



March 2, 2021

British Columbia Institute of Technology
1126 Barclay Street
Vancouver, British Columbia, V6E 1H1

Attention: Anne Matheson

**Re: Job #276537 – Return to Operations Risk Assessment – Aerospace Campus – REVISED
March 2, 2021
BCIT, 2700 Willingdon Avenue, Burnaby, British Columbia**

Pinchin Ltd. (Pinchin) is pleased to provide the attached Return to Operations Risk Assessment – Aerospace Campus, for the campuses and programs operated by the British Columbia Institute of Technology (BCIT; “Client”). This package is a revised version of that previously provided to the Client, dated September 2, 2020.

The Risk Matrix is a form of qualitative public health risk assessment, which can be used to help identify the building occupants and activities that present the greatest risk of SARS-CoV-2 virus spread, aid the communication of these risks and inform the selection of management measures, during various stages of the return to operations, following a pandemic-induced mandatory shutdown.

The objective of each Risk Matrix is to identify the main sources of risk associated with the transmission of SARS-CoV-2, while engaging in a set of defined activities within the campus environment. The Risk Matrix takes into consideration building occupants, staff and visitors and the activities in which they engage as well as the building or room uses and layouts. Based on the risk rankings, the matrix provides high level recommendations for prioritizing management measures to mitigate spread of SARS-CoV-2 as activities within the building resume. The Risk Matrix is intended as an appendix to the BCIT COVID-19 Go Forward Plan, which Pinchin has provided under separate cover.

I trust this information is satisfactory for your purposes. Should you require additional information, please do not hesitate to contact the undersigned.

Pinchin Ltd.

Prepared by:

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Characteristics/ Activities	Risk Ranking (LOW-MED-HIGH)	Rationale	Risk Management Strategies
Building Staff Occupants/ Location/ Likelihood of Public Access			
<ul style="list-style-type: none"> • Possibility for infected asymptomatic spreaders. • Transportation methods and likelihood of transmission from unknown sources. • Location within Province/Canada and incidence of infection within the Region. 	HIGH	<p>The Site Building is a post-secondary instructional facility located in Richmond, BC. It is situated in an area with moderate population density. A second wave of COVID-19 cases is currently underway within the province as a whole, particularly within the Lower Mainland region. It is assumed that there is at least one asymptomatic individual present on-Site.</p> <p>For the purpose of this BRORA, it is also assumed that Client is planning on the full re-occupancy of office and classroom spaces. Building occupants include students, faculty, and building support staff who are young adults through working age. Building occupants may include individuals who have been exposed to SARS-CoV-2 from outside sources such as family members and users of public transit. Some students in the building work in a healthcare setting. Students may have travelled from countries with high incidence of COVID-19. Members of the public, who will not have had BCIT training, can enter the building freely. However, based on location (i.e. close to the airport), the amount of public traffic is assumed to be lower than that of downtown properties. Students and staff visit other campus facilities located in the Greater Vancouver Area to attend and/or instruct classes. Also, facilities staff provide building support services.</p>	<ul style="list-style-type: none"> ✓ Conduct personal health screening before entry to the building. ✓ Add signage describing requirements for entry (no COVID symptoms, etc.), and physical distancing requirements. ✓ Assist Public Health with contact tracing in the event of an identified infection among staff or students. ✓ For international students, recommend early arrival and mandatory self-isolation. ✓ Instruct students and staff to self-isolate if they have conducted any travel internationally. ✓ Undertake online course where possible to allow for reduced building occupancy on campus. ✓ Mandate that all staff and students take training on COVID prevention strategies (physical distancing, face coverings, hand washing, etc.) that are relevant for the entire building, and for their specific work areas/ tasks. ✓ Require face masks/coverings for anyone in shared spaces. ✓ Encourage staff and students to wear face coverings or masks if utilizing public transit to



