

Royal BC Museum – Collections and Research Building
Colwood, BC

Schedule 1 – Statement of Requirements

Design-Build Agreement

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Part 1 Interpretation

1.1 General

- 1.1.1 This Schedule 1 is written as an output specification and defines what the Design-Builder will achieve in the Design and the Construction. Except where otherwise expressly stated within this Schedule 1, the Design-Builder will carry out the Design and the Construction as required and contemplated by each provision of this Schedule 1, whether or not the provision is written as an obligation of the Design-Builder or stated in the imperative form.
- 1.1.2 Where “cost-effective,” “appropriate,” “sufficient,” “minimize,” and related and similar terms are used in this Schedule 1, they will be construed and interpreted in terms of whether they are cost-effective, appropriate, sufficient, or minimize, from the perspective of a prudent public owner of a collections and research building that is designed and constructed for the public owner through a design-build model, where the prudent public owner balances capital costs against maintenance, operations, security, reliability and all of the costs over the life of that facility.
- 1.1.3 With respect to any specific requirement set out in this Schedule 1, including any requirement to source equipment or materials of a certain brand name, the Design-Builder may, at any time, request that the Owner accept an Equivalent by submitting to the Owner details of the proposed Equivalent, together with such supporting documentation and information as the Owner may require. Acceptance of an Equivalent may, in the discretion of the Owner, be withheld or may be granted subject to such conditions as the Owner, in its discretion, considers appropriate. For certainty, any accepted Equivalent will not constitute or give rise to a Change and will be sourced and implemented at the Design-Builder’s sole cost.
- 1.1.4 Unless expressly stated otherwise, each reference in this Schedule 1 to a code, standard, specification, data, or guideline (each of which is a Standard, as defined in this Agreement) will be deemed to mean the latest current version of that code, standard, specification, data or guideline, including any amendments or supplements thereto, as they are in force from time to time. For certainty, Section 64 of this Agreement sets out the parties’ rights in respect of any change to applicable Laws or Standards that comes into effect after the Effective Date.
- 1.1.5 For all metric dimensions specified, the closest standard imperial dimension is considered equivalent.

1.2 Definitions

Note that all capitalized room names used in this Schedule 1 have the meaning as identified in the Functional Space Requirements, found in APPENDIX 1A-1 – Functional Program Narrative.

“Authority Having Jurisdiction” means a person who has the delegated authority to determine, mandate, and enforce code requirements established by jurisdictional governing bodies.

“BC Building Act” means the *British Columbia Building Act* and includes the British Columbia Building Code (BCBC).

“Borrowed Light” means that there will be a window in the direction of an exterior window, and the centre of the space falls within the 8m light radii (10m light radius if the area is over 45m²).

“Building Envelope Consultant” means a building technology professional who specializes in the design and inspection of all elements of the building envelope, including roofs, walls, foundations, and their component parts.

“Building Systems” means the interacting or interdependent mechanical, electrical, and other system components that comprise a building such as structural, roofing, plumbing, HVAC, water, sanitary sewer, and electrical, communication and security systems.

“Component” means a cohesive grouping of activities or spaces related by service or physical arrangement. A Component may or may not be a department since the term “department” refers to an administrative rather than a functional organization of space.

“Crime Prevention Through Environmental Design” or **“CPTED”** means a multi-disciplinary approach to deterring undesirable and criminal activity and behaviour through environmental design.

“Design Capacity” means the maximum number of Occupants.

“Design Life” means the period of time for which a component, device, or system is expected to function within its specified parameters without significant repairs.

“Direct Natural Light” means that the space will have an exterior window and has the same meaning when referenced as “direct daylight”.

“Environmental Separation” means a vertical or horizontal assembly between different environments. Assembly will control the passage of air, vapour, temperature, and humidity.

“Equivalent” means an alternative to a requirement set out in this Schedule 1 related to the Design or the Construction that is equal to or better than the relevant requirement and that meets the Owner’s objectives as set out in this Agreement.

“Functional Space Requirements” means the list, found in APPENDIX 1A-3 – Functional Program Room List, of required spaces and associated floor areas that will be included in the design of the Facility.

“Good Industry Practice” means using standards, practices, methods, and procedures to a good commercial standard, conforming to Law and exercising that degree of skill and care, diligence, prudence, and foresight which would reasonably and ordinarily be expected from a qualified, skilled and experienced Person engaged in a similar type of undertaking under the same or similar circumstances.

“**Indicative Design**” is defined as per section 2.6 of this Statement of Requirements.

“**Indirect Daylight**” has the same meaning as “Borrowed Light”

“**Local Indigenous**” means the territory of the Lekwungen peoples

“**Industry Standard**” means generally accepted technical requirements, methods, processes, and practices followed by members of an industry.

“**Integrated Design**” means a comprehensive, holistic approach to the design process.

“**Mass Timber**” means timber or engineered wood products (including prefabricated panels, beams, and columns made from thick, compressed layers of wood) will be used as the primary load-bearing structural element.

“**Natural Light**” means natural light sourced from the sun.

“**Net Area or Net Square Meters (NSM)**” means the horizontal area of space assignable to a specific function. The Net Area of space is measured to the inside face of wall surfaces.

“**Occupant**” means any Staff, visitor, contractor, service provider, or another person who is within the confines of the Facility.

“**Required NSM**” means the NSM amount specifically stated in APPENDIX 1A-3 – Functional Program Room List.

“**Royal BC Museum**” has the same meaning given to the term “Owner.”

“**Security Operations Centre (SOC)**” is synonymous with Security Command Centre.

“**Staff**” means employees of the Owner.

“**Structure**” means any constructed part of the Facility, including fencing.

“**Sub-Component**” means a room or activity that serves to support the operations of a Functional Component.

“**Utility**” includes power, gas, water, and communication providers.

1.3 Acronym List

ACH – Air Changes per Hour
AC – Air Conditioning
ACS - Access Control System
AFFL – Above Finished Floor Level
AFUE - Annual Fuel Utilization Efficiency
AHC – Architectural Hardware Consultant
ANSI - American National Standards Institute
API - Application Programming Interface
ARCAL – Aircraft Radio Control of Aerodrome Lighting
AIBC – Architectural Institute of British Columbia
ASHRAE - American Society of Heating, Refrigerating and Air-conditioning Engineers
ASME - American Society of Mechanical Engineers
ASPE - American Society of Plumbing Engineers
ASTM - American Society for Testing and Materials
AV / IT – Audio Visual / Information Technology
AWMAC – Architectural Woodworker Manufacturers Association of Canada
AWWA – American Water Works Association
BCBC – British Columbia Building Code
BCERMS - British Columbia Emergency Response Management System
BCICA - British Columbia Insulation Contractors Association
BCLNA - British Columbia Landscape & Nursery Association
BCSLA - British Columbia Society of Landscape Architects
B/F – Barrier Free
BGSM – Building Gross Square Meters
BICSI - Building Industry Consulting Service International
BIFMA – Business and Institutional Furniture Manufacturing Association
BMS - Building Management System
BSCS - Building Security & Communications Systems
BSC – Biological Safety Cabinets
BSL – Biosafety Level
CA (reel) – Compressed Air reel
CATV – Community Access Television
CCD – Charge Couple Device
CCI – Canadian Conservation Institute
CCTV – Closed Circuit Television
CSDFMA - Canadian Steel Door and Frame Manufacturers
CEC – Canadian Electrical Code
CER – Central Emergency Room
CPTED - Crime Prevention Through Environmental Design
CFC – Chlorofluorocarbon
CFCI – Contractor Furnished Contractor Installed
CFL – Compact Fluorescent Lamp
CFW – Curtain Wall Facade
CGA - Compressed Gas Association
CGSM – Component Gross Square Meters
CIF – Common Intermediate Format
CISCA - Ceiling Interior Systems Construction Association
CLEC – Competitive Local Exchange Carrier
CMMS – Computerized Maintenance Management System
CMU – Concrete Masonry Unit
CAN/CSA - Canadian Standards Association
CAN/CGSB - Underwriters Laboratory of Canada

CAN/ULC - Underwriters Laboratories of Canada
CODEC – Coder/Decoder
CPTED - Crime Prevention Through Environmental Design
CPU – Central Processing Unit
CRB – Collections and Research Building
CRTC – Canadian Radio-television and Telecommunications Commission
CSA - Canadian Standards Association
CT – Current Transformer
Cx – Commissioning
DARS – Digital Audio Recording System
DC - Direct Current
DCS - Door Control System
DDC - Direct Digital Controls
DEC – Detention Equipment Contractor
DFO - Department of Fisheries and Oceans
DHI - Door and Hardware Institute of Canada
DID – Direct Inward Dialing
DLI – Daily Light Integral
DRP – Disaster Recovery Plan
DSS - Digital Security System
DVMS - Digital Video Management System
EIFS - Exterior Insulation Finishing System EGBC – Engineers and Geoscientists of British Columbia
EIA/TIA – Electronics Industry Association/Telecommunications Industry Association
EMI - ElectroMagnetic Interference
EMT – Electric Metallic Tubing
EPS/EXPS – Extruded Polystyrene / Expanded Polystyrene
ESC – Electronic Security Control
ESCS - Electronic Security and Communication System
ESS - Electronic Security Systems
EV – Electric Vehicle
EVSC – Electric Vehicle Supply Equipment
FA – Fire Alarm
FACP – Fire Alarm Control Panel
FE - Future Expansion
FIPPA – Freedom of Information and Protection of Privacy Act
FM – Factory Mutual
FOV – Field of View
G1S – Good one Side
GCA - Glazing Contractors Association of B.C.
GHG – Greenhouse Gas
GN – Gender Neutral
GPS – Global Positioning Satellite
GUI - Graphical User Interface
GWB – Gypsum Wall Board
HAZMAT - Hazardous Materials
HDMSS – High-Density Mobile Storage System
HEPA - High-Efficiency Particulate Air
HID - High-Intensity Discharge
HP – Horsepower
HPAS – Hewlett Packard Advanced Solutions
HRC – High Rupturing Capacity (fuse type)
HV – High Voltage

HVAC - Heating, Ventilating, and Air-Conditioning
IAQ-Interior Air Quality
IC - INT systems System
IDS / IPS – Intrusion Detection System / Intrusion Prevention System
IEEE - Institute of Electrical and Electronic Engineers
IGMAC - Insulating Glass Manufacturers Association of Canada
IIABC - Irrigation Industry Association of British Columbia
IT – Information Technology
IMIT – Information Management Information Technology
INT - Intercom
IP – Internet Protocol
IPM – Integrated Pest Management
ISO – International Organization for Standardization
IT/Tel – Information Technology / Telecommunication
IZ – Invertebrate Zoology
KW – Kilowatt
KWH – Kilowatt hours
KV – Kilovolt
KVA – Kilovolt Ampere
LAN – Local Area Network
LEC – Local Exchange Carrier
LCD – Liquid Crystal Display
LED – Light Emitting Diode
LEED® v4 -Leadership in Energy and Environmental Design Version 4.0 and/or Version 4.1
LID – Low Impact Design
Mb – Megabit
MCP – Motor Circuit Protector
MCR – Main Electronic & Communication Systems Room
MEF – Main Entrance Facility
MFP – Multi-Function Peripheral (or Multi-Function Printer)
MMCD – Master Municipal Contract Documents
MoESS – Manual of Engineering Standards and Specifications
MPI – Master Painters Institute
M+E - Mechanical and Electrical
NBCC - National Building Code of Canada
NC – Noise Criterion
NEMA - National Electrical Manufacturers Association
NFPA - National Fire Protection Association
NTSC – National Television Standards Committee
NRC-National Research Council
NTP - Network Time Protocol
NSM – Net Square Metres
OSB - Oriented Strand Board
PA – Paging Announcement (Paging System)
PATS – Personal Alarm Transmission System
PBX – Private Branch Exchange
PC – Personal Computer
PDAS - Panic Duress Alarm System
PIDS - Perimeter Intrusion Detection System
PIPEDA – Personal Information Protection and Electronic Documents Act
PIR - Passive Infrared
PoE – Power Over Ethernet

PPE - Personal Protective Equipment
PT – Potential Transformer
PTS - Pneumatic Tube System
PTZ – Pan Tilt Zoom
PV – Photovoltaic
PVC – Polyvinyl Chloride
QoS – Quality of Service
RAID - Redundant Array of Independent Disks
RCDD – Registered Communications Distribution Designer
RBCM – Royal British Columbia Museum
RCABC – Roofing Contractors Association of British Columbia RoofStar 10-year Guarantee
RFA - Request For Application
RFID – Radio Frequency Identification
RGC - Roofing Contractors Association of British Columbia
RHFACTM – Rick Hansen Foundation Accessibility Certification
RTLS – Real-Time Location System
SBS – Modified Bitumen Roofing System
SAM - Security Alarm Monitoring
SAN - Storage Array Network
SDK - Software development kit
SER – Structural Engineer of Record
SES – Safety Engineering Society
SIP – Session Initiated Protocol
SLC – Security Level Classification
SMACNA – Sheet Metal and Air Conditioning Contractors National Association
SNR – Signal to Noise Ratio
SOC - Security Operations Centre
SPD- Surge Protective Device
SQL – Structured Query Language
SRI – Solar Reflectance Index
SSD - Security Service Desk
STC – Sound Transmission Coefficient
STI – Sound Transmission Index
TAB – Testing, adjusting, and balancing
TCO – Total Cost of Ownership
TCP – Transmission Control Protocol
TDM – Time Division Multiplexing
THD - Total Harmonic Distortion
TIA – Telecommunications Industry Association
TR – Telecommunications Room
TTMAC – Terrazzo and Tile Manufacturers Association of Canada
TVOC – Total Volatile Organic Compounds
TVSS - Transient Voltage Surge Suppressor
UHF – Ultra High-Frequency Radio System
UL - Underwriters Lab
ULC - Underwriters' Laboratories of Canada
UPS – Uninterruptible Power Supply
USGBC – United States Green Building Code
V – Volt(s)
VZ – Vertebrate Zoology
VAR – Volt Ampere Reactive power
VFD - Variable Frequency Drive
VLAN – Virtual Local Area Network

VOC – Volatile Organic Compounds
VoIP – Voice Over Internet Protocol
VSS – Video Surveillance Systems
WAN – Wide Area Network
WAP2 – Wireless Application Protocol 2
WCB – WorkSafe BC
WH - Warnock Hersey
WMM – Wi-Fi Multimedia

Part 2 General

2.1 Standards

- 2.1.1 The Design-Builder will complete the Design and the Construction:
- 2.1.1.1 in accordance with all applicable Laws;
 - 2.1.1.2 in accordance with the requirements of this Agreement, including this Schedule 1;
 - 2.1.1.3 in accordance with all applicable codes, standards, specifications, and guidelines published by relevant standards organizations;
 - 2.1.1.4 having regard for the concerns, needs, and interests of:
 - (a) the Owner;
 - (b) all persons who will be Facility users; and
 - (c) the City of Colwood;
 - 2.1.1.5 in accordance with Good Industry Practice; and
 - 2.1.1.6 to the same standard that an experienced, prudent, and knowledgeable long-term owner of a high-quality collections and research facility in North America would employ.
- 2.1.2 If more than one of the applicable codes, standards, specifications, and guidelines published by relevant standards organizations applies to the Design or the Construction then the most stringent code, standard, specification, or guideline will be deemed to apply, with the intent that the code, standard, specification or guideline that would produce the highest level of quality, safety, security, reliability, durability, performance, and service will govern.

2.2 Use of Wood

- 2.2.1 Raw materials used by the Design-Builder in the Facility's Mass Timber products will be sustainably grown and not sourced from old-growth forests. The Design-Builder will provide the Owner with the chain of custody documentation for sourcing raw materials used in the Facility's Mass Timber products that demonstrate the wood was sustainably grown and not sourced from old-growth forests before commencing any Work using such raw materials.
- 2.2.2 Beyond conformance to the *Wood First Act* (British Columbia), the Project is intended to showcase Mass Timber implementation.
- 2.2.3 Use wood as a feature in the interior and exterior of the Building for both structural and non-structural components.
- 2.2.4 The base building superstructure will be Mass Timber in either a pure or composite form unless noted otherwise.
- 2.2.5 Installed wood will be protected to prevent off-gassing as required by the CCI Designation Requirements.

2.3 Rooms & Spaces

- 2.3.1 The Design-Builder will design and construct the Facility:
- 2.3.1.1 to accommodate all of the spaces, activities, functions, design features, and adjacencies described in this Statement of Requirement and all Appendices;
 - 2.3.1.2 in accordance with the requirements of this Schedule 1 subject to any adjustments or refinements made through the Schedule 2 – Review Procedure: and
- 2.3.2 If the proposed NSM for any room or space, except for 2.3.3, is reduced from the Required NSM by a variance of 5% or more, the Design-Builder will submit rationale, which includes evidence of retained functionality, for each of those proposed rooms or spaces to the Owner's satisfaction. Upon reviewing the rationale, if the proposed room or space variance is deemed unsatisfactory by the Owner, the Required NSM will be provided.
- 2.3.3 Reduction in the required NSM of each individual Collections Storage Area is not permitted.
- 2.3.4 Notwithstanding anything found in Schedule 1 and all Appendices, the Design-Builder will design and construct the Facility to include all rooms and spaces as required to comply with the terms of this Agreement, including sufficient rooms and areas as necessary for the operation and maintenance of the Facility.

2.4 Processes & Submittals

- 2.4.1 Refer to Schedule 2 for all requirements for the review process pursuant to Schedule 2 - Review Procedure.
- 2.4.2 Threat and Risk Assessments
- 2.4.2.1 The Design-Builder will, by the date specified in the Submittal Schedule, submit to the Owner the following:
- (a) with Design Package B, a comprehensive threat and risk assessment report for the Facility (the "Facility Threat and Risk Assessment"), identifying specific risks and vulnerabilities to people, property, the Owner, and the surrounding community associated with the Facility, and describing how the design of the Facility will mitigate those risks and vulnerabilities.; and
 - (b) with Design Package C, a comprehensive threat and risk assessment report for the ESCS, including the ESCS network, all ESCS servers, and ESC subsystems (the "Network Threat and Risk Assessment"), identifying:
 - (i) specific threats and vulnerabilities which can compromise the security of the ESCS, the ESCS network, any ESCS server, or any ESC subsystem;
 - (ii) the likelihood and risk level associated with each identified threat or vulnerability;

- (iii) the impact to the ESCS, including the ESCS network, all ESCS servers, and all ESC subsystems, should the identified threat or vulnerability materialize or be exploited; and
- (iv) available mitigation strategies and contingency plans.

2.4.2.2 The Facility Threat and Risk Assessment and the Network Threat and Risk Assessment will be subject to the Owner's review and approval pursuant to Schedule 2 - Review Procedure. The Design-Builder will implement the mitigation strategies and contingency plans described in the "Reviewed" Facility Threat and Risk Assessment and Network Threat and Risk Assessment in developing the design of the Facility and the ESCS.

2.5 Sourcing of Equipment and Materials

- 2.5.1 Unless this Statement of Requirements expressly allocates to the Owner a specific responsibility in respect of the supply and/or installation of products, materials, equipment, furniture, or furnishings, the Design-Builder will be responsible to supply and install any products, equipment, furniture, and furnishings that are specified will be provided by these Statement of Requirements and included appendices.
- 2.5.2 All systems, equipment, products, components, and other materials incorporated into the Building will be new, unused and of a type and quality intended for use in a permanent building.

2.6 Indicative Design

- 2.6.1 An Indicative Design is provided in the Disclosed Data.
- 2.6.2 The Design-Builder may refer to the Indicative Design in the development of the Design, but the Owner makes no representation or warranty as to the reliability, accuracy, completeness, or correctness of any aspect of the Indicative Design.
- 2.6.3 The Indicative Design is relayed as a guide to demonstrate the Facility's required functional and operational objectives and is not intended to illustrate a singular design solution to site planning or functional department organization.
- 2.6.4 The Design-Builder will be completely responsible for all aspects of the Design and Construction of the Project whether any, all or none of the Indicative Design is used.
- 2.6.5 The Design-Builder will independently verify the reliability, accuracy, completeness, and correctness of any information contained in or inferred from the Indicative Design if the Design-Builder uses any such information in the Design.

Part 3 Project Principles

3.1 Project Values and Vision

- 3.1.1 Approximately 2% of the Royal BC Museum’s vast holdings of more than seven million objects are currently accessible to the public. Creating public access to the collections, with an access target of 50%, is one of the principle drivers for the museum modernization project and securing a safe environment for the collections. The CRB will show case Mass Timber construction and be an energy-efficient LEED® Gold certified building.
- 3.1.2 The Facility will create an environment for interdisciplinary work to thrive. Inviting the community into the Building as active co-curators, engaged researchers, and collaborators with a focus on equality and reciprocity will bring a new dynamic to the Owner's work and help unlock knowledge through collections-based research. The collections have been taken out of their original contexts, but the Facility will create a powerful platform for the Owner’s team to work alongside communities in developing new contexts for new understandings of these internationally important holdings, creating a world-class facility.
- 3.1.3 In addition to meeting the operational and functional requirements for museum activities, the CRB will enhance public awareness of Local Indigenous culture by honouring the Lekwungen peoples on whose Territory the building will reside. The Facility design will incorporate various permanent and temporary display design features in an impactful manner to achieve this goal.
- 3.1.4 The Facility will support the work of the archivists, curators, collections managers, conservators, technical staff, learning facilitators, and volunteers in collecting, cataloging, conserving, researching, storing, and interpreting cultural and natural history.
- 3.1.5 The design and functional requirements of the CRB are predicated on programmatic elements that give expression to our institutional mission and values - will become a hub where active citizens, teachers, students, researchers, scholars, museum practitioners, and diverse communities come together to further our collective knowledge.
- 3.1.6 The physical and digital spaces in the Building will provide unprecedented access for researchers, learners of all ages, and diverse community groups from the regional municipalities and across the province of British Columbia. Within this new environment, communities will lead in sharing their heritage and their knowledge, working with the Owner to increase public understanding of how their histories and values have shaped provincial life.
- 3.1.7 The overall aims of the Facility programming are to:
 - 3.1.7.1 Raise awareness of the collections and archives in the Owner’s care
 - 3.1.7.2 Broaden accessibility to collections in the care of the Owner and its expertise
 - 3.1.7.3 Deepen the Owner’s commitment to serving as a place for community and as a vibrant community resource

- 3.1.7.4 Expand and diversify the Owner’s audience – learners of all ages irrespective of their background, ethnicity, race, nationality, gender, disability, age, or developmental differences
- 3.1.8 The Owner’s aspirations and expectations for the CRB are informed by:
- 3.1.8.1 a shift in pedagogy that embraces 21st-century learning principles and integrates Local Indigenous ways of knowing into educational practices; focuses on place-based environmental learning;
 - 3.1.8.2 a surge in societal and technological change that necessitates a concerted effort to develop meaningful participatory relationships with active communities that are inclusive and accessible both onsite and online;
 - 3.1.8.3 the global imperative to decolonize power structures and democratize collections, which is exemplified by:
 - (a) the shift to a service-driven approach that informs all aspects of provision and access to collections and research by community stakeholders;
 - (b) compliance with the United Nations Declaration of the Rights of Local Indigenous Peoples Act and the British Columbia Declaration of the Rights of Indigenous Peoples Act;
 - (c) a museological imperative towards increased community relevancy that involves visitors to the CRB in collections development, incorporates inter-disciplinary research, user-generated content that augments current knowledge and opportunities for skills development for the broader spectrum of users; and
 - (d) the need to sustain diverse partnerships to increase the impact of foundational work conducted by Royal BC Museum research staff.
- 3.1.9 The Facility will be designed to accommodate program, service, work, and equipment changes with minimal Facility infrastructure impact.
- 3.1.10 The Facility will be designed with infrastructure that allows for upgrades and future flexibility in technology and technological progression with minimal disruption to ongoing operations.
- 3.1.11 All video displays throughout the Facility will be the most up-to-date reliable video display technologies available at the time of equipment procurement tied to Substantial Completion.
- 3.1.12 Design and construct the Facility to achieve a Design Life of 75 years minimum from Substantial Completion of the Project. Where component and assembly Design Service Lives cannot meet the 75-year minimum, use products with a service life consistent with Good Industry Practice, and design and construct components and assemblies will be readily replaced.

3.2 Sustainability

- 3.2.1 The Facility will be designed and constructed to:
 - 3.2.1.1 respect the land on which it is placed;
 - 3.2.1.2 respect the people and community it will serve;
 - 3.2.1.3 promote social equity;
 - 3.2.1.4 promote movement and activity;
 - 3.2.1.5 highlight educational opportunities and promote engagement;
 - 3.2.1.6 respond to the local climate;
 - 3.2.1.7 maximize energy efficiency;
 - 3.2.1.8 minimize embodied carbon, water use, and waste generation;
 - 3.2.1.9 maximize thermal comfort and indoor air quality for the Building's Occupants;
 - 3.2.1.10 be cost-effective and support the local economy.
- 3.2.2 The Design-Builder will design and construct the Facility to meet the energy and carbon targets outlined in Schedule 8.
- 3.2.3 The Design-Builder will design and construct the Facility using the passive design strategies outlined below, utilizing data-driven design and innovative strategies and solutions.
- 3.2.4 Passive Design Strategies
 - 3.2.4.1 Massing
 - (a) Minimize the envelope area to net usable floor area ratio.
 - 3.2.4.2 Orientation
 - (a) Orient glazing to maximize desirable heat gains, minimize heat loss where solar gains are not achievable, minimize overheating and prevent glare.
 - (b) Orient spaces to use solar heat gains and/or heat losses to help meet thermal comfort requirements while reducing mechanical systems.
 - (c) Orient the Building to respond to natural wind patterns.
 - (d) Use spaces with wider thermal requirement ranges as buffer spaces for those with narrow thermal requirement ranges.
 - 3.2.4.3 Envelope
 - (a) Use a window to wall ratio that will balance daylighting with the Building's energy performance.

- (b) Use external and/or internal shading to reduce solar radiation intensities on glazing where heat gains are undesirable and where glare or increased surface temperatures will reduce Occupant comfort.
- (c) The Building envelope will have continuous insulation and a continuous air seal.
- (d) The Design-Builder will conduct a blower door test in accordance with Method A of the European Norms Standard EN 13829: 2001 “Thermal Performance of Buildings. Determination of Air Permeability of Buildings. Fan Pressurization Method.”
- (e) Refer to section 6.8.4.6 of this Schedule one for interior daylighting requirements.

3.2.4.4 Passive Ventilation and Cooling

- (a) Operable windows are only permitted within the Office Area.

Part 4 Facility Principles

4.1 Project Capacity

4.1.1 The Facility will be designed to accommodate up to 250 people at one time.

4.1.2 Movement Control

4.1.2.1 The circulation model for the Facility will:

- (a) minimize the number of exterior control points (doors);
- (b) provide clear, direct movement patterns;
- (c) clearly define and identify all areas accessible to the public and identify those areas that are restricted; and
- (d) provide internal layouts, circulation, and links between departments and sub-departments that are clearly defined for way finding and orientation for visitors and staff, and pathways with clearances required for collections.

4.1.2.2 Provide elevators where necessary. Elevators will be sized to accommodate the largest piece of equipment or collection item required for any floors above grade.

