



Creating a Healthy Work Environment Amid COVID-19

WELL® features throughout a San Francisco Tech Firm

At BCCI, we believe it takes healthy employees to run a healthy business. We are committed to providing workspaces for our employees and clients that foster sustained wellbeing. During the COVID-19 pandemic, BCCI's Sustainability Team has focused on leading industry research regarding how our built environment can contribute to a reduced risk of viral spread and promote overall resilience of occupants. We have focused on the WELL Building Standard v2 features that building owners, managers, occupiers, engineers, and designers can implement to better prevent themselves and their clients against the pandemic.

A safer office with the WELL Building Standard

Air Quality

According to the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC), COVID-19 is transmitted through the air via respiratory droplets when an infected person coughs or sneezes. Consequently, improving ventilation and filtration are essential to reduce the spread of the virus indoors.¹

Air Filtration

WELLv2 Air Concept Feature A12 ensures that the outdoor air supply serving indoor spaces meets specific MERV (Minimum Efficiency Reporting Value) level filter ratings of PM2.5, small particulate matter that can affect overall health and carry pollutants such as the novel coronavirus.

Improving air filtration in HVAC systems with MERV 13 is an effective way to capture airborne particles³, as these filters can capture up to 90% of small particles and pollutants, including PM2.5. While MERV 13 filters do not capture particles as small as the COVID-19 virus, they do capture airborne contaminants that are likely bonded with the virus. Where building filtration cannot install MERV 13 filters, spaces can supplement by installing stand-alone air purification systems.

Using high-efficiency particulate air (HEPA) filters in an air purifier can also filter out particles bonded with the virus. However, it is important to note that higher fan settings with air purifiers are a more effective way to capture pollutants.



Ventilation

WELLv2 Feature A03 ensures that workplace ventilation complies with ASHRAE 62.1-2010 to demonstrate a healthy ambient air quality in accordance with the common air pollutants listed by the Environmental Protection Agency (EPA). ASHRAE is a global organization focused on advancing human well-being through building systems, energy efficiency, indoor air quality, refrigeration, and sustainability. Increased ventilation ensures that the air we breathe in our indoor environments is flushed with clean outdoor air to reduce the risk of lingering contaminants and airborne viruses.

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According to the Delos research, air pollution may exacerbate the spread of COVID-19². Carbon dioxide (CO₂), a key indicator of air freshness, should not exceed 600-800 ppm in indoor air. At levels over 600ppm, other harmful air pollutants are likely present. These air pollutants, such as particulate matter (PM_{2.5}) and nitrogen dioxide, have been linked to increased respiratory risks, which can result in a higher risk of fatality if COVID-19 is contracted. One of the ways to reduce pollutants in indoor air is to increase ventilation.



Improved ventilation can be achieved by increasing the outdoor air supply through the HVAC system or by supplementing with passive outdoor ventilation from open windows or doors. Buildings can also run the HVAC 24/7 to further increase the amount of outdoor air brought indoors. While constantly running HVAC can improve indoor air quality, consider using clean energy sources so that outdoor air is not adversely affected by pollution caused by increased use and fossil fuels.²

Humidity

WELLv2 Feature T07 and Thermal Comfort concept ensure that our HVAC systems maintain an optimal humidity level in our indoor environments of about 40-60%. According to research by the Healthy Buildings Program at Harvard University, viruses survive better in low-humidity environments and travel slower at 40% and above.⁴



To curb the spread viruses, indoor air humidity levels should range between 40-60%. This is also in line with ASHRAE 55 guidelines for thermal comfort recommended by LEED. The potential adverse effects of increased humidity, mold and mildew growth, can lead to poor indoor air quality. Ideally, the building's HVAC is built to optimize humidity levels, and humidity is tracked per the medical industry's recommendation of favorable measures.

Increasing filtration and ventilation is an effective way for buildings to help fight the spread of COVID-19 and other airborne viruses; however, this is not the only way we need to prepare our buildings for sustained occupant health.⁵

Cleaning

Enhanced cleaning is imperative when returning to the workplace during the COVID-19 pandemic. With an increase in cleaning frequency, we must also be mindful of the cleaning products we are introducing into our indoor environments, as many contain toxic chemicals that can harm human health.



For companies pursuing WELL or looking for safer disinfectants, BCCI's Sustainability Team has vetted the EPA list of disinfectants proven to kill SARS-CoV-2 against the WELLv2 Materials Concept Feature X09 guidelines for cleaning products.

Working with janitorial contractors and facilities management to create specific cleaning protocols following the latest CDC guidelines for cleaning⁶ and WELLv2 Materials Concept Feature X09 can help ensure spaces remain healthy and disinfected. Offices should identify a competent individual to be trained to use the disinfectants properly.⁷

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Handwashing

WELLv2 Water Concept Feature W08 ensures that all sinks are designed to create a healthy distance from the flow of water to the perimeter and bottom of the sinks, limiting the exposure and potential for contamination when washing hands. Paper towels at all handwashing stations ensure clean hands are properly dried as moisture can contribute to bacterial growth.



