



NATIONAL
MULTIFAMILY
HOUSING
COUNCIL

COVID-19 Resource Webinar

Risks and Return: A conversation about workplace and property readiness, Part 2

May 13, 2020

Mission Statement

NMHC is the place where the leaders of the apartment industry come together to guide their future success. With the industry's most prominent and creative leaders at the helm, NMHC provides a forum for insight, advocacy and action that enable both members and the communities they build to thrive.

Webinar Information

- To ensure good sound quality, all attendees will be muted during the webinar.
- To ask a question: type your question in to the **Question Box** on your control panel. NMHC staff will review and present your question to the speakers at the end of the presentation as time allows.
- Today's presentation is being recorded and the NMHC information will be posted to the website.
- For further information on the topics covered within this webinar, please visit <https://www.nmhc.org/>.

This webinar is provided for informational purposes only. This content is not investment or legal advice. NMHC assumes no liability for the use of the information provided in this webinar. The views expressed during this webinar are those of the individual presenters and not NMHC as a whole. Please consult with your own counsel for legal advice.

Webinar Agenda

- Welcome and Overview
 - Rick Haughey, Vice President, Industry Technology Initiatives
- NMHC COVID-19 Advocacy Update
 - Kevin Donnelly, Vice President, Government Affairs
- Presentations – 10 minutes each
 - Chris McKee, President, The Franklin Johnston Group - moderator
 - Antonia Cardone, Sr. Managing Director, Workplace Strategy & Change Management, Cushman & Wakefield
 - Vincent J. Matarazzo, Commercial Systems Specialist, Building Technologies & Solutions, Johnson Controls
 - Shawn Ryan, Director, Homeland Security Research Program, Office of Research and Development, U.S. Environmental Protection Agency
- Moderated Q&A
- Closing Remarks

COVID-19 Relief Packages

Phase 1

H.R. 6074

- Expanded the Small Business Administration disaster lending program.

Phase 2

H.R. 6201

- Expanded emergency family medical and paid sick leave for employees.

Phase 3

S. 3548

- Coronavirus Aid, Relief, and Economic Security Act (CARES Act)

Phase 3.5

H.R. 266

- Paycheck Protection Program and Health Care Enhancement Act.

