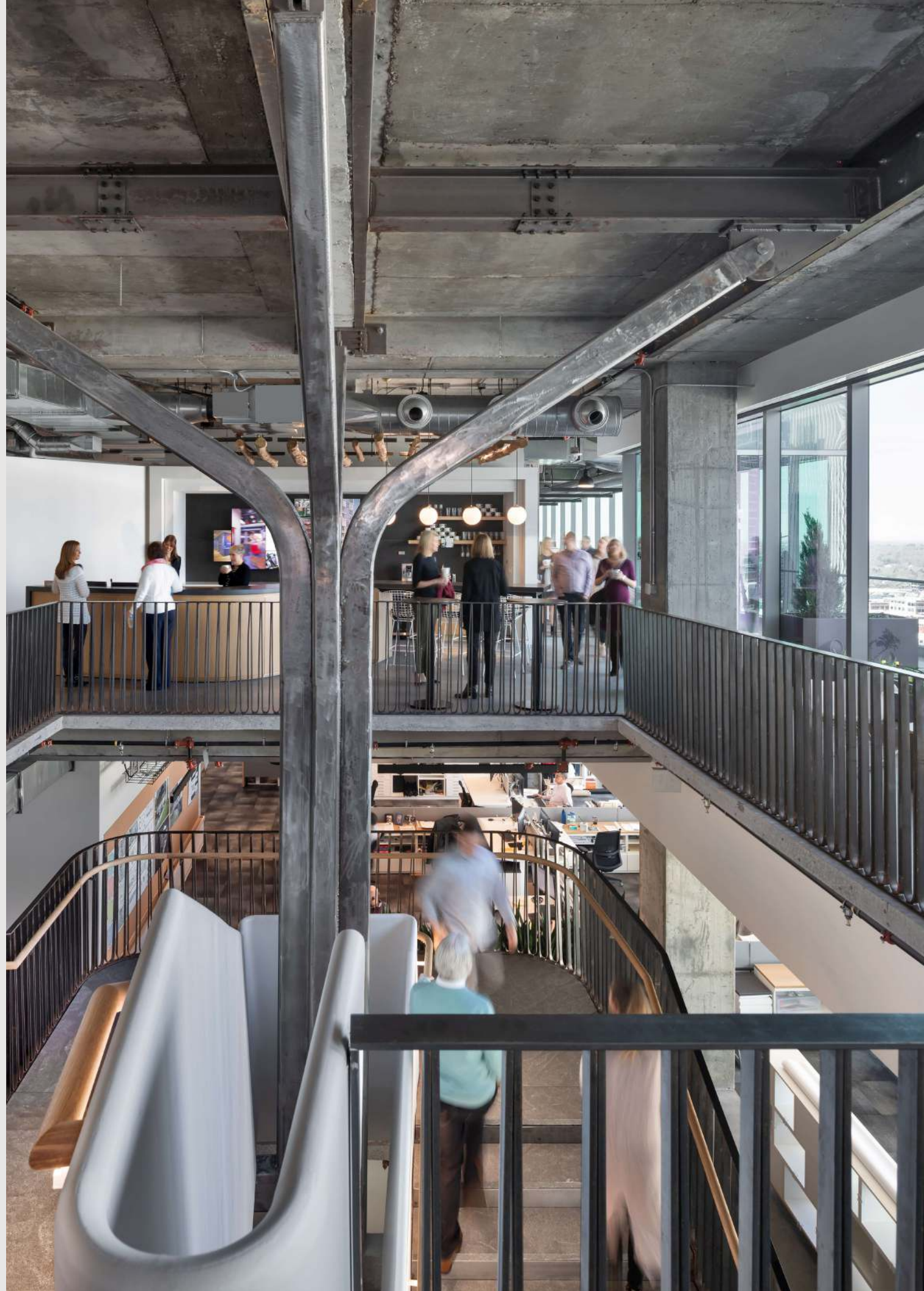


**“WHATEVER
GOOD THINGS
WE BUILD
END UP
BUILDING US.”**

– JIM ROHN

HEALTHY BUILDINGS

July 29, 2020



AT LITTLE, WE WORK EVERY DAY TOWARD A GOAL OF DESIGNING PROJECTS THAT NOT ONLY DO LESS HARM, BUT ULTIMATELY DO GOOD - REGENERATIVE PROJECTS THAT ACHIEVE A SUCCESSFUL BALANCE BETWEEN ENVIRONMENTAL, ECONOMIC AND HUMAN FACTORS.

