

COOKFOX

ARCHITECTURE STUDIO



“Views of the greenroof and copious daylighting throughout the office create an intriguing and invigorating space for employees and visitors alike.”
— Bill Browning

PROJECT SUMMARY

The COOKFOX studio at 641 Avenue of the Americas started as a renovation project, occupying the entire 12,121 square foot penthouse of the former Crawford Simpson department store in the Ladies' Mile Historic District. When COOKFOX first leased the space in 2006, a number of the office's key features were underused and in poor condition. Much of the original ceiling and corinthian column details had been either damaged or covered up, and the office was heavily segregated and divided into individual office blocks. According to Rick Cook, what was to become a high profile green roof “[was] a tar beach with rusty mechanical equipment.”

641 Avenue of the Americas is unique because biophilic design directly influenced the renovation redesign. Recognizing the role that the office environment plays in employee and visitor wellbeing, COOKFOX integrated biophilic design patterns into the renovation early in the process.

This early adoption of the patterns is present in the scale and commitment to visual and non-visual connections with nature, non-rhythmic sensory stimuli, and refuge, and is

celebrated with the office's incorporation of a 3,600 square foot greenroof. Material choices and historic preservation were both leveraged to support nature in the interior space. Together, the interior and exterior environment are designed to promote increased office productivity, occupant well-being, and office creativity, as well as higher employee retention rates and reduced absenteeism.

Location

New York, USA

Project Address

641 Avenue of the Americas (6th Ave) New York, NY

Project Type

Class A Office, Commercial

Square Feet

12,121 sq ft office space
3,600 sq ft greenroof

Year of Completion

2006

Occupant

COOKFOX Architects LLP

Design Team

COOKFOX Architects LLP

Keywords

Historic building, urban, greenroof, natural light, architecture office, interior fitout

Awards

LEED Platinum – Commercial Interiors – 2006

Biophilic Patterns

Visual Connection With Nature
Non-rhythmic Sensory Stimuli
Biomorphic Forms & Patterns
Prospect

Photo 1: Expansive windows curve around the eastern wall overlooking the greenroof. The windows allow day light into the office and provide 90% of occupants with views of dramatic sunsets reflecting off the city skyline.

P1 P2 P3 P5

Prepared by Joe Clancy, Cory Nestor and Terrapin Bright Green

NATURE IN THE SPACE

- [P1] Visual Connection with Nature.**
Northeast window wall, extensive green roof, and plants throughout the office
- [P2] Non-Visual Connection With Nature.** Sounds and smells from greenroof when windows are open
- [P3] Non-Rhythmic Sensory Stimuli.** Tall grasses, rich layered ground cover, bee hive and migratory species, skylight with mylar sculpture
- [P4] Access to Thermal & Airflow Variability.** Operable windows on northeast window wall
- [P5] Presence of Water.**
Not present in design
- [P6] Dynamic & Diffuse Light.** Northeast window wall and southwest central light well
- [P7] Connection with Natural Systems.** Seasonal changes in vegetation on green roof

NATURAL ANALOGUES

- [P8] Biomorphic Forms & Patterns.**
Refurbished detailed column caps and coffered ceiling, asymmetrical shifting carpet patterns
- [P9] Material Connection with Nature.** Minimally treated wood surfaces, OSB conference room partitions
- [P10] Complexity & Order.**
Patterned carpet tiles

NATURE OF THE SPACE

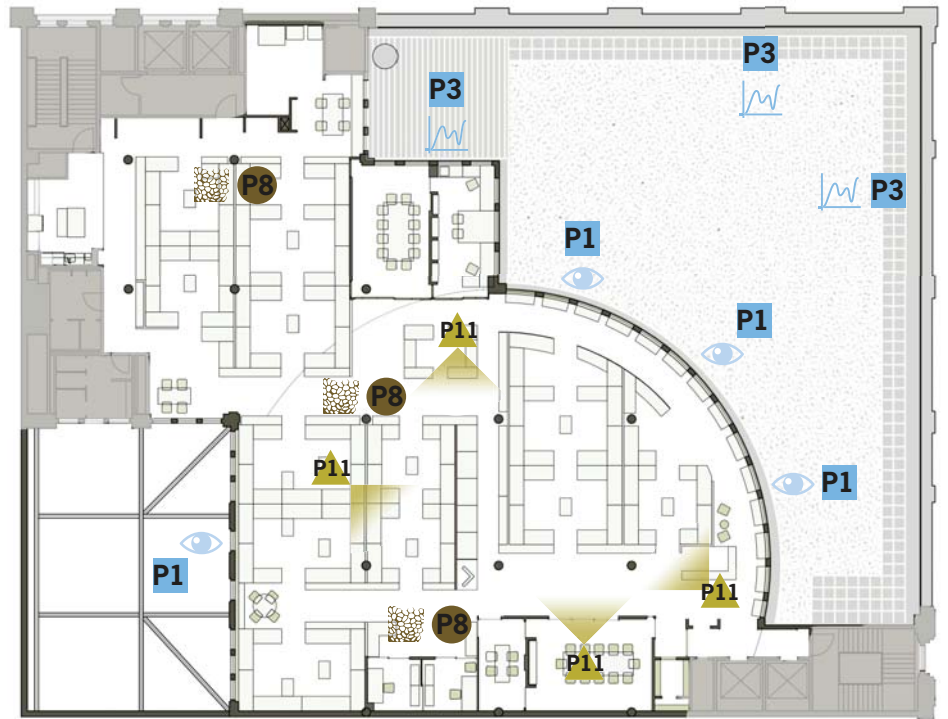
- [P11] Prospect.** Circulation and office layout with views across for surveillance
- [P12] Refuge.** Office partitions, and conference rooms enclosed on three sides
- [P13] Mystery.** Not present in design
- [P14] Risk/Peril.** Not present in design

