

By Michael McCullough, ASLA
Redesigning people back into nature through architecture

Opportunities, Examples & Strategies

BIOPHILIA IN THE NEW OFFICE SPACE

For Designers and Leaders in Business



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ABOUT THE AUTHOR



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Michael has been working in the Biophilic Design industry since 2005. During Michael's professional experience, he has participated in all parts of the project delivery process that has effectively combined landscape features with architecture on projects in 15 countries.

Now Michael is committed to educating the public to better understand all things Biophilia to provide more people equitable access to nature within commercial spaces, workplaces, and educational settings.

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WHY INCORPORATE BIOPHILIA IN THE POST-PANDEMIC OFFICE SPACE

WHAT ARE BUSINESSES SAYING ABOUT THE POST-PANDEMIC WORKPLACE?

A recent JLL survey of leaders in business found that the future office place is changing. It is predicted that the majority of businesses will continue utilizing a hybrid work environment in the post-pandemic era. The survey found that 46% of businesses intend to reduce their real estate footprint by up to 30% to allow for flexible/hybrid workspaces. This reduction partly responds to the 72% of employees who would like to work remotely up to two days per week but who also want an office culture that promotes connection and collaboration. The hybrid model is also productive. Another survey by PwC found that 83% of businesses that have a hybrid model have hit their productivity targets, while also saving money that comes from their reduced real estate footprints. So while changes are being made to how and where people work, the office is not going anywhere. What's changing is how people work and the environment in which they collaborate.

WHAT DOES THE POST PANDEMIC WORKPLACE LOOK LIKE?

Many businesses see these changes as opportunities to improve employee safety, happiness, and productivity. Prior to the COVID-19 pandemic, businesses embraced the open office environment to allow for more interaction, creativity, and collaboration. The open office concept however isn't always as effective for staff because it can increase noise, stress, and conflict, and even result in higher turnover. Post-COVID-19, the trend may be returning to a semi-open and part-private office environment that promotes both collaboration and interaction, but also responds to staff health and safety.

Business leaders and staff find the best opportunity for collaboration occurs in person at the workplace, even if employees are there part-time. After all, humans are inherently social and feed on each other's energy. People can work together around a whiteboard, sketch out ideas together, read body language, and most importantly, not get 'Zoom fatigue'. The research has shown that work spaces need to be made available to people regardless of whether they get to keep the desk or not – it's not about desk



ownership, it is about providing people with productive and inspiring workplaces. A strategy to do so is to redesign for an inspiring atmosphere where human to nature design -- biophilic design -- provides ample opportunities for employees to feel inspired to go back into the work environment.

WHY USE BIOPHILIC DESIGN AS A METHOD TO BRING PEOPLE TO THE OFFICE?

A biophilic design strategy that creates inspiring atmosphere and park-like experiences in the office responds to employee requests for safety and happiness and helps businesses reach their productivity goals. By providing a place for staff to be connected to nature in the indoor environment, biophilic design inspires people to go to the office.

Biophilic design has components that rely on human wellness to improve the cognitive ability of employees, maintain physical and mental health, as well as provide documented economic improvement. There is a growing body of empirical evidence supporting the human-nature connection and why it is beneficial in the workplace. Over 700 studies support measurable, positive impacts of biophilic design on human wellness, productivity, and public health. This whitepaper is intended to provide visual examples of biophilia in the workplace, illustrate three budget tiers, as well as engage in the dialog to implement biophilia in the office as an architect/designer or as a leader in business. The intended audiences of this publication are interior designers, architects, landscape architects, business leaders, human resource managers, developers, as well as anyone wanting to discover opportunities that exist to apply biophilic design theory to their new office environment.



EXPLORE BIOPHILIA IN THE OFFICE PLACE

HEALTHY EMPLOYEES, HAPPY CUSTOMERS

Business leaders and their employees are most productive when they are healthy and happy. Biophilic design provides opportunities for people to thrive in the workplace. Inspired employees cultivate customer service relationships that are positive, which in turn provide opportunities for business growth.

This guide is developed for the purpose of providing examples of how biophilic design can be integrated into offices beyond plants, but through materials and furniture design. Additionally, there will be a description of opportunities to incorporate biophilia into various parts of the office space that provides opportunities for employees to feel safe, happy, and productive.