Each of our projects is highly focused on health of people and the environment. We employ a diverse set of skilled individuals who ensure that each of our projects meets specific criteria and has a specific emphasis on the following issues:



HEALTH: We will design environments that elevate the health and wellness of people who use them.

1. Design to promote occupant hydration and movement.
2. Increase occupant wellbeing by optimizing thermal, visual, and sound comfort.
3. Reduce toxicity of buildings by limiting use of Red List chemicals.



ENERGY: We will use a smart, responsible design approach to reduce the energy demand of our projects and practice.

1. Determine predicted energy use intensity (pEUI) to meet 2030 Challenge goals and design for Net-Zero Ready.
2. Study the climate and operational requirements to determine energy reduction strategies - DESIGN TO ASHRAE 90.1 2016 ASHRAE 55 2017.
3. Explore building optimizations and energy reduction strategies through energy modeling.



WATER: We will design for the preservation and conservation of water.

1. Reduce potable water use by a minimum of 35%.
2. Perform water quality testing.
3. Take a regenerative approach to optimize site design.



SITE ATTRIBUTES

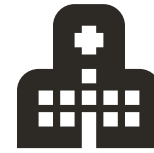
A healthy building begins with a robust understanding of the surrounding area and immediate site context. By taking advantage of, or developing, these amenities, the outdoors can become an important part of your work environment and encourage healthy behaviors while increasing employee happiness and productivity.



1. trails for employees to spend time outside in walking meetings or phone conference calls?



2. project near places to live, within walkable distances?



3. medical facilities and treatment proximity for your teams?



4. WiFi access in outdoor areas?



5. will parking be provided for all employees?

What else do you know about this area that will benefit your future tenants?

SITE CIRCULATION + OCCUPATION

In a healthy building, consideration should begin beyond the building by addressing the site; this approach could help mitigate the spread of contaminants from the outdoors to inside an office building. A focus on walkability, wider sidewalks, multiple pathways and a more hygienic user experience from parking to entry helps support social distancing and a safe environment.



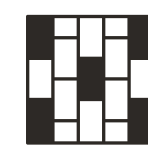
1. enlarge sidewalks to support social distancing



2. park-like seating encourages congregation but not crowding



3. elevated site connectivity encourages pedestrian passage to adjacent sites and creates an identifiable element



4. large scale paver patterns remind us to socially distance



5. traffic calming devices for safe passage to adjacent sites

How do you see the future of 'distanced' collaboration? How will this affect our public outdoor spaces?

EXTERIOR AMENITIES

A healthy building promotes health and wellbeing by extending the workplace to the outdoors. Examples such as a large rooftop amenity space(s) emphasize this idea by extending views to the surrounding city or landscape, and encouraging people to explore alternative spaces to work, meet and collaborate.



1. rooftop or elevated terraces mingled with semi-private spaces



2. outdoor work and exercise spaces



3. community garden(s)



4. sheltered + heated outdoor work areas

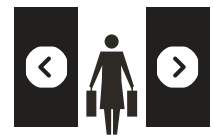


5. WiFi everywhere

Working from home has allowed work relationships to converge with private ones. What relationships could force their way into workspaces of the future?

ENTRANCE / LOBBY STRATEGIES

Core and shell considerations for providing a safe and healthy office environment begins with a focus on access to the building. Safety is communicated by providing temperature monitoring systems, minimizing hand touch sequencing and integrating antimicrobial materials to minimize the transmission of contaminants.