Plan: Illustrating examples of prospect within the space, and the green roof, showing the accessibility of direct views to natural stimuli.

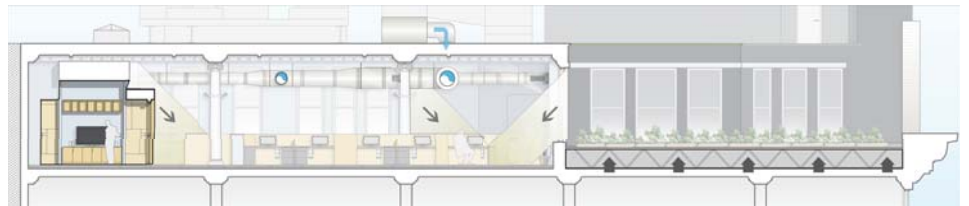
P1 P11

Section: Refuge space (conference room) highlighted, showing unimpeded prospect view to visual connection with nature.

P1 P3 P11 P12



PLAN



SECTION

[P1] VISUAL CONNECTION WITH NATURE

The designers integrated landscape and architecture design to create the most significant feature of the redesign. Twenty-four 9ft tall windows wrap the curved northeast wall, while MEP equipment, once on the overlooked rooftop, were moved to make way for an extensive cornice-to-cornice greenroof, test bed, and vegetable garden. Occupying 3,600 square feet (335 sq. m) the new greenroof commands visual attention the moment occupants enter the office with over 90% of individual desk having direct views. While distances range from 10–100 ft away from this window wall, circulation was integrated early on in the design and runs along the curved wall ensuring every occupant

has close-up views of nature. Benches run the length of the window wall and provides ample space for occupants to enjoy the dynamic landscape. This circulation has the additional benefit of reducing direct overhead glare of the closest workstations.

This pattern reinforced office management practices, with each employee given a personal plant stipend to encourage indoor greenery, while the vegetable garden and test beds provided opportunities for employees to work directly with the landscape.

Additional interior design features reinforced the offices visual connection to nature. Organic ornamentation on interior columns, exposed oriented strand board (OSB) partitions, and complex biophilic carpet tiles, bring reference to the outdoor environment into the office.



[P3]
**NON-RHYTHMIC
SENSORY STIMULI**

Views of tall grasses and passing clouds offer motion that grabs the attention of occupants within the office. Plants from the genus *Sedum* and *Talinum* attract a range of local and migratory species, including dragonflies, moths, gnats, flies, and birds, including hawks, and even migrating monarch butterflies.

The *Sedum* and *Talinum* provide layered ground cover with spots of bright color, while tall grasses positioned along the periphery rustle in the upward winds created at the edge of the building. Occupants view these rustling grasses from a minimum distance of 20 feet.

The presence of plants, animals, and insects provide non-rhythmic sensory stimuli in the form of stochastic and ephemeral connections with nature (that may be analyzed statistically but may not be predicted precisely) and increase the landscape's ability to grab and hold occupants' attention.

The large, operable, panoramic windows provide opportunity for random visual and auditory distractions which can lead to decreased mental fatigue, restored concentration and increased productivity. Occupants have reported that the tall grasses catch their attention periodically, drawing their gaze away from their computers.

Left: Tall seasonal grasses on the periphery of the greenroof provide non-rhythmic sensory stimuli.