BIOPHILIA - MORE THAN JUST PLANTS

It is commonly assumed that biophilic design uses plants as a primary driver of the aesthetic. Although plants play an integral part of the human to nature experience, biophilic design gives equal consideration to biomorphic forms, natural materials, sunlight, water, fractal patterns, and views of landscapes. The primary objective of biophilic integration within architecture is to reconnect people with an experience that is interactive with the natural processes, in which plants are just a single component. The full context of biophilia is shown below:



EXAMPLE OF BIOPHILIA IN ARCHITECTURAL FORM
IMAGE CREDIT: PERKINS + WILL

FORM AND SPATIAL RELATIONSHIPS

When space is envisioned, designers work with their clients to determine the program, which considers function, spatial relationships, and experience. Form and spatial relationships are an important element of the early design process that allows for an architectural response to the relationship with natural light, form relating to nature, and outside - in relationships.



ENVISIONED BIOPHILIC EXPERIENCE
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EXPERIENCE

Experience looks at how the user feels within a space, both consciously and subconsciously. Experiences that are commonly found in the natural environment can be recreated through thoughtful design that provide protection from the weather, private areas, places for reflection/meditation, resting spaces, quiet areas to read, creative areas to inspire critical thinking and production, and areas to create safety.



ENVISIONED BIOPHILIC PLANTER
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MATERIALS AND PLANTS

Once spatial design and experience are determined, materials and plants help provide ordered relationships amongst the constituent parts. When there is a sense of order, the human observer feels contentment and the space is said to have a strong, clear, positive structure. Plants, when integrated comprehensively throughout the space, strengthen the spatial and experiential relationships.





LOBBY BIOPHILIC DESIGN EXAMPLE
CREDIT: HALKIN PHOTOGRAPHY LLC, VERDE ARCHITECTURE CONSULTING

LOBBIES

OVERVIEW

Lobbies are the first place where people enter a building. They give a strong first impression to the employees and guests entering the space. Many opportunities exist in the lobby to allow people to have an experience of human to nature interconnectivity that will provide them with an idea of what is to come within the office space.

OPPORTUNITIES

When people enter a lobby, they can be immersed in an experience and sense that they are entering a calming environment. When people see plants, earth tone colors, natural light (if available), and materials representative of nature, the human will subconsciously respond to this in a positive way.



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COLLABORATION AREAS

OVERVIEW

Collaboration and conference room areas are where collective ideas happen and progress is made. Many can attest to participating in what may feel like a meeting that has uninspiring surroundings and attention fatigue kicks in. When there is a lack of focus, less creativity can occur (Li, Sullivan, 2016). Human-to-nature connection provides an opportunity for sustained focus and cognitive ability to create, maintain productivity, and find inspiration.

OPPORTUNITIES

Collaboration areas are great spaces in which to integrate natural imagery, views to plants and natural materials. Especially if access to windows is unavailable, plants and views of nature through imagery provide a great way to bring nature indoors and give people a biophilic design experience.





ENVISIONED BIOPHILIC OFFICE
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PRIVATE/ SEMI-PRIVATE WORK AREAS

OVERVIEW

Within private work areas, staff can work in a quiet and safe space while having surfaces and surroundings engage them in a human to nature experience.

OPPORTUNITIES

Surfaces can be made from natural materials and have imagery of patterns found in nature. There can be views to the outside, as well as close proximity to greenery, and the employee can be given a rich human to nature experience to promote a happier work environment.



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EXAMPLE OF PLANTS DEFINING A CORRIDOR
PHOTO COURTESY OF JAMES JOHN JETEL & DESIGN BY BOX STUDIOS

CORRIDORS

OVERVIEW

Between organized spaces within offices, corridors can be the threshold into new experiences and programmed areas. These paths that transition the user to other spaces have several opportunities to incorporate biophilia.

OPPORTUNITIES

If providing a semi-public corridor is an objective, plant boundaries provide an opportunity to separate spaces while allowing for future flexibility. If corridors are fully partitioned, there are opportunities to utilize wall coverings depicting natural scenes, green walls, as well as stone and wood.