Part 5 Design Principles

5.1 General Requirements

5.1.1 Design and construct the Facility to meet the following requirements:

5.1.1.1 High-quality, safe, and secure collections environments that meet CCI Designation Requirements.

- 5.1.1.2 The Facility will respect, reflect and incorporate aspects of Local Indigenous culture through:
- (a) following specific directives contained in this Statement of Requirements; and
 - (b) post-award consultation with the Owner during design refinement stages.
- 5.1.1.3 Provide exterior opportunities for incorporation of Local Indigenous art. At a minimum, the following will be required:
- (a) exterior façade mural zone located at a prominent location with a minimum size of 40m² for the installation of Local Indigenous art by others.
 - (b) exterior Site locations designated for the installation of art by others.
- 5.1.1.4 Provide integrated and adaptive technology, including high-performing, upgradable and proven technology for telecommunications infrastructure, wireless access, audio visual infrastructure, and security infrastructure.
- 5.1.1.5 Service spaces will not be accessed through collections spaces.
- 5.1.1.6 The Facility will incorporate CPTED principles.
- 5.1.1.7 The Facility will be designed to meet Canadian Biosafety Standards and Guidelines, Worksafe BC.
- 5.1.1.8 The Facility will incorporate directives and recommendations from the following City of Colwood documents:
- (a) Latoria Sub Area Plan
 - (b) CD28 Zone – Latoria South
 - (c) City of Colwood Land Use Bylaw

5.2 Location, Access, and Servicing

5.2.1 Building Location and Orientation

- 5.2.1.1 The façade facing Metchosin Road will be designed to create a vibrant and positive public image.
- 5.2.1.2 Respecting the objective of Local Indigenous cultural integration, the main entrance of the Building will be oriented towards the water.
- 5.2.1.3 The Loading and Receiving Area will be positioned to minimize noise transfer and vehicle exhaust to adjacent planned residential zones.
- 5.2.1.4 The Facility will be situated on the Site to maximize the ability of the Owner to add collections storage space in the future. An expansion area

that can be easily cleared for future construction will be created directly adjacent to the Collections Storage Areas.

5.2.2 Building Access

5.2.2.1 Vehicular Network

- (a) Vehicle and pedestrian access will be from Ryder Hesjedal Way at the far north-west corner of the Site.
- (b) Design an efficient and intuitive vehicular network that includes a convenient visitor drop-off area near the primary building entrance, a visitor parking lot, designated bus parking, and access to the loading dock.
- (c) Provide distinct and uninterrupted access for emergency vehicles.
 - (i) Allow for two emergency vehicles to simultaneously access the Site.
 - (ii) The main entrance to the Site from Ryder Hesjedal Way will allow a second fire truck to pass a stationary fire truck.
- (d) Integrate the vehicular network with the pedestrian circulation layout to ensure visible connections, promote safe travel, and minimize conflict between vehicles and other modes of travel.
- (e) Integrate surface drainage patterns that direct stormwater to absorbent landscape and infiltration areas.
- (f) Drainage for the Site will be consistent with Stormwater Management Plan for Latoria South

5.2.2.2 Parking

- (a) Parking will be provided in accordance with the City of Colwood Land Use Bylaw.
- (b) Onsite parking will be designed as an integral part of the visitor arrival and learning experience and will meet the Project's core design values and vision.
- (c) Vehicular and pedestrian routes will be identifiable, intuitive, and welcoming when arriving to, leaving from, and within parking.
- (d) Organize parking stalls to allow for consolidated planting areas and bioswales that contribute to the stormwater management strategy. Avoid a monolithic impervious surface.
- (e) Provide a coordinated lighting plan for the parking lot to create safe pedestrian access to, from, and within parking areas at all times of the day and night.
- (f) Use tree canopy to provide shade and protection, and offset urban heat island effect:

- (i) Parking edges and internal parking areas will have shade trees at a ratio of one (1) tree for every four (4) parking spaces.

5.2.2.3 Bicycle Parking

- (a) Provide publicly accessible bike racks to meet City of Colwood standards.
 - (i) Public bike racks, including connecting steel components, will be hot-dipped galvanized stainless steel.
 - (ii) Connecting steel will be medium structural steel conforming to CSA-G40.4.
 - (iii) Provide e-bike charging stations for 10% of public bike stalls.
 - (iv) Locate in proximity to the main entry.
- (b) Provide secure, covered bike storage for staff that does not allow visibility of bikes for a minimum of 16 bikes.
 - (i) Incorporate mesh screening with wood finishes.
 - (ii) Provide e-bike charging stations for 2 Staff bike stalls.

5.2.2.4 The controlled access points into the Building will be the:

- (a) Vestibule – for public and Staff use.
- (b) Multi-Purpose Support – for public use.
- (c) Staff Entrance – for Staff and visitors requiring access to secure areas, courier, and mail deliveries.
 - (i) Provide landscaped visual separation between Staff Entrance and Loading Zones.
 - (ii) Will be in proximity to the secure bike storage.
- (d) Outside Loading Zone – for large deliveries
 - (i) Will be located away from residential neighbourhoods or designed to mitigated sound impact.
 - (ii) Waste will leave the Building through the Loading/Receiving Area department.
- (e) Learning Access #4A – Maker Space – for public use.
- (f) Lunch Room – Staff only.

5.2.2.5 The following exterior doors will have exterior canopy coverage:

- (a) Vestibule

- (b) Staff Entrance
- (c) EtOH Supply + HAZMAT
- (d) Field Gear
- (e) Site Maintenance Equipment
- (f) Site Supply Gardens
- (g) Learning Access #4a – Maker Space
- (h) Multi-Purpose Support
- (i) Lunch Room

5.2.2.6 All exterior doors will exit onto hardscape

5.2.3 Servicing

5.2.3.1 Locate equipment, fixtures, and distribution systems to provide:

- (a) Convenient access for the intended use;
- (b) Convenient access for ongoing maintenance;
- (c) Safe clearances around equipment, fixtures, and distribution systems;
- (d) Flexibility for future changes; and
- (e) Minimum interference with the functionality of spaces.

5.2.4 Building Expansion

5.2.4.1 The Facility will be designed to accommodate a future floor area expansion of the Collections Storage Area, with the ability to upgrade electrical, mechanical, and IT components.

5.3 Architectural Design Principles

5.3.1 The Facility will:

- 5.3.1.1 Accommodate approximately seven million objects and ~28 linear km of archives with room for future growth;
- 5.3.1.2 Be structurally designed on grids that optimize the efficiency of the HDMS specific to the sizes of each sub-department collection furniture;
- 5.3.1.3 Incorporate CPTED principles;
- 5.3.1.4 Respond to the Design Guidelines in Latoria South Sub Area Plan; and
- 5.3.1.5 Be fully accessible in all areas of the Facility.

- 5.3.2 Meet the requirements as described in the BC Building Accessibility Handbook 2020.
- 5.3.3 Be designed to accommodate ease of replacement of major equipment.
- 5.3.4 The Facility will be designed to:
 - 5.3.4.1 Appropriately represent a public building for the celebration and collection of arts and culture;
 - 5.3.4.2 Positively contribute to the neighbourhood, providing a welcoming and safe place for the community; and
 - 5.3.4.3 Provide architecturally interesting façades on all exterior elevations.
- 5.3.5 Interior Circulation Requirements
 - 5.3.5.1 Interior circulation requirements pertain to the circulation areas included as gross-up. This section does not apply to the Circulation Spine.
 - 5.3.5.2 The Central Services Corridor will connect the Offices, Staff Entry, Loading/Receiving, BOH Corridor, and the Circulation Spine.
 - (a) For the route connecting the Loading/Receiving Department to the Circulation Spine, provide a minimum corridor width of 3.4m with doors 3.1m x 3.1m. Clear height in this area will be min 3.7m.
 - (b) For all other routes, provide a minimum corridor width of 2.5m clear width. Clear height in this area will be min 3.1m.
 - 5.3.5.3 BOH Corridor will be 2.5m clear width. This corridor connects the Lab Areas to the Central Services Corridor. The clear height in this area will be 3.1m.
 - 5.3.5.4 Corridors from the Circulation Spine to the Collections Storage Areas will be a minimum of 2.5m clear width.
 - 5.3.5.5 All corridors where collections are not present will be a minimum of 1.5m clear width.
 - 5.3.5.6 All Collections Storage Areas will exit to the Collections Exit Corridor. Direct exiting from the Collection Storage Areas to the exterior is not permitted.
 - 5.3.5.7 Internal circulation within the Collections Storage Areas will be 1.8m clear width unless noted otherwise in APPENDIX 1B-1 Room Data Sheets.
 - 5.3.5.8 Provide drinking fountains within corridors in proximity to:
 - (a) Public Restrooms in the Entrance Area
 - (b) Learning Access #4A Maker Space
 - (c) Staff Lunch

(d) Central Services Corridor Showers.

5.3.5.9 Design Features and Objectives

- (a) Learning is for the public as well as staff. Whether publicly accessible or not, every space is conceived as a learning space, whether formally or informally, curated by Staff or by the communities in British Columbia, whether formal research or by chance encounter with a colleague.
- (b) Learning occurs from the moment of arrival on the Site. The Site's organization and features are opportunities to connect visitors through the experience of arrival and enjoyment of a range of programmatic spaces for formal and informal learning, including demonstration of the history and stewardship of the Site.
- (c) The public spaces and the visibility of the typically behind-the-scenes spaces immediately provide an engaging way for visitors to understand the work of the Owner and the vast collections of the Owner that is stored onsite.
- (d) Learning experiences will be dependent on the technology provided within the spaces.

5.4 Site Design Principles

5.4.1 Site Design Principles

- 5.4.1.1 Learning: Treat the landscape as an extension of the Building where active engagement with nature provides opportunities for holistic and relational learning, respecting Local Indigenous cultural influences.
- 5.4.1.2 Demonstrate: Provide a living example of how landscape and Building can work together to demonstrate leadership in sustainability. Engage the public and foster awareness of climate change through design that empowers Occupants to make informed decisions to engage as stewards of the landscape.
- 5.4.1.3 Performance: Foster an awareness of and showcase the transition toward a greener society and the climate-resilient relationship between the Site, Building, and ecological systems.
- 5.4.1.4 Identity: Create a sense of place and inspire Occupants to celebrate the importance of biodiversity, Local Indigenous culture, and the transformative effect of nature on our health and well-being.

5.4.2 Site Design Strategy

- 5.4.2.1 The Site design strategy will be prepared in consultation with:
 - (a) A registered Professional Biologist/Ecologist who specializes in meadow habitat and site restoration in a Pacific Northwest climate; and
 - (b) An intuitive wayfinding program with integrated interpretive elements and public art in consultation with the Owner.

5.4.3 Site Context and Critical Adjacencies

5.4.3.1 The Design-Builder will:

- (a) Provide a welcoming, engaging, and interactive learning experience with a unique sense of place and discovery;
- (b) Intuitively, functionally, and universally connect the Building with the Site programmatic areas;
- (c) Prioritize human connection with nature rooted in local history, ecology and culture;
- (d) Provide intentional outdoor spaces and program areas to support community festivals, school groups, family activities, summer camps, and individual experiences; and
- (e) Implement a site edge and adjacency strategy that:
 - (i) enhances neighbourhood experience regarding light, noise, and views to the Site;
 - (ii) allows for seamless and safe public access from the Site to neighbourhood parks and pathways, without the use of fencing;
 - (iii) responds to the future city park and the relevant components of the Latoria South Master Parks Plan through site planning; and
 - (iv) respects the adjacent properties at the Site perimeter.

5.4.4 Outdoor Program Areas

5.4.4.1 Arrival and Welcome

- (a) Create a welcoming staging area and destination gathering place for events, visitors, school groups, community members, and employees within the Cascadia Pacific Northwest thematic landscape. The Arrival and Welcome area will:
 - (i) Include the Entrance Walk and Outdoor Covered Gathering;
 - (ii) Create an intuitive gateway to the Building with a strong visual connection to the public lobby;
 - (iii) Accommodate activities from inside the Building to spill out into this programmed space;
 - (iv) Seamlessly connect to visitor parking, drop-off area, pathway network, and offsite sidewalks; and
 - (v) Provide universally accessible seating options that support contemplative, interactive, and social use.

5.4.4.2 Outdoor Learning

- (a) Provide opportunities for outdoor gathering, activity, and site-wide learning as a direct extension of the interior learning program. Outdoor Learning will:
 - (i) Include Learning Access #4B - Exterior Space, Open Play Meadow, and Site and Nature Play;
 - (ii) Allow for opportunity to explore and interact with native ecosystems;
 - (iii) Highlight the three Demonstration Landscapes: Cascadia Pacific Northwest, Garry Oak Meadow, and Wetland/Rain Garden;
 - (iv) Be designed and organized to accommodate a range of program use, group activity, and work with microclimate;
 - 1. Ensure easy access and clear views for guardian supervision;
 - (v) Design natural barriers to protect learning groups from vehicles.

5.4.4.3 Wetland Observation Deck

- (a) Provide opportunities for accessible outdoor gathering and learning of the wetland ecosystem. The Wetland Observation Deck will:
 - (i) Provide seating with views to wetland;
 - (ii) Provide slip-resistant, self-draining deck surface. The railing design will not support climbing. The use of preservative chemicals is unacceptable; and
 - (iii) Buffer the Wetland Observation Deck from driveways and parking areas with planting.

5.4.4.4 Garry Oak Gathering Circle

- (a) Provide an opportunity for outdoor gathering and learning within the Garry Oak Meadow. The Garry Oak Gathering Circle will:
 - (i) Include a circular-shaped seating area made of natural materials;
 - 1. Focus circular seating around a stone-lined fire pit with locking cover on the pit, flush to grade for safety when not in use;
 - 2. Provide two separate lockable power outlets and one lockable exterior hose bib; and

- (ii) Include plantings at the perimeter for the natural enclosure of the seating area.

5.4.4.5 Community Event Space

- (a) Provide a distinct zone within the parking area designed to accommodate public events, outdoor markets, festivals, fundraisers, and gatherings.
- (b) Designate the zone with traffic-rated pavement markings and landscape elements to identify and define the community event space.
- (c) Provide electrical and potable water connections to service food trucks, market vendors, and outdoor audio systems.
- (d) Provide a minimum zone of 750-1000m² inclusive of parking stalls.
- (e) The Design will not impact or impede vehicular and emergency circulation to the Site during events.

5.4.4.6 Demonstration Landscapes

- (a) The three demonstration landscapes will be a site-wide public learning experience.
- (b) The three demonstration landscapes are:
 - (i) Cascadia Pacific Northwest:
 1. Locate in the approach and arrival to the Site and Building;
 2. Include a combination of diverse native species representative of the Cascadia Pacific Northwest forest community, including deciduous trees, coniferous trees, shrubs, forbs, and groundcovers; and
 3. Employ a mix of plant material and size to create a natural woodland forest effect.
 - (ii) Garry Oak Meadow:
 1. Locate in a continuous planting zone throughout the Site; and
 2. Include a combination of Garry Oak Meadow community and associated tree species, native grassland meadow species, perennial bulbs, and forbs.
 - (iii) Wetland / Rain Garden:
 1. Wetland:
 - a. Integrate into the overall stormwater management plan to capture stormwater from impermeable surfaces, including the Building roof and parking lot;

- b. Design to function as a retention pond with a permanent pool of visible water. Use a clay or synthetic liner under growing media to contain water;
- c. Include a combination of submergent and emergent native plant species;
- d. Make visible natural water processes as a learning opportunity; and
- e. Use mechanical and/or biological methods to ensure water quality levels meet public health and safety requirements. Provide water aeration and circulation to prevent stagnant water.

2. Rain Garden:

- a. Integrate into overall stormwater management strategy with a connection to the Wetland;
- b. Design to capture stormwater from the parking lot and other adjacent impermeable surfaces;
- c. Design to treat stormwater with plant materials and growing medium that filter and absorb pollutants;
- d. Include a combination of submergent and or hydrophilic native plant species; and
- e. Ensure planting is robust and healthy in both dry and wet conditions.

5.4.5 Site Mobility

5.4.5.1 Pedestrian Circulation

- (a) Provide a public and universally accessible pathway connecting all outdoor program areas and functional areas to guide visitors from one program space to another.
- (b) The pathway network will:
 - (i) Allow for safe public access to designated Demonstration Landscapes;
 - (ii) Prioritize learning opportunities;
 - (iii) Be minimum of 2.0m wide;
 - (iv) Be oriented to capitalize onsite topography and scenic views;
 - (v) Be designed as an intuitive pathway network with loops to facilitate walking and tours;

- (vi) Provide a variety of inclusive seating options along pathways, with desirable microclimates, visual focus, and opportunity for conversation and or solitude;
- (vii) Use materials that are suitable and durable for the intended uses, functions, and ease of maintenance at circulation routes; and
- (viii) Ensure positive drainage and direct runoff to absorbent landscapes and infiltration areas.

5.4.5.2 Building Entrances and Exits

- (a) Design a distinct and welcoming main building entry.
- (b) Open space at all building entrances will be legible, identifiable, and relate to pedestrian and/or vehicular routes as applicable.
- (c) Interior and exterior finishes to complement one another, unifying the transition between open space design and the built environment:
 - (i) Entrance Vestibules will have transparency;
 - (ii) Be configured and sized to preserve the airlock effect for climate control; and
 - (iii) Provide vehicular deterrence to the main building entrance using hardscape materials and planting together as a composition to complement the scale and aesthetic of the Building design.

5.4.6 Planting Strategy

5.4.6.1 Create a planting strategy that provides an immersive learning experience for visitors. The planting strategy will:

- (a) Focus on Local Indigenous and ethnobotanical species that reflect the following three regionally occurring ecosystems: Cascadia Pacific Northwest, Garry Oak Meadow, and Wetland/Rain Garden;
- (b) Support public learning, engagement, and stewardship of the land with an integrated interpretive program;
- (c) Create a variety of spatial experiences and be coordinated with exterior programs;
- (d) Enrich the Building character, and overall Facility identity, allowing for views of plant communities from interior spaces; and
- (e) Provide visual cues and clarity that aid in site wayfinding

5.4.6.2 The planting strategy will enhance site habitat value, improve wildlife connectivity, and increase biodiversity;

- (a) Select flora that attracts a range of local beneficial species and provides wildlife food sources and nesting material to support avian and pollinator habitat; and
- (a) Prioritize drought-tolerant, low maintenance, native species.

5.4.6.3 The planting strategy will provide a restorative human experience and create comfortable, desirable microclimates for users;

- (a) Incorporate plants that provide a multisensory experience; targeting sight, smell, sound, taste, and touch;
- (b) Moderate temperature, offer windbreak, and create shade for the Building, parking, and gathering places;
- (c) Include trees that offer summer shade, fall interest, and filtered winter sun; and
- (d) Provide a combination of species that offer full seasonal interest.

5.4.6.4 Plant Installation

- (a) Use of a variety of plant sizes and diversity of species to create the intended effect of the three Demonstration Landscapes: Cascadia Pacific Northwest, Garry Oak Meadow, and Wetland/Rain Garden;
- (b) Use plant material, grow media, and installation methods that meet or exceed the latest version of the British Columbia Landscape Standards;
- (c) Concentrate plants in clustered groupings to replicate a naturalized landscape aesthetic;
- (d) Provide plant species suitable for use, function, and climate; and
- (e) Provide grow media composition, depths, and installation methods supportive of the intended plantings and suitable to the onsite location(s).
 - (i) Utilize continuous soil volumes and trenching methods.
 - (ii) Large canopy parking and street trees will have, at minimum, 15m³ of growing medium.
- (f) Provide an onsite outdoor composting facility with a convenient location for access, ease of regular maintenance, and visible integration within the Site.

5.4.6.5 Irrigation

- (a) Provide a watering and irrigation strategy to support the planting design that minimizes the use of chemicals and fossil fuels for routine maintenance;
- (b) Include all mechanical equipment to support required irrigation and to maintain pond water levels;

- (c) The irrigation system will be designed to meet peak irrigation demands and ensure plant health in the event of extreme drought conditions.
- (d) All planted areas will be irrigated by an automatic, high-efficiency irrigation system that meets the following requirements:
 - (i) The irrigation system will comply with the Irrigation Industry Association of B.C.'s Standards for Landscape Irrigation Systems;
 - (ii) The irrigation design will be supervised and approved by a BCSLA registered landscape architect;
 - (iii) The irrigation system design will be prepared by a Certified Irrigation Designer and Certified Landscape Irrigation Auditor (CLIA) with five years minimum experience; and
 - (iv) An IIABC Certified Irrigation Contractor – Commercial (CIC) will install the irrigation system with five years minimum experience.

5.4.7 Hardscape Strategy

5.4.7.1 Exterior material selection for surfacing, furnishing, and screening will be based on biophilic design principles, with priority on materials that:

- (a) Reflect the surrounding landscape ecology and geology;
- (b) Mimic naturally occurring patterns, colours, and textures;
- (c) Occur naturally or have been through minimal processing;
- (d) Are reused, sustainably harvested, or locally sourced; and
- (e) Have a low embodied carbon and produce minimal off-gassing.

5.4.7.2 Exterior Surfacing

- (a) Provide a legible, high quality and consistent treatment of the public realm, including the Facility entrances, open spaces, pedestrian circulation, vehicular routes, parking, and drop-off areas;
- (b) Exterior surfacing will accommodate programmed functions and intended use;
 - (i) Provide comfort, durability, longevity;
 - (ii) Be functional and low maintenance; and
 - (iii) Be coordinated with architectural elements.
- (c) Allow for hard surfacing adjacent to building entrances. Loose surfacing materials cannot be tracked into the Building;

- (d) Design and detail surfacing to respond with site wayfinding strategy; and
- (e) Design exterior stairs to complement surrounding open space use and landscape character. Inclusive and accessible design is mandatory. Stairs will integrate seamlessly with topography and adjacent ramps.

5.4.7.3 Exterior Furnishing

- (a) Provide exterior furnishing that:
 - (i) relates to the scale and aesthetic of the Building form and open space character;
 - (ii) displays a robust and timeless aesthetic;
 - (iii) accommodates programed functions and intended use; and
 - (iv) provides user comfort, inclusive use, and durability.
- (b) Seating will:
 - (i) Be located in exterior program areas, gathering areas, building entries, and along pedestrian circulation routes;
 - (ii) Be intentionally situated in desirable microclimates, with views to activity and natural spaces, and places to pause and rest;
 - (iii) Allow wheelchair access alongside fixed furnishings; and
 - (iv) Have backrests and armrests for a minimum of 25% of outdoor seating locations.

5.4.7.4 Screening

- (a) Utilizing planting, fencing, and/or walls, screening will obscure undesirable views (i.e. generator(s), utilities, utility boxes and associated equipment, pumps, compost facility, pond mechanical equipment, loading docks, etc.).
- (b) The design, materiality, form, and height of screening will:
 - (i) provide functional and visual integration with the Building and topography;
 - (ii) enhance open space program, character, and spatial experience,
 - (iii) contribute to site wayfinding; and
 - (iv) inhibit graffiti and allow for easy maintenance.
- (c) A chain-link fence will not be acceptable.

5.4.8 Public Art and Interpretive Wayfinding

5.4.8.1 Public Art Accommodation

- (a) Pursuant to Schedule 2 - Review Procedure and in conjunction with the Owner's public art and creative expression strategy, proposed public art locations will:
 - (i) be integrated with and supportive of the learning program;
 - (ii) be easily visible and accessible by the public;
 - (iii) serve to anchor and activate the Site;
 - (iv) establish site landmarks, nodes, and gateways to aid in site wayfinding; and
 - (v) enhance the quality of visitor experiences.
- (b) In consultation with the Owner, the Design-Builder will locate and provide:
 - (i) five (5) exterior art display locations, each with a 1.5m x 1.5m reinforced concrete pad and 120V tamper-proof and lockable electrical service outlet.
 - (ii) An exterior LED projector station, complete with projector, required electrical power and secured weatherproof encasement will be located in a position suitable for use on a publicly visible featured portion of the Building facade.
- (c) The public art strategy will identify future installation locations for:
 - (i) a minimum of five (5) three-dimensional permanent art displays;
 - (ii) electrical power will be provided at each location
 - (iii) one (1) LED projection art display will be featured on a portion of the Building facade.
- (d) Coordinate with the Owner the appropriate structural support, seismic restraint, electrical connections, and lighting at each proposed art installation location.
- (e) Installation of artwork will be completed by the Owner.

5.4.8.2 Interpretive Program and Wayfinding

- (a) Prepare a site-wide interpretive program and wayfinding strategy plan. The content will be developed in coordination with the Owner pursuant to Schedule 2 - Review Procedure;
- (b) The plan will be interactive, educational, and geared for public tour group experience;

- (c) Be intuitive, approachable, welcoming, and understandable for the first time, and consistent throughout the Site;
- (d) Guide cyclists, pedestrians, and vehicles to the appropriate destination;
- (e) Use materials that support the character and form of the open space and architectural design;
- (f) Compliment, not dominate, user experience, with signage thoughtfully integrated into the surrounding landscape and topography;
- (g) Provide lighting to increase signage legibility through backlighting, reflectivity, or a high level of contrast;
- (h) Integrate learning opportunities along pedestrian circulation routes with nodes at Arrival and Welcome, Wetland Observation Deck, Garry Oak Gathering Circle, and the Outdoor Learning areas;
- (i) Provide two interpretive signs at each of the three Demonstration Landscapes with photos and descriptions; and
 - (i) provide small plant identification signs with names and photos for key indicator plant species. Signs will be well anchored to prevent theft.

5.4.8.3 Signage will use universal symbols and graphics, legible for drivers and pedestrians;

- (a) Include text in up to five (5) multiple languages, plus braille, as determined by the Owner;

5.4.9 Site Lighting

5.4.9.1 Provide an exterior lighting strategy for all open spaces that correspond with requirements at program areas, circulation routes, parking, Site edges, entrances and exits, signage, artwork, and focal features.

5.4.9.2 Lighting at roadways, pedestrian pathways, and parking areas will provide safe vehicle and pedestrian movement with respect to collisions, personal safety, and building access and egress.

5.4.9.3 Lighting will prioritize safety, security, and aesthetics; and strategically illuminate the façade and the Building name signage to facilitate wayfinding.

5.4.9.4 Lighting fixtures and luminaires will be selected to:

- (a) provide visual comfort and quality light to open spaces;
- (b) enhance public space experience;
- (c) provide for a safe and secure outdoor environment;
- (d) include varying intensities, both dynamic and diffused;

- (e) display a finish, scale, and aesthetic that relates to the Building and open space character;
- (f) have durability; and
- (g) meet the uplight, light trespass, and internally illuminated exterior signage requirements in accordance with the LEED® V4 Light Pollution Reduction credit.

5.4.10 Site Establishment and Landscape Management

5.4.10.1 Develop a 5-year site establishment and landscape management manual for implementation by the Owner. The manual will be submitted to the Owner with the application for the Substantial Completion Certificate – per Section 44 - for review and approval pursuant to Schedule 2 - Review Procedure and will:

- (a) Provide clear, simple language and instruction for an ongoing maintenance program managed by maintenance staff and community volunteer-led groups;
- (b) Outline plant establishment, management, and irrigation requirements specific to each proposed plant community and planting restoration;
- (c) Address procedures required to keep the pond water quality, wetland planting regimes, and related support mechanical systems in a safe, healthy, and functioning manner;
- (d) Provide IPM and invasive species strategy outlining prevention, monitoring, and control measures, and supports the development and restoration of healthy and resilient ecosystems;
- (e) Provide mitigation solutions to reduce damage to newly planted materials by animals (i.e. Canada Geese, grazing animals, rodents);
- (f) Address onsite composting and soil management program to keep this functional and in a healthy functioning condition; and
- (g) Outline requirements to maintain hardscape surfaces, site furnishings, and outdoor feature elements in sound condition.