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		<p>Tenants occupy the north portion of the building. Spaces containing a gym and retail are also located in the Site Building. Evaluation of these spaces are outside the scope of the BRORA; however, it should be noted that tenants have internal access to client space and, thus, are considered part of the “public”.</p> <p>Essential personnel include students, faculty and other staff to support required practical hands on training. The Client intends to have practical sessions and testing for approximately 230 students through the summer session.</p> <p>Exposure frequency and duration on-Site will be moderate to high, depending on how students and staff arrive at the facility, number of programs requiring in-class practical instruction and testing at any given time, and specific program requirements.</p>	<p>the facility.</p> <ul style="list-style-type: none">✓ Restrict all mass gatherings at the facility.✓ Restrict access to essential personnel only at the facility.✓ If non BCIT personnel need to enter the building, entry should be limited to specific areas where they may be screened and briefed on COVID-19 policies before entering the building.



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General Building Layout / Indoor Environment			
<ul style="list-style-type: none"> School Access routes (building entry and exit) 	MEDIUM	<p>Entrance/ exit may result in individuals crossing paths at pinch points.</p> <p>Exposure frequency and duration could be high considering arrival and departure times for large numbers of students/faculty are anticipated to correlate, according to class schedules.</p> <p>Although a high-risk ranking might apply to this type of building and the activities within, the medium risk ranking is based on activities during entry and exit, and moving through the hallways. The primary mode of viral transfer is direct contact with droplets, and it is anticipated that potential exposures are of short duration until such time as students/staff enter specific rooms, lab or other shared spaces. In addition, there is a small number of high touch surfaces, despite the number of people touching them and frequenting the access routes.</p>	<ul style="list-style-type: none"> ✓ Where on campus classes must occur, stagger class schedules where possible. ✓ Control/ limit entry/ exit via specific routes. ✓ Queue entry outside building and rooms, or if physical distancing cannot be maintained in hallways, then queue in empty classrooms. ✓ Prepare enhanced cleaning/sanitizing plans. ✓ Remove furniture (where possible) from entry/exit points; alternatively, re-position or appropriately label for physical distancing. ✓ Adopt doorknob contact mitigation measures such as: <ul style="list-style-type: none"> • Providing tissues; • Providing hand sanitizer; or • Leaving doors open.
<ul style="list-style-type: none"> Security/ Reception 	MEDIUM	<p>Security/reception offices are located near the main entrances. Staff working in these offices have direct contact to large numbers of people including members of the public.</p> <p>Possibility for crowding in the front entrance, and around the reception/security desk. Risks to staff behind desks is medium where physical distancing is not possible or where access to public is higher. Precautions should be taken to prevent crowding.</p>	<ul style="list-style-type: none"> ✓ Maintain physical distancing. ✓ Limit office occupancy by non-staff visitors. ✓ Require face coverings for all visitors and staff when visitors arrive. ✓ Desk extension, barrier or tape markings to limit contact. ✓ Remove furniture, if any, from reception area. ✓ Cleaning/ sanitizing plans for high-touch surfaces.



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<ul style="list-style-type: none"> • Hallways/ Public corridors • Private corridors/ Office hallways 	HIGH	<p>Possibility for crowding especially in narrow hallways and private corridors/ office hallways. Some hallways are wide enough to accommodate two-way traffic with physical distancing.</p> <p>Seating is available in some hallways.</p> <p>Exposure frequency and duration may be high considering individuals tend to congregate in groups for prolonged discussions in larger hallways/public corridors/open areas, and queue outside rooms waiting to enter. However, risks are low where congregating does not occur, and the duration of exposure is short.</p>	<ul style="list-style-type: none"> ✓ Queue room entry (e.g. classroom, offices etc.) in hallway or nearby empty rooms using signage to maintain physical distancing and discourage loitering. ✓ Require face coverings in hallways and traffic areas. ✓ Select seating to be blocked to maintain physical distancing. ✓ Maintain two-way counterclockwise traffic patterns.
<ul style="list-style-type: none"> • Public washrooms • Private washrooms 	LOW to MEDIUM	<p>Multiple washrooms are located on each floor. No doors are present to access the public washrooms. Physical distancing in public washrooms might be difficult, however, overall exposure duration is shortened, and stalls provide barriers. There are high number of high-frequency touch surfaces, however, soap and water are readily available.</p> <p>Private washrooms for exclusive staff use are located on the second floor and are accessed through doors.</p> <p>Some washrooms have showers and lockers.</p> <p>Risk would be low for private washrooms and medium for public washrooms based on increased volume.</p>	<p>Implement the following and use signage to inform washroom occupants:</p> <ul style="list-style-type: none"> ✓ Prohibit use of showers and lockers. ✓ Set washroom capacity limits. ✓ Require face coverings in washrooms. ✓ Implement measures to encourage distancing while using urinals and sinks or install barriers. ✓ Encourage/ remind hygienic practices. ✓ Develop cleaning/ sanitizing plans for all washroom surfaces.