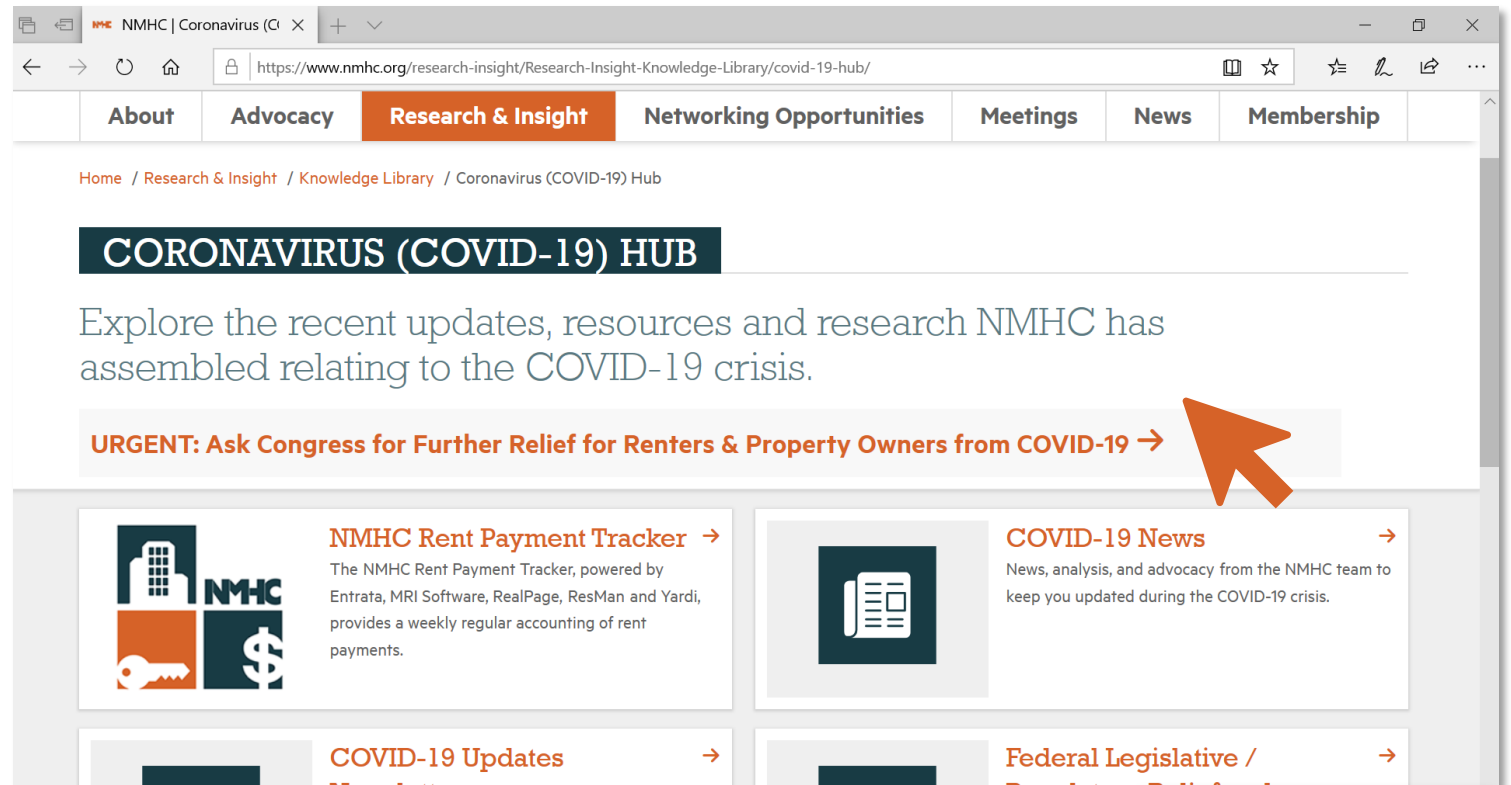
Phase 4

NMHC Priorities:

- Emergency housing assistance fund for renter households
- Aligning mortgage forbearance and Federal eviction moratoriums.
- Expand the SBA's Paycheck Protection Program to include all multifamily businesses
- Liability Shield & Pandemic Risk Insurance Act (PRIA)

NMHC Member Call to Action

Visit NMHC's COVID-19 Hub or find it directly at [nmhc.org/housing-relief](https://www.nmhc.org/housing-relief)



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RECOVERY READINESS RETURN TO THE OFFICE

NMHC Webinar
May 13, 2020



COVID19 WORKPLACE RESPONSE DASHBOARD



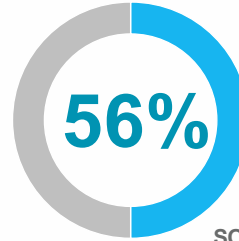
2.7M data points

7 Key Factors

1. Inspire through culture
2. Leverage tech to collaborate

'Renew'

Lagging 10-15% behind



average office
USE pre COVID19

SOURCE: CUSHMAN & WAKEFIELD

EPISODE 1

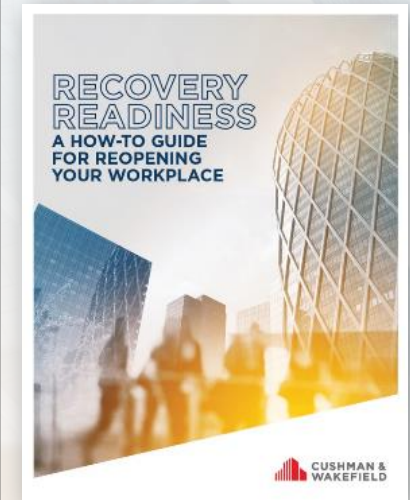


LISTEN TO EPISODE 1



RECOVERY READINESS

How to Guide
A Living Document



CushmanWakefield.com



1M people
800M sq.ft.
10k companies

Back to work in
China post C19



New tools:

XSF@home



Remote working
calculator



"It's not just
an office.
It's an eco-
system"