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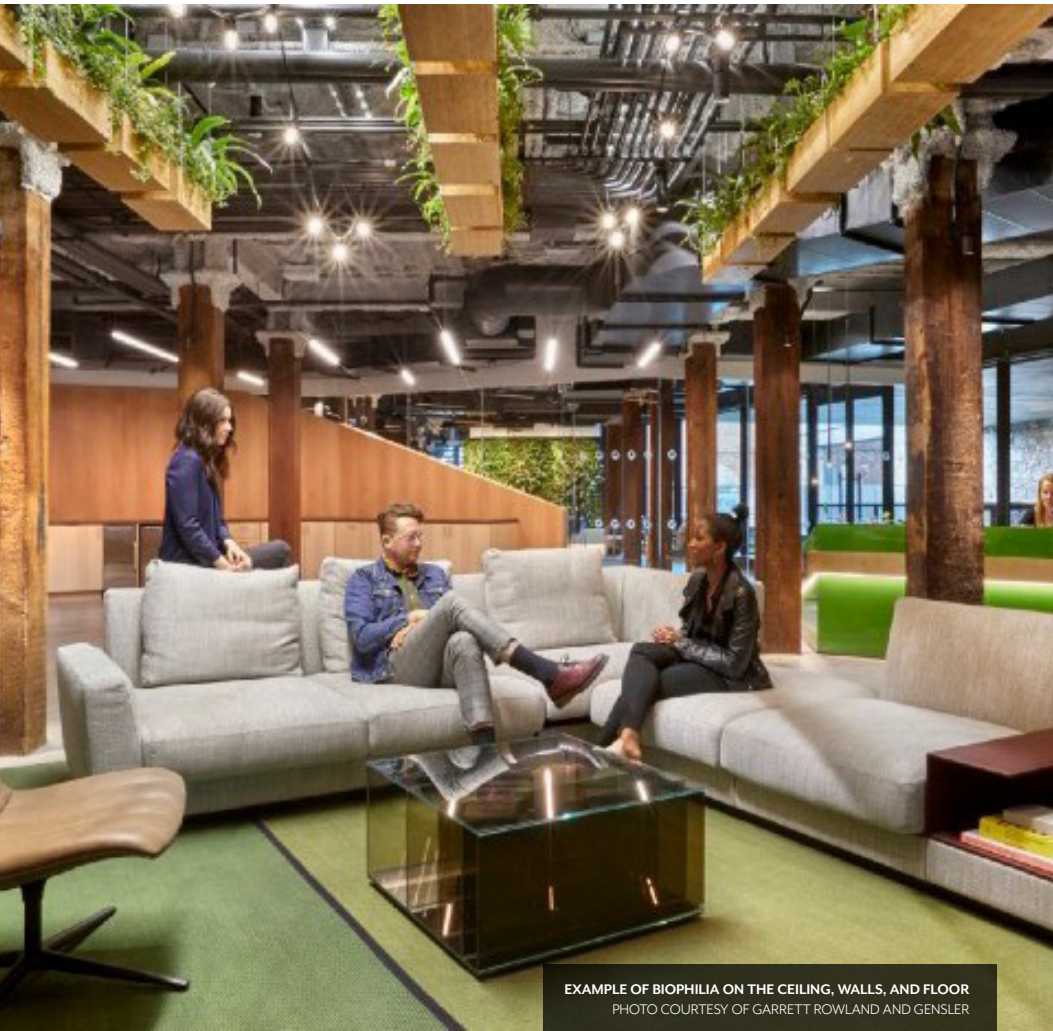
WALLS, CEILINGS, FLOORS

OVERVIEW

The shell of the interior and all of the surfaces provide opportunities to connect people to nature through various biophilic design treatments.

OPPORTUNITIES

Natural materials, green walls, moss, images of forms and patterns found in nature, nature tone paint and flooring, and natural light can all provide a calming biophilic experience. One study even found that imagery depicting natural scenes provided a calming affect that could further reduce attention fatigue and stress.