As a reminder, washing hands with soap and water for at least 20 seconds kills viruses.

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Maintaining Sustainability

While proper PPE and cleanliness have been essential during this pandemic, we need to be mindful of sustainability. Continue to reduce ongoing waste generated in the workspace such as breakroom cutlery, cups, and plates for employee use. It is not necessary to only utilize single-use items such as disposable dishware and cutlery or water bottles instead of filtered water taps providing healthy water per WELLv2 Water Concept Feature W06. Rather, increase cleaning supplies around common areas and shared resources such as water taps and coffee dispensers¹² to help eliminate contaminants.

Another significant contributor to a company's carbon footprint is commuting to work¹³. Flexible work schedules and an increase in telecommuting will help lower the overall carbon footprint of your organization. WELLv2 Movement Concept Feature V04 provides bike storage for commuters and helps reduce carbon footprint while simultaneously providing an opportunity for exercise. This can be a great alternative to driving, assuming the distance to the office is reasonable.



Wellbeing

At least one in six workers experience common mental health problems, including anxiety and depression.⁸ A gradual return to work, information regarding new office protocols, and creating an open dialogue about needs and expectations are all important to maintain workplace wellness. Make sure employees are aware of employer-supported policies around mental health per WELLv2 Mind Concept Feature M01.

Reducing stress results in overall higher immunity, which is imperative when returning to the workplace.¹⁰ Increased communication around new protocols and procedures can ease anxiety for employees.⁷ Mental health is key to maintaining a healthy and happy workforce. WELLv2 Mind Concept Feature M07 focuses on designing restorative spaces such as lounge spaces or quiet rooms for employees to get a moment of respite.



While adjusting to the next normal, maintaining physical health and well-being is vital for resilience. While working from home and when returning to the office, keep hydrated, maintain good sleeping habits, eat healthily, and exercise¹¹. WELLv2 Movement Concept Features V01 and V03 support an active workforce through active design and circulation. As many employees are eager to get back to work, it is still critical to practice physical distancing while maintaining social connections for mental wellbeing.¹¹

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References

1. ASHRAE: Statement on Relationship between COVID-19 and HVAC in Buildings. April 20, 2020 - <https://www.ashrae.org/about/news/2020/ashrae-issues-statements-on-relationship-between-covid-19-and-hvac-in-buildings>
2. Can Air Pollution Exacerbate COVID-19? Carolyn Swope, MPH and Regina Vaicekonyte, MS | April 23, 2020 - https://delos.com/coronavirus/can-air-pollution-exacerbate-covid-19?utm_source=hs_email&utm_medium=email&utm_content=86917323&_hsenc=p2ANqtz--GzRORzflScxNH45FSksoesxb2pNGMSvKRLBwl6mRQd9VzS-pJJCjiJ33z3pDGCuXdE9KS1i9PA1W5V8JggPW0xjq9Rg&_hsmi=86917323
3. <https://www.ashrae.org/news/ashraejournal/guidance-for-building-operations-during-the-covid-19-pandemic>
4. <https://www.bbc.com/future/article/20200327-can-you-kill-coronavirus-with-uv-light>
5. <https://www.nafahq.org/covid-19-corona-virus-and-air-filtration-frequently-asked-questions-faqs/#Can%20building%20air%20filtration%20protect%20me%20from%20getting%20COVID-19?>
6. <https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html>
7. Cushman and Wakefield Recovery Readiness, How to guide for reopening the workplace v1.0
8. <https://www.mind.org.uk/workplace/>
9. <https://www.medicalnewstoday.com/articles/how-humidity-may-affect-covid-19-outcome>
10. <https://resources.wellcertified.com/webcasts/places-matter-for-mental-resilience/>
11. <https://americas.uli.org/event/webinar-confronting-covid-19-healthy-buildings-optimizing-mental-health/>
12. https://www.integralgroup.com/news/covid-19-workplace-wellness-recording/?utm_source=%2AIntegral+Group+Email+List&utm_campaign=de3e405d35-EMAIL_CAMPAIGN_2020_04_01_02_44_COPY_01&utm_medium=email&utm_term=0_26feaf88-de3e405d35-518208809&mc_cid=de3e405d35&mc_eid=b024735bfd
13. <https://www.c2es.org/content/reducing-your-transportation-footprint/>
14. https://www.nytimes.com/2020/03/04/opinion/coronavirus-buildings.html?fbclid=IwAR2C3uoAAM4c6OzibJB2r5Qk8rlHJ_46_lC9ktg3B-R3gshP1pstqghhOkE