

The Owner has successfully attracted and retained employees who enjoy using the space. The new perforated skin has created a generously illuminated and well-ventilated interior for the daily users, providing a pleasing view from within while simultaneously offering a degree of privacy for occupants. In addition, the provision of bike parking and showers has resulted in over 40% of the Owner's employees riding their bikes to work. The staff has increased by 40%, from 17 to 24 in two years, with less than 17% turn over in that same timeframe.

With this renovation, the Owner had wanted to use the headquarters to showcase their commitment to sustainability and cost-effectiveness. This has been effective for their

business, as clients who visit the building are very impressed with the innovative design and comfortable space. The business for the Owner has increased 25% since 2008, with a 50% increase in sustainable design projects.

The Owner has further benefited from lower energy bills, the metrics for which have been collected by the company through the monitoring of electricity bills and solar energy produced. Moreover, since the restaurant has opened below, the heat generated from the kitchen, on the ground floor, has resulted in no additional heat being needed in the office space for all but the handful of cold days in the year.

The completion of the restaurant space to be a sustainably focused business has further enhanced the building, the neighborhood and the experience of the building occupants. With a menu focused on sustainably and seasonally harvested food and beverages, within a space designed to highlight this ethos, the restaurant both broadens and intensifies the user's understanding of sustainable strategies.

Location:

355 11th Street
San Francisco California 94103
United States

Project Owner:

Matarozzi/Pelsinger Builders

Submitting Architect:

Aidlin Darling Design

Project Completion Date:

August, 2010

Project Site:

Previously Developed Land

Project Type:

Food Service Restaurant/Cafeteria

Mixed – Use

Office – 10,001 to 100,000sf

Project Site Context/Setting:

Urban

Other Building Description:

Both new and renovation

New:

20.0%

Renovation:

80.0%

Building or Project Gross Floor Area:

14,000 square feet

BOMA Floor area method used?:

No

Hours of Operation:

8am-2am

Design & Innovation

While solar energy harvesting, a green roof, and natural ventilation make the largest quantitative impact on the building's overall sustainability, it is the new exterior skin that provided the most fertile territory to merge sustainability with architectural design. The building's new metal skin is perforated with fields of small holes that allow light and air to pass through new operable windows hidden beyond. The perforated outer skin mitigates solar heat gain while enabling cross-ventilation of the interior.

The space is extremely comfortable for the staff who use the building every day, providing fresh air and light throughout the day. The perforated façade allows air to flow without bringing in the afternoon light and glare. The open office layout, which affords views to all of the interior spaces, has filled in these past two years beyond expectation. The staff has increased by 40%, from 17 to 24 in two years, with less than 17% turn over in that same timeframe.

As suggested by one staff member, the overall atmosphere is positive regardless of the work being done because of the abundant light, fresh air, and views the design provides.

Regional/Community Design

This building is located in San Francisco's SoMa district, an industrial area without many public amenities. In evaluating the building, the site, and the neighborhood, the architects advocated for the inclusion of a restaurant within the building to bring a more public use to the area. Reinterpreting zoning codes, they worked with the City to reduce the parking area in front of the building to create an urban street-front courtyard. Now, this street front is enlivened by the people dining at the restaurant, bringing the space into the public realm.

Generously served by public transportation and with a walk score rating of 89, the building further provides secure bicycle parking and a shower room. This emphasis on public and bike transportation has had a significant effect. Of the 81 occupants of the three businesses in the building, 53 ride their bikes or take public transportation; this 65% usage is greater than the projected 40%. Riding to work has been so successful that the bike parking room fills up quickly each morning; a constant discussion at weekly staff meetings is on how to expand the bike parking. As one staff member and commute cyclist notes, "I feel great about contributing to our global environment by utilizing my bike for commuting. Having the amenities and culture at work to encourage biking means we are giving back in a positive way to our community and environment."