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<ul style="list-style-type: none">Lockers	MEDIUM	Lockers are available for students. While locker use is typically infrequent and short in duration, there may be potential for crowding, especially in between classes when multiple students may be accessing their lockers at the same time.	<ul style="list-style-type: none">✓ Prohibit locker use.
<ul style="list-style-type: none">Food service/ Cafeteria	HIGH	A cafeteria and dining room are located on the first floor. Exposure frequency and duration would be high due to close proximity gathering in lineups and while eating at tables, especially during typical mealtimes.	<ul style="list-style-type: none">✓ Close area remove seating and post signage and encourage building occupants to bring their own food.✓ If dining room remains open, remove some furnishings to allow for physical distancing.✓ If cafeteria remains open, establish a restaurant specific plan for service delivery.✓ If cafeteria remains open, consider use of disposable dishware or provide PPE for handling of used dishes.✓ Require face coverings in cafeteria and dining room areas unless seated and physical distancing is maintained.
<ul style="list-style-type: none">Lounge areas	MEDIUM	Several lounge areas are located within the Site Building and may encourage gatherings where discussions occur resulting in increased transmission of droplets.	<ul style="list-style-type: none">✓ Limit occupancy or remove furnishings in lounge areas to maintain physical distancing.✓ Require face coverings.✓ Communicate physical distancing requirements through signage.



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<ul style="list-style-type: none">Deliveries	MEDIUM	Deliveries are received either at the loading dock or through the hanger. Internal mail services are brought directly to reception area in room 110, library, tool crib, or mail room in rooms 120A and 270B. Evidence of viral transmission via packaging has been limited; Anticipated viral dose from packaging is assumed to be low. However, risks to reception is medium if interaction with delivery staff requires a signature or creates traffic.	<ul style="list-style-type: none">✓ Implement process for deliveries to prevent direct contact with others, including designated delivery entrances if possible.✓ Provide training for package handling and implement frequent hand washing.✓ Require face coverings for all visitors and staff when visitors arrive.✓ Develop delivery/mail reception plan for shared items (e.g. pens, paperwork etc.).
<ul style="list-style-type: none">Water FountainsVending Machines	HIGH	Water fountains and vending machines are located in various locations throughout the Site Building. Exposure duration and frequency is expected to be low, however these do represent high-touch surface. In addition, improper use of water fountains (i.e. direct contact of mouth to waterspout) causes contamination and potential viral spread.	<ul style="list-style-type: none">✓ Prohibit/block use of drinking water fountains and touch button water bottle fillers encourage building occupants to bring their own water.✓ Keep open touchless water bottle fillers and treat as high touch points for cleaning and sanitizing.✓ Prohibit use of vending machines/ candy dispensers.✓ Encourage building occupants to bring their own water.
<ul style="list-style-type: none">Mechanical/Electrical Spaces	LOW	Mechanical/electrical spaces will be only be accessible by building operators and/or select staff.	<ul style="list-style-type: none">✓ Enhanced cleaning measures and protocols.✓ Limit occupants.