EXAMPLE OF BIOPHILIA ON THE CEILING, WALLS, AND FLOOR
PHOTO COURTESY OF GARRETT ROWLAND AND GENSLER



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ENVISIONED BIOPHILIC EATING AREA
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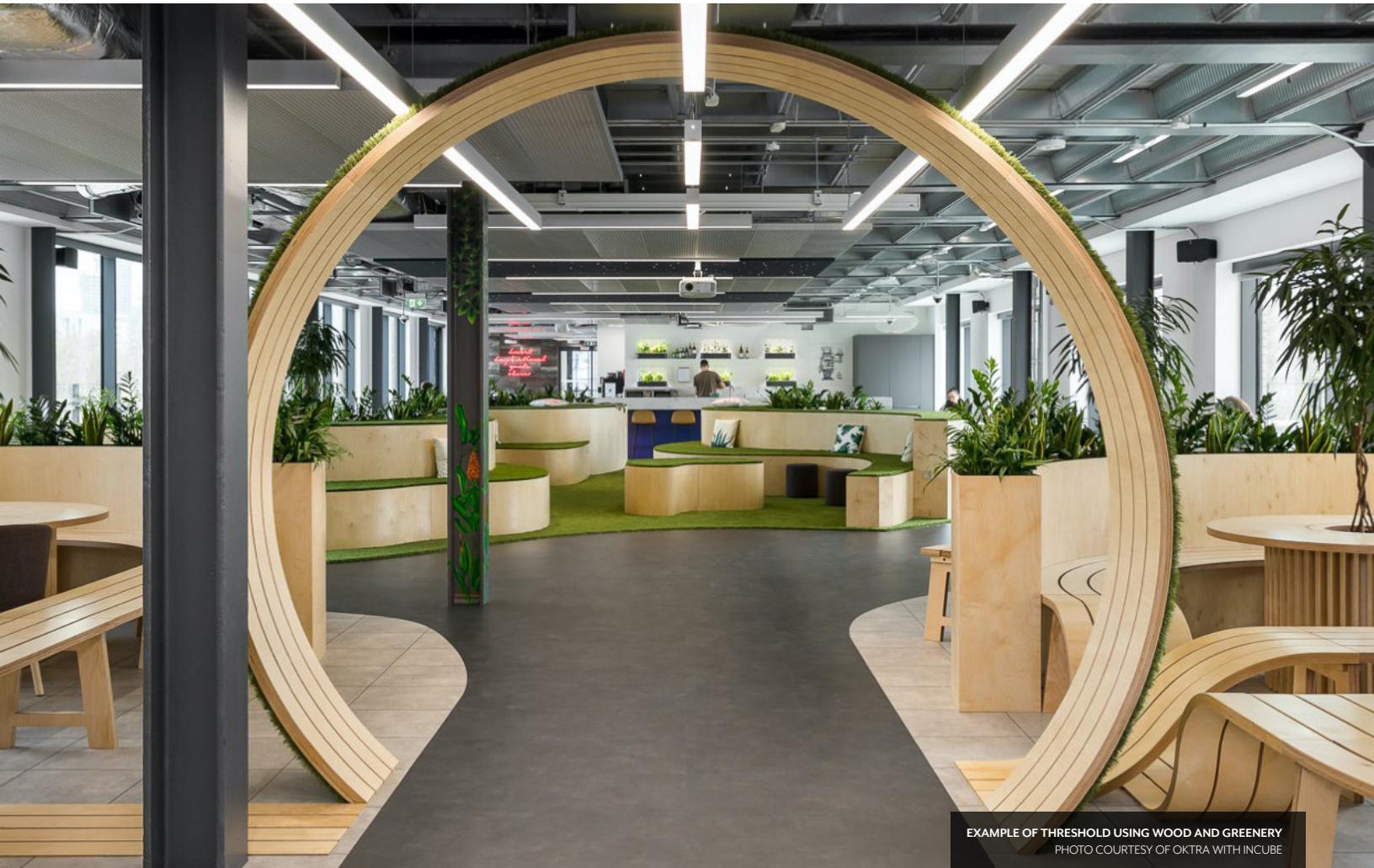
THRESHOLDS

OVERVIEW

Thresholds provide opportunities to transition from one space to another when there is not a corridor in place. A strong threshold is like a doorway into another experience and use of space.

OPPORTUNITIES

Thresholds can be created using vegetation, tree canopies, wood, stone, and water. Dividing space using plants maintains a small footprint, while connecting the building's users to natural systems.