By CUSHMAN & WAKEFIELD

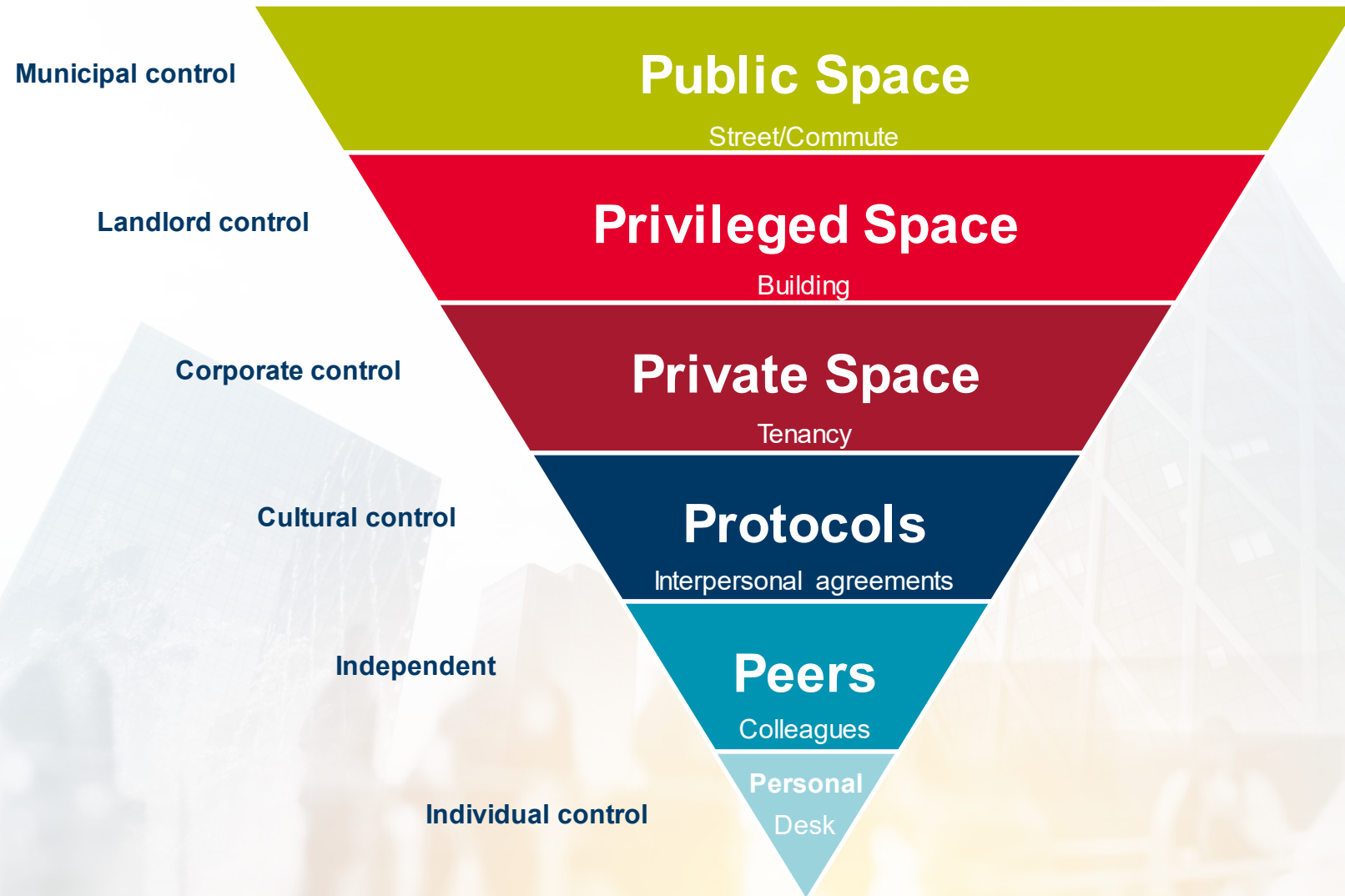
eBook



Prototype
Experiment

LAYERS OF CONTROL

WHERE ARE YOU?



SHORT TERM: THE SAFE SIX WORKPLACE READINESS ESSENTIALS

1. PREPARE THE BUILDING

2. PREPARE THE WORKFORCE

3. CONTROL ACCESS

4. CREATE A SOCIAL DISTANCING PLAN

5. ↓ TOUCH POINTS & ↑ CLEANING

6. COMMUNICATE FOR CONFIDENCE

THE SAFE SIX: WORKPLACE READINESS ESSENTIALS

The migration from furloughed and Work From Home (WFH) workforce back to places of business will look different for every organization. How can real estate owners most effectively prepare their assets for the return of building occupants? And how can employers make sure they are prepared to receive their workforce—and make sure their employees are prepared? Faced with many of the same challenges, owners and occupiers have a unique opportunity to come together, following a handful of operational guiding principles to help navigate the return to the workplace:



PREPARE THE BUILDING

Cleaning plans, pre-return inspections, HVAC & mechanicals checks

- Ensure safety of all workers
- Ready Mechanical, HVAC, Fire/Life Safety systems
- Clean with products from approved lists from governing authorities
- Ensure compliance with owner/Landlord requirements policies
- Engage vendors in back-to-work plan
- Review and prepare plans regarding changes to cleaning scope or any additional services
- Ensure all inspections, remediations, repairs and communications are complete before reopening



PREPARE THE WORKFORCE

Policies for deciding who returns, shift/schedule management, employee communications