5.5 Structural Engineering Principles

5.5.1 Structural Design Responsibility

5.5.1.1 The Design-Builder will retain:

- (a) A Design-Build Structural Engineer of Record (SER) who will be a Designated Structural Engineer (Struct. Eng.) licensed in the Province of British Columbia, who will have responsibility for the structural design of all structural elements and connections of the Building.
- (b) Any specialty structural engineers or supporting registered professionals who may be used for the design of components and

connections will be directed by the SER. Designs by the specialty structural engineers or supporting registered professionals will be signed and sealed by the specialty structural engineers or supporting registered professionals registered in the Province of British Columbia.

- (c) An SER to review all work by the specialty structural engineers and supporting registered professionals and certify that the design meets the requirements of this Schedule 1.

5.5.2 Design Loads

5.5.2.1 Dead Loads

- (a) Comply with the BCBC for dead loads. Dead loads acting on a structure or a portion thereof will consist of the vertical load due to the weight of all permanent structural and non-structural components.
- (b) Allowance for minimum partition loading of 1.0kPa on all floors above grade is required.

5.5.2.2 Live Loads

- (a) Comply with the BCBC for live loads for various uses, occupancies, and other service conditions and design criteria;
- (b) Include all live loads acting on a structure consisting of loading not permanently fixed but superimposed by use and occupancy;
- (c) Use the following minimum live loads in the design of the Building:
 - (i) Ground floor = 14.4kPa
 - (ii) Ground floor offices = 4.8 kPa
 - (iii) Upper level offices = 3.6 kPa (if applicable); and
- (d) Allowances will be made and indicated on design drawings for hanging loads from the ceiling of the Lobby and Circulation Spine
 - (i) Lobby roof = 0.5 kPa + 2.5 kN for hanging loads @ 3m o/c in each direction
 - (ii) Circulation Spine roof = 0.5 kPa + 2.5 kN for hanging loads @ 3m o/c in each direction

5.5.2.3 Snow Load

- (a) Except for the roof over the collections storage, design and construct each portion of the Building roof(s) assuming the primary drainage system is blocked and the rainwater pools to the elevation of the overflow drain.

- (b) The roof of the Collections Storage Areas will have a minimum 1:24 roof slope. All drainage will be directed to the perimeter regions.
- (c) Design and construct each portion of the Building roof(s) such that if the primary drainage system is blocked, water has an alternate means of flowing off the roof to ensure ponding does not occur over areas where collections are present.
 - (i) Design for snowdrifts around roof steps and obstructions in accordance with the BCBC.
 - (ii) Design and construct for roof snow load using $S_s=2.1\text{kPa}$ and $S_r=0.3\text{kPa}$.
- (d) Design and construct for rain load $S_r = 0.3\text{ kPa}$ with an Importance Factor of $I_s = 1.0$.

5.5.2.4 Wind Load

- (a) Use $I_w = 1.0$ for Normal Importance Category
- (b) Hourly wind pressure $q(1/10) = 0.48\text{ kPa}$, $q(1/50) = 0.63\text{ kPa}$.

5.5.2.5 Earthquake Load

- (a) Use $I_e = 1.0$ for Normal Importance Category.

5.5.3 Serviceability Limits

5.5.3.1 Deflection Limits

- (i) Deflection of structural concrete, steel, and Mass Timber elements will not exceed the following limits:
 - 1. immediate deflection due to applied live load: $L/360$ (where L = the span length);
 - 2. long term deflection due to live load: $L/480$ per CSA 23.3-14 Cl 9.8.5.3.
 - (ii) Secondary structural elements will not exceed the following limits:
 - 1. masonry veneer: $L/600$ or 9.5mm maximum.
 - 2. wall cladding: $L/360$ or 13mm maximum.
- (b) Drift Limits
- (i) Use the 1/50 year full design wind load when calculating wind drift;
 - (ii) Restrict allowable wind drift limits for all structural elements to $H/400$, where H = Structure height at an elevation of drift consideration.

(iii) Conform to the seismic drift limits in accordance with BCBC requirements.

(c) Settlement Limits

(i) Limit differential settlement of all structures to less than $L/1000$ (where L = the length of foundations) to a maximum of 20mm; and

(ii) Limit total settlement of all structures, other than fencing (static and seismic), to less than 30mm over the Design Life of the Building.

(iii) Limit total settlement of fencing to 12mm maximum.

5.5.4 Reinforced Concrete

5.5.4.1 Design Requirements

(a) Design and construct all reinforced concrete, including foundations, to resist stresses produced by load combinations in accordance with the BCBC and CSA Standards A23.1, A23.2, and A23.3.

5.5.4.2 Structural Rammed Earth

(a) Structural rammed earth walls are acceptable and should be finished in accordance with section 6.9.5.1.

5.5.5 Structural Steel

5.5.5.1 Strength Limits

(a) Design and construct all structural steel components to resist stresses produced by load combinations in accordance with the BCBC and CSA Standards S16.

5.5.5.2 Vibration Limits

(a) In accordance with vibration limits as per the BCBC.

5.5.6 Mass Timber

5.5.6.1 Strength Limits

(a) Design and construct all structural elements to resist stresses produced by load combinations in accordance with the BCBC and CSA Standards O86.

5.5.6.2 Moisture Management

(a) Conform to Joint Professional Practice Guidelines for Encapsulated Mass Timber Construction up to 12 Storeys, as issued by Engineers and Geoscientists BC (EGBC) and AIBC.

- (b) With the assistance of the building envelope consultant and SER, the Design-Builder will submit the Moisture Management Plan to the Owner 90 days after the Effective Date – per APPENDIX 2a. for review and approval in accordance with Schedule 2 - Review Procedure.
 - (i) The Moisture Management Plan will specify the moisture protection measures at every phase of the Project to ensure materials and assemblies can be installed without suffering moisture damage that compromises their integrity or performance.
- (c) The construction schedule will minimize the chance of moisture damage to Mass Timber components.
- (d) Provide a weather-protected construction zone as needed that allows for the products will be sheltered in a well-drained and ventilated space. Wood products will be kept off the ground.
- (e) The moisture content of Mass Timber elements will be at, or below, 16% before application of impermeable components and before placement of roofing, concrete topping, or other finishes.
- (f) The moisture content of Mass Timber elements will be kept below 20% during storage and construction.
- (g) If (Mass) timber elements are exposed to rain during transportation or construction, the walls and roofs will not be enclosed until the framing materials have dried to an acceptable level of moisture by use of space heaters and ventilation.
- (h) Standing water will be removed from Mass Timber within 24 hours.
- (i) Mass Timber products will be coated with a temporary sealer and be finished on Site after the Structure is enclosed.
- (j) Mass Timber products will arrive on Site contained within weather-protective wrapping. The wrap will not be removed until the product is ready will be used.

5.5.7 Substructure

5.5.7.1 Foundations

- (a) Design and construct all foundations to resist stresses produced by load combinations in accordance with the Building Code and geotechnical recommendations.

5.5.7.2 Slab On Grade

- (a) Coordinate and design recesses in slab on grade to accommodate all equipment and HDMSS.
- (b) Provide concrete slab topping on the floor inside the environmental control chamber to distribute loading from collections storage

equipment. Provide thickening in slab on grade to suit the recess required to ensure the threshold remains flush with finished floor level. Coordinate with environmental control chamber manufacturer and HDMSS manufacturer.

5.5.7.3 Sub Grade Enclosures

- (a) Sub grade enclosures for mechanical and electrical services and equipment will resist floor and traffic loading in accordance with NBCC Table 4.1.5.3 and 4.1.5.9. Lateral soil pressure in accordance with geotechnical recommendations.

5.5.7.4 Water and Gas Mitigation

- (a) Provide dewatering and gas mitigation.

5.5.7.5 Substructure Related Activities

- (a) The Design-Builder will retain a geotechnical engineer registered in British Columbia for the purpose of geotechnical review and approval required before the installation of concrete foundations.
- (b) Excavation slopes will comply with the geotechnical recommendations prepared by the Design-Builder's geotechnical engineer and Worksafe BC requirements.

5.5.8 Superstructure

5.5.8.1 Floor Construction

- (a) Design and construct all building structures to resist stresses produced by load combinations in accordance with NBCC Table 4.1.3.2. A and B.

5.5.8.2 Roof Construction

- (a) Design and construct all roof structures to resist stresses produced by load combinations in accordance with NBCC Table 4.1.3.2. A and B, including snowdrifts, wind uplift, and ponding.

5.5.8.3 Special Structures

- (a) Special structures such as flagpoles, free-standing sign supports, double-sided LED signs, public art, board walks, and observation decks will be designed and constructed in accordance with the BCBC seismic and wind provisions.

5.5.8.4 Handrails and Guards

- (a) Design guardrails and handrails to resist loads in accordance with NBCC clause 4.1.5.14.

5.6 Electrical Engineering Principles

- 5.6.1 All electrical systems, controls, equipment, and energy management systems for the Facility will provide functionality, flexibility, protection, continuity of service, redundancy in delivery, and a safe and comfortable environment for Occupants.
- 5.6.2 Provide and configure all required electrical systems, controls, and equipment as indicated in this Schedule 1.
- 5.6.3 Electrical systems, controls, and energy management systems will be designed and constructed to minimize peak electrical demand load, utility demand charges and eliminate power factor surcharges.
- 5.6.4 Provide electrical systems that are the most recent, proven, and up-to-date at the time of the Effective Date.
- 5.6.5 Provide electrical systems that are intended for the environment in which they will be installed. Carefully consider specific and unique applications or environments in the Facility and provide systems that are both rated and intended for those applications or environments. Some examples include but are not limited to hazardous locations, locations containing combustible materials, explosive materials, live collections, and areas with sub-zero ambient temperature.
- 5.6.6 Unless specifically prohibited, integrate systems in such a way that prioritizes efficiency, operational advantages, and/or cost savings.
- 5.6.7 Coordinate systems and equipment to provide synergy and reliable electrical performance for the various functions within the Facility.
- 5.6.8 Incorporate the principle that “change will be a constant and inevitable fact within the Facility” into both the Design and Construction. Completed electrical systems will allow for change while minimizing cost and disruption to regular program activities and functions.
- 5.6.9 Design electrical systems and supporting spaces with spare capacity to allow for future flexibility and expansion of said systems. Electrical rooms, equipment, and systems control panels are to have extra space and provisions for future modifications and expansion. Spare capacities allowed for in the main equipment (transformers, generators, UPS, and associated switchboards and panelboards) for future flexibility will be separately identified in the equipment sizing calculations.
- 5.6.10 Avoid spaces where collections are present when providing access to electrical panels, control panels, electrical service rooms, or similar.
- 5.6.11 Locate electrical rooms, electrical system components, and major pathways to avoid potential interruption due to future changes, to avoid interferences with other services and equipment, to minimize the distances for feeder runs, and to minimize the cost impact of new requirements.
- 5.6.12 Avoid locating or mounting drainpipes, plumbing pipes, water-cooled fan coil units, or other water sources in the ceiling space or on a wall above any electrical or communications equipment in any electrical and communication rooms.
- 5.6.13 Minimize the noise and vibrations of electrical equipment and components such as transformers, luminaires, and other vibration-producing equipment will below

an acceptable level within all spaces. Refer to Section 6.9.10 and APPENDIX 1C - Acoustical Technical APPENDIX.

- 5.6.14 Install electrical systems and equipment in a fixed, seismically restrained, and permanent manner. Plan installation of equipment to economically occupy the available space, allocate space for future additions, and to facilitate easy access to other systems and equipment, including mechanical equipment, which may require inspection or maintenance.
- 5.6.15 Throughout the Facility, power will be comprised of a combination of 347/600V and 120/208V, three-phase, 60Hz for all power, lighting, and equipment loads.
- 5.6.16 Carefully review and coordinate with architectural, mechanical, structural, civil, and other disciplines plans and specifications and examine and include the extent and nature of their work concerning how it will affect the electrical work.
- 5.6.17 Intentionally Deleted.
- 5.6.18 All feeders and branch circuit wiring outside of the building envelope will be copper. All feeders and branch circuit wiring at or below 100A will be copper.
- 5.6.19 Service Access Panel Door
 - 5.6.19.1 Supply flush-mounted tamperproof and lockable access panel doors in non-accessible type ceilings and walls where necessary for access to service and/or to inspect electrical equipment, accessories, and life safety devices. Lock hardware will be commercial-grade.
 - 5.6.19.2 Unless otherwise noted, access doors will be minimum 450mm x 450mm (18" x 18") for body entry; 300mm x 300mm (12" x 12") for hand entry; 200mm x 200mm (8" x 8") for cleanout access.
 - 5.6.19.3 Locate access doors so that all concealed items are readily accessible for adjustment, operation, maintenance, and inspection. Locate in service, storage, and Staff accessible areas only.
 - 5.6.19.4 Minimize the number of access doors required throughout the Building by coordinating with other disciplines where possible to consolidate services behind a single access door.

5.7 Mechanical Engineering Principles

- 5.7.1 General Design Requirements:
 - 5.7.1.1 Design mechanical systems serving the Facility to meet all programmatic requirements. Consideration will be given to long-term maintenance impact, equipment longevity and life cycle, energy performance targets, environmental conditioning, occupant comfort, and system response time.
 - 5.7.1.2 The Facility will be designed for and maintain at least Class A1 control of temperature and relative humidity wherever collections are present, as defined in 2019 ASHRAE Handbook – HVAC Applications, Chapter 24: Museums, Galleries, Archives and Libraries.

- 5.7.1.3 All mechanical systems design, equipment, material, and installation will conform to the Canadian Conservation Institute (CCI) “Design considerations for optimal preservation in new heritage collection facilities” and all referenced Standards within this Schedule.
- 5.7.1.4 Provide mechanical systems that are the most recent, proven, and up to date at the time of their installation.
- 5.7.1.5 Climatic design data will use Colwood (Royal Bay Village), as referenced in the BC Building Code, as the location.
- (a) Refer to Section 5.5.4 (Future Considerations) for additional design requirements regarding climate change.
 - (b) Heating loads will be determined using the current January 1% (°C) design day temperature criteria.
 - (c) Cooling loads will be determined using projected 2050/2080 July 2.5% (dry bulb and wet bulb °C) design day temperature criteria.
- 5.7.1.6 Water, glycol, and all other fluids used within mechanical systems will be treated to prevent corrosion, algae growth, a buildup of deposits, disease, and bacteria to prolong the equipment's life.
- 5.7.1.7 Mechanical services in electrical, communication and telecommunications rooms will maintain a clear height of 2.1m above the finished floor. All mechanical piping (open and closed loops) is prohibited from routing through these rooms, with the exception of fire suppression piping and any mechanical piping serving mechanical equipment within these rooms. Any piping within these rooms will be equipped with drip pans, complete with moisture sensors connected to BMS for alarms in case of a leak.
- 5.7.1.8 Provide minimum 100mm high housekeeping pads for all floor-mounted mechanical equipment.
- 5.7.1.9 All piping slab penetrations will be equipped with sleeves that terminate 75mm above the slab to prevent water from entering the sleeves.
- 5.7.1.10 No mechanical piping or roof drains will be installed within or above the Collections Storage Areas or the Archivist Workroom. Mechanical piping installation within or over the Collections Access Zones, Labs, and Quarantine rooms is to be avoided unless noted in 5.7.1.10.(a). Where it is not possible to avoid piping over such areas, the provision of a drip pan with both water sensor (connected to BMS for alarm) and a visible means of monitoring for a leak will be required.
- (a) Mechanical equipment and piping is permitted over:
 - (i) BOH Corridor
 - (ii) 2.300 Learning Labs
 - (iii) 3.405 Digitization Equipment Storage

- (iv) 3.406 Digitization Post Production
 - (v) 3.800 Paleontology
 - (vi) 3.701 VZ Dirty Prep Lab
 - (vii) 3.702 IZ Dirty Prep Lab
- 5.7.1.11 Pressurized mechanical piping will not be routed in-slab or under the slab, with the following exceptions, if applicable:
- (a) Combined domestic/fire water service pipe which will rise up immediately inside the Building and be protected from thrust.
 - (b) Piping serving trap-primers.
 - (c) Piping within a radiant floor system.
 - (d) Piping connecting the heating/cooling plant to an external ground-source heat exchanger.
- 5.7.1.12 Where piping and/or piping components are subject to freezing, provide insulation and heat tracing. On life-safety systems, the heat trace system will be monitored and alarmed for malfunction or service disruption at the FACP. Heat trace systems on life-safety systems will be on emergency power.
- 5.7.1.13 Conceal all sanitary (drainage and venting), storm, and water piping in walls. It is only acceptable to expose trap arms and water supply piping. Install escutcheons for all piping penetrations through walls.
- 5.7.1.14 Provide PVC jacketing on all indoor exposed pipe insulation and aluminum jacketing on all outdoor exposed pipe insulation. All-service jacket finish is acceptable on concealed indoor piping.
- 5.7.1.15 Air handling systems will be separated and zoned based on programming requirements. Program areas with different schedules will be on their air handling system.
- 5.7.1.16 All motors (fans and pumps) 1 HP and larger will be provided with a VFD.
- (a) Intentionally deleted
- 5.7.1.17 Rooftop mechanical equipment will be hidden from public street view. The screening will be a minimum of 150mm greater than the height of the mechanical equipment.
- 5.7.1.18 Refer to Room Datasheets for laboratories that will be designed as Biosafety Lab Containment Level 2 (BSL-2) as per the Canadian Biosafety Standard – 2nd Edition.
- 5.7.1.19 All mechanical equipment and associated electric/electronic devices serving areas with risk of the explosion will be rated as explosion-proof.

- 5.7.1.20 Mechanical systems will be seismically restrained. All mechanical restraints will be designed and field reviewed by a Professional Engineer licensed within British Columbia for this scope of work.
- 5.7.1.21 Mechanical plants/systems will only use electricity and/or on-site produced renewable energy as the source of energy. Fossil fuels will not be used as an energy source. The intent of this requirement will minimize greenhouse gas emissions associated with operational energy consumption.
- 5.7.2 Equipment Sizing, Redundancy, and Spare Capacity
- 5.7.2.1 Mechanical systems and equipment will be sized using good engineering practice to ensure all BC Building Code and project requirements are met.
- (a) Evidence of calculations for sizing will be submitted to the Owner's Representative for review. Refer to project submission requirements as outlined in the Agreement.
- 5.7.2.2 Where multiple air handling units are configured to operate in parallel or interactively to ensure system redundancy, the supply and return and/or exhaust ductwork will be permanently interconnected, complete with both motorized dampers and manual (guillotine-style) dampers for isolating units.
- 5.7.2.3 Automated controls will be designed such that in the event of a failure or shut down of one piece of equipment, the performance of the remaining interconnected equipment will increase to maintain the normal operation. Failures will be alarmed on the BMS.
- 5.7.2.4 The mechanical design will incorporate the following minimum levels of redundancy:
- (a) Heating and cooling plants will include sufficient redundancy of all equipment and pumps such that any one piece of equipment can be taken out of service, and the system will maintain 100% capacity for all spaces where collections may be present, and minimum 50% capacity for all other spaces.
- (b) Air handling units serving the areas where collections are present will have a minimum of 50% redundancy, such that the failure of one component will still maintain a minimum of 50% heating and cooling capacity to the zone(s) they serve.
- (c) HVAC equipment serving environmental control chambers for low-temperature collections storage will have 50% redundancy in cooling and dehumidification capacity.
- (d) HVAC equipment serving server rooms, communication rooms will have 100% redundancy in cooling capacity.
- (e) The water entry station will split incoming domestic water service into two full-size services complete with all required ancillary devices (strainers, backflow preventers, pressure reducing valves)

such that testing and maintenance can occur without loss of water to the Building.

- (f) Storm and/or sanitary sump pumps will have N+1 redundancy.
- (g) Domestic hot water heaters, storage tanks, and recirculation pumps will have a minimum of 50% redundancy.

5.7.2.5 The following mechanical equipment and systems will be sized with a minimum additional 15% capacity in volume, static pressure, flow, etc.

- (a) Air handling including all related components (housing, fans, filters, coils)
- (b) Mechanical piping (domestic water, sanitary/venting, natural gas, heating water, chilled water, condenser water)
- (c) Ductwork (supply, return, exhaust)
- (d) Duct shaft areas (for future services installation), accessible on each floor.

5.7.2.6 All other piping/ducting systems (including those requiring a specific fluid velocity, such as dust collection and/or lab fume exhaust) will be sized using good engineering practices such as ASHRAE and ASPE sizing guidelines.

5.7.2.7 The BMS will accommodate future technological changes, and the architecture of the BMS will permit expansion of the system for future renovations. The BMS will have an additional 25% capacity (unused I/O control points and cabinet volume) for future expansion.

5.7.3 Emergency and Standby Power

5.7.3.1 Supply emergency and standby power to the mechanical systems related to life-safety and critical systems/areas that require continuous operation and environmental control. Refer to 7.5.5.2 for a listing of systems required to be on emergency/standby power.

5.7.3.2 Intentionally deleted.

5.7.4 Future Considerations

5.7.4.1 The mechanical systems component selection, system design, and installation will incorporate the flexibility and adaptability for future expansion without major disruption or alteration to the Facility.

5.7.4.2 Provide a minimum 15% clear floor area (including volume above) within the mechanical plant room to allow future equipment installation. The area will be marked out as "Reserved for Future."

5.7.4.3 Provide a minimum 15% clear area within horizontal and vertical mechanical service shafts (including ceiling space) for future piping/ductwork. The area will be marked out as "Reserved for Future."

5.7.4.4 Methods and allowances for future expansion will be outlined in the mechanical O&M manual and shown on schematics and floor plans.

5.7.4.5 The mechanical plant and associated equipment/piping will be sized for future climate change.

(a) Mechanical systems design will be informed using future climate projections over the asset's life-cycle, based on average RCP8.5.

(b) Utilize RCP8.5 projected future climate change data for the Site, as provided by the Pacific Climate Impacts Consortium (PCIC).

(c) Design loads will be calculated using 2050 and 2080 projections (from Substantial Completion).

(i) Mechanical equipment installed for Substantial Completion will be sized for the projected 2050 climate.

1. Mechanical cooling and dehumidification equipment will be sized for the greater of:

a. the spare capacity requirements as outlined in 5.7.2.5 applied to current (BCBC 2018) climatic data, or;

b. the requirements using 2050 climatic data.

2. All other mechanical equipment spare capacity as outlined in 5.7.2.5 will use current (BCBC 2018) climatic data.

(ii) Mechanical infrastructure (piping and ducting) installed for Substantial Completion will be sized for the projected 2080 climate.

1. Mechanical cooling and dehumidification infrastructure will be sized for the greater of:

a. the spare capacity requirements as outlined in 5.7.2.5 applied to current (BCBC 2018) climatic data, or;

b. the requirements using 2080 climatic data.

2. All other mechanical infrastructure spare capacity as outlined in 5.7.2.5 will use current (BCBC 2018) climatic data.

5.7.4.6 The fire suppression system will be designed to incorporate a growth of 15% to the proposed Facility.

5.7.5 Operation, Maintenance, and Servicing

5.7.5.1 Ensure all mechanical systems, equipment, and devices are provided with adequate access for inspection, maintenance, and replacement. Access will ensure no disruptions to the regular operation of any system.

Access will not be from areas where collections are present wherever possible.

- 5.7.5.2 All mechanical equipment will be located indoors or in a fully enclosed and well-lit service space. This does not apply to rooftop air handling units, exhaust fans, cooling towers, air-cooled condensers, or air-cooled chillers/heat pumps.
- (a) Air handling units will have marine-grade lights within the interior of the unit for illumination when servicing.
- 5.7.5.3 All mechanical equipment will be accessible from floor level wherever feasible and from fixed catwalks or mobile person-lifts where floor level access is not feasible. The use of a portable ladder is acceptable for accessing equipment no higher than 3m above the finished floor.
- 5.7.5.4 All mechanical equipment, fixtures, and piping distribution systems will have adequate means to isolate without impact on the system as a whole. All valves will be accessible by a person without having to move or climb around equipment to reach.
- 5.7.5.5 All mechanical equipment will have unions (threaded piping up to 65mm) or butterfly valves (welded flange or grooved piping 75mm and larger) to allow the removal of equipment without having to unthread pipe.
- 5.7.5.6 Provide access panels/doors where necessary for access to mechanical systems located behind fixed building components such as walls, ceilings, floors.
- 5.7.5.7 Access doors will be a minimum of 450mm x 450mm for body entry; 300mm x 300mm for hand entry; 200mm x 200mm for cleanout access.
- 5.7.5.8 Locate access doors so that all concealed items are readily accessible for adjustment, operation, maintenance, and inspection.
- 5.7.5.9 All mechanical systems will be accurately identified on record drawings at the time of Substantial Completion.
- 5.7.5.10 Operation and Maintenance manuals will be provided as per the requirements of this Agreement.
- 5.7.5.11 Laminated and framed, full-size plans of the mechanical schematics will be mounted on the wall of the mechanical room or operator workstation area (confirm location with facility maintenance operator).
- 5.7.5.12 Provide mechanical system identification, including:
- (a) Ceiling dot stickers, with colours based on sub-system
- (b) Lamicoid equipment tags, affixed to each piece of equipment
- (c) Valve tags (metal or lamicoid)
- (d) Sticker or painted stencil labelling on all mechanical piping and ductwork

- 5.7.5.13 All equipment identification will align with the Facility's CMMS software protocols and naming conventions. A complete list of all mechanical equipment, including all required information for insertion into the database, will be provided.
- 5.7.5.14 All equipment tags on drawings, BMS graphics, and labels will follow a logical and standardized sequence of identification. All references between drawings, BMS graphics, and labels will match.
- 5.7.5.15 Provide and store spare parts in the mechanical room storage area with labelling/identification. All spare parts will be identified for the Facility's CMMS software. Spare parts will include:
 - (a) All replacement items are required for regular maintenance for a minimum of 2-years of operation after Substantial Completion. Confirm maintenance items with the manufacturer's recommendations.
 - (b) A spare pump for all single-arrangement (non-duplex/triplex, etc.) pumps.
- 5.7.6 Equipment/Material Quality and Life Cycle Expectancy
 - 5.7.6.1 Provide mechanical systems that are the most recent, proven, and up-to-date at the time of the Effective Date.
 - 5.7.6.2 Installed equipment will not be the first instance of that make/model installation within British Columbia. Upon the request of the Owner's Representative, provide evidence of previous successful installations, including references from existing authorities/owners.
 - 5.7.6.3 Design-Builder will provide a list of Design Life for all mechanical equipment for consideration/inclusion in the Facility's CMMS software database. Design Life will be based on information obtained from ASHRAE's Service Life and Maintenance Cost Database.
- 5.7.7 Noise and Vibration
 - 5.7.7.1 General Requirements
 - (a) Design and install all mechanical systems to prevent sound and vibration transmission between spaces. Provide sound attenuation to limit sound levels in accordance with APPENDIX 1C - Acoustical Technical APPENDIX and current ASHRAE application handbooks, whichever is more stringent.
 - (b) Provide vibration isolation devices on all equipment with rotating components. All hung, base and roof-mounted equipment will utilize spring isolators designed for the weight and vibration characteristics of the equipment.
 - (c) Provide flexible connections where needed to isolate mechanical equipment sound and vibration from ducting, piping, and electrical wiring systems.

5.7.7.2 Performance Criteria

- (a) Before completing the design, provide an acoustical consultant's report demonstrating that the specified interior noise requirements will be met.
- (b) Vibration from the mechanical equipment/systems within the Digitization Lab, Media Lab, and Reference Room will be within the more stringent parameters of 0.10 mm/s or the manufacturer's vibration specifications for equipment that will be used within these spaces.

