Facilities Management

Enhanced Cleaning and Disinfection

Building Preparation and Space Planning

Michael Guglielmo Jr, Vice President Facilities Management
July 22, 2020
Healthy Fall Re-Opening 2020 Plan for Brown University Buildings

Like all individuals and organizations, Brown University has experienced a significant shift in operations over the past weeks and months related to the Covid-19 pandemic. As we work together to reopen University buildings, Facilities Management remains dedicated to its mission of maintaining Brown’s core values in re-opening buildings and facilities, as safety will continue to be paramount.

Outlined below is an overview of our University building re-opening plan. The operations outlined here will be carried out by Brown Facilities Management in partnership with EH&S, Strategic Sourcing, Office of University Communications, Health Services and key department stakeholders, faculty, students and staff. We appreciate your patience and collaboration.

CLEANING & DISINFECTING
Cleaning, disinfecting of spaces and ongoing enhanced cleaning.
- Maintain cleaning and disinfecting practices in accordance with CDC and EHS approvals.
- Perform cleaning of indoor spaces that have been unoccupied.
- Perform routine clean and disinfecting of spaces that have been occupied.
- Perform enhanced cleaning and disinfecting of frequently touched indoor surfaces.
- Disinfect areas if possible cases arise, per direction of EHS and Health Services.
- Maintain routine cleaning practices of outdoor areas.
- Assist laboratories with cleaning products as supplies allow.
- Provide break rooms with cleaning products as supplies allow.
- Maintain hand sanitizer stations at major building entrances, elevator stops and high traffic areas.

PREPARE THE BUILDINGS
Operational pre-return inspections, HVAC and domestic water system checks
- Ready building mechanical, electrical, plumbing and monitoring systems
- Flush domestic water lines
- Reset building occupancy schedules and demand control ventilation.
- Improved central air filtration and sealed edges of filters to limit bypass.
- Install hand sanitizer stations in designated locations.
- Perform necessary building inspections and repairs.

PREPARE THE GROUNDS
Maintain safe, clean and healthy landscapes and grounds
- Inspect areas around buildings for trash and debris and remove accordingly.
- Ensure all building entrances and loading docks are clear of litter and debris.
- Continue to mow lawns and fields.
- Inspect parking lots and clear of litter and debris.
- Continue tree management and care.
- Maintain off-campus properties

SUPPORT DISTANCE SPACE LAYOUTS
Assist customer/occupant social distancing practices for decreasing density, adjusting traffic patterns.
- Support facility space usage changes for social distancing.
- Assist customers in evaluating reduction in capacity of spaces – e.g. decreasing chairs in a conference room.
- Provide necessary signage regarding the importance of social distancing as needed.

OVERSIGHT OF CONTRACTORS & VENDORS
Campus building and maintenance contractors
- Engage contractors and vendors in back-to work plan
- Ensure continued compliance by contractors of the on-campus work protocols for construction.
- Ensure indoor and outdoor construction projects are being inspected by Facilities staff for compliance.

CUSTOMER/OCCUPANT RESPONSIBILITIES
Recommended customer/occupant actions
- Review, share and monitor compliance.
- Reconfigure indoor and outdoor spaces to allow for social distancing.
- Assist in identifying high-use entrances and traffic areas.
- Remove and/or clean high-touch shared tools such as computer keyboards whiteboard markers, remote controls, etc.
- Assist in controlling the building entry points including deliveries.
- Comply with signage guidelines.

Facilities Management
The most efficient way to request service is by calling FM Service Response Center at 401-863-7800.
Enhanced Cleaning and Disinfecting
CLEANING AND DISINFECTION:

• Clean and disinfect frequently touched surfaces (e.g., door handles, sink handles, grab bars, hand railings, bathroom stalls, dining hall tables) within facilities at least daily or between use as much as possible.
• Develop a schedule for increased, routine cleaning and disinfection.
• Use products that meet EPA disinfection criteria.
• Encourage students, faculty, and staff to keep their personal items (e.g., cell phones, other electronics) and personal work and living spaces clean.
• Encourage students, faculty, and staff to use disinfectant wipes to wipe down shared desks, lab equipment, and other shared objects and surfaces before use.
## FM Cleaning and Disinfecting Procedures