- Mitigate anxiety of returning to the workplace through change management planning and communications
- Consider why people can benefit from returning to work
 - Productivity from proximity to colleagues; socialization amenities; and work tools & resources
- Consider why people can benefit from continued WFH
 - Health and family priorities; reduced commute time; technology enables WFH without loss of productivity
- Develop and execute detailed plan on how to return to work
- Advise on alternate means of safe commuting
- Prepare and post reminders of social distancing and cleaning protocols



CONTROL ACCESS

Protocols for safety and health checks, building reception, shipping/receiving, elevators, visitor policies

- Control the entry points including deliveries
- Reconfigure gathering and lobby areas for social distancing
- Install plexiglass shields as appropriate
- Clearly communicate building protocols through signage and floor markings
- Consider temperature screening
- Provide sanitizer, wipes, PPE as appropriate
- Disable touchscreens



CREATE A SOCIAL DISTANCING PLAN

Decreasing density, schedule management, office traffic patterns

- Consider phasing based on roles and priorities, including temp workers if needed
 - Alternating work weeks in the office and WFH
 - Staggered arrival/departure times
 - Enable teams to negotiate their own 'in-office' schedules
- Introduce planning to support social distancing/ 6 Feet Office Protocols
- Monitor space usage
- Specify seating assignments for employees to ensure staff adheres to minimum work distances
- Redesign spaces, alternate desk/chair use, etc. for social distancing
- Add panels between desks including height adjustable panels for sit/stand desks
- Enforce stringent cleaning protocols for shared spaces
- Reduce capacity of spaces—e.g., remove some chairs from large conference rooms
- Prohibit shared use of small rooms and convert them to single-occupant use only
- Designate and signpost the direction of foot-traffic in main circulation paths



REDUCE TOUCH POINTS & INCREASE CLEANING

Touchless ingress/egress, clean desk policy, food plan, cleaning common areas

- Maintain enhanced cleaning and disinfecting practices
- Supply disinfectants near or on each desk or work area, particularly those that are shared
- Remove food/beverages - consider restocking with single-serving items
- Enable DIY cleaning through hand sanitizer, disinfectant wipes, and other such products
- Sanitize all workspace areas, including office, conference room, breakroom, cafeteria, restroom, and other areas prior to opening. Ensure appliances/equipment are in working order
- Limit in person meetings
- Consider low-touch or no-touch switches, doors, drawers and other fittings
- Remove high-touch shared tools such as whiteboard markers, remotes controls, etc.
- Institute a clean desk policy
- Create secured, designated storage areas for personal items
- Designate a specific enclosed room to isolate of any person identifying themselves with symptoms



COMMUNICATE FOR CONFIDENCE

Recognize the fear in returning, communicate transparently, listen/survey regularly

- Ensure leadership alignment on re-entry
- Establish two-way communication
- Ensure a trusting and transparent culture
- Clearly set employee expectations, with an emphasis on making them feel secure
 - Return to work/WFH policies and incentives
 - Guest and visitor policies
 - Employee travel policies
 - HR policies regarding illness, support for caregivers, etc.