Part 6 Facilities Construction

6.1 Division 1 - Procurement and Contracting – Not Used

6.2 Division 2 - Existing Conditions – Not Used

6.3 Division 3 – Concrete

6.3.1 General Requirements

- 6.3.1.1 Design and construct cast in place and precast concrete of appropriate properties for the intended use in accordance with the requirements of all applicable codes, specifications, and other Standards for the applicable concrete exposure class and to maximize the fly ash content of the mix. All cast-in-place concrete will be vibrated or densified in accordance with CSA 23.1 Cl. 9.5.2 by a competent place and finish contractor.
- 6.3.1.2 Repair honeycombing and bug holes immediately, under the direction of the SER.

6.3.2 Quality Requirements

- 6.3.2.1 The Design-Builder will cause cast in place concrete, and concrete materials will be inspected and tested by a CSA-certified testing laboratory.
- 6.3.2.2 The Design-Builder will cause precast concrete materials and workmanship to be inspected and tested by the appropriate authority as part of its quality control program and according to all applicable Standards.
- 6.3.2.3 Exposed visible exterior concrete building elements will be designed and constructed as architectural concrete, as defined in Section 8.3 of CAN/CSA A23.1.
- 6.3.2.4 Concrete surfaces, excluding exposed concrete floors not covered with building finishes, will have a smooth-formed finish, as defined in Section 7.7.3.6 of CAN/CSA A23.1.
- 6.3.2.5 The use of any exposed concrete flooring will conform to the levels of finish as defined by the Concrete Polishing Council. Refer to the

Concrete Polishing Council's Polished Concrete Appearance Chart and conform to the following minimum levels of finish:

the level of sheen for all exposed concrete floors will be Level 1 – flat, with a Class A – cream aggregate exposure except for the Lobby and Circulation Spine which will be integrally troweled cured and polished architectural concrete.

6.3.3 Performance Criteria

- 6.3.3.1 Finish concrete floors with a smooth, dense, steel trowel finish with a Class A Flatness Classification in accordance with CSA A23.1 and coordination with Section 5.5.2.5 of this Schedule 1 for final levels of finish.
- 6.3.3.2 Latex overlay toppings to level floors are not permitted.
- 6.3.3.3 Repair cracks in concrete floors and walls to suit the floor finish and long-term serviceability requirements of the floor.
- 6.3.3.4 Waterproof foundation walls surrounding occupied spaces to prevent groundwater ingress. Construction joints will have purpose-made water stops. A perimeter footing drainage system will be installed around the exterior of the Building.
- 6.3.3.5 Slabs on grade will be designed and constructed to perform for intended use without deterioration under heavy loads, heavy traffic, abrasive wear, and chemical attack and, as a minimum, will:
 - (a) be reinforced to control cracking;
 - (b) where no applied finish is required, be sealed to resist alkaline dust from entering the air and penetration and staining from items such as food products, bodily fluids, and cleaning compounds. Only use sealants as specified CCI Design Guidelines APPENDIX 1- Acceptable Coatings.

6.4 Division 4 – Masonry

6.4.1 General Requirements

- 6.4.1.1 Masonry wall assemblies will only be installed by installers who are members in good standing with the Canadian Masonry Contractors Association in BC.
- 6.4.1.2 Masonry construction may be considered for exterior walls, exit stairs, elevator shafts, and walls systems where the permanence of finishes, both visually and functionally, and ease of maintenance are primary considerations in the exterior fabric of the Building.
- 6.4.1.3 Face work will be laid plumb and true, with all joints consistent in both width and colour.
- 6.4.1.4 Apply manufacturer-recommended masonry sealers to all exterior masonry.

6.4.2 Concrete Masonry Units

- 6.4.2.1 Masonry the Design and the Construction will comply with Canadian Masonry Contractors Association (CMCA) Masonry Practices Manual, CSA-S304, and all applicable standards, including CSA-A371.

6.4.3 Brick Masonry

- 6.4.3.1 Exterior wall systems comprising brick masonry as a finish veneer to concrete, concrete masonry, or metal framing will be a rain screen or cavity wall system.

- 6.4.3.2 Brick masonry below grade for exterior applications is not permitted.

6.4.4 Stone Masonry

- 6.4.4.1 Stone masonry, subject to review and approval by the Owner pursuant to Schedule 2 – Review Procedure, can be used as a finish veneer to concrete walls, concrete masonry walls, or Mass Timber walls. In such applications, the exterior wall system will be a rain screen or cavity wall system.

- 6.4.4.2 Stone will be sound, hard and durable, well-seasoned and of uniform strength, colour, and texture, and free of quarry sap, flaws, seams, sand holes, iron pyrites, and other mineral and organic defects. Manufactured stone products are permitted with prior review and approval by the Owner pursuant to Schedule 2 – Review Procedure.

6.5 Division 5 – Metals

6.5.1 Performance Criteria

- 6.5.1.1 Design structural steel, steel deck, and cold-formed steel stud systems to comply with the deflection and vibration criteria outlined in Section 5.5.3 of this Schedule 1.

- 6.5.1.2 For steel floor and roof construction, the deflection of steel beams, joists, and girders due to the wet weight of concrete topping slabs will be accounted for. Topping slab thickness may have to vary to maintain floor levelness tolerances. The additional concrete ponding weight will be accounted for in the design of the Structure.

- 6.5.1.3 All concrete topping slabs on the steel deck will contain minimum reinforcing 10M@ 406mm o.c. each way placed in the center of the topping to mitigate random surface shrinkage cracking. There will be 2-10mx 1.8m long at 102mm o.c. diagonal reinforcing placed at each reentrant corner and corners of floor openings to help mitigate radial cracking.

- 6.5.1.4 Curing concrete topping slabs on the metal deck will conform to Section 8.3 of CAN/CSA 23.1. In addition, the following details and procedures will be implemented:

- (a) minimize wet weight deflections of steel decking and supporting structure;

- (b) where practical, place concrete in alternate bays. Avoid placing large areas at one time; and
- (c) provide extra topping slab reinforcement around openings, columns, and corners.

6.5.1.5 Steel roof decking will be wide rib profile for ease of attachment of current and future services, equipment, and fixtures using drilled insert expansion anchors into the bottom of the deck ribs.

6.5.1.6 Steel roof decking plus the concrete topping slab thickness will satisfy the requirements of a ULC-rated assembly meeting the BC Building Code fire rating requirements. Spray on, or applied fireproofing material is not permitted to achieve the required floor deck fire rating.

6.5.1.7 Steel roof decking will be galvanized with a Z275 (G60) coating minimum for interior, heated spaces, and a Z275 (G90) in exposed locations.

6.5.1.8 Fireproof structural steel roof framing and supporting members will be used to meet all fire rating requirements. Spray-on fireproofing applications, which will be tamped while wet to densify product, will be used for floor and roof beams and girders, complete with an applied sealer creating a dense non-friable surface for ease of future attachment of services and equipment.

6.5.2 Structural Steel

6.5.2.1 Quality Requirements

- (a) Material quality, including sourcing and welding quality, will be monitored by an independent testing agency provided and arranged by the Design-Builder.
- (b) The specification for preparation and painting of structural steel components will conform to the Master Painters Institute (MPI) Standards
- (c) Light gauge steel structure will be designed in accordance with CSA S136-01, and hot-dipped galvanized to G90 in accordance with ASTM A653 to a minimum 275 g/m² or painted with a two-part epoxy paint system.

6.5.3 Cold-Formed Metal Framing

6.5.3.1 Overriding Principles

- (a) Load bearing and non-load bearing steel studs may be considered a component of the exterior wall systems to support exterior wall finishes and form an integral part of the perimeter envelope.
- (b) Rain screen walls utilizing cold-formed metal framing will be non-load bearing.

6.5.3.2 Quality Requirements

- (a) Design, detail, and construct load-bearing steel stud structures to comply with applicable CAN/CSA standards.
- (b) The steel stud manufacturer will be certified in accordance with CSSBI Standard 30M-06 and all applicable CAN/CSA standards, including CSA-A660.
- (c) Conform to the Association of Wall and Ceiling Contractor's Specification Standards Manual (AWCC).

6.5.3.3 Performance Requirements

- (a) Limit maximum deflection under specified wind loads to $L/720$ (including masonry veneers) unless a smaller maximum deflection is specifically required due to wall finishes.
- (b) Design wind bearing stud end connections to accommodate floor/roof deflections.

6.6 Division 6 - Wood, Plastics and Composites

6.6.1 General Requirements

- 6.6.1.1 Products containing urea-formaldehyde are not permitted in the Building.
- 6.6.1.2 Provide rough carpentry, wood backing materials, backing boards for mechanical rooms and electrical/communication Rooms, items requiring backing as listed in APPENDIX 1B-2 Items List, roof sheathing, copings, cant strips, finish carpentry and architectural woodwork, including exterior fascia's, cabinets, casework, frames, paneling, ceiling battens, trim, installation of doors and hardware, and other wood-related products and applications as required:
 - (a) to meet the requirements of this Schedule 1 and as required for the operation of the Building;
 - (b) provide six separate vertical areas at 14 m² each along Circulation Spine on either wall for art installations
 - (c) as required for wood products exposed to view in finished interior and exterior installations
- 6.6.1.3 Provide acrylic plastic, stainless steel, or epoxy products as required for wall cladding, wall protection, corner protection, casework finishing, trims, ornamental elements, and other applications to achieve a quality of interior finish suitable for use by Occupants.
- 6.6.1.4 All millwork or casework located accessible to the public will be lockable.
- 6.6.1.5 In accordance with required order and delivery schedules, the Design-Builder will supply samples for Owner review and selection pursuant to Schedule 2 – Review Procedure as follows:
 - (a) All plastic laminate finishes denoting their specific application(s)

- (b) All epoxy and/or epoxy-coated finishes denoting their specific application(s)

6.6.2 Architectural Wood Casework

6.6.2.1 General Requirements

- (a) Conform to Architectural Woodwork Standards, First Edition, as issued by Architectural Woodwork Manufacturer's Association of Canada (AWMAC). Comply with Quality Standards Manual for the minimum "Custom Grade" and Door and Hardware Institute (DHI) standards for the design, fabrication, materials, installation, and workmanship of finish carpentry and architectural woodwork.
- (b) All bottoms of sink cabinet boxes and areas that may come into contact with water will have a marine-grade plywood substrate. Fibreboard or particleboard are not permitted.
- (c) Use marine-grade plywood substrate for countertops. Fibreboard or particleboard are not permitted.
- (d) All wood-surfaced millwork, cabinets, and edges will be sealed. All door, drawer, and other exposed millwork edges will receive an appropriately-sized, heat-applied PVC edge strip. There will be no Plastic laminate to Plastic laminate edges.
- (e) Adhesives will be non-toxic, non-solvent glue compliant with AWMAC Quality Standards Manual, Canadian 'Eco-Logo' program, and USGBC.
- (f) All architectural woodwork hardware will meet the standards of ANSI/BHMA grade 1 Cabinet Hardware.
- (g) Provide a two-year Architectural Woodwork Manufacturers Association of Canada (AWMAC) Guarantee Certificate.
- (h) The Design will be simple in form with minimal mouldings and trim.
- (i) AWMAC Custom Grade; submit detailed shop drawings for the required millwork for Owner's review and acceptance pursuant to Schedule 2 - Review Procedure following review by Design-Builder and Architect of Record.
- (j) Unless noted otherwise, all millwork finishes will be plastic laminate.
- (k) All wall cabinets will have under cabinet lighting unless otherwise noted.

6.6.2.2 Performance Criteria

- (a) Provide architectural millwork, including all counters, cabinet units, shelving, hardware, finishing, and installation as follows:
 - (i) all cabinets will be complete overlay construction;

- (ii) design millwork so that no sharp edges are exposed, provide a minimum 10mm radiused corner to countertops;
 - (iii) incorporate all essential mechanical, electrical, and communication services into the millwork so that wires and pipes are hidden from view and provide access panels to all services to allow future adjustment.
- (b) Hardwood plywood:
- (i) Domestic plywood only (no imported) to CSA 0.115-1967, 19 mm C2 Whole Piece Face (C2WPF) 7 ply NOVA #2SSG OS HPVA HP-1, good one or two sides as required.
 - (ii) Hardwood lumber:
 - 1. Domestic hardwood only (no imported) to National Hardwood Lumber Association (NHLA) requirements, moisture content of maximum 6% for interior work, to AWMAC Custom Grade, selected to match plywood.
 - (iii) Filler Strip:
 - 1. All cabinets will be installed with a filler strip where the end contacts the wall.
 - (iv) Interior trim:
 - 1. AWMAC Custom Grade.
 - (v) Radius all exposed plastic laminated edges and corners.
 - (vi) Cabinet & shelf edging:
 - 1. 3 mm Birch to exposed or visible edges of cabinets or shelves. 3mm PVC in colour to match cabinet or shelving where edging is not visible.
 - (vii) Cabinet Shelves:
 - 1. will be adjustable unless expressly noted fixed.
 - (viii) Glass and glazing:
 - 1. the glass used at vitrines will be glare-free, low iron, and tempered
 - (ix) Finishing:
 - 1. Shop finished in accordance with Section 1500 of the AWMAC Architectural Woodwork Quality Standards. Shelves and drawer fronts within cabinets will be considered "Exposed" for finish application.

- a. Wood millwork will be a clear satin finish according to CCI Design Guidelines APPENDIX-1 Acceptable Coatings.
2. Plastic laminate:
 - a. CAN3-A172-M79, 1.2 mm thick, (GPR), all smooth finishes
 - b. Will be light in colour, with no pattern or texture, providing the ability to see debris on the surface.
3. Solid Surface
 - a. Solid-surface material will be a non-staining, impervious and anti-microbial surface.
 - b. Solid surfaces, when used in laboratories, will be resistant to acid.
 - c. Will be light in colour, with no pattern or texture, providing the ability to see debris on the surface.
4. Cabinet Locks:
 - a. All cabinets in public areas, including the Reception, will have interchangeable core locks.
 - b. Keying will be approved by the Owner pursuant to Schedule 2 - Review Procedure.

6.7 Division 7 - Thermal and Moisture Protection

6.7.1 Basic Requirements

- 6.7.1.1 A building envelope consultant will review the envelope design, working directly with the Design-Builder's Architect on the construction and design of the Building envelope.
- 6.7.1.2 Design construction assemblies to prevent the ingress of moisture or water vapour from the exterior through the Building envelope and the passage of air through the Building envelope from the interior spaces to the exterior and vice versa.
- 6.7.1.3 Design construction assemblies to prevent moisture ingress through foundation walls below grade, both subject and not subject to hydrostatic pressure.
- 6.7.1.4 Materials used in the Building envelope assembly will be suitable for use under the environmental conditions to which each will be exposed, including during the construction period.
- 6.7.1.5 Materials will be accessible for maintenance purposes, provided that materials will not be removable without the use of special tools.

- 6.7.1.6 The contract documentation and applicable shop drawings will clearly and graphically depict the continuity of the weather, air, moisture, and vapour barriers, insulation, plus drainage and ventilation of assembly voids. Particular attention will be paid to foundation/wall, roof/wall, wind with all, and structure/wall connections.
- 6.7.1.7 Exterior insulating finishing systems and similar face-sealed wall assemblies are not acceptable.
- 6.7.1.8 The building envelope consultant will perform an independent building envelope review noting specific provisions for the control of moisture, vapour, air, mould growth, and deterioration inside the wall assembly.
- 6.7.1.9 Door and window frames will be thermally broken.
- 6.7.1.10 Exterior doors will be weather stripped or sealed to prevent entrance of pests.
- 6.7.2 Dampproofing
 - 6.7.2.1 Provide foundation wall surfaces with dampproofing coverage that is sufficient to repel and prevent moisture ingress in accordance with BC Building Code 5.8.2, where no hydrostatic pressure is present.
- 6.7.3 Waterproofing
 - 6.7.3.1 Provide waterproofing to prevent moisture ingress to occupied spaces below grade.
 - 6.7.3.2 Use membrane waterproofing to prevent water ingress over suspended slabs and decks and associated walls over habitable spaces where water collection is anticipated.
 - 6.7.3.3 Use traffic-bearing fluid-applied waterproofing for mechanical room floors.
 - 6.7.3.4 Provide waterproof membranes in exterior walls as part of the Building envelope and integral with rain screen or cavity wall assemblies.
- 6.7.4 Vapour Barriers
 - 6.7.4.1 Provide continuity of vapour seal materials and assemblies in conjunction with adjoining exterior wall construction.
 - 6.7.4.2 Provide a single continuous vapour seal membrane as a secondary moisture shedding plane supported by wall structure; the primary moisture shedding plane is the cladding.
 - 6.7.4.3 Provide full adhesion of vapour barrier membranes per performance values of membrane manufacturer's tested assemblies.
 - 6.7.4.4 Prevent water vapour transmission and condensation by means of a continuous vapour barrier membrane in wall assemblies, roofing assemblies, under concrete slabs-on-grade, and interruptions to the integrity of wall and roof systems such as junctions with dissimilar assemblies, including:

- (a) window and door frames;
- (b) mechanical and electrical penetrations;
- (c) structural and non-structural penetrations such as balconies, canopies, sun shelves, and signage;
- (d) wall/roof connections;
- (e) changes in the plane; and
- (f) joints between like and dissimilar materials.

6.7.4.5 Under lab conditions, provide continuous vapour barrier not less than 0.15mm thick plastic sheet complying with ASTM E1745, Class A.

6.7.4.6 Conduct dew-point analysis to determine the correct placement of vapour barrier within wall and roof assemblies. Coordinate the locations of thermal insulation, waterproof membranes, and air and vapour barriers to prevent the creation of dew points, resulting in condensation within assemblies.

6.7.5 Air Barriers

6.7.5.1 Provide continuity of air seal materials and assemblies in conjunction with adjoining exterior wall construction.

6.7.5.2 Provide a single continuous air seal membrane as a secondary moisture shedding plane supported by wall structure; the primary moisture shedding plane is the cladding.

6.7.5.3 Provide full adhesion of air barrier membranes per performance values of membrane manufacturer's tested assemblies.

6.7.5.4 Prevent air leakage caused by air pressure by means of a continuous air barrier membrane in wall assemblies, roofing assemblies, under concrete slabs-on-grade, and interruptions to the integrity of wall and roof systems such as junctions with dissimilar assemblies, including:

- (a) window and door frames;
- (b) mechanical and electrical penetrations;
- (c) structural and non-structural penetrations such as balconies, canopies, sun shelves, and signage];
- (d) wall/roof connections;
- (e) changes in the plane; and
- (f) joints between like and dissimilar materials.
- (g) Provide air barrier assemblies that limit air exfiltration and infiltration through the assembly materials, joints in the assembly,

joints in components of the wall assembly, and junctions with other building elements, including the roof.

6.7.6 Thermal Protection

- 6.7.6.1 Provide thermal insulation as part of the Building envelope to prevent heat transfer from the interior to the exterior and vice versa, depending on seasonal conditions, and avoid the absorption of water or development of condensation within the insulated assembly.
- 6.7.6.2 Use thermal protection materials of a type and quality that will provide consistent environmental quality to enclosed spaces.
- 6.7.6.3 Foamed plastic insulation will be CFC and HCFC free and in compliance with the Province of British Columbia Ozone Depleting Substances and Other Halocarbons Regulation.

6.7.7 Sheathing

- 6.7.7.1 Do not use an oriented strand board (OSB) in any application sensitive to moisture exposure, condensation, or mould growth. Portland cement concrete, concrete masonry, treated exterior grade plywood, cement board, and glass-fibre-faced silicone-impregnated gypsum board are acceptable.

6.7.8 Cladding

- 6.7.8.1 Long-term maintenance will be a strong determinant in the system design and material selection.
- 6.7.8.2 Wall cladding materials will be durable, suitable for weather exposure, and aesthetically integrated with the overall elevation appearance of the Building as a whole.
- 6.7.8.3 Consider the potential for graffiti when choosing wall cladding materials and locations.
- 6.7.8.4 The following wall cladding materials are not acceptable on this project:
 - (a) Stucco;
 - (b) Exterior insulation and finishing system;
 - (c) Fibre-cement panels less than 12.7mm thick; and
 - (d) Smooth-faced concrete block or cast concrete walls.
- 6.7.8.5 Intentionally Deleted.

6.7.9 Roofing

6.7.9.1 General Requirements

- (a) All roofing systems will meet or exceed the manufacturer's specifications and the requirements of the Roofing Contractors

Association of British Columbia (RCABC) Roofing Practices Manual.

- (b) Installation (including monitoring and reporting installation procedures, climatic conditions, and unacceptable conditions) will be in accordance with the Roofing Practices Manual published by RCABC (Roofing Contractors Association of British Columbia).
- (c) The roofing system's commissioning and acceptance testing will comply with all codes and the RCABC Roofing Practices Manual.
- (d) Achieve the Roofing Contractors Association of British Columbia Guarantee Corp (RGC) latest standards and requirements for a ten (10) year guarantee following Substantial Completion as published in the RGC Roofing Practices Manual. The Design-Builder will make all arrangements and pay all services to provide a ten-year RCABC guarantee for all roof systems on this project
 - (i) The guarantee will be assigned to the Owner upon Substantial Completion of the Project.
- (e) Comply with RGC Roofing Practices Manual "Acceptable Materials List," including flexible membrane for reflective roofs – Elastomeric or Thermoplastic (single-ply system), Energy Star compliant (highly reflective), and high emissivity (of at least 0.9 when tested in accordance with ASTM 408).
- (f) Roof assembly design, including the deck, vapour barrier, insulation, board stock, and membranes, will comply with all applicable codes, fire classifications, and RGC requirements for wind uplift, live loads, dead loads, and snow loads. Comply with ULC Class 60 wind uplift classification.
- (g) All roofs will prevent the penetration of water and snow and provide for the drainage or shedding of water and snow clear of the Building.
- (h) Roof tops will have an internally accessed stair and man-door access to allow for mechanical and electrical equipment maintenance (size as per typical exterior door). Ensure the threshold is a minimum of 200mm above the finished roof. Locate in proximity to Loading and Receiving.
- (i) Provide roof tie-offs where required for equipment maintenance and window cleaning as per WCB requirements.
- (j) Install saddle flashings at box gutter ends and where parapets intersect walls.
- (k) Stormwater runoff management will be collected in an organized fashion that complements the Building architecture.
- (l) Ensure louvred exhaust vents are of sufficient elevation to enable proper flashing. Allow a minimum 200mm height above the finished roof to allow appropriate flashing.

- (m) Ensure proper sash sealants are detailed to prevent leaks into and behind wall flashing.
- (n) Design for saddle flashings and diverters to prevent leaks at parapet/wall intersection.
- (o) Ensure roof deck slopes away from doors, providing access to the roof deck.
- (p) Roofing systems will include:
 - (i) flashings and sheet metal;
 - (ii) Roof Edge Flashing and Copings: Capable of resisting wind forces applicable to the Building according to FM Global Loss Prevention Data Sheet 1-90; and
 - (iii) Quality Standard(s): SMACNA's "Architectural Sheet Metal Manual" and Roofing Practices Manual published by RCABC;
 - (iv) thermal insulation;
 - (v) roofing specialties and accessories required for completion;
 - (vi) interior access systems to roof areas;
 - (vii) roof drainage, including overflow scuppers, the capacity of which will equal or exceed the capacity of the roof drains and be designed such that they cannot be blocked by debris.
- (q) Provide sheet metal flashings that divert water away from membrane flashing termination and protect the membrane from deterioration due to the exterior elements and mechanical damage. Provide roofing membrane continuously under the metal flashings. Ensure that sheet metal components comply with wind uplift requirements established for the roofing system.
- (r) Metal roofing systems, if used, will provide clear internal paths of drainage to allow any trapped moisture to drain to the exterior and avoid the staining of architectural finishes, forming of puddles, forming of icicles, and dripping on pedestrians. In designing the Building, including any roof systems, ensure those entrance ways are protected from sliding snow and ice and no snow and ice accumulations in roof valleys.
- (s) Roofs will allow for maintenance and servicing of rooftop mechanical equipment.
- (t) All roof drainage will flow to the perimeter of the Building without penetrating the envelope of the Building.
- (u) Roofing will slope to drain with a minimum 2% slope.
- (v) Green roofs are not permitted.

6.7.9.2 Performance Criteria

- (a) Deck:
 - (i) Follow all the manufacturer's instructions for roof deck preparation.
- (b) Deck Overlayment:
 - (i) Follow manufacturer's instructions for roof deck overlayment preparation.
- (c) Vapour Retarder:
 - (i) Follow manufacturer's instructions for vapour retarder preparation.
- (d) Insulation:
 - (i) Ensure proper crickets or sloped insulation to prevent or minimize ponding, moss, lichens, and early roof ageing. A minimum of 2%, up to a 5% slope, will be used for crickets.
 - (ii) Specify roof blocking to prevent slippage.
 - (iii) Map under-deck roof conduit to prevent insulation screw penetration.
 - (iv) Ensure adequate spacing and number of insulation screws to prevent cupping; pulling away from parapets. Follow manufacturer's guidelines.
- (e) Insulation Overlayment and Crickets:
 - (i) Sloped crickets will have an overlayment. Alternately, install crickets under the main insulation. Use variable-length screws through nailable decks. Polyisocyanurate crickets will be used and adhered to in adhesive over concrete decks.
- (f) Membrane and Bitumen:
 - (i) Use only compatible materials for overlapping membranes.
 - (ii) Ensure stripping of insulation overlay joints to prevent burnout of EPS/EXPS.
 - (iii) Ensure thermometers on kettle: Improper heating of hot bitumen; poor interplay adhesion.
- (g) Parapets:
 - (i) Do not use gravel stop edges except if permitted by an SBS manufacturer.
- (h) HVAC:

- (i) Ensure a minimum of 205mm clearance is allowed for under elevated HVACs to enable inspection and maintenance of membrane.
- (ii) Provide removable screening panels on clearance to prevent birds from nesting.
- (i) Smaller Equipment Resting on Roofs:
 - (i) Install 50mm thick EXPS under loose sleepers to spread and cushion load to prevent sleepers from sinking into the roof.
- (j) Large Rooftop Equipment:
 - (i) Support large rooftop units on:
 1. structural pedestals or raised framework with at least 300mm clearance between the roofing system and the underside of the framework;
 2. Industry Standard isolators to limit HVAC related noise and vibration to acceptable levels; and
 3. on curbs where access under the unit for maintenance to roofing is not required.
- (k) Drains and Scuppers:
 - (i) Install rainwater leader discharge splash pans to prevent erosion of roof membrane.
 - (ii) Drain grills will have lock-down clamps, straps, or other security means to help prevent grill removal.
 - (iii) Water test drains for defective “O”-rings, U-flo.
- (l) Metal Flashing:
 - (i) Use only double gumlips, or reglets.
 - (ii) Cross-break wide metal flashing to prevent oil-canning.
 - (iii) SBS Roofing:
 1. Follow the detailed manufacturer’s specifications.
 2. Ensure adequate SBS torching to prevent blisters and lack of cap sheet bond.
 3. Specify SBS roofs for slope over 2 in 12 and up to 4 in 12. Small roof sections steeper than 4 in 12 can receive an SBS roof, applied parallel with the slope, and fastened at the peak.
- (m) Architectural Metal Roofing

- (i) Metal roofing systems, if used, will provide clear internal paths of drainage to allow any trapped moisture to drain to the exterior and avoid the staining of architectural finishes, forming of puddles, forming of icicles, and dripping on persons.
 - (ii) Metal roofing and flashings are considered will be water-shedding and not waterproofing.
 - (iii) Provide a waterproofing membrane below all metal roofing and flashings.
 - (iv) Drain water will be collected to prevent slipping hazards from ice formation at drain discharges.
 - (v) Fasteners and roof penetration details that will accommodate thermal movement are required.
 - (vi) The installation system will use thermal breaks.
 - (vii) Ponding of water on roofs is not permitted.
 - (viii) Follow the detailed manufacturer's specifications.
 - (ix) Breadpan metal roofs and install foam closure strips.
 - (x) Design for hidden fasteners on metal roofs.
 - (xi) Install adequate clips on metal coping flashings to prevent blow-off under high wind.
- (n) Fall Protection / Maintenance Access
- (i) Provide fall protection around the roof's perimeter to allow for cleaning and maintenance of the façade and glazing.