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<ul style="list-style-type: none"> • Building Maintenance/ Contractors/ Renovations 	LOW	<p>Typical building maintenance activities are carried out on-Site and generally do not interfere with work/ class schedules. Risk to exposure is low due to assumed limited interaction with building occupants.</p>	<ul style="list-style-type: none"> ✓ Maintain physical distancing or use face coverings when not possible. ✓ Use PPE (gloves) for high touch surfaces that can't be cleaned or are touched by multiple people. ✓ Enhanced cleaning protocols for shared tools.
Building Conditions			
<ul style="list-style-type: none"> • Humidity optimized (%) • HVAC system for building (fresh air intake) • Exhaust vents in washrooms • Other exhaust vents (kitchens) 	LOW	<p>Air/ ventilation is not believed to be a primary means of viral spread and humidity is believed to play a role in viral transmission.</p> <p>Exhaust ventilation is present in all washrooms and cafeteria.</p>	<ul style="list-style-type: none"> ✓ Manage humidity (40-60%). ✓ Optimize ventilation rates. ✓ Where possible keep HVAC running 24/7. ✓ Regular HVAC maintenance/ filter changes. ✓ Consider particulate or air quality monitoring to determine air quality.
Instructional and Learning Spaces			
<ul style="list-style-type: none"> • Traditional Classrooms • Laboratories and Workshops • Test Centers • Aircraft Hanger 	HIGH	<p>Classrooms of various sizes are located throughout the Site Building. Exposure frequency and duration is high since students and instructors are typically required to be present at the same time for prolonged periods. In addition, discussions are typically frequent resulting in continuous transmission of droplets. Instructors may provide documents to students resulting in close contact.</p> <p>Various laboratories and workshops for medical, automotive, mechanical or scientific learning and research purposes are located throughout the Site Building. Computers in computer labs are in close</p>	<ul style="list-style-type: none"> ✓ Create room-specific plans to limit capacity. ✓ Require face coverings when in classrooms, labs and other learning spaces. ✓ Prohibit distribution of documents in class. ✓ Limit on-Site activities to shorter durations to limit required breaks and congregation by students from various classes; discourage congregation; stagger breaks. ✓ Assign student specific equipment where possible. ✓ Disinfection procedure for shared equipment.



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		<p>proximity. On-going discussion and teachings in these rooms results in continuous transmission of droplets. Equipment in these rooms may be in close proximity and characterized as high-touch surfaces. Some special equipment requires multiple individuals to be in close proximity, which represents a high risk of exposure.</p> <p>Test centers for written and computer tests may allow for some close contact of individuals but is assumed to be a lower risk than learning spaces due to the nature of testing to be a private activity.</p> <p>Some courses have multiple sessions, and some classrooms are used multiple times through the day by different individuals. Students have breaks during classes and tend to gather and have discussions.</p> <p>An aircraft hangar is located in the middle of the site, with adjacent trade shops and a tool room that is accessed by staff only.</p>	<ul style="list-style-type: none"> ✓ Re-arrange furniture and position of instructor for physical distancing. ✓ Remove unnecessary classroom items or mark as do not use. ✓ Develop program and room-specific plans for labs and shops for equipment use and necessary instruction to maintain physical distance or install barriers and communicate through signage and/or floor tape/markings. ✓ Enhanced cleaning/ sanitizing plans particularly between classes and allow appropriate time between room use for adequate disinfection. ✓ Require face coverings when individuals are required to be in close contact with others. ✓ Establish class cohorts for the duration of the program. ✓ Increase hand washing/ sanitizing stations. ✓ Provide training to instructors and students.
<ul style="list-style-type: none"> • Library 	HIGH	<p>A library, consisting of computer and workstations. is located on the first floor. There is potential for crowding around library staff desks, workstations and books. Library staff have the potential to work in close proximity. Books represent high-touch surfaces, with a level of risk dependent on the rate of turnover. However, similar to packages evidence of viral transmission via paper and books has been limited; anticipated viral dose from these items is assumed to be low. Frequency</p>	<ul style="list-style-type: none"> ✓ Occupancy limit for library as a whole and smaller workstation areas, communicated through signage. ✓ Re-arrange desks, tables and computer stations or provide barriers. ✓ Require face coverings while in libraries. ✓ Physical distancing signage. ✓ Limit book access to library coordinator or develop plan for reduced book turnover rate.