Metrics

Estimated percent of occupants using public transit, cycling or walking:
65%

Land Use & Site Ecology

Native/adapted plant species were used throughout the site, resulting in a landscape that did

not require supplemental irrigation after an initial one-year establishment period. The non-irrigated living roof, planted with drought-resistant native/adapted plant species, serves to filter storm water, insulate the building, and decrease the urban heat-island effect. When the plant species initially planted on the roof did not respond well to the site's conditions, the Owner replanted the living roof with alternate species selected to work with the three microclimates that have been found on this long roof area: the front third of the living roof that faces the street needed to withstand larger amounts of wind and sun; the second third within the central core receives sun and no wind; and the last third at the back of the building is more shaded. With this adjustment for the actual conditions, the living roof is now thriving.

At the ground level courtyard, organic herbs are grown in raised planter beds for use in the restaurant's artisanal food and drinks. This garden support the restaurant's needs while also reconnecting the city dweller to earth and agriculture.

Bioclimatic Design

San Francisco boasts a remarkably mild climate with relatively little seasonal temperature variation. Prevailing breezes on the site are from the west, with the hottest days of the year associated with the Santa Ana winds from the east. The building's perforated, operable east and west facades exploit these east/west breezes to provide passive cross-ventilation in both conditions. The perforated skin of the building has worked as designed, providing passive cross ventilation from west to east in the direction of the prevailing winds. The occupants open the windows on both ends of the building each day, allowing fresh air continuously through the space. The occupants are comfortable and have not had to adapt the building in any way.

Light & Air

The perforated eastern and western façades shade the building from direct light while allowing views to the neighborhood. Throughout the regularly occupied offices, the spaces are daylight with direct views to the outside, allowing occupants to experience the changes of the day. The occupants are comfortable and have not had to adapt the building in any way.

Within the restaurant space, operable skylights provide additional daylight and serve to exhaust warmer air on hotter days. Here, the occupants are aware of the passage of time by the light that enters through these skylights, augmented by the sculptural light scoops that bring light deep within the space. Both in the restaurant space and the upper office spaces, daylight sensors automatically adjust the output of the main light fixtures to take full advantage of available sunlight. On most days, the lights within the space are not needed during daylight hours.

A legal easement and sprinkler system enabled Historic property line windows on north façade to be used for light and air. The kitchen for the restaurant was located along this side of the building so that the chefs and workers would have daylight and views throughout their long workday, a rare benefit in the industry.

Metrics

Daylighting at levels that allow lights to be off during daylight hours:

100%

Views to the Outdoors:

100%

Within 15 feet of an operable window:

100%

Water Cycle

Pervious surfaces, including landscaping, pervious pavers and drivable grass pavers, account for over 85% of the non-building site area. The roof area not occupied by photovoltaics has been planted and drains to the pervious site area. This has resulted in 57% of precipitation managed on site.

As expected, the drought resistant native/adaptive plants no longer require irrigation. Excluding the restaurant process water use, the water usage within the building has remained consistent with design assumptions, with a use of 97,240 gallons per year in 2009, the first full year of occupation.

Metrics

Percent reduction of regulated potable water:

23%

Is potable water used for irrigation:

No

Percent of rainwater from maximum anticipated 24 hour, 2-year storm event that can be managed onsite:

57%

Energy Flows & Energy Future

The generous daylight and passive cooling of the building has resulted in less than expected energy use. For 2011, the office spaces utilized 25,440 kWh of electricity against the produced energy of 26,267 kWh for the two spaces, resulting in 103.3% of the energy being produced on site. This is greater than the expected/projected savings of 79%, even with the 40% increase in occupancy.

When the restaurant is included, the percentage drops to 19.4%. Given that much of the energy is used for cooking, this actual energy usage in a restaurant is not a reflection on how the building systems are performing.

Because this building houses two very different occupancies, offices and restaurant, we are not able to receive a national performance rating for the building as a whole. As such, we

have separated out and evaluated the two types separately.

