BOMA Canada: Prepare your building for back to work
Please contact relevant public health authorities for medical/public health advice. Neither BOMA Canada nor the individuals presenting herein are providing such advice.

bomacanada.ca/coronavirus
Welcome from BOMA Canada

Benjamin Shinewald
President and CEO
BOMA Canada
Back to Work Guide

Download the Guide at bomacanada.ca/coronavirus
Thank you to our volunteers!

BOMA Canada Coronavirus Working Group
Anne Marie Guévremont – Aeroterm
Bill Fender – FirstOnSite
Bob Riddell – Ivanhoe Cambridge
Brian Armsden – Public Services and Procurement Canada
Clayton Truax – Public Services and Procurement Canada
Craig Rudin – Superior Sany Solutions Ltd
Dawn Surette – Warrington PCI
Elizabeth Oughton – Manulife
Farid Malek – Choice REIT
Geneviève Delage – Ivanhoe Cambridge
Jean-Marc Rouleau – Cominar
Jeff Moffat – Public Services and Procurement Canada
Jim Mandeville – FirstOnSite
JP St-Amand – Minto
Kristel Ennc – REALPAC
Lawrence Lau – Colliers International
Louise Porthouse – Triovest
Marilene Fairais – Triovest
Peter Halkias – Epic Investments
Randall Rothbart – Solomon Rothbart Tourgis Slodovnik LLP
Randie Burke – DCS Global
Rennie Kissosonsingh – GDI Ainsworth
Shane Bellbin – Quadreal Property Group
Sonny Truong – LRI Engineering
Susan Bazak – Bazak Consulting
Trevor Cleveland – Colliers International
Vicki MacEwen – Public Services and Procurement Canada
Virginia Chan-Teng – Ivanhoe Cambridge
Benjamin Shinewald – BOMA Canada
Damian Stathomikos – BOMA British Columbia
Lloyd Suchet – BOMA Calgary
Michael Parker – Citrus Creative
Suhaila Cappuccino – BOMA Canada
Susan Allen – BOMA Toronto
Victoria Papp – BOMA Canada

BOMA Canada Return to Work Working Group
Chair: Geneviève Delage – Ivanhoe Cambridge
Anne Marie Guévremont – Aeroterm
Bob Riddell – Ivanhoe Cambridge
Brian Armsden – Public Services and Procurement Canada
Clayton Truax – Public Services and Procurement Canada
Craig Rudin – Superior Sany Solutions Ltd.
Hugh Molyneux – Refined Data
Lisa Benini – Benini Consulting
Marie-Hélène Primeau – Premier Continuum Inc.
Neil Matthews – Oxford Property Group
Randall Rothbart – Solomon Rothbart Tourgis Slodovnik LLP
Steve Sorensen – Cadillac Fairview
Benjamin Shinewald – BOMA Canada
Suhaila Cappuccino – BOMA Canada
Susan Allen – BOMA Toronto

BOMA Canada Return to Work Sub-Committees
Building Operations
Chair: Steven Sorensen – Cadillac Fairview
Anne Marie Guévremont – Aeroterm
Brian Armsden – Public Services and Procurement Canada
Clayton Truax – Public Services And Procurement Canada
Farid Malek – Choice REIT
Joe Brown – KingSett Capital
Benjamin Shinewald – BOMA Canada
Linda Larsen – BOMA Canada
Susan Allen – BOMA Toronto

Vendors/Supplies & Cleaning
Chair: Craig Rudin – Superior Sany Solutions Ltd
Jarrett Rose – Citron Hygiene
Mike Lefebvre – BentallGreenOak
Randy Burke – DCS Global
Stephen Nicoletti – Manulife
Steve Horwood – GDI Ainsworth
Hazel Sutton – BOMA Canada

Culture, Etiquette & Social Comfort
Chair: Geneviève Delage – Ivanhoe Cambridge
Ajay Dullabh – BentallGreenOak
David Manzano – Scotiabank
Giselle Gagnon – Leapfrog Consulting
Lindsay Holstein – BentallGreenOak
Scot Adams – Colliers International
Mike Parker – Citrus Creative
Suhaila Cappuccino – BOMA Canada

Human Resources
Chair: Louise Porthouse – Triovest
Jon Douglas – Menkes
More individuals will be joining this committee soon
Thank you to our Front-Line Workers!
Building Operations

Farid Malek
AVP Technical Operations and Capital Projects
Choice Properties REIT
Building Operations – Areas to Consider

- Thermal scanning
- Elevators, escalators & staircases
- Lobby control & people management
- Masks/PPE
- Fire Drills
- Water Systems
Building Operations – Areas to Consider