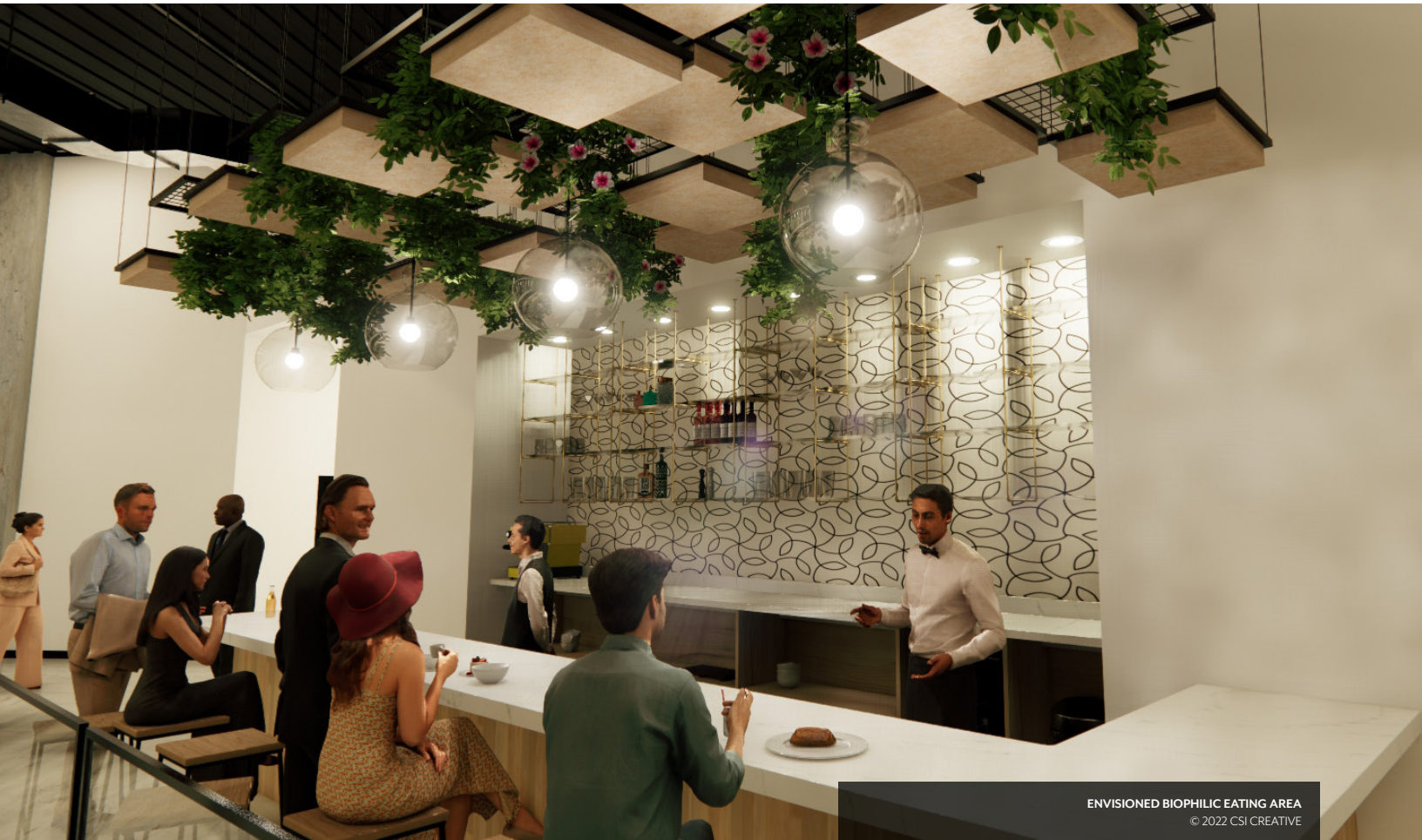
EATING AREAS

OVERVIEW

Eating areas provide exciting opportunities to incorporate plants, and relaxing areas with the feeling of being outside. Many workers enjoy eating lunch on patios and outside. But during cold weather, this option isn't always available. By incorporating biophilic design theory into eating areas, people can feel a sense of being outdoors and have an alternative place to collaborate and work on laptops.

OPPORTUNITIES

Plants provide an opportunity to divide space and provide a calming effect to individuals eating. In addition to plants, positioning the eating area near natural light can provide a blend of outdoors with the inside.





PLANNING FOR BIOPHILIA

DESIGN DEVELOPMENT

DD

Engaging CSI Creative late in your design process means we can integrate post-construction biophilic features.