MOST IMPORTANTLY

Constantly reinforce hand washing, social distancing and staying home when ill

SIX FEET OFFICE PRINCIPLES

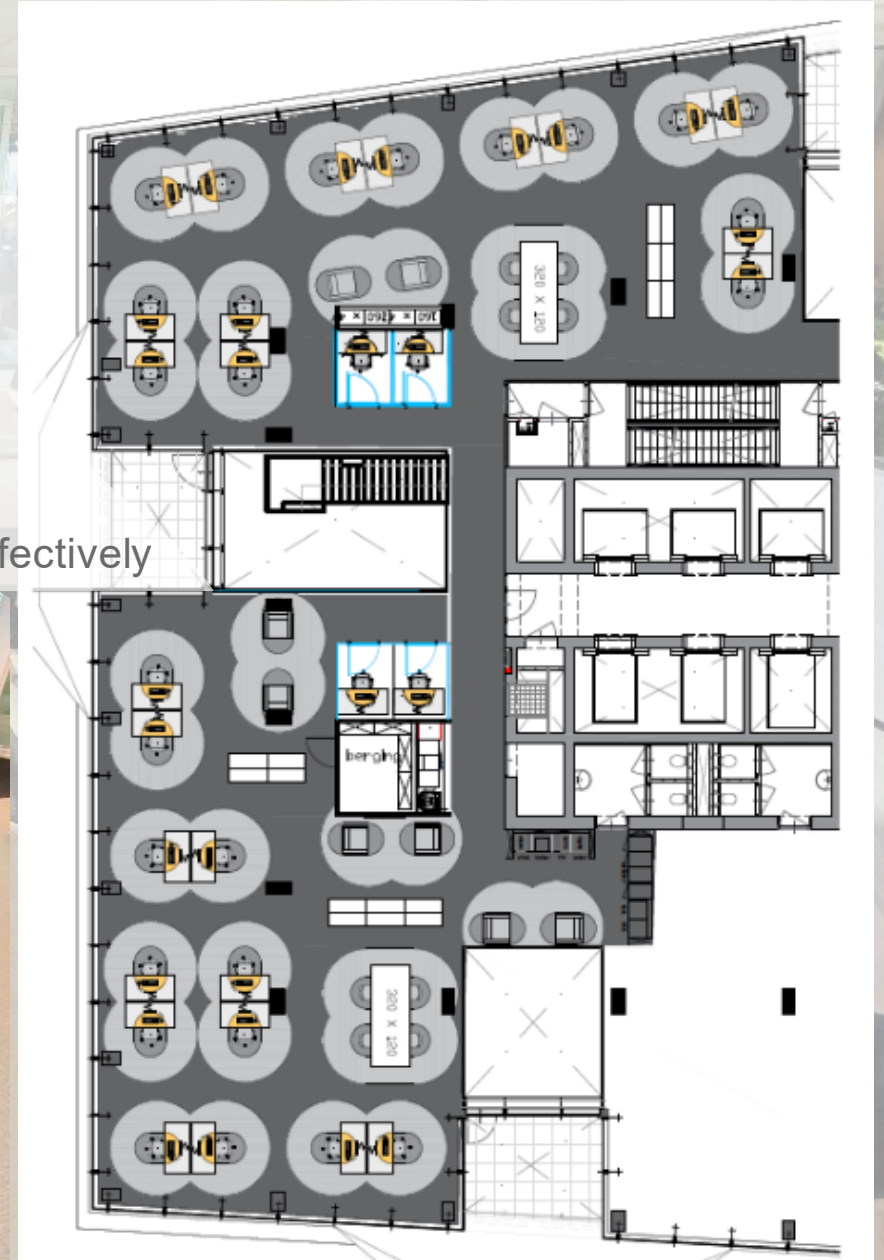
6 Feet Quick Scan: Analysis of current work environment

6 Feet Rules: A set of simple and clear protocols that put safety first

6 Feet Routing: A visually displayed circulation route

6 Feet Workstation: Addressing distances, surfaces and panels

6 Feet Experience: Change management, training and guidance to operate effectively



WORKPLACE ASSESSMENT

SOCIAL DISTANCING, OCCUPANT CAPACITY, CIRCULATION, TOUCHPOINTS

PANTRY

- 5 **Distancing:** remove stools; consider single use occupancy.
Touchpoints: use gloves to access shared equipment; support with a day porter; pre-packaged food; single use supplies

OPEN SEATING

- 4 **Distancing:** significant furniture reduction: 6 seats can be used simultaneously while respecting distancing.
Touchpoints: disinfectant wipes available for cleaning of surfaces.

COMMUNITY SPACE

- 3 **Distancing:** significant seat reduction: seats used as workplaces.
Circulation: clockwise internal flow; respect others' space.
Touchpoints: disinfectant wipes available for cleaning of surfaces.

ENTRY | EGRESS

- 1 **Distancing:** elevator lobby – coordinate entrance /egress to respect social distancing. Consider up and down elevators only; consider pinch points.
Note: freight elevator could be used but creates a pinch point for bathroom access.
Occupant volume: avoid high occupancy and reduce traffic by staggering arrival and departures.
2 **Touchpoints:** new gloves to be worn in elevators
Hygiene: employees to wear masks upon entering and while circulating on the floor. Pick up/disposal of PPE to be available upon entering the space.



CONFERENCE ROOMS

- 6 **Distancing:** capacity reduction: 12 to 5 people.
Circulation: clockwise flow into the conference room; occupants take the furthest seat first; consider queuing protocol prior to entering the room.
Touchpoints: prop doors open (or remove). Shared tech and writing materials only to be used with gloves.

INDIVIDUAL SEATS

- 7 **Distancing:** workstation occupancy reduced for distancing and secondary circulation capacity; clear vertical dividers to be installed between workstations; remove guest seating. Convert large offices to accommodate two desks yet maintain required distance. Doors to be propped open or removed.

BATHROOMS

- 8 **Occupant Volume:** each bathroom to be considered single occupant and possibly unisex.
*pinch point for occupants exiting the space.
Hygiene: trash bins placed next to doors. Wear masks.

PINCH POINTS

- Indicates friction points with higher traffic volume and proximity to adjacent traffic flow which will need to be considered and resolved.