- Washrooms
- Food Court
- Deliveries Including Food deliveries
- Loading Dock/Parking Lot
- General Amenities
Vendor and Supplies

Craig Rudin
CEO
Superior Sany Solutions LTD
## COVID-19 Heightened Sensitivity around Personal Hygiene, Cleaning and Disinfection

<table>
<thead>
<tr>
<th>New Behaviours</th>
<th>PPE</th>
<th>Signage &amp; Communication</th>
<th>Facility Cleaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ↑ hand hygiene</td>
<td>• Wearing of face masks</td>
<td>• Traffic flow / Social distancing</td>
<td>• Continuous high touch point sanitization</td>
</tr>
<tr>
<td>• ↑ sanitizing</td>
<td>• Wearing gloves in public spaces</td>
<td>• Cleaning Validation</td>
<td>• Enhanced cleaning scope</td>
</tr>
<tr>
<td>• Cleaner workspaces</td>
<td></td>
<td></td>
<td>• Periodic disinfection</td>
</tr>
<tr>
<td>• Social distancing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Requirements</td>
<td>• Provide PPE</td>
<td>• More visible cleaners during the daytime</td>
<td>• Disinfectants and PPE equipment</td>
</tr>
<tr>
<td>• Hand sanitizing stations</td>
<td>• Mask &amp; glove disposal solutions</td>
<td>• Confirmation or signalling that an area has been cleaned</td>
<td>• Install QA program with verification tools</td>
</tr>
<tr>
<td>• Surface sanitizing solutions</td>
<td>• Dispensers / Vending and cost control of PPE</td>
<td>• Digital communication displays</td>
<td>• Higher quality cleaning personnel and training programs</td>
</tr>
<tr>
<td>• Touchless solutions</td>
<td></td>
<td>• Crowd / traffic control markers &amp; solutions</td>
<td></td>
</tr>
<tr>
<td>– Faucets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Hand soap dispensers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Hand drying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Door opening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>– Flushing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Things to Think About</td>
<td>✓ Budgeting $</td>
<td>✓ Budgeting $</td>
<td>✓ Budgeting $</td>
</tr>
<tr>
<td>✓ Bulk hand sanitizer with dispensing</td>
<td>✓ Implement waste stream protocol for masks / gloves</td>
<td>✓ Invest in digital messaging solutions</td>
<td>✓ Utilize a risk assessment tool to prescribe ↑ frequencies by area</td>
</tr>
<tr>
<td>✓ Trade off’s on touchless solutions based on risk profiles</td>
<td>✓ Install vending solutions for PPE</td>
<td>✓ Post dashboards and data relating to cleaning verification</td>
<td>✓ Develop an enhanced scope of work and communicate to all stakeholders</td>
</tr>
<tr>
<td>✓ Establish longer term pricing and supplier agreements</td>
<td>✓ Establish longer term pricing and supplier agreements</td>
<td>✓ Visual markers of cleaning validation in personal workspaces</td>
<td>✓ Invest in quality assurance solution,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>✓ On going communication campaign– enhanced standards and validation results</td>
<td>✓ Create dashboards and data based verification messaging</td>
</tr>
</tbody>
</table>
Based on the W.H.O. brief, according to current evidence, COVID-19 virus is primarily transmitted between people through respiratory droplets and contact routes, and airborne transmission was not reported.

## HVAC Insight – COVID-19

<table>
<thead>
<tr>
<th>Ventilation</th>
<th>Filtration</th>
<th>Temperature/Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>On Startup</strong></td>
<td><strong>MERV 8 filter is currently the minimum standard. MERV13+ is recommended for effectively capturing air borne viruses based on ASHRAE</strong>&lt;br&gt;<strong>Check the specification of ventilation unit for use of highest rating filter possible. Area impacted may include,</strong>&lt;br&gt;• Static pressure in the system&lt;br&gt;• Reduced supply air flow&lt;br&gt;• Add additional differential pressure sensors or make sure existing differential pressure across filter is operating properly&lt;br&gt;• Review with operation, contractors and engineers to increase supply air flow to compensate for higher efficiency filter.</td>
<td><strong>Multiple sources sight an optimal operating humidity level between 35 - 55%RH.</strong>&lt;br&gt;<strong>Pay close attention to the operating performance as occupancy and ambient condition change</strong>&lt;br&gt;<strong>Continue with regular review to understand your system’s capability and attaining to the best operating result</strong></td>
</tr>
<tr>
<td><strong>Increase fresh air make up level to a maximum extent possible for 24 hours prior to the re-entry of the building</strong>&lt;br&gt;<strong>Confirm the building is operating under positive pressure</strong>&lt;br&gt;<strong>Review all outstanding repair recommendation</strong>&lt;br&gt;<strong>Ensure your system capability and control strategy aligned with occupancy plan</strong></td>
<td><strong>In theory, the optimal environment to reduce the survival of airborne influenza virus may be above 30°C (86°F) at 50%RH, but it is not practical in general occupied environment.</strong>&lt;br&gt;<strong>Please review links provided below this table for more detail information.</strong>&lt;br&gt;<strong>Understanding your current operation setup. (i.e. do you have (de)-humidification system?)</strong>&lt;br&gt;<strong>Verify existing humidity system &amp; control is working properly</strong></td>
<td><strong>Please review links provided below this table for more detail information.</strong>&lt;br&gt;<strong>Understanding your current operation setup. (i.e. do you have (de)-humidification system?)</strong>&lt;br&gt;<strong>Verify existing humidity system &amp; control is working properly</strong></td>
</tr>
</tbody>
</table>