SCHEMATIC DESIGN

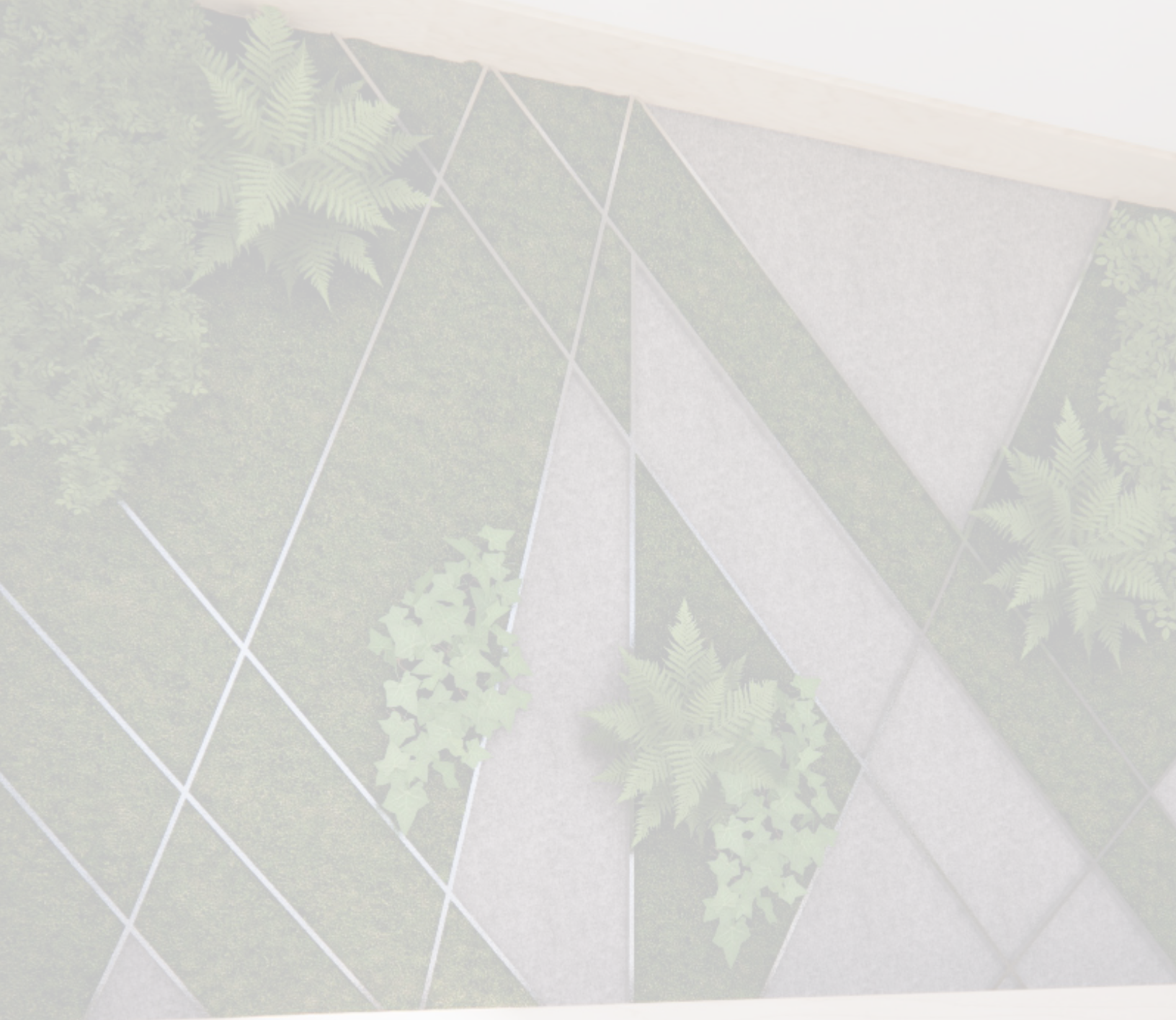
SD

Engaging CSI Creative earlier in the design process means we have larger opportunities for biophilic expression.

CONCEPTUAL DESIGN

CD

Engaging CSI Creative in the conceptual phase of a project gives the best opportunity to plan massive biophilic features and fully integrate with other structures and MEP systems in your space.