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Managing Director
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Operation, Upgrade and Air Cleaning of HVAC Systems

Relevant to Coronavirus pandemic

INSPECTION
RISK MITIGATION
MEASUREMENT

The power behind **your mission**

HVAC SYSTEMS

VRV INDOOR UNITS



PTAC's



Custom Air Handler units



BOILERS

Rooftop units



VRF systems



Chillers



Johnson Controls Rooftops 3 to 150 ton!

Highly Featured for Efficiency, Performance, and Safety!

Industry leading range of airflow options

Modulating gas heat

AMCA 511 certified low leak fresh air economizers

Modulating power exhaust

Modulating hot gas reheat for Humidity Control

Smart Equipment controls

Large Filter Racks (PRE & POST FILTRATION)

Manual Damper

- 0-25% open or 0-100% open

Motorized Damper

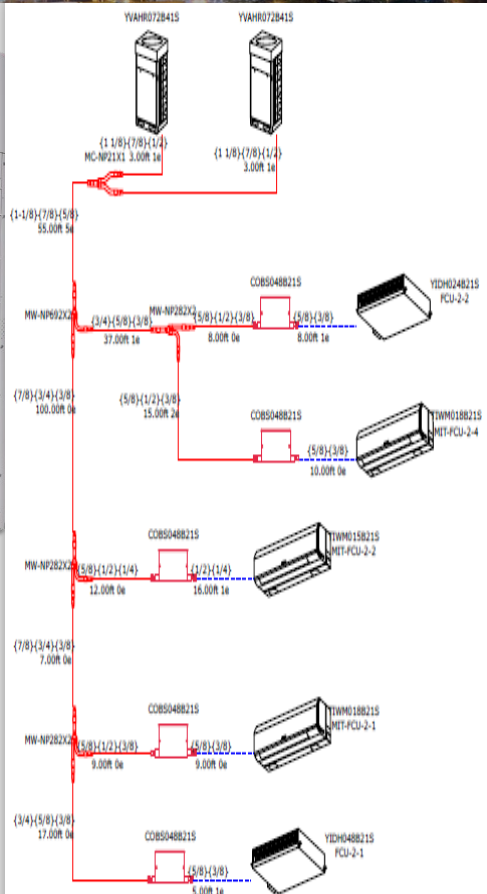
- 0-25% open or 0-100% open

CO2 Sensors





YORK
VRF



Johnson Controls

Air Cleaning Methods and COVID-19 virus control

- Air Cleaning Methods

- Filtration – Upgrade to Highest MERV Rating Possible.
- UV-C - UVGI
- Bi-Polar Ionization
- Humidity Levels Between 40% - 60%
- Coil & Duct Cleaning
- Increase Outside Air Intake
- Increase Use of Rooftop and DOAS Equipment
- Increase Use of VRF and Ductless Products
- Operate at Positive Pressurization
- Verify Exhaust Systems are Working Properly
- Consider Constant or Longer Run Times
- Measure Indoor Air Quality Levels / Track with BMS System if Possible
- Monitor Fresh Air Intake to Verify Quality / Have a Method of Quickly Shutting Outside Air in an Emergency



UVGI (Ultraviolet Germicidal Irradiation)

Active line-of-sight technology, meaning that it **only affects areas directly exposed to the light source** (i.e. the bulbs). This includes the direct airstream and surfaces.

- Any organic-based cell exposed to UV-C absorbs it at the molecular level... The **organism is now destroyed & ineffective**. It is **unable to reproduce & unable to infect**.
- Cannot be used in occupied areas.
- Effectiveness depends on the UVGI dosage, exposure time, and humidity level
 - Most effective at low RH (<30%) but slightly less effective at higher RH

Image source: <https://www.uvdi.com/literature-downloads/>



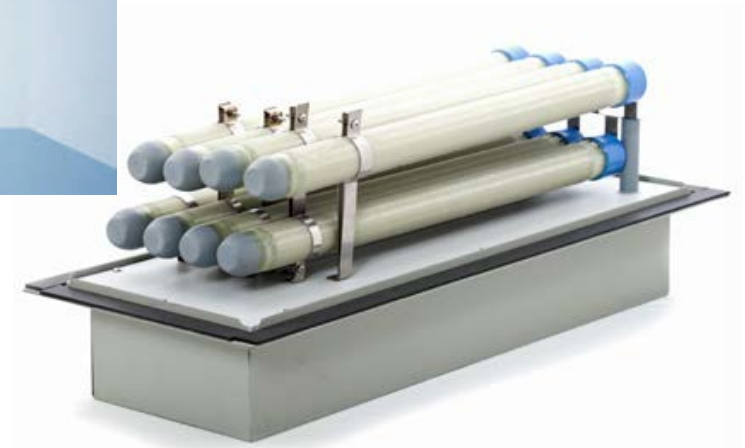
Image source: <https://uvhero.com/does-uv-light-kill-mold/>