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		and duration are high due to close proximity seating and prolonged periods of congregation, especially considering the computer stations are used to support online classes.	<ul style="list-style-type: none"> ✓ Glove and face covering use when handling items (i.e. books, equipment) to be checked-in and checked-out. ✓ Stagger staff shifts. ✓ Enhanced cleaning/ sanitizing plans. ✓ Hand sanitizing stations throughout. ✓ Mitigate contact with doorknobs by: <ul style="list-style-type: none"> • Providing tissues; • Providing hand sanitizer; or • Leaving doors open
Office Building Workspace Layout			
<ul style="list-style-type: none"> • Private offices 	LOW	Many private offices have small tables in addition to working desks. Offices are typically used by a single occupant; however, some spaces are large enough to accommodate physical distancing with two occupants.	<ul style="list-style-type: none"> ✓ Limit occupancy. ✓ Physical distancing. ✓ Implement a clean desk policy and cleaning/ sanitizing plan for shared desks.
<ul style="list-style-type: none"> • Cubicles • Boardrooms 	MEDIUM	<p>Cubicles are typically used by one individual; however, spaces are large enough to accommodate physical distancing with two occupants. Tall barriers generally separate cubicles from other cubicles and adjacent walking areas; however, some gaps are present in the barriers.</p> <p>Boardrooms consist of seating and tables that are in close proximity.</p>	<p>Cubicles:</p> <ul style="list-style-type: none"> ✓ Assign cubicles to specific people; ✓ Implement a clean desk policy and cleaning/ sanitizing plan for shared desks; ✓ Close barrier gaps to maintain physical distancing; ✓ Limit seating/rearrange tables in boardrooms for physical distancing; ✓ Encourage web-based meetings; or ✓ Limit occupancy for boardrooms using signage.



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<ul style="list-style-type: none"> • Training 	LOW	<p>In person training sessions for staff may be conducted on-Site; however, training is also available online. Risk is considered medium since training is limited to select people known to the Client and participation can be controlled, and it is presumed training is relatively infrequent.</p>	<ul style="list-style-type: none"> ✓ Prohibit in-person training (continue with online only).
Workspace Shared Areas Layout/ Setting			
<ul style="list-style-type: none"> • Shared lunchrooms • Kitchenette • Coffee areas • Copy/printing areas 	HIGH	<p>The following shared break areas exist: a lunchroom, kitchenette and several coffee areas. The kitchenette and coffee areas are small and there is risk of crowding.</p> <p>Shared dishware, coffee pots and tables entailing frequent touching. The main avenue for spread is direct contact with saliva/droplets. Frequency and duration may be high at close proximity seating/tables.</p> <p>Possibility for crowding in copy/ printing areas. Buttons on shared office equipment (printers/ copiers) are high touch surfaces.</p>	<ul style="list-style-type: none"> ✓ Limit capacity to small areas using signage. ✓ Require face coverings when not seated. ✓ Directional entry/ exit routes where possible using signage. ✓ Remove/ block seating to allow for physical distancing. ✓ Remove any unnecessary materials. ✓ Remove any self-serve supplies and establish a procurement process for stationaries. ✓ Signage for proper hygiene (i.e. handwashing) and develop protocol for sanitizing appliances/ coffee pots before and after use; alternatively remove all dishware and coffee pots. ✓ Eliminate shared dishes/utensils. ✓ Enhanced cleaning measures and protocols. ✓ Mitigate risks from contact with doorknobs, printers/copiers etc. by: <ul style="list-style-type: none"> • Providing tissues;