Offices Alone:

Total EUI (kBtu/sf/yr) Used by Offices: 9.5

Total Energy Used by Offices: 25,440 kWh

Net EUI (kBtu/sf/yr) Used by Offices: (.3) uses less than generates

Net Purchased Energy Used by Offices: (827) kWh uses less than generates

Restaurant Alone:

Total EUI (kBtu/sf/yr) Used by Restaurant: 133.8

Total Energy Used by Restaurant: 190,494 kWh

Net EUI (kBtu/sf/yr) Used by Restaurant: 124.5

Net Purchased Energy Used by Restaurant: 177,360 kWh

Percentage Reduction from National Average EUI for Building Type:

Offices: 94% (See Energy Star Portfolio Manager)

Restaurant: 69% (434 Average minus 133.8 Total / 434 National Average)

Metrics

Total pEUI:

10 kBtu/sf/yr

Net pEUI:

1 kBtu/sf/yr

Percent Reduction from National Median EUI for Building Type (predicted):

94%

Upload Energy Data Attachment:

[Target Energy Performance Results : ENERGY STAR.pdf](#)

Materials & Construction

After 4 ½ years of use, the office spaces still look new, in large part due to the durability of the materials used. Recycling and composting has continued to be important to the organization, with 40% of waste recycled, 40% composted within the garden onsite, and 20% going to landfill.

Within the LEED Platinum restaurant, the use of reclaimed wood throughout is significant. A wood hull formed from reclaimed whiskey oak barrels extends the length of the main dining level. The bar tops and host stand top are formed from reclaimed oak barn beams. Table tops and banquet seats are also made from reclaimed oak pieces, with varying degrees of wormholes depending on the desired level of refinement. The chairs are custom made from reclaimed wine barrel oak from the Napa Valley. In total, more than 15% of the building materials and more than 60% of the furnishing are reclaimed or salvaged.

In addition, virtually all built components were fabricated either on site or within a 15 mile

radius from the site, again mirroring the restaurant's mission. This includes the chairs, custom light fixtures, glass sculptures, tabletops and bases, bars and banquettes.

Long Life, Loose Fit

The design of the office spaces, configured to respect the bay spacing and open floor plan of the original building, has provided a great deal of flexibility for the occupants. Despite the 40% increase in employees, the Owner has been able to house everyone in the same open plan without difficulty.

The original design of the building planned for an incoming restaurant without an actual tenant. When the space was leased, the design for the restaurant was able to capitalize on the provided layout and infrastructure, providing a layered yet efficient space that matched the restaurant's approach to food, drink, and the dining experience.

Collective Wisdom & Feedback Loops

The collaborative approach to the base building design between owner/contractor and architect was an important part of the project. This collaborative focus was further advanced in the design of the restaurant space within. Drawing on long-term relationships with local artisans, the architect and owner assembled an expanded design team for the collaborative design-and-build process. The architects worked directly with concrete, wood, metal and glass fabricators to weave their distinct talents together, highlighting individual craft and experimenting with new materials and techniques.

This collaboration was particularly fruitful in the design and fabrication of the sinuous concrete banquettes formed of ductal concrete, an "ultra-high-performance concrete" which only recently has been developed as an aesthetic architectural building material. Concreteworks, a local artisanal concrete fabricator, worked closely with the architect to develop the ductal banquettes, host stand, and guardrails. Having used ductal once before, Concreteworks brought both their knowledge of the product and desire for innovation to the project. The collaboration resulted in the creation of light, expressive concrete pieces that provide a significant contribution to the overall design and experience of the space.

Other Information

Cost and Payback Analysis:

The solar panels were purchased by the owner using incentives such as the California Solar Initiative's commercial component and the City of San Francisco Solar Rebate Program.