Air Cleaning Methods and COVID-19 virus control

Bi-polar ionization

Active air treatment option that affects **contaminants and microbes in the air** and **surfaces** - even hidden surfaces

- Works by **flooding the air with millions of both negatively and positively-charged ions** that react with microbes
- Ionization causes smaller particles to **coalesce into larger particles** (because of opposite charges), which **enhances the effectiveness of static filters**
- Has not shown a dependence on humidity levels
- Can be used in occupied areas





MONITOR - MEASURE – REPORT - UTILIZE THE BUILDING AUTOMATION SYSTEM - CREATE TREND REPORTS

Thank you

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EPA and CDC's Reopening Guidance for Cleaning and Disinfecting Public Spaces, Workplaces, Businesses, Schools, and Homes

Shawn Ryan and Gina Perovich
U.S. Environmental Protection Agency



Cleaning and Disinfection

GUIDANCE FOR CLEANING & DISINFECTING

PUBLIC SPACES, WORKPLACES, BUSINESSES, SCHOOLS, AND HOMES



SCAN HERE
FOR MORE
INFORMATION

1 DEVELOP YOUR PLAN

DETERMINE WHAT NEEDS TO BE CLEANED. Areas unoccupied for 7 or more days need only routine cleaning. Maintain existing cleaning practices for outdoor areas.

DETERMINE HOW AREAS WILL BE DISINFECTED. Consider the type of surface and how often the surface is touched. Prioritize disinfecting frequently touched surfaces.

CONSIDER THE RESOURCES AND EQUIPMENT NEEDED. Keep in mind the availability of cleaning products and personal protective equipment (PPE) appropriate for cleaners and disinfectants.

Follow guidance from state, tribal, local, and territorial authorities.

2 IMPLEMENT

CLEAN VISIBLY DIRTY SURFACES WITH SOAP AND WATER prior to disinfection.

USE THE APPROPRIATE CLEANING OR DISINFECTANT PRODUCT. Use an EPA-approved disinfectant against COVID-19, and read the label to make sure it meets your needs.

ALWAYS FOLLOW THE DIRECTIONS ON THE LABEL. The label will include safety information and application instructions. Keep disinfectants out of the reach of children.

3 MAINTAIN AND REVISE

CONTINUE ROUTINE CLEANING AND DISINFECTION. Continue or revise your plan based upon appropriate disinfectant and PPE availability. Dirty surfaces should be cleaned with soap and water prior to disinfection. Routinely disinfect frequently touched surfaces at least daily.

MAINTAIN SAFE PRACTICES such as frequent handwashing, using cloth face coverings, and staying home if you are sick.

CONTINUE PRACTICES THAT REDUCE THE POTENTIAL FOR EXPOSURE. Maintain social distancing, staying six feet away from others. Reduce sharing of common spaces and frequently touched objects.

For more information, please visit **CORONAVIRUS.GOV**



MAKING YOUR PLAN TO CLEAN AND DISINFECT

Cleaning with soap and water removes germs, dirt, and impurities from surfaces. It lowers the risk of spreading infection.

Disinfecting kills germs on surfaces. By killing germs on a surface after cleaning, it can further lower the risk of spreading infection.



Is the area indoors?

YES

It is an indoor area.

NO

Maintain existing cleaning practices.

Coronaviruses naturally die in hours to days in typical indoor and outdoor environments. Viruses are killed more quickly by warmer temperatures and sunlight.

Has the area been occupied within the last 7 days?

YES

Yes, the area has been occupied within the last 7 days.

NO

The area has been unoccupied within the last 7 days.
The area will need only routine cleaning.



Is it a frequently touched surface or object?

YES

Yes, it is a frequently touched surface or object.

NO

Thoroughly clean these materials.
Consider setting a schedule for routine cleaning and disinfection, as appropriate.



What type of material is the surface or object?

Hard and non-porous materials like glass, metal, or plastic.

Visibly dirty surfaces should be cleaned prior to disinfection.

Consult EPA's list of disinfectants for use against COVID-19, specifically for use on hard, non-porous surfaces and for your specific application need. More frequent cleaning and disinfection is necessary to reduce exposure.

Soft and porous materials like carpet, rugs, or material in seating areas.

Thoroughly clean or launder materials.

Consider removing soft and porous materials in high traffic areas. Disinfect materials if appropriate products are available.



1 DEVELOP YOUR PLAN

DETERMINE WHAT NEEDS TO BE CLEANED.

Areas unoccupied for 7 or more days need only routine cleaning. Maintain existing cleaning practices for outdoor areas.