6.7.10 Fire and Smoke Protection

- 6.7.10.1 Where an assembly has a fire-resistance rating, base the assembly rating on tested assemblies from NBCC, NRC, ULC, UL, or WH.
- 6.7.10.2 Integrate barriers into vertical and horizontal space separations to protect against the spread of fire and smoke. Apply protection to exposed building elements (structural and non-structural) susceptible to fire and subsequent damage.
- 6.7.10.3 Penetrations of vertical and horizontal fire-resistance-rated separations will be fire-stopped.
- 6.7.10.4 Use fire-stopping and smoke seal systems that consist of asbestos-free materials and systems capable of maintaining an effective barrier against flame, smoke, and gases.
- 6.7.10.5 Use fire-stopping that:

- (a) is compatible with substrates;
- (b) allows for movement caused by thermal cycles; and
- (c) prevents the transmission of vibrations from the pipe, conduit, or duct to structure and structure to pipe, conduit, or duct.
- (d) When more than one product is required for a fire-stopping assembly, use products compatible with one another and from the same manufacturer. Fire-stopping products will comply with requirements established for ULC tested assemblies.
- (e) Use fire-stopping sealants and coatings that are silicone-based and guaranteed not to re-emulsify if subject to wetting or standing water. Acrylic-based coatings and sealants are not permitted.
- (f) Field testing will be conducted by an independent testing agency provided and arranged by the Design-Builder.
- (g) All fire-stopping will be installed by an FM Global-approved firestop Design-Builder or a UL-qualified firestop Design-Builder.
- (h) The Design-Builder will engage an agency in accordance with ASTM E2174 to inspect all fire-stopping installations.
- (i) Fire-stopping and smoke seal systems will be capable of maintaining an effective barrier against flame, smoke, and gases when tested to CAN/ULC-S115 or ASTM E814 or UL 1479, be acceptable to all applicable Authorities Having Jurisdiction, and not exceed opening sizes for which they are intended.

6.7.11 Sealants

6.7.11.1 All sealants and sealant primers used on the interior of the Building will meet the threshold level of compliance with emissions and content standards as outlined in the LEED® V4 credit – Low-Emitting Materials.

6.7.11.2 Sealant materials will be applied to:

- (a) prevent water ingress through the Building envelope systems and around openings in the Building envelope systems;
- (b) seal joints between dissimilar or similar materials and to allow smooth or even transitions;
- (c) seal expansion or controls joints in the Building envelope systems and structural systems and to allow movement; and
- (d) rated assemblies.

6.7.11.3 Apply sealant materials to achieve:

- (a) seals to the Building envelope systems and around openings in the Building envelope systems as required to prevent water ingress;

- (b) seals around and over cavities in or behind surface elements to allow effective infection prevention and control;
- (c) sealant around door frames will include joints at the bottom of door frames (between floor finish and frames);
- (d) sealed joints between dissimilar or similar materials to allow smooth or even transitions;
- (e) seal all openings or joints between any spaces where collections are to be present to prevent pest migration;
- (f) sealed expansion or control joints in the Building envelope systems or structural systems to allow movement caused by thermal changes;
- (g) For the exterior, use sealants to completely and continuously fill joints between dissimilar and/or similar materials.
- (h) For the interior, use sealants (at frames such as those at doors and windows) to fill joints between dissimilar materials using one component, acrylic emulsion, paintable type.
- (i) Seal all door frames to the floor
- (j) Caulking to restroom plumbing fixtures will be silicone, mildew-resistant, and impervious to water.
- (k) Sealants applied to expansion and control joints in concrete floors requiring self-levelling properties will be two-component epoxy urethane sealants for horizontal surfaces.
- (l) Use silicone caulking that is mildew-resistant and impervious to water for caulking restroom plumbing fixtures.
- (m) Use sealants with self-levelling properties for expansion and control joints in concrete floors using two-component epoxy urethane sealants.
- (n) Use sealants that allow for a minimum of 25% movement in joint width.
- (o) In corridors and other traffic areas used by equipment use traffic bearing type sealants suitable to support imposed load without deformation or failure.

6.8 Division 8 – Openings

6.8.1 Basic Requirements

- 6.8.1.1 Provide openings, including interior and exterior windows and doors of sufficient quantity and quality to meet all the requirements described in APPENDIX 1A-1 Functional Program Narratives.

6.8.2 Doors

- 6.8.2.1 Provide doors that suit the intended function of spaces or rooms requiring acoustic or visual privacy, security, special HVAC requirements, fire-resistance-rated separations, or other closures.
- 6.8.2.2 Provide door positioning and openings of adequate width to allow the movement of people, collections, and equipment associated with those rooms.
 - (a) Mechanical and electrical room doors will be sized to move pieces of equipment in or out and be no less than 1.1m wide and 2.4m high.
 - (b) For spaces with equipment that would not fit through the door size noted above, provide alternate means for equipment replacement for larger clearance requirements.
- 6.8.2.3 For acoustic requirements for Doors: refer to APPENDIX 1C - Acoustical Technical APPENDIX.
- 6.8.2.4 Do not permit doors swinging into corridors in a manner that may obstruct traffic flow or reduce the corridor width or inhibit egress, except doors to spaces that are used infrequently and are not subject to occupancy, such as small closets.
- 6.8.2.5 Door Type Materials
 - (a) Unless noted otherwise in APPENDIX 1B-2 – Item Schedule, door materials will be as follows:
 - (i) Entrance Area, Office Area, Public Access Areas: Wood
 - (ii) Lab Area, Loading and Receiving, Service Spaces: Hollow Metal unless the door is fronting an area noted in 6.8.2.5.1.a.Door Glazing
 - (b) Glazing in doors (interior and exterior) will allow for proper security, sight lines, and the use of Natural Light.
 - (c) Provide glazing in doors and sidelights to allow for appropriate operational requirements of the spaces they serve.
 - (d) For exterior hollow metal door glazing, use sealed units with a warm edge, argon-filled space in thermally broken frames to prevent heat loss.
 - (e) Provide laminated and tempered security glass and/or film for all exterior doors.
 - (f) Exterior glazing at doors and side lights will be laminated.
 - (g) Use tempered glass for interior hollow metal door glazing.
- 6.8.2.6 Exterior Doors
 - (a) General Requirements

- (i) Exterior doors will be commercial exterior-grade
 - (ii) All exterior frames will have the wall air, vapour, moisture membrane mechanically fastened into the frame by means of a pressure plate.
 - (iii) Will be hung in well-anchored pressed steel frames suited to the type of door.
 - (iv) Where entry doors will be installed in an aluminum curtain wall system or storefront glazing system, compatible aluminum doors may be used provided they are designed for high use areas and constructed with sufficient steel reinforcement to withstand the rigours of the Facility environment.
 - (v) Lobby, Learning Access #4, and Vestibule doors will be overhead motion-activated bi-parting doors.
- (b) Performance Criteria
- (i) Pressed steel doors and frames:
 - 1. Fabricate to Canadian Steel Door Frame Manufacturers' Association (CSDMA) specifications for steel doors and frames.
 - 2. Fabricate from commercial-grade sheet steel, Class 1 with ZF075 zinc coating to ASTM A525-87. Knock-down frames are not permitted.
 - 3. Exterior doors will be 45 mm thick
 - a. fabricated from 14 gauge (1.6 mm) steel
 - b. have a core composed of polyisocyanurate, closed-cell insulation; minimum RSI=2.11 when tested to ASTM C518.
 - c. The top of the door will be fitted with a weather cap.
 - d. Frames will be insulated, thermally broken, fully moulded type fabricated from 14 gauge (1.6 mm) galvanized steel.
 - e. Provide weather-stripping and high-performance pest-proof seals.
 - 4. Mortised, reinforced, drilled, and tapped to fit hardware manufacturer's templates.
 - 5. Galvanized steel frames with mitered, welded corner joints, ground, filled and dressed smooth. Provide additional reinforcing at the door closer mounting locations.

6. Provide exit and egress doors with vision panels at a minimum. Larger areas of glazing may be considered desirable by the Owner in some locations regarding maximization of Natural Light and views to interior spaces with meaningful ties between interior and exterior while minimizing undesired solar gain and glare.
7. Provide half-light glazing to top and bottom (horizontal stile at access hardware level) to main and secondary entrance doors.
8. Glaze with pre-formed, pre-shimmed butyl bedding tape.
9. Glaze with insulated laminated safety glass.

(ii) Commercial Steel Doors and Frames

1. Fabricated complete with cut-outs and reinforcing, and drilled and tapped to receive the finish hardware.
2. Surfaces are prepared to receive finishes. Door surfaces will be prepared to resist corrosion.
3. Flush-faced construction will meet the aesthetic, functional, and maintenance performance requirements and the weather and climatic conditions of the site.
4. Commercial Steel Doors will:
 - a. be heavy-duty, welded construction commercial grade doors;
 - b. be resistant to expected use and abuse;
 - c. be easily maintainable and repairable;
 - d. have insulated cores.
5. Commercial Steel Frames:
 - a. be heavy-duty, welded construction commercial-grade frames. Knock-down type frames are not permitted.
 - b. complete with anchors to each jamb to suit wall type to receive the frame.
 - c. fabricated complete with cut-outs and reinforcing and drilled and tapped to receive the finish hardware.
 - d. exterior door frames will be thermally broken to prevent heat loss and condensation.
 - e. surface preparation to suit the doors for which the frames are installed.

(iii) Aluminum Entrances and Storefronts

1. Aluminum entrances, curtain wall fabrications, and doors may form part of the exterior envelope of the Building or provide glazed interior partitions.
2. Aluminum doors will be used within aluminum entrances and CWF.
3. Aluminum entrances and storefront framing, and doors may form part of the exterior
4. Provide glazed interior partitions as appropriate to comply with the functions of the spaces as defined by the APPENDIX 1B-1 - Room Data Sheets.
5. Use frames that are thermally broken flush glazed, aluminum sections to accept insulating glass units.
6. Incorporate in the frames drained and vented system [rain screen] with a complete air and vapour seal, allowing any moisture entering the frame to drain to the exterior and allowing air into the pressuring chamber.
7. Apply aluminum finish for exposed aluminum surfaces. The finish will be permanent and resistant to corrosion caused by weather exposure and climate.

(iv) Exterior overhead doors:

1. Insulated steel sectional upward-acting type.
2. Design panels to withstand wind load of 0.83kN/m² with a maximum horizontal deflection of 1/240 of opening width. Door sections will be roll-formed 0.76 mm continuous steel coil, hot-dipped galvanized (G-90), pre-painted with baked-on primer. The back panel will be 0.45 mm steel with baked-on white primer. Insulate panels with AF530 Fibreglass or equivalent insulation 50 mm thick, RSI 1.4.
3. Box (hat) shaped muntins and end stiles will be formed of 0.91 mm hot-dipped galvanized steel.
4. The bottom sections will have a tubular neoprene astragal held by a continuous P.V.C. retainer filled to the bottom section.
5. Provide full perimeter weather stripping.
6. Provide double glazing to each section except where noted otherwise in Component worksheets.
7. Electrically operated with remote operation and chain-driven manual override. The track will be a 76 mm heavy-

duty trolley type lift, with high-cycle springs rated at a minimum of 100,000 cycles. Doors will be locked with a cylinder lock compatible with other door hardware.

- (c) Exterior door type requirements are specified in APPENDIX 1B-2 Items Schedule.

6.8.2.7 Interior Doors

- (a) General Requirements

- (i) Except where wired glass is required in accordance with the BC Building Code, construct interior windows and sidelights of tempered or laminated glass.

- (b) Performance Criteria

- (i) Interior doors and frames:

- 1. Wood doors:

- a. Materials and fabrication to AWMAC Quality Standards, Section 1300, Custom Grade to CSA 0132.2 M1977 with 12 mm min. thick vertical edge strips to match face veneer.
 - b. Solid core flush will be 45 mm thick, particleboard core, birch veneer face, stain grade.
 - c. Wood doors will have hardware and finishes that suit the intended function and aesthetics of the Building. Use Grade A faces for the transparent finish. The factory finish is required for doors with a transparent finish; use a UV-cured polyurethane finish system. All wood door edges will be sealed.
 - d. Provide heavy-duty commercial grade wood doors in flush design, Custom Grade quality (as defined in the AWMAC standards referred to above), 5-ply bonded particleboard core.
 - e. All wood doors will have a factory polyurethane finish.
 - f. All wood doors will be easily maintainable and repairable.
 - g. All wood doors will comply with fire resistance requirements when used in a rated wall assembly.
 - h. All wood doors will be sized, constructed, and be provided complete with all hardware, components, and finishes required to suit the intended function of the door within the Building and the aesthetics of the Building.

- i. Construction, finish, and installation of all wood doors will minimize the requirement for maintenance and the resulting disruption to the operation of the Building.
 - j. All wood doors will be flush custom-grade quality, solid MDF core.
 - k. Frames will wrap around the wall assembly they are installed into, such that the frame projects a minimum of 13 mm proud of the face of the wall on each side of the frame.
 - l. Frames will be compatible with adjacent wall assembly (in terms of anchorage, fire protection, the weight of the door, and repetitive slamming).
 - m. All frames will be welded in construction. Knock-down type frames are not permitted.
 - n. Doors with an inactive leaf will not be floor bolted. Bolt into the frame instead.
 - o. Provide fire-resistance-rated doors with a homogeneous incombustible mineral core and AWMAC Quality Standards Option 5 blocking.
 - p. Install finish hardware securely. Fasten to a solid wood backing, except where hardware is designed will be through-bolted.
 - q. Glue stiles, rails, and faces to the core with Type II water-resistant adhesive to minimize de-lamination or disassembly due to moisture ingress.
 - r. Use B-Grade hardwood veneer with AWMAC No. 3 edges, finish to suit the intended use.
 - s. Provide stainless steel door edge guards on wood doors in areas accessible to Students and areas where door abuse is expected.
2. Pressed steel doors and frames:
- a. Fabricate to Canadian Steel Door Frame Manufacturers Association (CSDFMA) Specifications for steel doors and frames.
 - b. Fabricate from commercial-grade sheet steel, Class 1 with ZF075 zinc coating to ASTM A525-87. Knock-down frames are not permitted.
 - c. Fire ratings will be identified by labels in conformance with CAN4 S104-M80 (revised 1985) and CAN4 S105M-M85.

- d. Minimum 45 mm thick, fabricated from minimum 1.21 mm (18 gauge) galvanized steel, with steel stiffeners at 150 mm on centre. Interior steel frames will be fully welded units fabricated from 1.52 mm (16 gauge) galvanized steel.
 - e. Doors are will be mortised, reinforced, drilled, and tapped to fit the hardware manufacturer's templates.
 - f. Provide vision panels to exit and egress doors.
 - g. Transom glass sections will be no greater than 1.2m in width and provided with additional mullions to ensure that the top door jamb is properly supported to minimize sagging and the associated door binding.
3. Hollow Metal Doors and Frames
- a. Materials and manufacture of metal doors will comply with the requirements of the Canadian Steel Door and Frame Manufacturer's Association (CSDFMA).
 - b. Installation methods and locations for doors, frames, and hardware will conform to DHI standards for detention facilities.
 - c. Interior metal doors will have flush-faced construction and be provided complete with all hardware, components, and finishes required to suit the intended function of the door within the Building and the aesthetics of the Building.
 - d. Provide interior metal doors with flush face construction and continuously welded edge seams.
 - e. Doors with an inactive leaf will not be floor bolted. Bolt into the frame instead.
 - f. Provide exterior metal doors with:
 - i) flush face construction, continuously welded, seamless edge construction using steel sheet;
 - ii) edge seams to correspond with door function and minimize maintenance needed;
 - iii) prepared surfaces to receive finishes that resist corrosion from exposure to weather. Provide with ZF180 coating; and
 - iv) all exterior doors that open out will be capped to avoid water collecting in welding channels.
 - g. Provide pressed metal frames with:

- i) fully welded construction of the same gauge at frames as at doors;
- ii) thermally-broken door frames for exterior, non-fire rated openings; and
- iii) anchors to each jamb to suit wall type and receive the frame

4. Interior Aluminum Sliding Doors and Sidelights

- a. Interior sliding doors and sidelights will have recessed mounted track with sliding and fixed panel(s) and include single glazing with 6 mm clear fully tempered float glass

5. Coiling Counter Shutters – Metal:

- a. Operation by hand. Provide continuous extruded aluminum lifting strap on the inside face of shutter bottom.
- b. Curtain: Extruded aluminum interlocking slat sections. Finish being clear anodic finish, length, and height as shown on drawings. Provide a continuous vinyl bumper to the bottom bar.
- c. Guides: extruded aluminum, 5 mm thick, finished as a curtain.
- d. Hood: enclosed, counter balanced assembly with aluminum brake formed sheet hood finished as a curtain.
- e. Counter balance: Provide an enclosed torsion spring balance assembly with a 25% overload factor encased in a steel tube to support the curtain with a maximum deflection of 1/360th of opening width. Provide adjusting wheel, accessible for setting.
- f. Locking: Equip shutters with lockable slide bolts on the inside.
- g. The coiling counter shutter will provide fire ratings where and as required.

6. Coiling Security Screen:

- a. Grill Curtain: Will be design G15014, aluminum, 7.9 mm horizontal rods, and hinged vertical connecting links on 152 mm centers. The bottom bar will be tubular in shape. The curtain will be locked in a closed position with a self-activating lock.

- b. Guides: Extruded aluminum with a return loop to prevent felt from pulling out of guides. Guides will be complete with a wear strip to eliminate metal-to-metal contact.
- c. Brackets: Fabricated from steel plate not less than 6.4 mm thick.
- d. Barrel: Will be not less than 152 mm diameter steel tubing and designed to limit maximum deflection to 2.5 mm per lineal meter of opening width. The grille curtain will be counterbalanced by oil-tempered springs.
- e. Operation: Electric motor operation with key-operated push-button control. Motor size to suit the size and weight of the screen.
- f. Hood: Will be formed to fit the curvature of the bracket.
- g. Finish: Aluminum, clear anodized

7. Interior Sectional Door

- a. Provide an integrated man door with a flush floor threshold
 - b. Provide maximum transparency to allow sightlines through to adjacent spaces
- (c) Interior door type requirements are specified in APPENDIX 1B-2 – Items Schedule.

6.8.3 Hardware

6.8.3.1 General Requirements

- (a) Prepare representative hardware schedule to identify a quality standard for each type of hardware for the Facility, listing the manufacturer's name, size, code number, and finish. After award, the Design-Builder will submit a complete and fully itemized hardware schedule for review and approval by the Owner pursuant to the Review Procedure.
- (b) A master keyed system, and a grand master keyed system to match the existing Owner's keying system will be provided, subject to the review and approval of the Owner pursuant to the Review Procedure.
- (c) Provide all hardware necessary for security and the proper operation of the Facility.
- (d) Use one manufacturer's products for all similar hardware items.

- (e) Galvanized steel bollards will be used as door stops to permit 129 degrees opening on all exterior doors, complete with neoprene stopper securely fastened to a bollard at point of contact 100-150 mm below lockset, centred on lockset.
- (f) All exterior door hardware will be through-bolted.
- (g) Finish hardware will comply with all applicable Standards, including the quality standards of the Door and Hardware Institute (DHI).
- (h) Provide all finish hardware from one supplier that is a member in good standing of the Door and Hardware Institute (DHI) and has in its employ one or more AHC (Architectural Hardware Consultant).
- (i) Hardware will be integrated with the security requirements and coordinated with electrical wiring and power requirements.
- (j) Select finishes providing maximum longevity and preservation of the finish.
- (k) Provide, where applicable, ULC-listed hardware for the required fire rating.
- (l) Use commercial-grade hardware, excluding the interior spaces of Living Units; locksets, latch sets, and lever handles should be solid material.
- (m) Provide all doors with bumper protection at walls to avoid damage.
- (n) All doors will have a minimum of three (3) hinges.
- (o) Door sweeps will be provided on all exterior doors.
- (p) Door sweeps for per control will be provided on all doors in the Collections Loading/receiving areas, Labs, Collections Access Zones and Collections Storage Area.
- (q) Provide auto-closure wherever card access is required
- (r) Interior doors will have low-closure resistance to allow for accessibility and ease of opening.
- (s) For all doors: floor mounted rails, slides, and/or locking pins are not permitted (top mount only).

6.8.3.2 Performance Criteria

- (a) Locks and Latches:
 - (i) Bored and pre-assembled locks to CAN/CGSB-69.17, heavy-duty commercial hardware to ANSI Series 4000, Grade 1, designed for appropriate function, with full return lever handles. Strikes: box type, lip projection not beyond jamb. Cylinders: keying system will be compatible with the existing Owner's standards.

- (ii) At exterior doors, latches will be protected by a guard plate or other intrusion-shielding device.
 - (iii) The following lock types will not be used for outside doors: magnetic pins, padlock, non-supervised code operated, combination lock, and disc tumbler.
- (b) Locksets, Latchsets and Cylinders:
- (i) All doors will be complete with locksets.
 - (ii) Locksets will be: Schlage, “D” Series, Rhodes, vandal proof, ASA 626. All locksets will be the following function to standard locksets as listed:
 - (iii) Backset: All locksets and latchsets will have 69.8 mm backset.
 - (iv) Strikes: All locksets and latchsets will be supplied with Schlage ASA strikes.
 - (v) All cabinet locks will be keyed the same throughout.
 - (vi) Display cases to have track-mounted showcase lock.
- (c) Keying
- (i) Provide key cylinder to match Everest 29 S123, or acceptable equivalent, Schlage “T” Series cylinders, to allow compatibility with the remainder of the Campus. Any proposed equivalent will be fully compatible with and demonstrably capable of being seamlessly integrated with the Everest 29 S123 system currently in use by the Owner.
 - (ii) Provide hard-wired access control door hardware to allow remote control and programming of any door on the system. Will be acceptable; any proposed equivalent will be fully compatible with and demonstrably capable of being seamlessly integrated with the system currently in use by the Owner.
 - (iii) Basic Requirements
 1. The Design-Builder will prepare and submit a proposed Key Schedule for the Building with Design Package D review and approval by the Owner pursuant to Schedule 2 - Review Procedure. The proposed Key Schedule will include details of the master keying system for the Building and will minimize the requirement for Staff to carry keys and the number and type of keys required for the Building.
 2. Provide a restricted keyway system for all lock cylinders in the Building. The restricted keyway system will be obtained from the applicable lockset manufacturer(s) on behalf of and in the Owner's name. The Owner will control

the restricted keyway system, such that an authorized representative of the Owner will order all spare keys and key blanks.

- (d) Butts: doors will be equipped with 1-1/2 pairs, 115 mm ball-bearing butt hinges, minimum, non-removable pins, CAN/CGSB-69.18, brass or bronze plated, finish C26D.
- (e) Exit Devices: to CAN/CGSB-69.19, type modern and be surface mounted. The product will be Von Duprin, Series XP 98 / 99 vertical rod, C26D finish.
 - (i) All exterior double doors will be provided with full height astragal.
 - (ii) Provide the appropriate Von Duprin Hardware (such as EL9827EO) compatible with the security systems wherever electric strikes or door monitoring are required.
- (f) Door Armoring:
 - (i) Door Kick Plates to all doors from/to the Central Services Corridor and the BOH Corridor and high use areas: 1.27 mm thick stainless steel, to CGSB 69-GP-6M type 6-320, 250 mm high x width of the door (less 40 mm on push side).
 - (ii) Half Height Armoring as noted in APPENDIX 1B-2 – Item Schedule: 1.27 mm thick stainless steel, to CGSB 69-GP-6M type 6-320, 1220 mm high x width of the door (less 40 mm on push side).
- (g) Threshold: extruded aluminum, the full width of the door opening, mill finish at all exterior doors, and interior doors at changes of floor finish and where otherwise required. It will be suitable for accessibility where needed. The product will be Pemko.
- (h) Door Pulls: aluminum, finished to C26D, or stainless steel, finished to 630. Provide oversize push plates at each location.
- (i) Weather-stripping:
 - (i) Exterior doors will be fully weather-stripped.
 - (ii) All interior doors noted as environmental separations in APPENDIX 1B-2 Item Schedule.
 - (iii) Head and jamb seal: extruded aluminum frame and solid, hollow closed-cell neoprene insert, clear anodized finish.
 - (iv) Door and bottom seal: extruded aluminum frame and solid closed-cell neoprene, surface mounted with drip cap.
 - (v) Door bumpers: grey neoprene.
 - (vi) All weather-stripping will be rodent-proof.

- (j) Sound Seals:
 - (i) Provide acoustic seals at all doors through walls where significant sound isolation is required.
 - (ii) All doors requiring sound isolation where collections will be moving through will have door bottoms; thresholds are not permitted.
- (k) Door Closers:
 - (i) Will be: Exterior LCN "Smoothie" 4040 cush & door spring load door opening device, size to suit doors, aluminum finish, with through bolts at wood doors. Delayed action will be provided where required for accessibility.
- (l) Astragals:
 - (i) Wood doors: will be Pemko 357C, the full height of doors.
 - (ii) Metal doors: Full-height, fully welded steel astragals.
- (m) Automatic swing door operator:
 - (i) surface mounted, self-contained unit, in housing to match the width of the frame, electrically operated, with two square stainless steel push plate switches. The unit will function as a manual door closer in the event of a power failure and operate at all other times as either manual or automatic device. Provide key-operated on/off switch. Unit, accessories, and signs and labels to meet all requirements for accessibility.

6.8.4 Glazing

- 6.8.4.1 Glazing systems will be designed to allow for ease of repair and replacement.
- 6.8.4.2 Glass and glazing will comply with all applicable Standards, including the Insulating Glass Manufacturers Association of Canada [IGMAC] Guidelines and the Glazing Contractors Association of B.C. [GCA] Glazing Systems Specifications Manual.
- 6.8.4.3 Provide assemblies that resist local seismic conditions as defined in the BC Building Code.
- 6.8.4.4 Provide assemblies that resist 1-in-100 year climatic events.
- 6.8.4.5 Use laminated safety glass in entry doors and sidelights.
- 6.8.4.6 Exterior Glazing
 - (a) General Requirements
 - (i) All glazing will be vertical.