- FM has modified custodial tasks sheets to include:

  Disinfecting of all high touch surfaces, performed M-F twice a day and daily on weekends

<table>
<thead>
<tr>
<th>Chair Handles and Backs</th>
<th>Podiums</th>
<th>Toilet &amp; Urinal Flushometers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trash Receptacle tops and handles</td>
<td>Paper Towel and Toilet Tissue Dispensers</td>
<td>Sink Faucets &amp; handles</td>
</tr>
<tr>
<td>Table tops</td>
<td>Mailboxes</td>
<td>Tablet Arms &amp; brackets</td>
</tr>
<tr>
<td>Kiosk Buttons</td>
<td>Light Switches</td>
<td>Stair Rails</td>
</tr>
<tr>
<td>Elevator buttons outside and inside elevator cabs</td>
<td>Vending Machine Buttons</td>
<td>Hydration Stations</td>
</tr>
</tbody>
</table>
FM Cleaning and Disinfecting Schedule

- Research buildings are cleaned and disinfected between 3pm – 11pm or 11pm -7am AND now include a Day Floater 7 days/week on day shift from 7am-3pm.
- Custodial will continue to clean all non-research facilities following task sheet assignments between 11pm-7am.
- The “Floater” program has been modified, in support of CDC COVID-19 guidance to include high touch areas in facilities. Floaters now provide support in two roles:
  - Cleaning of high-visibility, high-use or high-profile areas such as restrooms, heavily-used classrooms, conference rooms, meeting rooms, entrance lobbies, elevators, break rooms or other areas designated to receive focused cleaning efforts.
  - Cleaning and disinfecting of frequently touched surfaces.
DIY Program

• Individual responsibility will make a major impact in supplementing Custodial activity.

• As the campus reopens:
  • Containers of disinfecting wipes will be placed in classrooms and common areas so that individuals using these spaces can disinfect prior to use
  • All faculty, staff and students returning to campus will be provided with face coverings, hand sanitizer and a container of wipes to be utilized while on campus and particularly within their individual spaces.
  • Self-responsibility when using common equipment (copy machines, printers etc.) will be promoted and the use of the wipes provided will be strongly recommended.
Smart Inspect Daily Cleaning and Disinfecting Log

• Utilizing Smart Inspect, the Brown-Daily Cleaning and Disinfecting Supervisor Check List was developed. This checklist will allow:
  • Managers and Supervisors to check off assignments as they're completed, and will serve as a record of the date/time of inspection.
  • All data will be compiled and reviewable by Senior Management via dashboard and reports.
  • Documentation will comply with RIDOH.
  • Standard Operating Procedures have been created.
Protexus Handheld Electrostatic Sprayer

- Delivers a charged droplet with an attractive force 15x greater than gravity. This magnetic attraction to all surface areas ensures consistent, 360-degree application of disinfecting and sanitizing solution.

- EPA registered sanitizer & disinfectant tablets that readily dissolve in water with a one (1) minute dwell time

- Safe for humans, materials and the environment

- Eliminates and controls odors
Adenosine Triphosphate Procedures (ATP) Validation

• FM is utilizing adenosine triphosphate (ATP) meters to allow rapid testing to assess the cleanliness of surfaces.

• ATP testing will allow the management staff to verify that proper disinfecting protocols have been followed by identifying minute traces of organic matter remaining on surfaces.

• Quality Assurance /Quality Control inspections, combined with ATP testing, are part of FM’s robust efforts to ensure effective cleaning and disinfecting.
Building Preparation and Space Planning
Following CDC and ASHRAE Recommended Best Practices:

- HVAC Systems: Ensure ventilation systems operate properly, increase circulation of outdoor air as much as possible, increase filter efficiency.
- Water Systems: Flush all systems to minimize the risk of Legionnaires’ disease and other diseases associated with water, take steps to ensure that all water systems and features (e.g., sink faucets, drinking fountains, decorative fountains) are safe to use after a prolonged facility shutdown.
Heating, Ventilation, & Air Conditioning (HVAC) Systems

• The majority of research and laboratory spaces operate with 100% outside air supply, with air exchange rates that meet or exceed American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) standards relative to COVID-19 Guidance.