To calculate the payback period, we divided the initial investment cost by the average annual payback total. The payback was determined by multiplying the kWh production of each month

by the average PG&E kWh unit cost of that month, accounting for the seasonal fluctuation in rates. Using this information, we foresee that the solar panels will be paid for in 8.5 years of use; as of the end of 2012, the panels are 60% paid off. The Owner is pleased with this investment and payback timeframe.

Rating System(s) Results:

Rating System:

LEED-NC

Rating Date:

2010

Score or Rating

Result:

Gold

Rating System:

LEED-CI

Rating Date:

2012

Score or Rating

Result:

Platinum

Additional Images

*Night view of current facade -
Photo Credit: Matthew Millman*

*Third floor open office space -
Photo Credit: Matthew Millman*

*Dining Courtyard - Photo
Credit: Matthew Millman*

*Herb beds in garden - Photo
Credit: Matthew Millman*

*Restaurant within building -
Photo Credit: Matthew Millman*

*Light scoops at skylights -
Photo Credit: Bruce Damonte*

*Daylit at center of space -
Photo Credit: Matthew Millman*

*Ductal banquettes with
reclaimed wood - Photo
Credit: Matthew Millman*

Project Team and Contact Information

Primary Submission Contact:

Shari Cleland

spc@aidlindarlingdesign.com

Aidlin Darling Design

500 3rd Street #410

San Francisco California 94107

United States

Project Team:

Role on Team	First Name	Last Name	Company	Location
Building Owner/developer	Daniel	Pelsinger	Matarozzi/Pelsinger Builders	San Francisco, CA
Building Contractor	Daniel	Pelsinger	Matarozzi/Pelsinger	San Francisco, CA

Environmental building & rest. consultant	William	Worthern	Simon & Associates	San Francisco, CA
Building & Rest Structural engineer	Bill	Lynch	Berkeley Structural Design	Berkeley, CA
Building Mechanical engineer/Commissioning agent	Chikezie	Nzewi	CB Engineers	San Francisco, CA
Building Civil Engineer	Bruce	Davis	Sandis Engineers	Oakland, CA
Building Landscape architect	Jeffrey	Miller	Miller Company	San Francisco, CA
Building Streetscape designer	Jane	Martin	Shift Design Studio	San Francisco, CA
Building Geotechnical engineer	Craig	Herzog	Herzog Geotechnical Consulting Engineers	Mill Valley, CA
Building Lighting designer	Leslie	Siegel, LC	Associated Lighting Representatives, Inc.	Oakland, CA
Restaurant Contractor	Ian	Tallon	Northern Sun Associates	South San Francisco, CA
Restaurant Mechanical Engineer	Eiki	Or	MHC Engineers	San Francisco, CA
Restaurant Lighting Designer	Michael	Webb	Revolver Design	Berkeley, CA
Restaurant Acoustical Consultant	Tom	Schindler	Charles Salter Associates	San Francisco, CA
Restaurant Graphics	David	Albertson	Albertson Design	San Francisco, CA
Restaurant Food Service Consultant	Mark	Stech-Novak	Restaurant Consultation & Design	Oakland, CA
Restaurant Glass Sculpture Design	Nikolas	Weinstein	Nikolas Weinstein Studios	San Francisco, CA
Restaurant Chair Design	Sebastian	Parker	Sebastian Parker	San Francisco, CA

Restaurant Metal Fabricator	Chris	French	Chris French Metal	Oakland, CA
Restaurant Concrete Fabricator	Mark	Rogero	Concreteworks	Oakland, CA
Restaurant Woodworker	John	Fischer	Cabinet Works Co.	San Leandro, CA
Restaurant Wood Hull Fabricator	Dan	Pelsinger	Matarozzi/Pelsinger Builders	San Francisci, CA
Restaurant Photography in the space	Thomas	Winz	Thomas Winz	San Franciso, CA
Garden Fabricator	Joanne	Cronin	Cronin Construction & Development Inc	San Francisco, CA

Source URL: <http://www.aiatopten.org/node/241>