DESIGN DEVELOPMENT



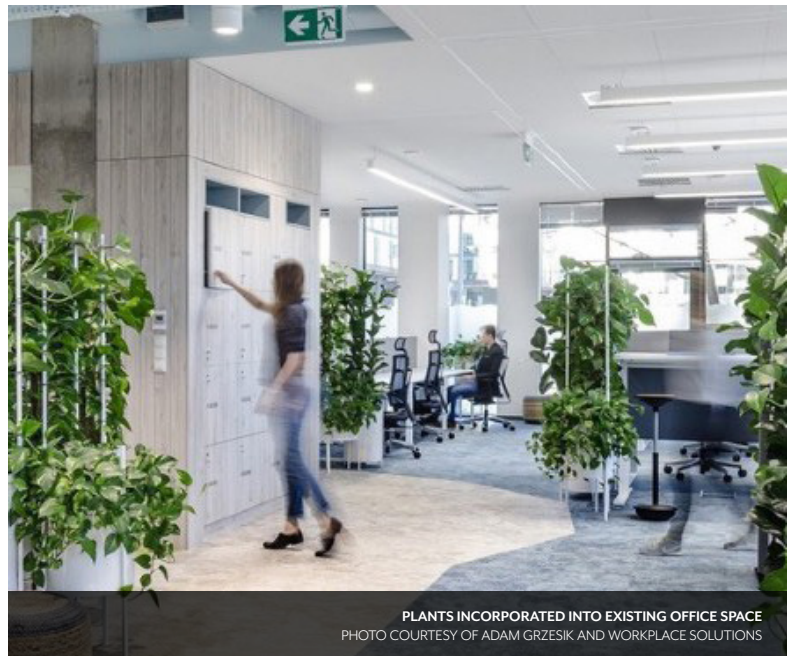
DESIGN DEVELOPMENT

CONNECTING STAFF TO NATURE ON A BUDGET

Biophilia can be integrated later in the design process by applying plants to the existing interior landscape. This can be done with offices that seek to add a sense of nature into the interior space. Opportunities include wall coverings, plants, green walls, and updates to the color scheme to have natural tones.



ENVISIONED BIOPHILIC EATING AREAS
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PLANTS INCORPORATED INTO EXISTING OFFICE SPACE
PHOTO COURTESY OF ADAM GRZESIK AND WORKPLACE SOLUTIONS



THOUGHTFUL LOW BUDGET BIOPHILIC DESIGN
PHOTO COURTESY OF ADAM GRZESIK AND WORKPLACE SOLUTIONS



ENVISIONED BIOPHILIC OFFICE
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An architectural rendering of a modern, biophilic eating area. The space features a long, light-colored bar with a white countertop and a wooden base. Several people are seated on high stools at the bar, engaged in conversation. A bartender in a white shirt and bow tie is visible behind the bar. The background wall is decorated with a pattern of overlapping leaf shapes. Large, spherical pendant lights hang from the ceiling, which is supported by a grid of dark beams. Green plants are suspended from the ceiling, adding to the biophilic design. Large windows on the right side offer a view of the outdoors. The overall atmosphere is bright and airy.

SCHEMATIC DESIGN

SCHEMATIC DESIGN

MEDIUM-SCALE BIOPHILIC INTEGRATIONS

When engaged earlier in the design process, opportunities include minor spatial changes that incorporate biophilic design elements, large scale green walls, indoor trees, and a thoughtful planting design integration beyond strategically located potted plants. Biophilia can be integrated into existing furniture as well as used in conjunction with new furniture that have carefully designed biophilic integrations.