• Academic, administrative and classroom spaces operate with a variety of mixed air ventilation systems.

• FM has taken the following measures:
  • An assessment has been performed on all building systems. Narratives and a matrix has been developed identifying the configuration of each system. This information is available on FM’s website.
  • Preventive Maintenance performed, where possible ventilation increased and increased filter efficiency to a MERV13 to reduce airborne transmission.
# Building Ventilation Matrix

Air handler types are identified as 100% OA (Outdoor Air), mixed air, or return air. Units classified as 100% outdoor air use 100% outdoor air for ventilation. Units classified as mixed air use a blend of outside air and air being returned from the space. When the outside air can be used for cooling, the percent of outside air will vary from the minimum level to 100% based on temperature demand. Units classified as return air use air recycled from the space for ventilation.

<table>
<thead>
<tr>
<th>BUILDING NAME</th>
<th>PORTFOLIO</th>
<th>EQUIPMENT DESCRIPTION</th>
<th>TYPE OF AIR HANDLING UNIT</th>
<th>INCREASED VENTILATION</th>
<th>OCCUPANCY (SCHEDULE / CONTINUOUS)</th>
<th>FILTER RATING</th>
<th>OPERABLE WINDOWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALUMNAE HALL</td>
<td>ACADEMIC NON-RESEARCH</td>
<td>QTY 3 AIR HANDLING UNITS</td>
<td>MIXED AIR 15% OA / 85% RA</td>
<td>NO SCHEDULE</td>
<td>MERV 6 Upgrade to MERV 13 in progress</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>ANDREWS MEMORIAL BUILDING</td>
<td>ADMIN/SUPPORT</td>
<td>AIR HANDLING UNIT</td>
<td>100% OA</td>
<td>100% OA SCHEDULE</td>
<td>MERV 6 Upgrade to MERV 13 in progress</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td>ANDREWS MEMORIAL BUILDING</td>
<td>ADMIN/SUPPORT</td>
<td>QTY 13 AIR HANDLING UNITS</td>
<td>MIXED AIR LOCAL 20% OA / 80% RA</td>
<td>IN PROGRESS</td>
<td>SCHEDULE</td>
<td>MERV 6 Upgrade to MERV 13 in progress</td>
<td>YES</td>
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<tr>
<td>ANDREWS MEMORIAL BUILDING</td>
<td>ADMIN/SUPPORT</td>
<td>AIR HANDLING UNIT</td>
<td>RETURN AIR 0% OA / 100% RA</td>
<td>NO SCHEDULE</td>
<td>MERV 6 Upgrade to MERV 13 in progress</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>ANGELL ST 164</td>
<td>ACADEMIC NON-RESEARCH</td>
<td>QTY 3 AIR HANDLING UNITS</td>
<td>MIXED AIR 15% OA / 85% RA</td>
<td>IN PROGRESS</td>
<td>SCHEDULE</td>
<td>MERV 6 Upgrade to MERV 13 in progress</td>
<td>YES</td>
</tr>
</tbody>
</table>
Water Systems

• FM staff is performing the following on a periodic basis:
  • Flushing of domestic water lines to include:
    • Sinks, toilets, showers, traps, and seals
  • Flushing of drinking water fountains and hydration stations
  • Continue with Brown’s water treatment program for mechanical systems
### Summer 2020 Master Schedule