| **Ongoing Occupancy** | **Continuing verification that filter selection meets operation requirement**<br>**Modify filter change schedule as required**<br>**Maintain extra stock on site.**<br>**Stock up additional PPE on site for protection of workers changing filters** | **In theory, the optimal environment to reduce the survival of airborne influenza virus may be above 30°C (86°F) at 50%RH, but it is not practical in general occupied environment.**<br>**Please review links provided below this table for more detail information.**<br>**Understanding your current operation setup. (i.e. do you have (de)-humidification system?)**<br>**Verify existing humidity system & control is working properly** |
| **Use demand ventilation with caution**<br>**Consult with engineers and contractors in the use of occupancy data to establish appropriate ventilation strategy**<br>**Identify areas of poor ventilation or inappropriate pressure**<br>**Review and adapt new Building Automation sequence of operation as required**<br>**Larger & heavier droplets and particulates do not normally circulate back within the HVAC system**<br>**However, if present in an occupied space, the supply air stream from the diffusers may push these larger/heavier droplets beyond the recommend social distancing space. (See study by WHO)**<br>**Consult with your operations and contractor/engineers for further system review** | **In theory, the optimal environment to reduce the survival of airborne influenza virus may be above 30°C (86°F) at 50%RH, but it is not practical in general occupied environment.**<br>**Please review links provided below this table for more detail information.**<br>**Understanding your current operation setup. (i.e. do you have (de)-humidification system?)**<br>**Verify existing humidity system & control is working properly** |
# HVAC Insight – COVID-19

<table>
<thead>
<tr>
<th>Maintenance Consideration</th>
<th>Ventilation</th>
<th>Filtration</th>
<th>Temperature/Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Complete manufacturer’s recommended spring start-up</td>
<td>• Ensure the proper fit of filters (minimize blowby)</td>
<td>• Enforce the proper maintenance and service routine based on manufacturer’s recommendation on your (de)humidification systems.</td>
<td></td>
</tr>
<tr>
<td>• As addition health precaution, clean cooling tower components, and review water treatment operation,</td>
<td></td>
<td></td>
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<tr>
<td>• Clean all evaporator coils.</td>
<td></td>
<td></td>
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<tr>
<td>• Conduct periodic visual inspection of the system to ensure cleanliness</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• If applicable, make sure your BAS data and capability is leveraged to inform decision making and maximize performance</td>
<td>• Not all same MERV filters are constructed equally. Speak with your contractors about the quality of the product.</td>
</tr>
<tr>
<td>• Increase ventilation will increase energy cost, consult with engineers to understand the impact.</td>
<td>• Consult with your operations, contractors and engineers for the applicability of air purification of using UV-A/B/C</td>
</tr>
<tr>
<td>• Increase ventilation will increase system run-time and component wear/tear</td>
<td>• Maintaining comfortable environment on hot &amp; humid days will be a challenge as you increase outside air intake.</td>
</tr>
</tbody>
</table>

2. ASHRAE, April 2020, ASHRAE Position Document on Airborne Infectious Diseases
3. ASHRAE, April 2020, ASHRAE Epidemic Task Force – Filtration & Disinfection
## HVAC Insight – COVID-19