1. touchless automatic doors



2. antimicrobial coatings on touch surfaces



3. hand sanitizing stations



4. rapid, non-contact temperature monitoring system

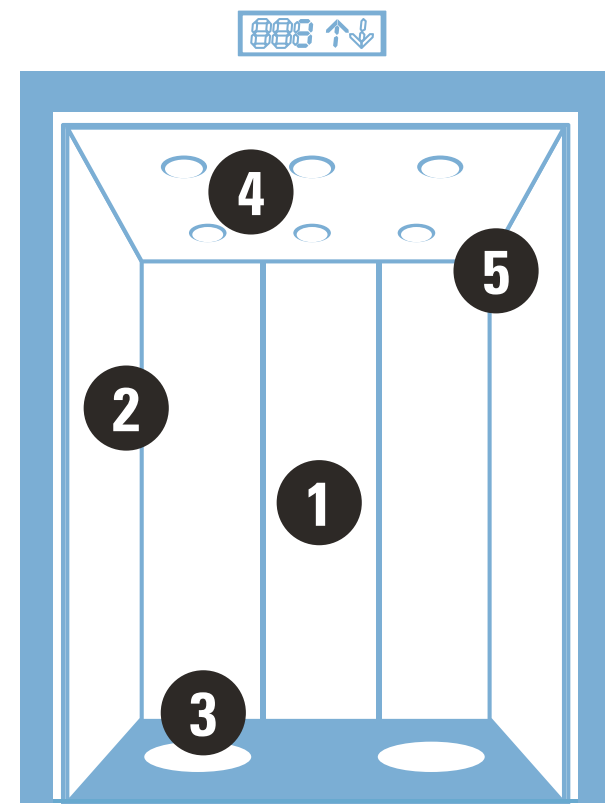


5. one way circulation

Could your home become your 'home base' and the office a more supportive, collaborative or secondary role?

ELEVATOR STRATEGIES

As elevators continue to be the main vehicle for vertical circulation, limiting close contact for uses can be addressed with sequencing and operational considerations. Within the cab, increasing airflow and UV air filtration can reduce airborne transmission while UV-C lighting during inactive periods can be used to reduce surface contaminants.



1

1. remove guardrail to reduce touch surfaces

2

2. no buttons, foot buttons or voice activation for elevator controls

3

3. articulated floor patterns to identify personal space

What happens to the elevator pitch?

4

4. UV-C lighting during unoccupied times to 'clean' the elevator cab

5

5. increased air flow + UV filter to reduce airborne transmission

"THE OCCUPANT DENSITY IN BUILDINGS—INFLUENCED BY BUILDING TYPE AND PROGRAM, OCCUPANCY SCHEDULE, AND INDOOR ACTIVITY—FACILITATES THE ACCRUAL OF HUMAN-ASSOCIATED MICROORGANISMS."

https://www.architectmagazine.com/technology/reducing-covid-19-transmission-in-the-built-environment_o

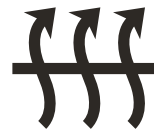


ENVELOPE + SYSTEMS STRATEGIES

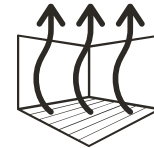
Ventilation and Filtration are at the heart of addressing aerosol transmission of disease. Advanced microbial filtration and elimination is a positive investment in the active HVAC systems of a building. By considering operable windows or winter gardens as part of the building envelope, natural ventilation can become part of a holistic air circulation system.



1. natural ventilation + increased system airflow



2. advanced microbial filtration + elimination



3. low level conditioned air distribution and high level returns increase airflow and reduce harmful contaminants



4. circadian rhythm lighting system



5. exterior stairs

Can design cues influence our behaviors?

RESTROOM STRATEGIES

Restrooms have one of the highest touch point ratios in a building and therefore require focused strategies to mitigate contamination. By introducing touchless automated fixtures throughout and challenging conventional door hardware, contact points are reduced. Sanitization methods such as UV light stall systems and increased frequency of cleaning also contribute to a more healthful experience.



1. automated raise / lower / cleaning toilet seat



2. foot / arm pull door levers



3. UV stall sanitization



4. door openers with touchless switches



5. no touch paper towels dispensers (proven to be more hygienic than other options)

How does a building message safety?

OPERATIONAL STRATEGIES

Appointed design considerations for core and shell, engineering systems and site planning work together to create a healthy and safe work environment. Together with operational, occupancy and behavioral strategies, management teams and users can align their efforts for optimal results.



1. UV cleaning robot



2. bio-defensive cleaning processes



3. full time sanitization crew



4. building automation technology



5. highest level of building system maintenance

How do we socialize going forward?



WELL DESIGN

The WELL Building Standard is the premier standard for buildings, interior spaces and communities seeking to implement, validate and measure features that support and advance human health and wellness. WELL was developed by integrating scientific and medical research and literature on environmental health, behavioral factors, health outcomes and demographic risk factors that affect health with leading practices in building design, construction and management.

www.wellcertified.com



“IT HAS BECOME INCREDIBLY IMPORTANT TO ME TO UNDERSTAND HOW THE ENVIRONMENTS I’M CREATING HAVE AN IMPACT ON THE PEOPLE THAT THEY ARE BEING CREATED FOR.”