- (ii) Meet the Building façade and site structures and the exterior lighting requirements of the bird collision deterrence system for exterior glazing, complementary to the architectural character of the Building, as approved by the Owner pursuant to Schedule 2 - Review Procedure
- (iii) Optimize daylight and/or natural light and views to regularly occupied interior spaces. Use strategies to provide daylight/natural light deep into the spaces while balancing heat loss, solar gain, and glare.
- (iv) Follow "Glazing Systems Specifications Manual" recommendations as published by the Glazing Contractors Association of B.C. for glazing systems selection, specifications, and installation. Minimize heat gain within the rooms by use of screening and sun-shading.
- (v) Provide laminated and tempered security glass and/or film for all ground level or accessible exterior windows.
- (vi) Glazing will provide excellent optical clarity.
- (vii) Provide means for window washing.
- (viii) Design glazing and interior surrounds to allow uniform, unobstructed movement of conditioned air across the glass and frame.
- (ix) Select glazing in consideration with the lighting and mechanical systems to prevent glare and solar overheating.
- (x) Provide uniform glazing sizes for maintenance and ease of replacement.
- (xi) Where direct daylighting is specified for rooms in APPENDIX 1B-1 Room Data Sheets, the spatial Daylight Autonomy (sDA) will be measured in accordance with LEED v4 methodology.
 - 1. General Conditions - provide a daylight threshold of 40% of the floor area meeting or exceeding 300 lux for at least 50% of the working hours of the year, with the exception of the rooms noted below for special conditions.
 - 2. Special Conditions – provide a daylight threshold of 55% of the floor area meeting or exceeding 500 lux for at least 50% of the working hours of the year. Special conditions apply to the following rooms:
 - a. 3.301 Conservation Paper Lab
 - b. Intentionally Deleted
 - c. 3.304 Conservation Textile Lab
 - d. 3.305 Conservation Object Lab

e. 3.309 Archaeology Wet Lab

(xii) Based on known local climatic data, provide windows to Good Industry practices that comply with the following standards:

1. CAN/CSA-A440-00/A440.1-00, Windows and its appended Special Publication;
2. User Selection Guide to CSA Standard CAN/CSA-A440.1-00;
3. Windows: Aluminum Association Standards (AAS), and the American Architectural Manufacturers Association (AAMA) field testing specifications;
4. Air-tightness – per CAN/CSA-A440.0 and CGSB Requirements 82.1.
5. All exterior glazing will be installed and maintained from the exterior of the Building.
6. Provisions will be made in the Building cladding for maintenance of the exterior glazing.

(xiii) Operable windows are only allowed in the Office Areas and will be a minimum of 150 mm high opening; be top hung, screened, and have outward opening lights.

(xiv) All operable windows will be lockable and secure when not open.

(xv) All operable windows will be complete with an aluminum wire mesh bug screen.

(xvi) When the opening width exceeds 610 mm, provide operable windows with a minimum of two handles.

(xvii)Warranty

1. Sealed glazing units will be warrantied for a minimum of five years.
2. Glazing system and installation will be warranted for a minimum of two years against leakage, defects, and malfunction.

(xviii) Field Testing

1. Representative samples of installed glazing systems will be field-tested by a building envelope specialist for conformance to required performance criteria.

(b) Performance Criteria

- (i) Glazing systems will be commercial grade, meeting the requirements of CAN/CSA-A440-M90. The minimum allowable rating for windows will be as required for the location under applicable regulations. Lightweight residential quality windows will not be used.
- (ii) Clear anodized aluminum will be used for window frames.
- (iii) System Design:
 - 1. Allow no water infiltration into the Building.
 - 2. Ensure no condensation forms on interior surfaces of aluminum before exposed areas of sealed glazing units reach dew point.
 - 3. Thermal and structural expansion and contraction will be accommodated.
 - 4. Through-joints at window sills, heads, jambs, and interconnections will be avoided.
 - 5. It is unacceptable to rely on caulking for weatherproofing.
 - 6. Maintain continuity of air and vapour seals as part of wall construction.
 - 7. Glazing in doors and sidelights will be 200 mm above the finished floor.
 - 8. Use High Performance (double pane, low "e" glass with argon fill) glazing or better.
 - 9. Laminated safety glass will be used at all exterior doors, sidelights, vitrines, and transoms to glaze openings within 900 mm above the finished floor. Tempered glass is not acceptable.
- (iv) Translucent, insulated fibreglass panel systems can only be used with the Owner's approval in spaces where day-lighting is required but glare is to be avoided.
- (v) Windowwithwall interface:
 - 1. Completely seal off the perimeter of the window's rough opening with a rubberized asphalt peel-and-stick membrane. Ensure the integrity and drainage of the weather-tight plane of the wall assembly is enhanced rather than impeded by the membrane. Use glass fibres or foam insulation to finish all voids.
 - 2. Flashings will be of a suitable corrosion-resistant material, and pre-finished metal will be used where exposed.

3. Exterior windowsills will be flashed and sloped away from the window and will have a projection drip. The backs and ends of the sill will be turned up to form a three-sided pan. Make ends, laps, and intersection of sill flashings watertight. Treat flashing edges so as not to form a safety hazard at the exterior.
4. Provide flashing at window heads.

(vi) Operable Windows

1. Minimum requirement: Factory sealed double glazing, low e soft coat, with minimum 12 mm air space, argon filled.
2. Meet requirements of IGMAC (Insulating Glass Manufacturers Association of Canada) and:
3. Glazing tape, where employed, will be pre-formed, pre-shimmed butyl, and have corners sealed with acrylic-based sealant.
4. Use neoprene or EPDM glazing gaskets.
5. Weather-stripping:

(vii) Operable windows will be fully weather-stripped using neoprene material or heavy-duty EPDM.

(c) Aluminum Curtain Walls

- (i) Aluminum curtain walls will comply with all applicable Standards, including the Aluminum Association Standards (AAS) and the American Architectural Manufacturers Association (AAMA) field testing specifications.
- (ii) Incorporate a drained and vented system in the curtain wall framing complete with air and vapour seal, allowing any water entering the framing/system and the glazing detail cavities to drain to the exterior and allow air into the pressuring chamber.
- (iii) Provide curtain wall framing that incorporates a thermal break.
- (iv) For exposed aluminum surfaces, provide a permanent finish and resistance to corrosion resulting from weather exposure and climate.
- (v) Applied solar films are not permitted.

(d) Aluminum Windows

- (i) Aluminum windows will comply with all applicable standards, including the Aluminum Association Standards (AAS) and the American Architectural Manufacturers Association (AAMA) field testing specifications. Provide Architectural Grade windows unless otherwise noted.

- (ii) Incorporate a drained and vented system complete with air and vapour seal in windows, allowing any water entering the framing/system and the glazing detail cavities to drain to the exterior and allow air into the pressuring chamber.
 - (iii) Provide windows that incorporate a thermal break.
 - (iv) For exposed aluminum surfaces, provide a permanent finish and resistance to corrosion resulting from weather exposure and climate.
 - (v) Applied solar films are not permitted.
- (e) Aluminum Framing Systems
- (i) Anchors for the framing will be located within the vertical tube sections or on the sides of the tubes as strap anchors. The anchors will be designed to allow for thermal expansion and contraction of the frame. The design of the anchors will not interfere with the adhesion of the air, vapour, and moisture membranes from the wall directly to the tube face of the section.
 - (ii) Mechanically retain the air seal membrane to the tube face of the section with the use of an aluminum anti-rotation channel or equivalent.
 - (iii) For interior and exterior applications, gaskets and weather seals will be mechanically keyed in dry glazing systems (vision strip is not considered a mechanically keyed gasket).
- (f) Clerestory Glazing
- (i) Clerestory windows will be vertical.
 - (ii) For exposed aluminum surfaces, provide a permanent finish and resistance to corrosion resulting from weather exposure and climate.
 - (iii) Clerestory windows will be accessible for maintenance and cleaning from the interior and exterior of the Building without disruption to the Building operations.
 - (iv) Air seal and water seal connections to curbs and walls will be fully accessible and will not be dependent on the construction sequence.
 - (v) Provide drainage of water entering the glazing system to the exterior under all conditions.
 - (vi) Design glazing to prevent condensation on the interior face of the glazing or framing system. Provide interior gutters to catch water in the event condensation occurs. Drain condensation gutters to the interior.

- (vii) Glazing framing systems will provide for the mechanical attachment of air, vapour, and moisture membranes.
- (g) Skylights
 - (i) Skylights are not permitted
- (h) Tubular Natural Lighting Devices (light tubes)
 - (i) Tubular natural lighting devices are permitted where required to provide necessary Natural Light to interior spaces.
 - (ii) Provide tubular natural lighting devices as follows:
 - (iii) transparent roof-mounted skylight dome and self-flashing curb, reflective tube and ceiling level diffuser assembly;
 - (iv) complying with the International Code Council ICC AC-16; and
 - (v) minimum tube diameter will be 530mm.
- (i) Exterior glazing requirements are specified in APPENDIX 1B-2-Items Schedule.

6.8.4.7 Interior Glazing

- (a) General Requirements
 - (i) Provide interior glazing in locations and quantities to meet the requirements of APPENDIX 1A-2 related to maximization of natural light, daylight, views, meaningful ties between the interior and the exterior, and visual connections between interior spaces for supervision.
 - (ii) Interior glazing will be laminated safety glass.
 - (iii) Except for glazing in wood doors, glazing will be in pressed steel frames to the same requirements as door frames.
 - (iv) Interior glazing sill heights and sidelights will be a minimum of 200 mm height above the finished floor. Sidelight head height will match the adjacent door.
 - (v) Where not specified, size, configure and adequately construct windows to suit rooms that require Natural Light, views, and/or natural ventilation.
 - (vi) Coordinate glazing heights with adjacent wall protection, handrails, and other accessories to achieve functional and aesthetic cohesiveness.
 - (vii) Interior glazing, where providing views to collections will be tempered low iron.
- (b) Performance Criteria

- (i) be conventional commercial grade window construction and
- (ii) provide normal security and resistance to abuse.
- (iii) Interior Glazing Selection Criteria
 - 1. All windows will be able will be re-glazed in place.
- (c) Interior glazing requirements are specified in APPENDIX 1B-2 Items Schedule.

6.9 Division 9 – Finishes

6.9.1 Basic Requirements

- 6.9.1.1 In areas where finishes and systems of installation will occur, and water is anticipated to be present as part of the cleaning or other procedures, allow water to slope to drain without causing damage to the finishes or substrate.
- 6.9.1.2 Finishes will be suitable for the environment they are exposed to.
 - (a) All wood surfaces contained within the Lab and Collections environments will be epoxy coated or coated with Sansin products.
- 6.9.1.3 Interior materials will be of high-performance quality to withstand regular and repeated abuse and cleaning.
- 6.9.1.4 In accordance with required order and delivery schedules, the Design-Builder will supply samples for Owner review pursuant to Schedule 2-Review Procedure as follows:
 - (a) Interior Walls and Partitions:
 - (i) Paint finish sample with a minimum size of 50mm x 50mm
 - (ii) Wall cover finish sample with a minimum size of 200mm x 200mm; and
 - (iii) Clear finishes will be applied to a sample of the substrate material with a minimum sample of 100mm x 100mm
 - (b) Floors:
 - (i) Where carpet is used, the sample size will be a minimum of 400mm x 400mm; and
 - (ii) Where any other type of flooring treatment is used, the sample size will be a minimum of 300mm x 300mm.
 - (c) Ceilings:
 - (i) ACT to be provided as a single full-sized tile;

- (ii) Clear finishes will be applied to the substrate material with a minimum sample size of 100mm x 100mm; and
- (iii) Paint finishes sample with a minimum sample size of 50mm x 50mm.

6.9.1.5 Interior materials subject to corrosion from exposure to moisture or other corrosive agents and where the painting is insufficient to protect from corrosion/damage will receive a protective coating to protect against corrosion.

6.9.1.6 Provide acoustic wall treatment as required to meet the acoustic requirements specified in APPENDIX 1C - Acoustical Technical APPENDIX.

6.9.1.7 Epoxy coating or Sansin products are required for all exposed wood in all areas where collections are present.

6.9.2 Interior Walls and Partitions

6.9.2.1 Basic Requirements:

- (a) Design and construct the interior components of the Building in accordance with the following:
 - (i) provide acoustic separations as required to account for the specific functions will be carried out in the relevant spaces affected as specified in this Schedule 1;
 - (ii) design and select interior walls and partitions, partition systems, and interior finishes:
 - (iii) for ease of cleaning and maintenance;
 - (iv) to maximize permanence and durability, including impact resistance;
 - (v) to maximize flexibility and adaptability of services;
 - (vi) with Low VOC emissions to minimize adverse impact on indoor air quality and indoor environmental quality;
 - (vii) accommodate required services without compromising security and safety.
- (b) Unless constructed of mass timber, all walls in the following areas will be constructed to accommodate the temporary attachment of display objects by means of 19mm OSB backing behind GWB in the form of:
 - (i) Learning Access Areas and Multi-Purpose Room - Continuous panels to a height of 2.4m above finished floor, or two 300mm high strips centred at 1000mm and 2000mm above finished floor, and

- (ii) Circulation Spine and Lobby – Where walls are of a horizontal length greater than 1.0m provide continuous panels to a height of 3.6m above finished floor, or three 300mm high strips centred at 1000mm and 2000mm and 3000mm above finished floor.
- (c) Environmental Separation is required between all collection storage areas with differing environmental conditions as outlined in Section 7.3.
- (d) Steel Framing
 - (i) Interior wall framing will comply with all applicable standards, including the Canadian Sheet Steel Building Institute Standards (CSSB1) and the Association of Wall and Ceiling Contractors of B.C. (AWCC) Wall & Ceiling Specification Standards Manual for materials and workmanship for interior walls, including steel studs and furring and GWB ceiling suspension systems.
 - (ii) Use prefabricated non-load bearing steel studs for interior partitions and furring with no axial load other than its weight, the weight of attached finishes, and lateral loads of interior pressure differences and seismic loads.
 - (iii) Construct steel stud framing to accommodate electrical, plumbing, and other partition cavity services and support fixtures, wall cabinets, and other such wall-mounted items. Provide reinforcement and backing.
 - (iv) Account for the differences in air pressure that may result on opposite sides of the wall or partition due to factors such as wind and other lateral pressures, stack effects, or mechanically-induced air pressurization.
 - (v) Design assembly to accommodate construction tolerances, deflection of building structural members, and clearances of intended opening.
 - (vi) Where GWB systems are required to provide fire resistance ratings, design wall assemblies tested by fire testing laboratories acceptable to Authorities Having Jurisdiction.
- (e) Provide wall (and where walls are not full height, continue through ceiling structure) construction of GWB over heavy gauge steel barrier mesh installed to manufacturers recommendations in the following rooms:

6.9.2.2 Performance Criteria

- (a) The interior walls will be designed and constructed to provide a safe and secure place for Occupants and provide the required level of fire-rated protection stipulated by the BC Building Code.
- (b) Materials and work quality for interior walls, including steel studs and furring and GWB ceiling suspension systems, will be to Good Industry Practice. Non-load bearing channel stud framing will conform to ASTM C 645 and CAN/CGSB-7.1-98.
- (c) The interior walls and partition systems will:
 - (i) provide acoustic separations of internal walls and partitions in accordance with APPENDIX 1C - Acoustical Technical APPENDIX and Section 8.9.14 Acoustic Treatment of this Schedule 1.
- (d) Full height walls providing physical separation up to the underside of the structure above are required for all zones requiring environmental separation between adjacent spaces.
- (e) Individual rooms contained within zones sharing the same environmental conditions can have walls up to the underside of a lower finished ceiling and will conform to the acoustic requirements as contained in Schedule 1C – Acoustical Technical APPENDIX.
- (f) Interior walls will be designed and constructed using durable materials and will be secured.

6.9.2.3 Demountable Partitions

- (a) All demountable partitions will:
 - (i) Be moveable solid and glass walls, demountable partitions, or a product of equivalent quality.
 - (ii) Include sliding, butt hinge, pivot, aluminum with glass lite, wood with optional glass lite, frameless glass doors and glazing, and double sliding barn doors, all sourced from a single manufacturer.
 - (iii) Be fully coordinated with the interior design concept for the relevant programmed area.
 - (iv) Have an STC rating of 37 minimum (determined using ASTM E90).
- (b) Electrical, Communications, and Security System Requirements
 - (i) Integrate voice, data, and security system components into demountable partitions.
 - (ii) Provide conduit, boxes, and electrical duplexes and integrate them into electrical and communication components.

- (iii) Provide for installation of electrical, communications, and security system items arranged so that wiring can be readily removed and replaced.
- (iv) Boxes: Provide outlet and pre-wired device boxes in a cavity of demountable partitions for all outlets and devices. Provide metal junction and pull boxes where required. Will offer a plug-and-play electrical solution.
- (v) Conduit: Provide option for metal conduit in a cavity of demountable partitions, from outlet and device boxes to top or bottom of demountable partitions to permit wiring installation and connections.
- (vi) Components: Provide all cut-outs and reinforcements required for demountable partitions to accept electrical, communications, and security system components.

6.9.3 Wall Finishes

6.9.3.1 General Requirements

- (a) Refer to APPENDIX 1B-1 – Room Data Sheets for wall finish requirements.
- (b) Where possible, use systems from the single manufacturer and dye lot, etc., to suit the performance level required and selected from readily available stock.
- (c) Paint all gypsum board surfaces. Concrete and concrete masonry surfaces will be filled.
- (d) For MDF and gypsum board surfaced wall assemblies, provide a 100 mm high (x thickness of wall finishes) strip of pressure-treated fir plywood at the wall/floor interface except where Gypsum wallboard is required to meet the fire rating of the wall assembly.
- (e) Provide backing strips in all stud walls for a solid connection to all room fixtures and equipment, including chalkboards, tack boards, monitors, etc. Minimum backing will be 19mm OSB. Final locations will be reviewed with the Owner pursuant to Schedule 2 – Review Procedures
- (f) In all rooms with epoxy flooring, provide abuse-resistant gypsum wallboard.
- (g) Where wood structure is left exposed, the finish will be scratch and chemical resistant.

6.9.3.2 Performance Criteria

- (a) Gypsum Board:
 - (i) Gypsum board work to CSA A82.31 1977 except when specified otherwise.

- (ii) Gypsum board: to CSA A82.27 M1977, Type X, 15.9 mm is the minimum standard.
 - (iii) Finish gypsum board in accordance with the Levels of Finish as prescribed in Section 9.6 of the AWCC manual.
- (b) Gypsum Board – Water Resistant:
- (i) Will be used where there is any potential for wetness, including behind all sinks.
- (c) Gypsum Board – Abuse Resistant:
- (i) Will be used in Circulation Spine to a height of 1.2m.
 - (ii) Will be used in all areas that require epoxy flooring to a height of 1.2m.
 - (iii) Will be used in the BOH corridor to a height of 1.2m.
- (d) Ceramic and Porcelain Tilework:
- (i) Ceramic tiles will be applied on walls only.
 - (ii) Porcelain Tiles will be applied to floors only.
 - (iii) Dynamic Coefficient of Friction (DCFO) will be minimum:
 - 1. 0.55-0.56 for outdoor applications
 - 2. 0.42 for indoor Public Spaces
 - (iv) Ceramic tilework will comply with all applicable Standards, including the Terrazzo Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 13 Tile Installation Manual.
 - (v) For installations on wet and exterior surfaces, use floor tiles that have the following static coefficients of friction as per the American Society for Testing and Materials International (ASTM):
 - 1. Level Surfaces: Not less than 0.50 for wet and dry conditions.
 - 2. Stair Treads: Not less than 0.60 for wet and dry conditions.
 - 3. Ramp Surfaces: Not less than 0.60 for wet and dry conditions.
 - (vi) For exterior installations, provide frost-resistant exterior tiles with a moisture absorption rating of 3.0% or less.

- (vii) Provide control joints and expansion joints in conformance with the recommendations of the TTMAC Tile Installation Manual.
- (viii) Provide crack isolation membranes to resist crack transmission from the substrate due to lateral movement; design for use in thin-set tile applications over a cracked substrate. Use elastomeric sheets or trowel-applied materials suitable for subsequent bonding of ceramic tile.
- (ix) Set the ceramic tile with latex-modified mortar, and all grout will be epoxy-based.
- (x) Fix tiles with low toxicity cement. Grout will be of a colour complementary to the tiles and easily maintained. White grout will not be used.
- (xi) Ceramic tile will be CAN-75.1 M77, Type 5, class MR4, minimum 108 x 108 x 6.4 mm size, cushioned edges, glazed pattern, colour as approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (xii) Cementitious backer board:
 - 1. Will be used instead of gypsum board (except where Gypsum board is required for fire rating) over studs:
 - a. In showers; and
 - b. Where hose bibs are specified.
 - 2. Install backer boards in accordance with the manufacturer's written instructions to the full height of the tiling or other wall finish. Protect the substrate with a 0.15 mm thick sheet of polyethylene installed behind the backer board and extend the backer board's full area without joints. Will be:
 - a. Rigid, lightweight concrete board;
 - b. Glass fibre reinforcing mesh each face;
 - c. 16mm thick; and
 - d. Dimensioned to the largest practical sheet sizes to minimize joints
- (xiii) Tilework:
 - 1. Wall tiles to TTMAC detail 200-5-B. Floor tiles to TTMAC detail 200-15.
- (e) Plywood panelling:

- (i) to CSA 0115, 11mm thick unless noted otherwise, plain sliced veneer face, veneer core, good one side, AWMAC Custom Grade, warehouse matched, Select Natural Birch, for a clear finish.
- (f) Medium-density fibreboard panelling:
 - (i) to ANSI A208.2; 12.5 minimum or thickness indicated for paint finish. Flame spread rating less than 150.
- (g) Acoustic wall panels:
 - (i) Requirements:
 1. composite wood fibre bonded with cement binders; or
 2. semi-rigid fibreglass with hardened edges and wrapped in fabric.
 - (ii) Cementitious wood fibre acoustic units:
 1. to CAN2-92.1 M77. Standard units: 1213 mm wide, thickness as required for NRC requirements (minimum 38 mm), bevel, edged, standard white, NRC designation of 0.40. Flame-spread rating of 25, smoke developed 50 or less. Adhesive: type recommended by the acoustic unit manufacturer.
- (h) Exposed Wood Walls, Ceilings or Finishes
 - (i) Apply water-based polyurethane coating in spaces that do not have exposed collections.
 - (ii) Apply epoxy coating or Sansin products where collections are present.

6.9.4 Wall Protection and Wall Coverings

6.9.4.1 Vinyl Acrylic Wall Covering

- (a) Where vinyl/acrylic wall covering is used, provide vinyl/acrylic high impact rigid sheet, minimum 15mm thickness with colour-matched vinyl/acrylic trim for joint/transitions.
- (b) Furnish a complete packaged system containing all primers and adhesives. Use water-based and non-hazardous primer and adhesive materials.

6.9.4.2 Dry Erase Wall Covering

- (a) Provide pigmented gloss vinyl wall covering presentation surfaces for dry erase markers, including .61 kg/m², non-woven backing specified in APPENDIX 1B-1 - Room Data Sheets.

- (b) Provide trim and other accessories, including wall covering trim of anodized aluminum, low profile trim.
- (c) For the rooms listed in APPENDIX 1B-2 – Items Schedule as having whiteboards, the Design-Builder will provide either a whiteboard or dry erase wall covering for review and approval by the Owner pursuant to Schedule 2 – Review Procedure.

6.9.4.3 Interior Window Film

- (a) Interior window film may be considered by the Owner.
- (b) 4.7mil vinyl, frosted
- (c) Applied to the inner face of glazing. Edges not will be captured within window stops will be able to replace film as necessary
- (d) Privacy film: 50% opacity to obscure recognition of interior / exterior features

6.9.4.4 Wall Protection

- (a) Provide protection on all walls and exposed corners within corridors to prevent damage due to impact from Occupant traffic.
- (b) The minimum wall protection height is 1.2m above the floor bases.
- (c) Wall protection will continue above any handrail/wall bumper to fully protect the wall from damage.
- (d) Apply sheet wall protection and bumper guards in other locations where there is a potential for impact damage.
- (e) Applied Sheet Wall Protection
 - (i) Sheet wall protection will be applied to all BOH general circulation corridors and Loading/Receiving Area.
 - (ii) Sheet wall protection will be:
 1. PVC free
 2. Fire and smoke performance: Class A per CAN/ULC-S102.1
 3. Smooth or minimally textured without visual fasteners
 - (iii) Colour to complement or match the surrounding wall colour
- (f) Corner Guards
 - (i) Provide 50mm x 50mm x 1.2m satin finish stainless steel corner guards where wall finishes are exposed to wear conditions.

- (g) Bumper Rails
 - (i) Will consist of continuous snap-on plastic cover(s) installed over continuous retainer; with continuous rubber or vinyl bumper cushion(s) centered in the retainer; designed to withstand impacts.

6.9.5 Painting

6.9.5.1 General Requirements

- (a) Materials containing lead or mercury are not permitted. Coatings or components of coatings that cure through oxidative polymerization must be avoided.
- (b) Paints and coatings will meet the applicable flame spread requirements of applicable governmental authorities and the BC Building Code.
- (c) Use only materials having a minimum MPI 'Environmental Friendly' E2 rating or better based on VOC (EPA Method 24) content levels.
- (d) If seamless epoxy wall coatings are used, provide a two-component, high solid, zero or low VOC, solvent-free, epoxy glaze wall coating, which will be seamless, abrasion and chemical resistant, and UV resistant. Coatings will have been tested in accordance with ASTM D1308-Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
- (e) All interior and exterior painting and decorating work will be in accordance with MPI Painting Manual premium-grade requirements and will be inspected by the local MPI Accredited Quality Assurance Association's Paint Inspection Agency (inspector). The Design-Builder is responsible for the cost for such inspections and either the local MPI Accredited Quality Assurance Association's Guarantee or the Maintenance Bond.
 - (i) Paint Gloss: Paint gloss is defined as the sheen rating of applied paint, in accordance with the following values:
 1. Gloss Level 1: Flat or matte: max. five units @ 60 degrees to a maximum of 10 units @ 85 degrees. NOT PERMITTED;
 2. Gloss Level 2: High Sheen Flat (Velvet-like): max. 10 units @ 60 degrees to a maximum of 10 - 35 units @ 85 degrees. NOT PERMITTED;
 3. Gloss Level 3: Eggshell: max. 10 - 25 units @ 60 degrees to a maximum of 10 – 35 units @ 85 degrees. LIMIT USE TO ADMIN OFFICE AND CEILINGS;
 4. Gloss Level 4: Satin-like Finish: max. 20 - 35 units @ 60 degrees to a minimum of 35 units @ 85 degrees. ALL SPACES.

5. Gloss Level 5: Semi-gloss Finish: max. 35 - 70 units @ 60 degrees. DOORS AND FRAMES AND OTHER INTERIOR METALWORK
 6. Gloss Level 6: Gloss Finish: max. 70 - 85 units @ 60 degrees. and
 7. Gloss Level 7: High Gloss Finish: More than 85 units @ 60 degrees. NOT PERMITTED.
- (f) All interior and exterior painted concrete surfaces will be sand-blasted and primed to ensure proper finish adhesion. All cast-in-place or precast concrete to receive abrasive blasting within 25-72 hours after the concrete is poured, depending on curing requirements. Design-Builder to designate minimum 10 square meters sample panel complete with a finish for review and acceptance by the Owner.
 - (g) All exposed exterior structural and architectural steel will be sandblasted to the appropriate MPI requirements for the finish system.
 - (h) Use exterior paints of a quality designed to protect substrate materials from weather and climate conditions.
 - (i) The colour palette will be selected from a single manufacturer approved by the Owner pursuant to Schedule 2 - Review Procedure.
 - (j) Provide line painting for exterior parking and traffic areas and other exterior miscellaneous hard surface playing areas.
 - (k) Paint all piping and conduit exposed to view in all spaces except in mechanical rooms with the following exceptions: fire-sprinkler piping in mechanical rooms will be painted red, and gas piping in mechanical rooms will be painted yellow
 - (l) Ensure O&M Manuals include a complete colour & product schedule.
 - (m) Achieve a visually harmonious and aesthetically coordinated appearance across all areas of the Building.
 - (n) Use exterior and interior finish materials with surface finishes either as integral to the finish material or field-applied separately to the surface of the finish material.
 - (o) Treat exterior masonry materials such as brick and concrete blocks with water-repellent coatings to prevent water ingress into or through the material.
 - (p) Paint handrails, doors, and frames with a contrasting colour from walls in consideration of the visually impaired.