<table>
<thead>
<tr>
<th>MERV Rating</th>
<th>Trap particles size 0.03 to 1 microns</th>
<th>Trap particles size 1 to 3 microns</th>
<th>Trap particles size 3 to 10 microns</th>
<th>Typical Application</th>
<th>Notes/ASHRAE Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>MERV 1 - 4</td>
<td>N/A</td>
<td>N/A</td>
<td>&lt; 20%</td>
<td>Fiberglass/Aluminum Mesh filter for Pollen, Dust Mites, Spray Paint, Carpet Fibres</td>
<td></td>
</tr>
<tr>
<td>MERV 5</td>
<td>N/A</td>
<td>N/A</td>
<td>20% - 35%</td>
<td>Cheap Disposable Filters for Mold Spores, Cooling Dusts, Hair Spray, Furniture Polish</td>
<td></td>
</tr>
<tr>
<td>MERV 6</td>
<td>N/A</td>
<td>N/A</td>
<td>35% - 50%</td>
<td>Minimum ASHRAE Standard for Commercial Application (62.1)</td>
<td></td>
</tr>
<tr>
<td>MERV 7</td>
<td>N/A</td>
<td>N/A</td>
<td>50% - 70%</td>
<td>Minimum ASHRAE Standard for High Performance Green Building Standard (189.1)</td>
<td></td>
</tr>
<tr>
<td>MERV 8</td>
<td>N/A</td>
<td>N/A</td>
<td>&gt; 70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 9</td>
<td>N/A</td>
<td>&lt; 50%</td>
<td>&gt; 85%</td>
<td>Better Box Filters for Lead Dust, Flour, Auto Fumes, Welding Fumes</td>
<td></td>
</tr>
<tr>
<td>MERV 10</td>
<td>N/A</td>
<td>50% - 65%</td>
<td>&gt; 85%</td>
<td>Minimum ASHRAE Standard when atmospheric particulate matter is less than 2.5 micrometers, a.k.a. PM2.5 (62.1)</td>
<td></td>
</tr>
<tr>
<td>MERV 11</td>
<td>N/A</td>
<td>65% - 80%</td>
<td>&gt; 85%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 12</td>
<td>N/A</td>
<td>&gt; 80%</td>
<td>&gt; 90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 13</td>
<td>&lt; 75%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td>Commercial Grade Filters for Bacteria, Smoke, Sneezes</td>
<td></td>
</tr>
<tr>
<td>MERV 14</td>
<td>75% - 85%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 15</td>
<td>85% - 95%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 16</td>
<td>&gt; 95%</td>
<td>&gt; 95%</td>
<td>&gt; 95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 17</td>
<td>99.97%</td>
<td>N/A</td>
<td>N/A</td>
<td>HEPA &amp; ULPA for Viruses, Carbone Dust</td>
<td></td>
</tr>
<tr>
<td>MERV 18</td>
<td>99.997%</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 19</td>
<td>99.9997%</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MERV 20</td>
<td>99.99997%</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tenant & Building Communication

Geneviève Delage
Manager, Business Continuity
Ivanhoé Cambridge
Goals

• Address the **key areas of concern** to provide best practices and guidance on communication for landlords and building managers

• Build **trust** and **confidence**

• Create a “property culture” and **enhance desired behaviors** from tenants and visitors
Before coming to the property

Coordinate with tenants to minimize lobby bottlenecks
- Communicate new elevator capacity
- Be transparent on #/hour
- Ask their collaboration to reduce lineups by staggering arrivals and departures

Ask tenants what their re-entry plans are
- To better plan opening hours, HVAC, lights etc.
- To have a better idea of tenants’ expectations from their landlords / building managers
Before coming to the property

Remind your employees and visitors to stay home if they have any of the following symptoms:

- fever
- tiredness
- dry cough
- aches and pains
- nasal congestion
- runny nose
- sore throat
- diarrhea

Employees and visitors should self-isolate for 14 days if they:

- Have any COVID-19 symptoms
- Have recently returned to Canada
- Have recently come in contact with someone with COVID-19
Communicate what to expect when tenants arrive at the property

**Building operations**
- What’s new
- What’s changed
- Upcoming changes

**Cleaning**
- Changes in cleaning schedules (day/night)
- Frequency
- Areas

**Social distancing**
- Elevator capacity
- Staircases
- Lobby and common areas
- Restrooms

**Signage**
- Where will it be
- How you will accommodate visually impaired people

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Signage to consider

- Building status (open / closed)
- Closed entrances / doors
- Visitors
- Screening signage
- Educational posters
- Expected behaviour (masks, etc.)
- Self-sanitation
- Cleaning

- PPE disposal
- Building operating hours & amenities
- Closed areas
- Social distancing: floor decals, lineups, number of people in elevators
- Bathroom stalls
Question & Answer
Please use the Q/A box functionality on the webinar
Follow the conversation

@BOMA_CAN
@BOMA_BEST
BOMA Canada,
Benjamin Shinewald
BOMA Canada
bomacanada

Sign up for our mailing list @
www.bomacanada.ca
DON'T MISS!
BOMA Canada: How secure is your commercial property?
Thursday, May 28th, 2020 2:00 p.m. – 3:00 p.m.

Download the Guide at bomacanada.ca/coronavirus