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			<ul style="list-style-type: none"> • Providing hand sanitizer; or • Leaving doors open.
<ul style="list-style-type: none"> • Storage rooms 	LOW	<p>Frequency and duration in storage rooms are low considering people tend not to congregate in these areas; however; spaces may be small.</p>	<ul style="list-style-type: none"> ✓ Limit occupancy using signage. ✓ Mitigate risks from contact with doorknobs by: <ul style="list-style-type: none"> • Providing tissues; or • Providing hand sanitizer.
Non-Regular Activities			
<ul style="list-style-type: none"> • Fire Drills • Fire/ First Aid • Fire doors 	MEDIUM	<p>Emergency drills or actual events could result in disorderly conduct and crowding.</p> <p>Security staff act as first aid attendants. A first aid room is located on the first floor. In a first aid emergency, the attendant will be required to be in close proximity with the injured.</p> <p>Risk level is considered medium due to the short duration of building egress during drills and availability of fresh air during mustering outdoors.</p>	<ul style="list-style-type: none"> ✓ Prepare emergency plan for non-scheduled maintenance, illness or fire. ✓ Consider alternate methods for doing drills ✓ Limit occupancy to first aid room to only allow the attendant and injured person. ✓ Develop plan for PPE use in close proximity in first aid emergencies.
Other Building Access Routes			
<ul style="list-style-type: none"> • Elevators • Stairs • Outdoor areas • Indoor/outdoors areas with high touch surfaces 	MEDIUM	<p>Staff may require the use of stairwells and elevators to access certain workspaces. There is potential for crowding in elevators and stairwells, however exposure is likely to be infrequent and duration is likely to be low. High frequency touch areas include doors, stairway handrails, waste receptacle, keypads, elevator buttons, appliances in shared spaces (e.g. microwaves, refrigerators, etc.) and indoor and outdoor seating.</p>	<ul style="list-style-type: none"> ✓ Mitigate risks from contact with doorknobs by: <ul style="list-style-type: none"> • Providing tissues; • Providing hand sanitizer; or • Leaving doors open. ✓ Limit entry/ exit through certain doors. ✓ Implement occupancy limits and elevator protocols, and require face coverings.



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		<p>There is potential for gatherings to occur in outdoor settings such as at various outdoor benches/ seating/ dining areas and at the bus stop located to the west of the north portion of the Ste Building. Risk of exposure in outdoor settings is lower than indoor environments, however precautions to maintain physical distance is still recommended.</p>	<ul style="list-style-type: none"> ✓ Provide sanitizing stations. ✓ Use signage/floor markings at bus stop to maintain physical distancing and prevent loitering. <p>High-touch areas:</p> <ul style="list-style-type: none"> ✓ Signage re: touching buttons/ stair handrails. ✓ Frequent cleaning of high touch areas. ✓ Remove waste receptacle lid or provide sanitizing station. ✓ Restrict/ block outdoor benches/ seating/tables. ✓ Sanitizing stations near all high touch surfaces.
<ul style="list-style-type: none"> • Parking (indoor/ outdoor/ car park) 	LOW	<p>Students and staff may have access to vehicle parking within the vicinity of the Site. Parking areas are conducive to low exposure duration and frequency and are likely to have better ventilation than indoor environments. Parking kiosks are considered high touch surfaces.</p>	<ul style="list-style-type: none"> ✓ Encourage physical distancing measures through signage. ✓ Promote contactless payment. ✓ Prepare enhanced cleaning/ sanitizing plans.
Extended Vacancy Issues			
<ul style="list-style-type: none"> • Legionella/ Water quality • Mould • HVAC routine maintenance • Floor drains 	LOW	<p>The Site has been under continued (limited) occupancy during the pandemic and were never completely shut down. Water quality, mould and HVAC maintenance issues are not anticipated.</p>	<ul style="list-style-type: none"> ✓ Water system flush. ✓ Change HVAC filters.