6.9.6 Ceilings

6.9.6.1 General Requirements

- (a) Refer to APPENDIX 1B-1 – Room Data Sheets for ceiling finish.
- (b) Ceiling reflectance will complement the lighting design.
- (c) All ceiling systems and ceiling finishes will:
 - (i) be light in colour;
 - (ii) comply with the acoustic requirements specified in APPENDIX 1C - Acoustical Technical APPENDIX.
 - (iii) promote ease of cleaning and maintenance to minimize disruption;
 - (iv) be compatible with mechanical, plumbing, electrical, security and communications, and ESCS services and fixtures;
 - (v) be compatible with ceiling attached equipment; and
 - (vi) be architecturally aesthetic and suitable for the function of the space.
- (d) All ceiling systems and ceiling finishes will comply with the following:
 - (i) fire and smoke separation and fire resistance ratings will conform to the requirements of all applicable codes;
 - (ii) suspended ceilings will comply with seismic resistance as required by all applicable codes; and
 - (iii) requirements of the Specification Standards Manual as published by the Association of Wall and Ceiling Contractors of British Columbia (AWCC).
- (e) Drop ceilings are acceptable only in:
 - (i) Office Areas
 - (ii) Restrooms
 - (iii) First Aid Room
 - (iv) Multi-purpose Room
 - (v) Security Office

6.9.6.2 Ceiling Heights

- (a) Minimum clear heights (meaning clear of any mechanical/electrical equipment, lighting, hard ceiling, or suspended collection object/display item) will be as follows UNO:

- (i) Entrance Area (except for the Lobby itself): 3m
- (ii) Lobby: 3.7m
- (iii) Circulation Spine: 3.7m min, with additional clearance for items as described in APPENDIX 1A-1 – Functional Program Narratives
- (iv) Collections Access Zone and Collections Storage Area: will be driven by compact storage per APPENDIX 1B-2 Items Schedule and required clearances above for services.
- (v) Learning Access #4a: 3.7m
- (vi) Lab Areas: 3.1m
- (vii) History Lab: 3.7m
- (viii) Learning Access Zones : 3.1m
- (ix) Office Area: 3.1m
- (x) Loading and Receiving: 3.7m with the exception of:
 - 1. Central Shared Services: 3.1m
 - 2. Shared Collections/Learning/Exhibits: 3.1m (with the exception of rooms Collections Loading – Dirty Enclosed, Collections Staging Receiving - Dirty, Collections Loading – Clean Enclosed, Collections Staging Receiving - Clean, Quarantine – Botany and Entomology, Quarantine – History and Archives and Quarantine – Natural History)
- (xi) History Vehicles Storage: 4.4m clear for vehicles on lifts plus required clearances above for services.

- (xiii) Restrooms: 2.5m

6.9.6.3 Performance Criteria

- (a) Suspended Acoustic T-Bar Ceiling:
 - (i) Ceiling tiles will be used as specified in APPENDIX 1B-1 - Room Data Sheets.
 - (ii) Acoustic Panel: Non-directional, white ceiling panel, trim edge detail to fit a standard T-bar grid panel size.
 - (iii) Provide accessibility to the ceiling spaces where access is required to mechanical, electrical, or other service systems.
 - (iv) Provide acoustical panels that are appropriate for the normal occupancy condition range and maximum 70% relative

humidity. When the service use temperature and relative humidity are expected to exceed these ranges, use acoustical units specifically designed for such applications.

- (v) Use tiles with scratch-resistant surfaces in any area where lay-in ceiling panels frequently need will be removed for plenum access.
- (vi) Interior sound levels will be controlled to facilitate a comfortable environment for Occupants and a safe working environment for Staff and to achieve the requirements of APPENDIX 1C - Acoustical Technical APPENDIX.
- (vii) Acoustic ceiling tiles in a suspension system will be installed to provide sound attenuation levels to suit the room's intended function and to achieve the requirements of APPENDIX 1C - Acoustical Technical APPENDIX.
- (viii) Ceilings installed in Restrooms will be capable of being cleaned without wear.
- (ix) Suspension system:
 - 1. Completed suspension system to support superimposed loads. The maximum deflection of suspended acoustical ceiling assembly: 1/360th of span to ASTM C635 deflection test.
 - 2. Intermediate duty system to ASTM C635, commercial quality cold-rolled steel. Type 1 suspension system: non-fire-rated one-directional exposed 19 mm T-Bar grid. Die-cut components with interlocking connections. Exposed T-bar grid components to have a pre-finished satin sheen. Hanger wire: galvanized soft annealed steel wire to the diameter required by loading.
- (x) Accessories:
 - 1. Hanger isolator: Vibron limited VHSK-25 mm with rated loads and spring selection in accordance with manufacturer's design tables.
 - 2. Acoustic insulation: Sound Attenuation Blankets to 50 mm thick or required to meet STC or NRC "Noise Stop" Requirements.
 - 3. Access doors: panels of bonderized steel, prime painted, 1.519 mm thick frame, 97 mm thick door, flush door hinge design.
- (xi) Edge Trim where suspended ceiling system is separated from adjacent walls: Aluminum vertical edge trim systems will be compatible with a suspension system.
- (xii) Acoustic tile:

1. To Owner-approval. Panels 610 mm x 1.2m x 16 mm (5/8") thick, mineral fibre, non-directional, with a minimum NRC of 50-55 and CAC 30-34 (ASTM E84). Light Reflective LR-1, rated Class 25 (non-combustible) under Flame Spread Index Section of Federal Specifications SS-S-118a, Class 1 Flame Spread Rating to ASTM E84 (Tunnel Test Method). Labelled and listed by Underwriter's Laboratory Inc. or ULC for a Flame Spread of 0-25 under the Hazard Classification.

(xiii) Vinyl-faced acoustic tile:

1. To Owner-approval. Panels 610 mm x 1.2m x 16 mm (5/8") thick, mineral fibre, non-directional, with a minimum NRC of 50-55 and CAC 30-34 (ASTM E84). Light Reflective LR-1, rated Class 25 (non-combustible) under Flame Spread Index Section of Federal Specifications SS-S-118a, Class 1 Flame Spread Rating to ASTM E84 (Tunnel Test Method). Labelled and listed by Underwriter's Laboratory Inc. or ULC for a Flame Spread of 0-25 under the Hazard Classification.

(xiv) ACT

1. Material: Mineral fibre with an acoustically transparent membrane
2. Finish: Smooth Finish
3. Size: 610mm x 610mm x 25mm or larger
4. Edge: Square Tegular,
5. Grid: 15/16 or 9/16"
6. Colour: White
7. NRC: 0.85 or greater
8. Light Reflectance: 0.86 or greater (per ASTM E1477)
9. Anti-Mold/Mildew coating
10. Fire Performance: ASTM E84 and CAN/ULC S102 – Flame Spread
11. Index 25 or Less
12. Sag Resistance: High
13. Recycled Content: 75% or higher

(b) Suspended Gypsum Board Ceiling:

- (i) Suspension system:

1. Completed suspension system to support superimposed loads. The maximum deflection of suspended gypsum board ceiling assembly: 1/360th of span to ASSTM C645 deflection test.
- (ii) Main runners will be cold-formed steel channels, protected with rust inhibited coating not less than 38 mm 12.7 mm x 1.37 mm thickness. Cross furring will be hot-shaped furring channels. Inserts will develop the full strength of hangers, suitable for attachments to surfaces where required. Hanger wire: galvanized soft annealed steel wire to the diameter required by loading.
- (iii) Accessories:
1. Access doors: panels of bonderized steel, prime painted, 1.519 mm thick frame, 1.897 mm thick door, flush door hinge design.
 2. Screws to ASTM C646.
 3. Stud adhesives to CGSB-1 GP-25M.
- (iv) Gypsum board:
1. Gypsum board to CSA A82.27, Type X, 16 mm thick x 1.2m wide x maximum practical length, ends cut square, edges tapered, and a round edge to internal finishes.
 2. Finish gypsum board in accordance with the Levels of Finish as prescribed in Section 9.6 of the AWCC manual.
- (v) Metal Ceilings, if used, will be:
1. Suspended metal panel systems
 2. Linear metal ceilings
- (vi) Wood Ceilings, if used, will be:
1. Wood panel systems
 2. Linear wood ceilings
 3. Solid or veneered wood, meeting smoke/fire rating requirements as required
 4. Finish with epoxy or Sansin products where collections are present.
 5. Independently hang ceilings from the structure
 6. If open jointed wood systems are will be used, a black fabric backer will be used to conceal services/structures above

7. Exposed mass timber ceilings in Collections Storage Areas will have a flame spread rating less than or equal to 25.

6.9.7 Floor Finishes

6.9.7.1 General Requirements

- (a) Refer to APPENDIX 1B-1 – Room Data Sheets for floor finish requirements.
- (b) Provide floor and finishes that are compatible and consistent with one another and suit the level of finish and performance required.
- (c) The floor and floor systems will be complementary and integral to the functional and aesthetic requirements of the interior space.
- (d) Select readily available or stocked systems from a single manufacturer and dye lot to suit the performance level required.
- (e) Floor systems will not be installed on any floors until the conditions as required by the manufacturer's recommendation for that particular floor system have been achieved.
- (f) Provide a flooring solution that uses colour and pattern changes to break up large expanses of areas, helps to define zones, and creates visually attractive spaces
- (g) Floor finishes will be used where required for one or more of the following reasons:
 - (i) Protect the structural floor from wear or corrosion;
 - (ii) Provide an attractive appearance;
 - (iii) Provide user comfort; or
 - (iv) Provide user safety.
- (h) Floor finishes will be slip-resistant in both wet and dry conditions.
- (i) Where epoxy flooring is used in wet areas, use water and slip-resistant grade and prevent water or moisture transmission to the substrate. Terminate flooring at the walls in the form of 150mm high flash covered bases. Above 150mm high flash cove, taper flooring material to allow a smooth transition of the wall protection over the flooring.
- (j) Use permanent, heavy-duty integral materials such as seamless quartz epoxy flooring in areas subject to moisture and heat over extended periods.
- (k) The transition between epoxy flooring and sheet wall protection will be smooth. The wall protection will overlap the flooring.

- (l) Use water-resistant and slip-resistant flooring in all restrooms.
- (m) Use anti-static flooring materials for Telecommunication Rooms.

6.9.7.2 Performance Criteria

- (a) Resilient Sheet flooring:
 - (i) Conform to ASTM F2034 Type I to minimum gauge 2.45 mm.
 - (ii) Weld seams using approved products to manufacturer's directions. Welded seams to run parallel to the longest wall space.
 - (iii) Arrange sheets to ensure the fewest seams.
 - (iv) Standard: Comply with Specification Standards Manual published by BCFCA (British Columbia Floor Covering Association).
 - (v) Slip-resistant sheet vinyl will have a static coefficient of friction of not less than 0.6 on level surfaces and not less than 0.8 on-ramps.
 - (vi) Linoleum sheet flooring will have a homogenous core of primarily natural materials: linseed oil, wood flour, and resin binders mixed and calendared onto a natural jute backing. Weld all seams. Provide integral cove bases.
 - (vii) Rubber flooring will be solid cushioned sheet or tile formulated with 100% virgin elastomers, reinforcing agents, soil-resisting agents, and migrating waxes compounded to create durability, excellent cleaning characteristics, and 0.08 dry coefficient of friction as defined by ASTM D204-04. Stud designs to have chamfered edges with a sharply defined edge at the top for higher slip resistance, easier cleaning, superior maintenance, and low vibration design to minimize vibration and noise.
 - (viii) Heat weld all seams.
 - (ix) Finish flooring with high-speed buffing as per the manufacturer's operational specifications. Do not apply sealer or wax.
- (b) Solid Sheet Flooring
 - (i) Use solid sheet flooring for all rooms as specified in the APPENDIX 1B-1 - Room Data Sheets.
 - (ii) Performance Criteria
 - (iii) Flooring will resist absorption of contaminants that can affect maintenance, durability, health of Occupants, or emit odours.
 - (iv) Flooring will provide permanence and durability.

- (v) Flooring will provide ease of cleaning and maintenance.
 - (vi) Where applied coatings or sheet materials are provided, the frequency of joints will be minimized.
 - (vii) Floor materials will be impervious to concentrations and duration of moisture that may exist in a given location.
 - (viii) Flooring will not delaminate from the substrate under any service condition.
 - (ix) Patterns and textures will be compatible with the requirements of all applicable codes and standards, including pedestrian safety and egress.
 - (x) Floor finishes, except for carpet, will extend under all fitments.
- (c) Slip Resistant Sheet flooring:
- (i) Conform to ASTM F 1913 to minimum gauge 2.00 mm (.080").
 - (ii) Weld seams using approved products to manufacturer's directions. Welded seams to run parallel to the longest wall space.
 - (iii) Arrange sheets to ensure the fewest seams.
- (d) Vinyl Tile:
- (i) Conform to ASTM F1066 to minimum gauge 3.2 mm (.125")
- (e) Vinyl Sheet Floor Covering
- (i) Sheet vinyl flooring with backing to ASTM F 1913, commercial.
 - (ii) Wear Resistance: Comply with ASTM C 501 Taber abrasion test.
 - (iii) Homogenous construction.
 - (iv) Will be PVC-free.
 - (v) Slip-resistant vinyl sheet: Static Coefficient of Friction of 0.6 on level surfaces and 0.8 on-ramps.
 - (vi) Thickness: Not less than 3mm in areas where flooring does not abut similar flooring and 2.0mm minimum wear layer.
- (f) Polished Concrete:
- (i) Steel trowel finishes: to CSA CAN3-A23.1.
 - (ii) The use of any exposed concrete flooring will conform to the levels of finish as defined by the Concrete Polishing Council.

Refer to the Concrete Polishing Council's Polished Concrete Appearance Chart and conform to the following minimum levels of finish:

1. the level of sheen will be Level 2 – satin or Level 3 – polished, with a Class B – fine aggregate or Class C – medium aggregate exposure.

(g) Sealed Concrete

(i) Concrete Stain:

1. Sub-contractors used to install/apply concrete stains will have a minimum of 10 years of verified experience installing concrete floor treatment finishes.
2. Moisture: Ensure concrete substrate is within moisture limits prescribed by the flooring manufacturer before applying.
3. Quality of products and workmanship: In accordance with the Specification Standards Manual as published by the British Columbia Floor Covering Association [BCFCA].
4. Manufacturer's Technical Representative: The Design-Builder will cause the flooring manufacturer to provide a technical representative to inspect the surfaces to which a flooring treatment will be applied to confirm that the substrate is acceptable for the application of flooring treatment. The Design-Builder will cause the manufacturer's technical representative to carry out regular site inspections to ensure that the installation is carried out in accordance with the manufacturer's installation instructions and that deficiencies are corrected.
5. Refer to Section 6.3.2.5.

(h) Rubber Flooring:

(i) System Description: Recycled rubber interlocking tile system.

1. Subfloor: Concrete subfloor will be waterproofed beneath the slab and at perimeter walls and on the earth side of below-grade walls. The system will be installed over concrete slab depression, 11 mm. No curing agents or sealers will be applied to the concrete slab.

(ii) Product: Will be 12 mm thick x 940 mm x 940 mm interlocking

(i) Rubber Sheet Flooring:

(i) System Description: Heat-welded Rubber Sheet flooring system.

1. Subfloor: Concrete subfloor will be waterproofed beneath the slab and at perimeter walls and on the earth side of below-grade walls. The system will be installed over concrete slab depression, 11 mm. No curing agents or sealers will be applied to the concrete slab.
- (ii) Sheet rubber, prefabricated, calendared and vulcanized
1. Unbacked Rubber Sheet Floor Covering: ASTM F 1859.
 2. Rubber Sheet Floor Covering with Backing: ASTM F 1860.
 3. Make transitions between two adjoining areas, new-to-new, flush.
- (j) Stair Coverings
- (i) Provide tactile warning strips and stair nosings to assist the visually impaired.
 - (ii) Abrasive Stair Nosings: Provide slip-resistant stair and landing nosings.
- (k) Rubber Stairs:
- (i) Commercial grade
 - (ii) Treads: heavy-duty, diamond pattern, 6 mm thick, square nose.
 - (iii) Risers and stringers: sheet rubber material to match rubber base.
 - (iv) Tactile warning strips: 3 mm thick, 1m x 1m tile.
- (l) Carpets and Carpet Tiles
- (i) Use carpeting that is certified under Canadian Carpet Institute/Canadian Rug Institute (CCI/CRI) Indoor Air Quality Program and having CRI/IAQ Label
 - (ii) Use a carpet designed to accept wheelchair traffic.
 - (iii) Static Level: Maximum 3.5 kV static generation at 21°C and 20% relative humidity per AATCC-134 throughout the product's life.
 - (iv) Emissions: Maximum 0.5 mg/m²/hr TVOC, after installation per Carpet and Rug Institute CRI Green Label Plus™ Indoor Air Quality Carpet Testing Program.
 - (v) Provide non-solvent, non-toxic, odourless adhesive that, when installed, maintains an acceptable VOC concentration and emission rate. The carpet cannot have a PVC backer.

- (vi) Carpet and Carpet tiles will:
 - 1. be 100% solution-dyed nylon
 - 2. have minimum Tarr rating of 3.0
 - 3. have CRI green label plus for carpet tile and adhesive
 - 4. have non-PVC backing
 - 5. have a minimum 10-year wear, stain, structural integrity, and delamination warranty.

- (m) Epoxy flooring
 - (i) In Dirty IZ/VZ areas and all quarantine space, epoxy flooring will be built-up epoxy paint system capable of accommodating heavy traffic, loading, and cleaning.
 - (ii) All other epoxy floorings will be commercial grade.

6.9.8 Base

6.9.8.1 General Requirements

- (a) Refer to APPENDIX 1B-1 – Room Data Sheets for floor finish requirements.
- (b) All base material will match or complement the flooring.

6.9.8.2 Performance Criteria

- (a) Rubber Base:
 - (i) The rubber base will be commercial grade, top set coved, 3 mm thick, 100 mm high.
- (b) Ceramic Tile:
 - (i) Coved;
 - (ii) To match floor tile
 - (iii) To include special tile shapes.
- (c) Wood Base:
 - (i) KD S4S Fir, 19x140, Clear Finish.

6.9.9 Acoustic Treatment

- 6.9.9.1 Design and construct the Facility to comply with the minimum sound transmission ratings between spaces described in ratings in accordance with STC ratings in accordance with ASTM E90 and as set out Section 8.9.9 Acoustic Treatment in this Schedule 1 and APPENDIX 1C - Acoustical

Technical APPENDIX, and noise isolation class, to standards set out in Section 8.9.9 Acoustic Treatment in this Schedule 1 and APPENDIX 1C - Acoustical Technical APPENDIX. Sound performance will be verified by testing.

- 6.9.9.2 All spaces will be designed to permit intelligibly heard conversations. Spaces to comply with sound transmission ratings in Section 8.9.9 Acoustic Treatment in this Schedule 1 and APPENDIX 1C - Acoustical Technical APPENDIX.
- 6.9.9.3 Acoustical conditions in the Facility will be such that the PA system achieves sufficient clarity, and speech intelligibility will be understood under all normal operating conditions.
- 6.9.9.4 Retain, and cause, an acoustic consultant with a minimum of ten years of experience, to verify that the design and acoustic performance of the Facility comply with the requirements of this Section 6.9.9 Acoustic Treatment in this Schedule 1 and APPENDIX 1C - Acoustical Technical APPENDIX.
- 6.9.9.5 In addition, provide acoustic treatment where sound attenuation, soundproofing, or other sound control measures are necessary.
- 6.9.9.6 Sound control will include:
 - (a) attenuation of sound within public, Occupant environments;
 - (b) sound isolation between the exterior and interior spaces;
 - (c) sound isolation between interior spaces at both horizontal and vertical separations;
 - (d) sound and vibration isolation of building service noises and sound isolation of building service rooms; and
 - (e) sound isolation as required for specialty rooms including:
 - (i) Archive Reading Room, all Learning Labs and Multipurpose Room
 - (ii) Paleo Dirty Lab and Paleo Sectioning Lab
 - (iii) Oral History Room
 - (iv) Video conferencing spaces including Private Reading Rooms and Conference Room,
- 6.9.9.7 Design partition and ceiling construction to provide approximately the same degree of sound control through each assembly. When a partition is used for sound isolation, extend the sound control construction from slab to slab.
- 6.9.9.8 Optimum sound isolation requires that the integrity of GWB partitions and ceilings (mass) never be violated by vent or grille cut-outs or items such as recessed cabinets and light fixtures. Where penetrations are necessary, minimize placing them back-to-back or next to each other. Stagger electrical boxes by at least one stud space. Use mineral fibre insulation to seal joints

around all cut-outs such as electrical, television, telephone outlets, plumbing escutcheons, and recessed cabinets.

- 6.9.9.9 Minimize constructions such as ducts, rigid conduits, and corridors that act as speaking tubes to transmit sound from one area to another. At common supply and return ducts, provide sound attenuation liners at the diffuser and/or grill to maintain assemblies' STC. Seal around the conduit.
- 6.9.9.10 Isolate Structure-borne vibrations and sound with resilient mountings on vibrating equipment to minimize sound transfer to structural materials. Provide ducts, pipes, and conduits with resilient, non-rigid boots or flexible couplings where they leave vibrating equipment; isolate from the Structure with resilient gaskets and sealant where they pass through walls, floors, or other building surfaces.
- 6.9.9.11 Use acoustic screens, vibration isolators, and/or exterior equipment to prevent exterior noise. All Building Systems will be designed to not produce more than 50 dBA at night and 60 dBA during the day when measured at the site's property line.
- 6.9.9.12 Performance Criteria:
- (a) the Design will account for an acoustic performance of structural system elements and will include vibration control as required by Schedule 1; and
 - (b) Finish systems will meet functional requirements for reverberation control/acoustic absorbency, consistent with speech intelligibility requirements as set out in APPENDIX 1C - Acoustical Technical APPENDIX.
- 6.9.9.13 Minimum Criteria for Construction:
- (a) Intentionally Deleted.
 - (b) All perimeter joints between walls to floor, wall to wall, and wall to the underside of the structure will be acoustically sealed with a non-hardening mastic caulking compound.
 - (c) Where services are installed in walls, services will not be installed back to back to create a path for noise between spaces.
 - (d) Where services run horizontally or in a vertical shaft, services will not create a pathway, such as ductwork, for transmission of noise between rooms.
 - (e) Noise control between different spaces will be in accordance with the STC Ratings set out in APPENDIX 1C - Acoustical Technical APPENDIX.
 - (f) Acoustic separations will comply with the STC requirements of APPENDIX 1C - Acoustical Technical APPENDIX.
- 6.9.9.14 Acoustic Commissioning:

- (a) During construction, the Design-Builder will engage a third-party acoustic consultant to test and confirm compliance of the constructed installation to the STC Ratings specified in this Schedule 1.
- (b) During Commissioning, the Design-Builder will engage a third-party acoustic consultant to test a representative number of walls with no windows or doors to confirm compliance of the constructed installation to the STC Ratings specified in this Schedule 1.
- (c) The test procedures used to confirm STC rating compliance will utilize ISO 16283-1 or ASTM 336 classified in accordance with ASTM E413. The measured NR/NIC must be within 5 points of the listed STC rating contained in Table 1 of APPENDIX 1C - Acoustical Technical APPENDIX.

6.10 Division 10 – Specialties

6.10.1 Signage

6.10.1.1 Interior Signage

- (a) General Requirements
 - (i) All building signage will provide identification, information and assist in wayfinding and orientation.
 - (ii) Include name and number plates for each room entry door, workstation and major circulation corridor (BOH, Central Service, Exit, Office).
 - (iii) Provide larger signage identifying each sub-department at windows facing Circulation Core.
 - (iv) Include signage for the disabled.
 - (v) Interior signage will be designed and constructed such that the Occupants can remove no signage materials.
 - (vi) Interior signage will be designed to provide direction for Occupants and to inform Students of rules.
 - (vii) Restroom signage will have male and female international symbols, including international accessibility symbols, GN restrooms will have appropriate signage.
 - (viii) Provide a schedule showing type, configuration, numbering, and wording for all rooms. Schedule will be submitted for approval by the Owner. Design-Builder to coordinate room numbering with mechanical and electrical equipment numbering.
 - (ix) Provide a simple configuration of the circulation systems and functions so that wayfinding is inherently easy for members of the public who are not familiar with the Building.

- (x) Include text in up to 5 multiple languages, plus braille, as determined by the Owner;
 - (xi) Design the internal directional signs to include:
 - 1. installation of signage at each point at which a directional decision is required;
 - 2. using consistent terminology with consistent and predictable locations of signage;
 - 3. signage will identify every space in the Building and all directional information. Where required, additional braille language will be provided as determined in consultation with the Owner;
 - 4. signage required at each stairwell level;
 - 5. final signage wording will be determined pursuant to Schedule 2 - Review Procedure.
 - (xii) Coordinate final locations of all interior signage to satisfy building operational requirements.
- (b) Performance Criteria
- (i) Name and number plates will be cast acrylic, with screen-printed numbers or symbols, sandwich paneled units with integral slots.
 - (ii) All interior doors will receive a 'lamacoid' label on the door header that identifies the adjacent room using a four-digit numbering system. Those room numbers will be the same numbers used throughout the working drawings and will be incorporated into Mechanical Schedules, Operating and Maintenance Manuals, Record Drawings, etc. Labels will be 25mm high, 75mm long.
 - (iii) Pictogram signs will be provided for those spaces where and as required by Code. Style to match other signage.
 - (iv) Mounting methods and locations will be determined pursuant to Schedule 2 - Review Procedure.

6.10.1.2 Exterior Signage

- (a) General Requirements
- (i) Exterior Signage will be required to clearly identify the following: Main and secondary entries, vehicular entries and parking areas, accessible stalls, loading areas, drop-off areas, no stopping areas, all exterior loading and service areas for the Facility.

- (ii) Exterior site program area directional signage will be provided along the pathway system.
- (iii) Use universal symbols and graphics.
- (iv) Refer to 7.1.3. for civil signage requirements.
- (b) Performance Criteria
 - (i) Facility Name Sign:
 1. Provide site entry monument sign with design will be approved by the Owner pursuant to Schedule 2 - Review Procedure.
 2. Provide building-mounted signage with design will be approved by the Owner pursuant to Schedule 2 - Review Procedure.

6.10.2 Operable Walls

6.10.2.1 Operable Partition:

- (a) Steel, paired hinged panels, manually operated expandable jamb closure. Minimum STC 56 rating to ASTM E90: Finish: primed steel face panel.

6.10.2.2 Folding Partition:

- (a) Electronically operated vertically folding (accordion style) partition.

6.10.2.3 Glass Wall Partition:

- (a) Sliding aluminum top suspended glass wall partitions with an STC rating of 45.

6.10.3 Accessories:

6.10.3.1 General Requirements

- (a) Refer to APPENDIX 1B-1 Room Data Sheets and APPENDIX 1B-2 – Items Schedule for requirements.
- (b) Design-Builder to provide and install all restroom and handwash accessories.
- (c) Install touchless soap dispenser at every restroom sink.
- (d) Install touchless soap and paper towel dispenser with waste receptacle at all non-restroom sinks.
- (e) All restroom sinks will have mirrors.
- (f) Use accessories free from imperfections in manufacture and finish.