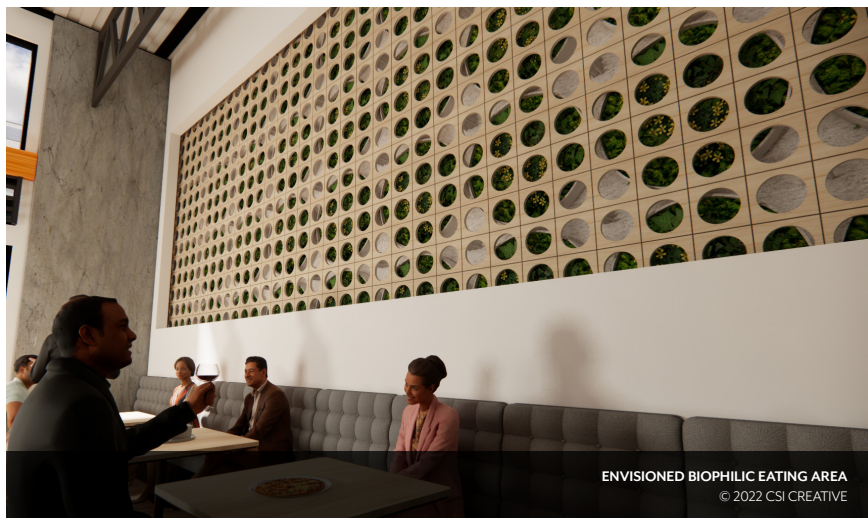
BIOPHILIC OFFICE SPACE
PHOTO COURTESY OF GARRETT ROWLAND AND GENSLER



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FURNISHINGS AND FIXTURES
PHOTO COURTESY OF OKTRA WITH INCUBE



ENVISIONED BIOPHILIC EATING AREA
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An architectural rendering of a modern interior space. The ceiling is a prominent feature, composed of numerous parallel wooden slats that curve downwards, creating a dynamic, sculptural effect. Below the ceiling, a large wall is covered in a living wall system, featuring horizontal wooden slats with small green plants growing in the recessed spaces. In the foreground, several people are walking through the space. A man in a brown suit and white shirt is walking towards the right, carrying a brown briefcase. A woman in a black hijab and dark clothing is walking away from the camera. A woman in a beige coat is walking towards the camera. A woman in a red sweater is standing near a counter on the left. In the background, there are blue metal chairs and a yellow caution sign. The overall atmosphere is bright and modern, with a focus on natural materials and greenery.

CONCEPTUAL DESIGN

CONCEPTUAL DESIGN

FULL-SCALE BIOPHILIA

For projects with larger budgets, many opportunities exist when contacting us at the earliest point in your design process. Such opportunities include architectural design/redesign of the building's footprint, comprehensive spatial design that emphasizes the user experience, and incorporating biophilic design components that include plants, natural materials, and imagery of patterns found in nature.

Biophilic designed furniture and fixtures allow for a holistic biophilic experience for the office place.





IMPLEMENTATION GUIDE

For Designers and Business Leaders

FOR ARCHITECTS & INTERIOR DESIGNERS

DESIGN WITH CLIENTS IN MIND

Architects and designers can engage with career biophilic designers to collaborate and participate in a thoughtful design of spaces. An Ideal time to engage a biophilic designer is during the design development phase. This will provide opportunities to ensure the full biophilic design vision is implemented through thoughtful planning of the form, function, and overall aesthetic.



PROCESS OF ENGAGEMENT

FOR ARCHITECTS WORKING WITH A BIOPHILIC DESIGNER

To engage with a biophilic designer, it is important to include them on the team early in the design process. This will allow for thoughtful integration with budget in mind while also optimizing maintenance requirements, address potential watering/lighting needs, as well as collaborate on other items that could impact the performance of the biophilic design. This collaboration reduces potential risk for the client and possible change orders that are common when biophilic designers are brought in during construction bid phase.



ENGAGE IN VISIONING

Collaboration is best initiated during design development phase of the project delivery process.

CONSIDER COMPREHENSIVE DESIGN

After the full design process is completed, construction budget is typically confirmed around the construction documentation phase.

CONTRACTURAL DESIGN/BUILD PROCESS

Biophilic designers are typically associated with their build teams. This provides an opportunity to keep costs low for the end-user. Full implementation of the biophilic integrations typically will occur towards total project completion to ensure nothing is damaged.

MANAGE

If there are live plants, ongoing plant care is strongly encouraged in order for to protect the investment. Typical plant care visits may occur once every 1 - 2 weeks.

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FOR BUSINESS DECISION MAKERS

CONNECTING STAFF AND CUSTOMERS TO NATURE

Business leaders can engage a biophilic designer directly to respond to the existing/new space and incorporate biophilia thoughtfully. The following describes a process that will allow for an effective





ENGAGE IN VISIONING

Collaboration with a biophilic designer will allow for you to see how the space can be transformed.

CONSIDER COMPREHENSIVE DESIGN

After the design/costing process, the business leader can then determine if they would like to engage in all of some of the project

CONTRACTURAL DESIGN/BUILD PROCESS

After approval of the proposal, implementation of the design can occur.

MANAGE

If there are live plants, ongoing plant care is strongly encourage in order for to protect the investment. Typical plant care visits may occur once every 1 - 2 weeks.

PROCESS OF ENGAGEMENT

FOR BUSINESS DECISION MAKERS WORKING WITH A BIOPHILIC DESIGNER

By directly engaging with a biophilic designer, business leaders can have a design experience that allows for immediate implementation with strong budget requirements set in place.



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ENVISION BIOPHILIA AS AN OPPORTUNITY TO CREATE WELLNESS IN THE NEW WORKPLACE

Through thoughtful collaboration to integrate nature back into the human experience with-
in architecture.



THANK YOU!



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DESIGNING BIOPHILIA

We are more than the sum of our products. CSI Creative combines architectural design and industrial design, creating richer spaces with products customized to your needs.

We have a passion for biophilia and work to create more habitable, more human environments that feel better to be in. We manufacture acoustic wall cladding, baffles, ceiling clouds and more, outfitted with museum-quality greenery to create better experiences.



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