– **CAROLYN RICKARD-BRIDEAU**, AIA, LEED BD+C, WELL AP (PROVISIONAL)
CORPORATE PRESIDENT + PARTNER
LITTLE

fitwel™ FITWEL

Fitwel is a building rating system for commercial interiors, multi-tenant and single-tenant existing buildings that provides guidelines on how to design and operate healthier buildings. Fitwel can also be used as a road map to aid the design of new buildings being constructed.

www.fitwel.org



LEED

LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world. Available for virtually all building types, LEED provides a framework for healthy, highly efficient, and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership.

www.usgbc.org/leed



SUSTAINABLE SITES

SITES-certified landscapes help reduce water demand, filter and reduce storm-water runoff, provide wildlife habitat, reduce energy consumption, improve air quality, improve human health and increase outdoor recreation opportunities.

www.sustainablesites.org



LIVING BUILDING CHALLENGE

The Living Building Challenge is a philosophy, certification, and advocacy tool for projects to move beyond merely being less bad and to become truly regenerative. All Living Building Challenge projects must be holistic—addressing aspects of all seven performance categories, or “petals”, through the Core Imperatives: place, water, energy, health + happiness, materials, equity and beauty.

www.living-future.org/lbc



PASSIVE HOUSE

Passive building comprises a set of design principles used to attain a quantifiable and rigorous level of energy efficiency within a specific quantifiable comfort level. “Optimize your gains and losses” based on climate summarizes the approach. To that end, a passive building is designed and built in accordance with these five building-science principles:

- Employs continuous insulation throughout its entire envelope without any thermal bridging.
- The building envelope is extremely airtight, preventing infiltration of outside air and loss of conditioned air.
- Employs high-performance windows (double or triple-paned windows depending on climate and building type) and doors - solar gain is managed to exploit the sun’s energy for heating purposes in the heating season and to minimize overheating during the cooling season.
- Uses some form of balanced heat- and moisture-recovery ventilation.
- Uses a minimal space conditioning system.

www.phius.org/home-page

BIOPHILIA

Biophilic design principles are key concepts that help create and promote a healthy work environment. By incorporating nature into the office and tapping in to human instinctual experiences such as perch and rescue, biomimicry or circadian rhythms, the work environment is enhanced with increased results in health and productivity.



GHESKIO HOSPITAL
Mass Design Group (Haiti)

MINIMIZE GERM TRANSMISSION AND USE OF PASSIVE VENTILATION

Bamboo screens covered in bougainvillea vines create visual privacy for the outdoor consultation spaces adjacent to patient rooms, allowing for conversations between patients and medical staff in the open air where transmission risk is lower.



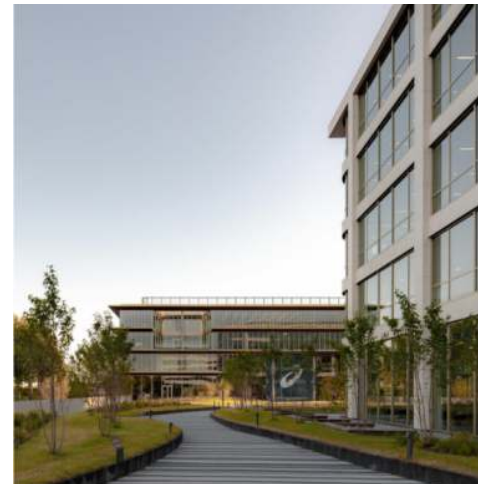
VITALCUBE MEDICAL OFFICE
ARK-architecture + AUDA (Tunisia)

BIOPHILIA AND INFUSION OF NATURE

For this specific type of project that will welcome patients in search of healing, the concept presents a positive contribution on the psychology of the operators. Inspired by nature, three main elements - Water, Vegetation and Sun - are reflected on the mass of the project, dividing it into three cubic pavilions.

ACTIVE DESIGN

The Center for Active Design has created design guidelines for macro urban and building design strategies that promote active living where we work, live and play. These guidelines begin by enlivening the pedestrian environment, providing building facilities that support exercise, and strategically placing stairs to be more prominent and inherently usable.



ASICS' REGIONAL HEADQUARTERS COMPLEX
Red Company (the Netherlands)

ACTIVITY BASED DESIGN AND CAPTURING PARK LIKE GARDEN

This integrated public space features an outdoor area designed to boost feelings of wellness and relaxation while bringing the worlds of fitness and nutrition together.



MAGYAR TELECOM
TIBA Studio (Budapest)

INCREASE COMMUNAL AREAS AND DIFFERENTIATE THEM FROM WORKING ZONES

These areas help employees relax during the busy day, increasing general well-being, and offering an opportunity for work socialization in the open air.



CUBE
3XN (Berlin)

INTEGRATION OF TECHNOLOGY FOR NEXT GENERATION SMART BUILDING

This next-generation smart building sets new standards for the integration of intelligent digital user interfaces. Users are invited to interact with the building through a 'bring your own device' approach.

THANK YOU.