<table>
<thead>
<tr>
<th>Weeks to &quot;Full Occupancy&quot;</th>
<th>Holiday Weeks</th>
<th>End Summer Hours</th>
<th>Labor Day</th>
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<tbody>
<tr>
<td><strong>Phase II</strong></td>
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<tr>
<td><strong>High Alert</strong></td>
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<td></td>
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<tr>
<td>Milestones</td>
<td>Plan to State</td>
<td>President’s Announcement</td>
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<tr>
<td>Facilities Steering Committee</td>
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<tr>
<td>FM Web COVID, Updates</td>
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<td></td>
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</tr>
<tr>
<td>University COVID, Web, Updates</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Signage, Wayfinding (existing)</td>
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<td></td>
<td></td>
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<tr>
<td>RioRa Research</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Site</td>
<td>Pilot Funded/Approved</td>
<td>Pilot Go Live</td>
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<tr>
<td>RTC Acq Plan Review (summer ‘20)</td>
<td>First Plans Approved</td>
<td></td>
<td></td>
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<tr>
<td>RTC Admin Plan Review (fall ‘20)</td>
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<tr>
<td>DIY Cleaning Program for Dept Managers</td>
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<tr>
<td>DIY Cleaning Program for Students</td>
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<tr>
<td>Bldg Open/Closed Schedule (DPS, Security)</td>
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<tr>
<td><strong>Phase III</strong></td>
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<tr>
<td><strong>Moderate Alert</strong></td>
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<tr>
<td>RPL</td>
<td>Move in</td>
<td>Quiet Period (9/2-9/15)</td>
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<tr>
<td>SC</td>
<td>Shopping (Virtual)</td>
<td>Person Inst. begins</td>
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<td><strong>Admin/Workplace</strong></td>
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<td>Libraries (Libraries are handling in-house with support from FM Planning)</td>
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<tr>
<td>Shuttle Changes (No route changes anticipated)</td>
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<tr>
<td>Athletics</td>
<td>Approval (Space Comm)</td>
<td>Any Rec Sports Space Prep</td>
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<tr>
<td>Outdoor Space/FFE and Event Tents Coordination</td>
<td>Approval</td>
<td>Chairs Installed</td>
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<tr>
<td>Restroom/Bathroom Renovations (Operational)</td>
<td>Survey Complete (excludes RE props.)</td>
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<tr>
<td>Facility Renovation/Cleaning Phase</td>
<td>Approval (Space Comm)</td>
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<tr>
<td>Residential: Off Campus Move In (Complete Prior to Quota Period)</td>
<td>150 RPL Move in</td>
<td>Move in On &amp; Off Campus (550-600 Days)</td>
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<tr>
<td>Residential: Off Campus Lease (Complete Prior to Quota Period)</td>
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<tr>
<td>Dining</td>
<td>Approval</td>
<td>Residential Dining Resumes (Coord. w/move-in)</td>
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<tr>
<td>Residential Detail</td>
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<tr>
<td>Coordinate Class Year Timing w/Academic Planning</td>
<td>Finalize Lease</td>
<td>Lease space locked down</td>
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<tr>
<td>Confirm 300 off campus target beds</td>
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<tr>
<td>Off Campus Release (bed to announcement – 300)</td>
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<tr>
<td>Student Housing Forms Sent (preferred, not mandatory)</td>
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<tr>
<td>SEAS Assignments (SEAS form already up)</td>
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<tr>
<td>Remaining Assignments (excluding off campus)</td>
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<tr>
<td>Notification of Assignments</td>
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</tbody>
</table>