P1 P3



[P8]
**BIOMORPHIC FORMS
AND PATTERNS**

Much of the interior aesthetic features were retained, restored, or enhanced during the renovation. The project removed the drop ceiling to increase the ceiling height and expose the ornate column caps and coffers from the original design. The higher ceilings let more light into the space, and the original column caps feature complex and captivating patterns.

These symbolic references to the contoured, patterned, textured, or numerical arrangements that occur in nature connect the occupant to the natural world. The detailing also helps to join the interior office space to the exterior greenroof.

The designers at COOKFOX also used wall dividers and carpeting to incorporate biomorphic patterns. The carpeting tiles have abstract, asymmetrical and shifting patterns that trick the eye into perceiving the pattern as random and derived from nature. OSB was used to create surfaces referencing the fractal patterns inherent in the wood.

Center: Existing detailing with new office fit-out partitions, preserve the biomorphic forms and patterns in the coffered ceiling. P8



[P11]
PROSPECT

The renovation traded walls dividing the space for 42" high dividers and transparent materials that provide unimpeded views across the office for surveillance and planning. All occupants have a prospect view of at least 100 feet from a seated position.

The tall glass windows provide even greater opportunities for prospect. Occupants can stand in the circulation paths or sit on the benches lining the windows to survey the greenroof and cityscape beyond.

This level of prospect is tempered with refuge spaces such as conference rooms and vantage points throughout the open floor plan. Conference rooms and meeting spaces are open to distant views across the office, while dividers separate the office floor plan programmatically but not visually. This allows, for example, occupants to see guests entering or management to visually survey the office.

Right: Circulation is pushed to the exterior wall, preventing overhead glare and increasing access to views for the office. P1 P3 P11

ALLOWING PEOPLE TO DESIGN THEIR ENVIRONMENT

An internal post-occupancy evaluation was performed using U.C. Berkeley's Center for the Built Environment's occupancy satisfaction survey. In order to find correlations between spatial conditions and occupant health and wellbeing, respondents self reported their location on a zone map. Comparing self reported stress and workload levels against office location, a stress map illustrates where stress is highest, and allows designers and office management to respond and improve surrounding conditions to decrease stress and increase productivity and well-being.

The findings suggest stress levels are both site-specific as well as workload-conditional. Just as people are diagnosed with chronic or acute health problems, so too can a building be evaluated this way. Chronic conditions such as no access to daylight require major renovations and design interventions. Acute conditions, such as temporary high work load, can be combated by making the space dynamic and flexible, moving water features and plants and/or allowing occupants the flexibility to move about the space. In the case of the COOKFOX office, there is a strong correlation between lack of visual connection with nature and increased reported levels of stress.

One of the strongest findings from the post occupancy survey show a need for additional refuge conditions throughout the office, with only one zone reporting "satisfied" and two high traffic zones reporting "highly unsatisfied." Refuge conditions have been shown to improve concentration, attention and perception of safety while also reducing irritation and fatigue.

Additional correlations between occupant responses and spatial conditions are present in the office and can be used to help designers and office management better use and understand the designs ability to meet their needs. Thermal airflow variability has been shown to increase comfort, productivity, improve concentration, and improve perception of temporal and spatial pleasure. The COOKFOX office shows a high degree of thermal satisfaction. Only two areas show occupants dissatisfied. One area may be because of their proximity to printers, bathrooms, and the kitchen. The other area needs further study to determine dissatisfaction. All areas within proximity to operable windows show positive levels of thermal satisfaction.

[P1] Visual Connection to Nature. Lower blood pressure and heart rate, improved mental engagement/attentiveness, positively impacted attitude and overall happiness.

[P3] Non-Rhythmic Sensory Stimuli. Positively impacted heart rate, systolic blood pressure and sympathetic nervous system activity, observed and quantified behavioral measures of attention and exploration.

[P8] Biomorphic Forms & Patterns. Observed view preference.

[P11] Prospect. Reduced stress, reduced boredom, irritation, and fatigue, improved comfort and perceived safety.



Terrapin Bright Green

Terrapin Bright Green is an environmental consulting and strategic planning firm committed to improving the human environment through high performance development, policy, and related research, in order to elevate conversations and help break new ground in thinking creatively about environmental opportunities to shape the outcome of large-scale planning and design projects around the world. Visit us at www.terrabinbrightgreen.com

COOKFOX Architects

COOKFOX is an architectural studio dedicated to a vision of integrated, environmentally responsive design. They believe good design is sustainable and they are committed to being wise stewards of our shared natural and cultural resources. COOKFOX pursues projects that allow them to fundamentally re-think how people interact with buildings and the natural environment. Find their work at www.cookfox.com. All photos and illustrations courtesy of COOKFOX Architects.