DETERMINE HOW AREAS WILL BE DISINFECTED. Consider the type of surface and how often the surface is touched. Prioritize disinfecting frequently touched surfaces.

CONSIDER THE RESOURCES AND EQUIPMENT NEEDED. Keep in mind the availability of cleaning products and personal protective equipment (PPE) appropriate for cleaners and disinfectants.



- Is the area Indoors?
 - Outdoors – maintain existing cleaning practices
- Has the area been occupied within the last 7 days?
 - Unoccupied – routine cleaning
 - Building reopening considerations
- Is it a frequently touched surface or object?
- What type of material is the surface or object?
 - Hard and non-porous
 - Soft and porous



Implement Your Plan

2 IMPLEMENT

CLEAN VISIBLY DIRTY SURFACES WITH SOAP AND WATER prior to disinfection.

USE THE APPROPRIATE CLEANING OR DISINFECTANT PRODUCT. Use an EPA-approved disinfectant against COVID-19, and read the label to make sure it meets your needs.

ALWAYS FOLLOW THE DIRECTIONS ON THE LABEL. The label will include safety information and application instructions. Keep disinfectants out of the reach of children.

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

- **Cleaning with soap and water** removes germs, dirt and impurities from surfaces.
- **Disinfecting with an EPA-approved disinfectant against COVID-19 virus** kills germs on a surface.
- Follow the label directions
 - Safety
 - Clean
 - Disinfect
 - Appropriate application
 - Wetted contact time



Maintain and Revise Your Plan

3 MAINTAIN AND REVISE

CONTINUE ROUTINE CLEANING AND DISINFECTION.

Continue or revise your plan based upon appropriate disinfectant and PPE availability. Dirty surfaces should be cleaned with soap and water prior to disinfection. Routinely disinfect frequently touched surfaces at least daily.

MAINTAIN SAFE PRACTICES such as frequent handwashing, using cloth face coverings, and staying home if you are sick.

CONTINUE PRACTICES THAT REDUCE THE POTENTIAL FOR EXPOSURE. Maintain social distancing, staying six feet away from others. Reduce sharing of common spaces and frequently touched objects.

- Frequency of cleaning and disinfection
 - Consider use of surface/object
 - Follow specific guidance, as appropriate
- Safe practices
 - Hand washing
 - Cloth face coverings
 - Staying home if sick
- Consider other adjustments
 - Social distancing
 - Reducing shared spaces and objects
 - Reducing soft and porous materials, if appropriate



Questions?

<https://www.epa.gov/newsreleases/epa-cdc-release-guidance-cleaning-and-disinfecting-spaces-where-americans-live-work-and>

For more information or follow up questions,
please send to CESERComms@epa.gov

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NMHC COVID-19 HUB

CORONAVIRUS (COVID-19) HUB

Explore the recent updates, resources and research NMHC has assembled relating to the COVID-19 crisis.

URGENT: Ask Congress for Further Relief for Renters & Property Owners from COVID-19 →

 NMHC Rent Payment Tracker → The NMHC Rent Payment Tracker, powered by Entrata, MRI Software, RealPage, ResMan and Yardi, provides a weekly regular accounting of rent payments.	 COVID-19 News → News, analysis, and advocacy from the NMHC team to keep you updated during the COVID-19 crisis.
 COVID-19 Updates Newsletter → Read the newsletter and sign up to receive weekly updates in your inbox on the COVID-19 crisis and its effects on the multifamily industry.	 Federal Legislative / Regulatory Relief and Responses to COVID-19 → Resources covering paid sick and family leave or medical leave, unemployment benefits, federal evictions and more.
 Tools for Communicating with Residents → Includes talking points, sample signage templates and considerations when communicating with residents regarding rent flexibility, federal assistance and rent obligations.	 COVID-19 Resources → A frequently updated list of go-to sites with relevant information organized by topics including operations, legal obligations, business guidance and more.
 COVID-19 Webinars → These on demand recorded webinars cover a variety of topics including construction impacts, policy updates, legal obligations and more.	 Listserve → Join NMHC's Emergency Preparedness Listserve to discuss the actions your firm is taking during the COVID-19 pandemic.
 Advocacy & Policy → As the COVID-19 virus spreads across the country, NMHC stands ready to support the apartment industry and its residents.	 COVID-19 Preparedness → NMHC has compiled an overview of suggested apartment owner preparations and considerations.
 NMHC's Suppliers Step Up Directory → Explore this directory to see how supplier partners are addressing the crisis and stepping up to help.	



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APARTMENT LEADERSHIP RESIDES HERE™

www.nmhc.org/covid19