**LIVE DOCUMENT, SNAP SHOT**
Re-Opening: signage
Research Re-Opening: SIGNAGE
### Return to Campus Coordination Tracking

<table>
<thead>
<tr>
<th>Portfolio</th>
<th>Building Usage, Building</th>
<th>Building Abbr.</th>
<th>RTC Plan Approval Date</th>
<th>Completed Drawings for Signage Install</th>
<th>Building signage installed (Ops Div 1)</th>
<th>Common Lounge (Bracket System Installed - Ops Div 4)</th>
<th>HVAC System Checked &amp; Operational (Ops Div 3/9)</th>
<th>Building Inspection / Clean &amp; Disinfected (Ops Div 4)</th>
<th>Purdil station at main entrance (Div 4)</th>
<th>Deployment of DRY supplies</th>
<th>Notice - OK to Occupy Sent to Dept.</th>
<th>Bfm Group Desc</th>
<th>Common Lounge Notes</th>
<th>Occupying Departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC NON-RESEARCH</td>
<td>HOPE190</td>
<td>6/9/2020</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>German</td>
<td>Room 214</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>HOPRN</td>
<td>NA</td>
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<td>Italian Studies</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>JOHN50</td>
<td>6/9/2020</td>
<td>1</td>
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<td>Registrar</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>KASSAR</td>
<td>6/18/2020</td>
<td>6/15/2020</td>
<td>1</td>
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<td>1</td>
<td>6/26/20</td>
<td>Mathematics</td>
<td>Room 100D</td>
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<td>ACADEMIC NON-RESEARCH</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>LIPRTTNSH</td>
<td>6/10/2020</td>
<td>1</td>
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<td>1</td>
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<td>1</td>
<td>6/26/20</td>
<td>Physics</td>
<td>None</td>
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<tr>
<td>ACADEMIC NON-RESEARCH</td>
<td>LISTART</td>
<td>Approved prior to 6/23</td>
<td>6/9/2020</td>
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<td>6/16/20</td>
<td>Boll Gallery</td>
<td>Room 120</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>DYNANHALL</td>
<td>6/9/2020</td>
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<td>Classics</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>MACARIALE</td>
<td>6/12/2020</td>
<td>6/22/2020</td>
<td>1</td>
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<td>1</td>
<td>7/7/20</td>
<td>Haffenreffer Museum</td>
<td>None</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>MANNING</td>
<td>6/9/2020</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<td>University Chapel</td>
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<tr>
<td>ACADEMIC NON-RESEARCH</td>
<td>6/25/2020</td>
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<td>The Harriet W. Sheridan Center for Teaching and Learning</td>
<td>Universe Library</td>
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<td>ACADEMIC NON-RESEARCH</td>
<td>PERCENTAGE COMPLETE</td>
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<td>ACADEMIC RESEARCH</td>
<td>ACAD</td>
<td>95%</td>
<td>95%</td>
<td>76%</td>
<td>94%</td>
<td>94%</td>
<td>0%</td>
<td>Molecular and Nanoscale Innovation</td>
<td>X - stands installed in Rooms 330, 410, 723, 750, 1st Fl rlobby area</td>
<td></td>
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</tbody>
</table>
205 Meeting Street: Pilot Testing Facility
Classroom Test Fits - Small

Table Layout (Default)
Normal Capacity: 20
Adjusted Capacity: 6*
* includes instructor

Chair with Tablet Layout
Normal Capacity: 20
Adjusted Capacity: 8*
* includes instructor

Building: Page Robinson

Page Robinson 201, 301, 401, 501

Density Diagram
Classroom Test Fits - Large

Biomed Center 202

Normal Capacity: 107
Adjusted Capacity: 25*
* includes instructor

3' circulation zone
Library Test Fit

First Floor Plan

Second Floor Plan

Key:
- 6'-0" diameter conflict
- 6'-0" diameter no conflict
Dining - Planning for a Healthy Fall

Legend
- Sanitizing station
- Proposed circulation path
- Hard barrier (i.e., Plexiglass)
- Signage (type varies)
- Station
- Rope off all seating areas and post signage indicating no seating allowed.
- Lap queue during peak times; if low volume patron can proceed directly to station
- Rotate and relocate coffee station
- Install floor-adhered physical distancing stickers throughout
- Consider propping interior doors open to minimize points of contact
- All non-wall mounted signage requires insert on post

Peak times ENTRY
Primary ENTRY
Accessible ENTRY and EXIT
Peak times cashier

Sharpe Refectory - Pick Up Test Fit - DRAFT
Facilitate and encourage healthy, positive and fun, socially distant gatherings with outdoor furniture.

**Proposed Sites & Layout**

- **Main Green – 53 Adirondacks**
- **Hughes & Patriots Courts – 24 Adirondacks, 15 tables**

**Scope**

- 107 Adirondack chairs (Black)
- 20 30” diameter tables (Charcoal)
- 20 42” diameter tables (Charcoal)
- 100 Stacking chairs (25 of each color)

**Furniture Selections**

- **Net Chair**
- **Curve Adirondack Chair**
- **Round Tables**

**Key**

- (4) Adirondacks with 6’ diameter
- 42” Table & (3) Chairs with 6’ diameter
- 30” Table & (2) Chairs with 6’ diameter