- (g) Restroom accessories will be commercial grade.

6.10.3.2 Performance Criteria

- (a) Flat mirrors:

- (i) Install continuous mirror of 6 mm select polished float glass complete with a stainless steel frame for the full width of the wall above lavatories in restrooms.
- (ii) Mirror to extend from the top of backsplash or 100mm above wall mounted vanities to a minimum of approximately 2 meters above finished floor level.
- (iii) Electrical fixtures and other wall-mounted fixtures are not will be installed through the mirrors.
- (iv) Provide specialty products manufactured for the specific purposes intended and installed in strict accordance with the manufacturer's directions.
- (v) For full wall unframed mirrors, use 6mm thick minimum float glass backed with electrolytically-applied copper plating. Grind smooth and polish all edges.
- (vi) For wall-mounted posture mirrors, use framed type; one-piece, stainless steel channel frame with a No. 1 quality, 6mm thick float glass mirror backed with electrolytically applied copper plating. Back with galvanized steel.
- (vii) Safety glazing is required in all restroom areas. Apply laminate to the back of the mirror. Tempered glass is not permitted.

- (b) Grab bars:

- (i) 32 mm stainless steel, 1 mm thick wall, 76 mm minimum diameter 5 mm thick wall flanges, exposed screw attachment. Bar knurled at the area of hand grips.
- (ii) Grab bar material and anchorage to withstand a downward pull of 2.2 kN.
- (iii) Each set to consist of one (1) straight grab bar, 610 mm, Bradley Model 8372-001-24 or, with returns extended to allow grab bar to pass in front of the flush valve to provide support for toilet seat lid, and one (1) angled grab bar, with centre support, Bradley Model 8372-055-2424. Install where required by BC Building Code.

- (c) Tilt-up shower grab bar:

- (i) 30 mm stainless steel, 1.2 mm thick wall, 76 mm minimum diameter 5 mm thick wall flanges, exposed screw attachment to withstand downward pull of 2.2 kN.

- (ii) The design will prevent the grab bar from falling back down to a fully horizontal position once the grab bar is raised more than 45 degrees from a horizontal position.
- (iii) Bradley Model 8372-101. Install where required by Building Code.
- (d) Shower Curtain:
 - (i) Translucent anti-bacterial nylon reinforced vinyl shower curtain in widths to suit shower stalls, complete with hooks, hold back hood, and chain.
- (e) Shower Rod:
 - (i) Stainless steel tube, length as required, 25 mm diameter x 1.0 mm wall thickness with satin chrome finished flanges. Shower rod and anchorage to withstand a downward pull of 0.9 kN.
- (f) Shower Seat in accessible shower stall:
 - (i) Folding shower seat with solid plastic laminated slats secured to frame with stainless steel bolts and nuts. Set size: approximately 876 mm x 559 mm.
 - (ii) Frame 18-8 type 304 stainless steel tubing. 1.5 mm thick wall complete with all mounting flanges.
- (g) Surface-mounted Sanitary Napkin Disposal:
 - (i) Bradley Model 4781-15.
- (h) Provide adequate space and backing for the following Owner supplied accessories:
 - (i) Toilet paper dispensers;
 - (ii) Soap dispensers;
 - (iii) Refuse containers; and
 - (iv) Paper towel dispensers.

6.10.4 Restroom Partitions:

6.10.4.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Items Schedule for requirements.

6.10.4.2 Performance Criteria

- (a) Sheet steel:
 - (i) commercial grade, stretcher levelled sheet steel to ASTM A526-71 [1975] with G 90 zinc coating to ANSI/ASTM A525-

70. Minimum base steel thickness: 0.1 Panels and doors: 0.8 mm 0.2 Pilasters: 0.9 mm 0.3 Reinforcement: 3.0 mm 0.4 Headrails: 1.0 mm Stainless steel sheet: To ASTM A-666-72 1979 type 3.6 with No. 4 finish.

- (b) Attachment:
 - (i) stainless steel tamperproof type screws and bolts.
- (c) Hardware:
 - (i) Hinges: continuous hinge running the full height of the door. Satin finish, 1.6 mm (16 ga.) self-closing.
 - (ii) Latch set:
 - 1. surface mounted, extra-heavy-duty institutional sliding door latch with shock-resistant nylon track, one-piece 4.4 mm (8 ga.) stainless steel keeper.
 - (iii) Wall and connecting brackets:
 - 1. chrome casting or anodized aluminum extrusion.
 - (iv) Bumper, chrome-plated, non-ferrous.
 - (v) Door pull: chrome-plated, non-ferrous.
- (d) Doors and panels:
 - (i) 25 mm minimum thickness; 22 ga. sheet steel with welded seams faces bonded using waterproof thermal setting adhesive to a honeycomb core, 610 mm wide x 1.4m high for a standard compartment.
- (e) Pilasters:
 - (i) 32 mm thick, 1.8m high, constructed same as the door.
- (f) Headrails:
 - (i) Extruded Aluminum 25 x 41 mm. with 6063-T5 finish clear anodized.
- (g) Pilaster shoes:
 - (i) 75 mm high, die-formed stainless steel.
- (h) Provide internal reinforcement at areas of attached hardware and fittings.
- (i) Product will be: Shanahans O.B. (overhead braced) with concealed latches, full-length door stops, and U-Channel supports.

6.10.5 Whiteboards and Tackboards:

6.10.5.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Items Schedule for requirements.

6.10.5.2 Performance Criteria

- (a) Whiteboard:
 - (i) semi-gloss white porcelain enamelled 24 gauge. Steel, laminated to 11.1 mm fiberboard with 0.04 mm minimum sheet aluminum baking sheet.
 - (ii) Provide whiteboards with extruded aluminum frames, accessory trays, map rails, and map hooks.
 - (iii) Use non-toxic, water-based lamination adhesive for whiteboards.
 - (iv) Will be manufactured for the specific purposes intended and installed in strict accordance with the manufacturer's directions.
 - (v) Will be sized appropriately for purpose.
 - (vi) Surface Finish: For use with dry-erase markers, wipe clean with a dry cloth or standard eraser, and suitable for use as a projection screen.
- (b) Tackboards for fixed units:
 - (i) vinyl fabric laminated to 14.3 mm fiberboard. Panels will be UL-certified flame with a spread rating not exceeding 75. Colours will be approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (c) Vinyl faced fiberboard panels:
 - (i) vinyl fabric, laminated to 14.3 mm fiberboard with long edges wrapped for butt jointing. Panel size 1.2m wide x length required. Panels will be UL certified with a flame spread rating not exceeding 75. Colours will be approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (d) Perimeter trim:
 - (i) extruded anodized aluminum channel weight 280 g/m minimum.
- (e) Pen-tray:
 - (i) extruded anodized aluminum section with rounded ends, weight 446 g/m minimum.
- (f) Horizontal or vertical sliding whiteboards:

- (i) sliding panels in tubular aluminum frames, 50 mm x 100 mm for installation on millwork items. Whiteboards will be suspended from a track with adjustable roller assemblies and be complete with a continuous aluminum chalk-rail and cover over the top-mounted track.
- (g) Screws: cadmium plated and countersunk.
- (h) Adhesives: as recommended by the manufacturer.

6.10.6 Collection Storage Assemblies

6.10.6.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Item Schedule for sizes, quantities, components, and locations for each storage assembly type.
- (b) Coordinate the locations and installation of collections storage assemblies that may interfere with ceiling systems, including lighting, HVAC, speakers, sprinklers, access panels, and wall-mounted devices.
- (c) Coordinate the sizes and locations of blocking and backing required for installation of collections storage assemblies for seismic bracing and attached to floor wall and ceiling assemblies.
- (d) The placement and order of collections storage assemblies on the HDMSS will be coordinated with and approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (e) Provide additional
 - (i) Intentionally Deleted.
 - (ii) label holders: equivalent to 0.5% of the amount scheduled
 - (iii) shelf to post connectors: Full-size units equal to 0.5% of amount installed for each type.
- (f) The manufacturer will work with each collection manager to coordinate all cabinets' internal dimensions and cabinet liners where specific sizes and type trays are required or will be reused.
- (g) HDMSS Efficiency
 - (i) Cabinet: For any collections storage specialties specified with a center divider, the cabinet width may be reduced by half to maximize the efficiency of the HDMSS within the Collections Storage Areas.
 - (ii) Shelf:
 1. For any unit between 1m and 2m long, a unit of 2/3 length is acceptable unless directed by Owner.

2. For any unit greater than 2M, a unit of ½ length is acceptable unless directed by Owner.

6.10.6.2 References

- (a) American National Standards Institute (ANSI) Standards:
 - (i) Applicable standards for fasteners used for assembly.
- (b) American Society for Testing and Materials (ASTM) Standards:
 - (i) Applicable standards for steel sheet materials used for fabrication.
 - (ii) Applicable standards for the testing of electrostatically applied Powder Coat Paint
- (c) American Institute of Steel Construction (AISC) Standards:
 - (i) Applicable standards for steel materials used for fabrication.

6.10.6.3 Quality Assurance

- (a) Product Data:
 - (i) Submit manufacturer's product literature for each type of collections storage assembly required. Include data substantiating that products will be furnished comply with the requirements noting any exceptions which will be evaluated by the Owner.
- (b) Manufacturer Qualifications
 - (i) Intentionally Deleted.
 - (ii) Manufacturer and manufacturer's subcontractors and suppliers will have a minimum of five years of experience in the continuous manufacturing of collection storage cabinets, shelving, and associated equipment in the same range of types for different collections as required in this project.
 - (iii) The manufacturer will have all coatings, finishes, and gasketing analyzed and tested by a third party and provide testing results proving finishes are inert.
 - (iv) The manufacturer will provide engineering backup for weight and seismic calculations based on expected loading.
 - (v) The manufacturer will either:
 1. have a minimum of two museum collection projects of similar size and scope completed within the last ten years. Provide a reference and contact information for each project; or

2. Possess significant experience with storage cabinets and art racks with HDMSS and be able to demonstrate three completed projects within the last ten years. Provide a reference and contact information for each project.
- (vi) The manufacturer will have trained and authorized installers and is responsible for the installation's schedule, quality, and completeness, meeting all project requirements.
 - (vii) The manufacturer will have the capacity to respond to all calls for service by a trained and authorized service technician within 72 hours.
 - (viii) Intentionally Deleted
- (c) Installer Qualifications:
- (i) Manufacturer's authorized representative who is trained and approved for installation of units required for this Project. This work will be performed in conjunction with and under the supervision of the compactor carriage manufacturer and installer and the Equipment manufacturer's approved representative.
- (d) Demonstration/Training
- (i) Schedule and conduct demonstration of installed accessory items and features with Owner's personnel.
 - (ii) Schedule and conduct maintenance training with the Owner's maintenance personnel. Training sessions will include lectures and demonstrations of all maintenance and repair procedures that end-user personnel normally perform.
- (e) Warranty
- (i) Intentionally Deleted.
 - (ii) Provide a written warranty, executed by the relevant contractor, installer, and manufacturer, agreeing to repair or replace units, which fail in materials or workmanship within the warranty period:
 1. Warranty for assembly is five years
 2. Warranty for shelving, cabinets and art racks is a lifetime.
 - (iii) Limited Lifetime Warranty: Subject to the terms in the written warranty provide a warranty from the original purchaser exclusively that the cantilever rack manufactured by it will be free from defects in materials and workmanship for the lifetime of the art rack.

- (iv) These warranty obligations in this Section 6.10.6.3(e) are in addition to and are in no way intended to limit the Design-Builder's warranty obligations outlined in Section 40 of this Agreement.

6.10.6.4 Performance Requirements

- (a) The design will include a comprehensive engineering analysis by a qualified Professional Engineer. Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals for each component based on collection type to be housed and weight of units to be placed on top where units are stacked.
- (b) The collections storage assemblies will
 - (i) Be capable of withstanding the loads indicated according to MH-28.1
 - (ii) Be capable of withstanding the effects of earthquake movement when required by applicable Building Codes for the local Seismic Zone.
 - (iii) Be engineered for stacking and loading per type of collection and fabricated for the following configurations and mounting as indicated in APPENDIX 1B-2 – Item Schedule.
- (c) All freestanding units will be secured to adjacent walls.

6.10.6.5 Fabrication

- (a) Prefabricate Equipment components in a shop to the greatest extent possible to minimize field fabrication; temporarily preassemble shelving components where necessary to ensure that field-assembled components fit together properly. Use connections that maintain the structural value of joined pieces — mark units for reassembly and coordinated installation.
- (b) Fabricate Equipment square and rigid, with posts plumb and true and shelves flat and free of dents or distortion. Fabricate connections to form a rigid structure, free of buckling and warping.
- (c) Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.
- (d) Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.
- (e) Form all bends sharp and true and no exposed “knife” edges.
- (f) All units will be free of burrs, sharp edges and projecting hardware with smooth, non-abrasive surfaces and edges.

- (g) After fabrication, assemblies will exhibit no dents, “oil canning,” buckling or other surface irregularities.
- (h) Build in channels, straps, plates, brackets, and other reinforcements as needed to support shelf loading.
- (i) Cut, reinforce, drill, and tap metal fabrications to receive hardware, fasteners, and similar items.
- (j) Retain the option in the first paragraph below if required.
- (k) Form metal in maximum lengths to minimize joints. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing the Work. Fabricate back panels from the maximum size of sheet metal but in no cases less than 1.2m wide.
- (l) Form edges and corners free of sharp edges or rough areas. Fold back and crimp exposed edges of unsupported sheet metal to form a 13 mm wide hem on the concealed side; ease edges of metal plate to a radius of approximately 0.8 mm. Shear and punch metals cleanly and accurately. Remove burrs.
- (m) Weld corners and seams continuously to develop strength, minimize distortion, and maintain the corrosion resistance of base metals. At exposed locations, finish welds and surfaces will be smooth and blended, so no roughness shows after finishing, and the contour of welded surface matches that of the adjacent surface. Weld before finishing components to the greatest extent possible. Remove weld spatter and welding oxides from exposed surfaces before finishing.

6.10.6.6 Materials

- (a) Provide materials and quality of workmanship, which meets or exceeds established industry standards for products specified. Use furniture-grade sheet metal and fasteners for component fabrication unless indicated otherwise. Material thicknesses/gauges are the manufacturer’s option unless indicated otherwise.
- (b) Manufacturers will be responsible for gauges of metals selected to support loads in cabinets appropriate to that collection type.
- (c) Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- (d) Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B.
- (e) Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with G60 zinc (galvanized) or A60 zinc-iron-alloy (galvannealed) coating.

- (f) Steel Tubing: ASTM A 513/A 513M, Type 2.
- (g) Stainless-Steel Tubing: ASTM A 554, Grade MT-304.
- (h) Steel Wire: ASTM A 899.
- (i) Stainless-Steel Wire: ASTM A 580/A 580M, Type 304.
- (j) Floor Anchors: Provide quantity required to meet seismic requirements for each piece of equipment as indicated in the calculations.

6.10.6.7 Finishes:

- (a) Comply with NAAmm's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. All materials will be examined for 'non-reactivity as used herein to mean that the material is chemically stable and does not off-gas or physically degrade to produce any of the following: urea-formaldehyde, free sulphate radicals, sulphides, free sulphur, chlorides, acetates, chlorine, formaldehyde, oxides of nitrogen, oxides of sulphur, ammonia, organic acids, disodium phosphate, dibutyl phalate, acid hardened formaldehyde resins, peroxides, volatile organic compounds or plasticizers lacking long-term stability.
- (b) Noticeable variations in the same piece are not acceptable. Variations in the appearance of adjoining components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.
- (c) Colours:
 - (i) Selected from manufacturer's standard available colours
 - (ii) Where existing shelving and cabinets are being reused, matching colour(s) will be reviewed and approved by the Owner.
- (d) Paint Finish:
 - (i) All components will have factory-applied electrostatic powder coat paint that can meet or exceed test requirements set out by ASTM standard D3451-06 Standard Guide for Testing Coating Powders and Powder Coatings.
 - (ii) Notwithstanding the foregoing, the protection of the open shelving posts/uprights may be achieved by means other than powder coat paint that are mutually acceptable between the Owner and the Design-Builder.
- (e) Steel Finishes

- (i) Surface Preparation: Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning" or SSPC-SP 8, "Pickling."
- (ii) Powder-Coat Finish: Manufacturer's standard finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for cleaning, pretreatment, application

6.10.6.8 Seismic Bars

- (a) Provide three options for trays or shelves within the price for seismic restraint selection by the Owner for each Collections Storage Area sub-department. Options will include front shelf lip and removable seismic bars that will not swing loose and hit collections on shelves.

6.10.6.9 Collections Cabinets

- (a) Description
 - (i) Standard and custom sizes that include interiors fit out with liners, shelves, pull-out trays, drawers, and garment bars in various combinations.
 - (ii) Standard and custom sizes that include shelving units above with adjustable wedge lock shelves.
 - (iii) Standard and custom sizes that include interiors fit out with reinforced shelves and pull-out trays in closed case oversize cabinets.
 - (iv) Where indicated on APPENDIX 1B-2 Items Schedule, collections cabinets may use open case type construction of equal volume.
- (b) Case Construction
 - (i) Cabinets shown on the floor will receive 150mm high levelling bases.
 - (ii) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals including any superimposed weight of cabinets or art racks to be located on top of cabinet. Metal will be no less than 1.1938mm (18ga.) for sides, tops, bottoms, and backs, and 1.905mm (14ga.) for load-bearing posts and door frame members. The door frames will be fusion welded for rigidity. The top will be umbrella style and watertight.
 - (iii) Locks: Door units will have locks keyed to the Owner's requirement in coordination with other Equipment provided in this and other sections for collections.

- (iv) Levelling Base: Provide a levelling base with a recessed toe kick base on all floor mount units. Provide a fully enclosed base on all sides, including the rear.
- (c) Steel Doors & Gasket System
- (i) The doors will be single, double (or bifold if required by manufacturer) with a minimum of 31.75mm thick with front panels and channels of no less than 1.1938mm (18ga.) steel. Locking Handles will be fully recessed and will close the doors firmly against a peripheral gasket and an astragal gasket at the joint between the doors. The gasket will be Silicone. The gasket will be mechanically attached. Hinges will be continuous from the top to the bottom of the door and will allow the door to open a full 180 degrees to lie flat against adjacent cases and will allow the proper operation of drawers when open 90 degrees.
 - (ii) Door to have latching via three-point positive engagement at the top, bottom, and center with lock bars travelling through nylon silencer.
 - (iii) Each door will have a label holder constructed from 20-gauge stainless steel.
 - (iv) All doors will have locks.
- (d) Shelves
- (i) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals. Shelves will be fabricated to support loads based on each collection type but will be no less than 1.1938mm (18ga.) formed down 44.5mm in front and up 44.5mm in back. They will support a minimum of a uniformly distributed load of 90.7kg, with a deflection of 6.35mm or less.
 - (ii) Each shelf will be supported with two case-mounted brackets. The brackets will be adjustable vertically in one-inch increments without the use of special tools.
 - (iii) Shelves will have a reinforcing channel spot-welded to the underneath side.
- (e) Vertical Dividers
- (i) Vertical dividers will be fabricated will be rigid with solid faces on both sides with no visible lips or protrusions. They will be punched for shelves and engineered to support a minimum of a uniformly distributed load of 90.7kg, with a deflection of 6.35mm or less.
 - (ii) Each shelf will be supported with two case-mounted brackets. The brackets will be adjustable vertically in 25.4mm increments without the use of special tools.

- (iii) Shelves will have a reinforcing channel spot-welded to the underneath side.
- (f) Trays
 - (i) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals. Trays will be fabricated of no less than 0/9144mm (20ga.) steel. Trays will be installed in the case so that they are enclosed in the case without contact with the door when the door is fully closed.
 - (ii) Tray sides will be formed to enclose the bearing surfaces of the tray, and the case-mounted tray glides, thus allowing the tray will be removed and handled without danger of soiling hands or tray contents.
 - (iii) The tray support system will provide for smooth, vibration-free opening and closing of the tray and will be so constructed as to eliminate any danger of soiling (with accumulated dust or dirt) of any lower tray(s) as a result of the movement of a higher tray on its glides.
 - (iv) The tray front will be a formed channel with handles and label holder. Each tray will be supported either with two case-mounted glides or full liner crenellated at 1" increments out of a continuous sheet of metal. The glides (where used) will be fixed vertically in one-inch increments. Tray glides will be no less than 1.524mm (16ga.) steel.
 - (v) Trays will fit in all cases of like type with a minimum 6mm space between them.
 - (vi) All trays to include gravity stops for collection safety.
 - (vii) Trays will match the sizes of existing trays for that collection type for interoperability. The manufacturer will obtain a sample tray to match from the museum.
 - (viii) Trays and tray glides will be finished with slip-type powder coating for tray slide ease.
 - (ix) All cabinets will be provided with locks that lock the cabinet securely. All will be keyed as directed by the individual collection manager.
 - (x) Label Holder: One will be mechanically fastened to the drawer front (max size allowed by the drawer) constructed from 20-gauge stainless steel.

6.10.6.10 Collections Flat Files and Art Bins

- (a) Description

- (i) Standard and custom sizes that include interiors fit out with liners, shelves, pull-out trays, drawers, and garment bars in various combinations.
 - (ii) Standard and custom sizes that include shelving units above with adjustable wedge lock shelves.
 - (iii) Standard and custom sizes that include interiors fit out with reinforced shelves and pull-out trays in closed case oversize cabinets.
 - (iv) Flat Files, including units with shelving overhead
 - (v) Case type closed shelving units (closed all sides but front) with adjustable shelves.
 - (vi) Art Bins (closed all sides but front) will be complete with fixed vertical dividers at 305mm oc. and adjustable horizontal dividers (1 per 915mm height).
- (b) Materials
- (i) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals. Metal will be no less than .047" (18ga.) for sides, top and bottom, and back, and .060" (16ga.) for reinforcing structural channels. Oversize units greater than 48" wide in any direction will be of higher gauge and warranted for rigidity and deformation less than 1/4" on any surface.
- (c) Case Construction
- (i) The case will be fusion welded for rigidity. Riveting of structural members will not be permitted. The top will be umbrella style and watertight.
 - (ii) Where indicated on APPENDIX 1B-2 Items Schedule, flat files may use open case type construction in lieu of flat file type construction.
 - (iii) Casework will have the strength and capacity will be stacked fully loaded with overhead shelving units or art racks as scheduled.
 - (iv) Cases will have a recessed toe space at least 64mm high with the provision for levelling the back corners of the case from the front without penetrating the airtight envelope. Provide a fully enclosed base on all sides, including the rear.
- (d) Tops
- (i) Where scheduled as single or multiple stacks of flat files, provide a seamless epoxy top attached to the cabinet below without penetrating the airtight envelope. In case of multiple stacks, provide a one-piece top for the full run. Provide

stiffeners to prevent deformation and sound deadening material under the top.

- (e) Locks:
 - (i) Provide locks keyed to the Owner's requirement in coordination with other collections storage assemblies.

- (f) Drawer Construction:
 - (i) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals. Drawers will be fabricated of no less than .036" (20ga.) steel with all components mig welded. Drawer sides will be formed to enclose the bearing surfaces of the drawer, and the case-mounted drawer glides, thus allowing the drawer will be removed and handled without danger of soiling hands or drawer contents. The drawer support system will provide for smooth, vibration-free opening and closing of the drawer and will be so constructed as to eliminate any danger of soiling (with accumulated dust or dirt) of any lower drawer(s) as a result of the movement of a higher drawer on its glides.
 - (ii) The drawer front will be a formed channel with recessed two chrome handles and a label holder. Each drawer will be supported with two case-mounted glides. Each glide will be fabricated from stainless steel with a full ball-bearing suspension permanently attached. Glides will provide vibration-free operation.
 - (iii) Drawers will have no lips, flanges, or protrusions into the interior space of the front or sides of the drawer that might interfere with the placement or removal of artifacts except to have a rear hood.
 - (iv) EVA closed cell foam strips will be applied to the inside back panel of each cabinet to provide cushioned bumpers for each drawer insert.
 - (v) Each drawer will have two stainless steel safety (gravity) stops that prevent the drawers from accidentally being pulled completely out of the cabinet. The user will have the ability to manually disengage the drawer's safety stops without the use of tools. Safety stop will automatically reengage with the mating cabinet track assembly when the drawer is reinstalled.
 - (vi) Drawers will fit in all cases of like type with a minimum 6mm space between them. Drawers will have at least two reinforcing channels spot-welded to the underneath side.
 - (vii) Drawers will have extensions of a minimum of 80% of drawer depth

- (g) Label Holder

- (i) One will be mechanically fastened to the drawer front (max size allowed by the drawer) constructed from 20-gauge stainless steel.

6.10.6.11 Collections Open Shelving – 4-Post

(a) Description

- (i) Wedge-lock type consisting of uprights, shelves, and shelf supports, designed will be assembled without fasteners or clips.
- (ii) Shelves will not have any holes on exposed surfaces.
- (iii) Front and back flanges will be flush with the outside faces of the posts.
- (iv) The design will permit individual shelf adjustment and/or removal anywhere along with the entire height of uprights.
- (v) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals

(b) Manufactured Components

(i) Uprights

- a. Formed from steel sheet to a hollow “tee” shape for intermediate supports and formed angles for end supports. Uprights will have keyhole slots on the inner wall only. Provide with sheet steel panels full height and depth of end uprights. Provide intermediate “tee” uprights between adjacent units

(ii) End Panels

- 1. Provide manufacturer’s standard solid end panels on all shelving units not covered by HDMS carriage end panels. If exposed or stationary, provide label holder matching holder provided by carriage manufacturer.

(iii) Back Panels

- 1. Provide manufacturer’s standard back panels as scheduled or specified.

(iv) Shelves and Drawers

- 1. Form from sheet steel with flanges on all sides and return hem on front and back flanges. Ends will be formed to clear inside upright offset panels. Shelves will be independently adjustable.
- 2. Shelves will be fabricated of sufficient steel gage per loading as scheduled with all components mig welded.

Shelf sides will be formed to enclose the bearing surfaces of the drawer, and the upright-mounted drawer glides, thus allowing the drawer will be removed and handled without danger of soiling hands or drawer contents. The drawer support system will be full ball bearing units to provide for smooth, vibration-free opening and closing of the drawer and will be so constructed as to eliminate any danger of soiling (with accumulated dust or dirt) of any lower drawer(s) as a result of the movement of a higher drawer on its glides. If required by code, solid metal decking may be replaced by perforated metal shelving as per clause 6.10.6.13.

3. The shelf front will be a formed channel with two chrome handles (offset design to avoid handles on opposite carriages from hitting one another) and a label holder. Each drawer will be supported with two case-mounted glides with adjustable locations on the case. Each glide will be fabricated from stainless steel with a full ball-bearing suspension permanently attached. Glides will provide vibration-free operation.
 4. Drawers will have no lips, flanges, or protrusions into the interior space of the front or sides of the drawer that might interfere with the placement or removal of artifacts. There is no rear hood.
 5. EVA closed cell foam strips will be applied to the inside back panel of each cabinet to provide cushioned bumpers for each drawer insert.
 6. Each drawer will have two stainless steel safety (gravity) stops that will be released to pull out the shelf and additional stops that prevent the drawers from accidentally being pulled completely out of the unit. Users will have the ability to manually disengage the drawer's safety stops without the use of tools. Safety stop will automatically reengage with the mating cabinet track assembly when the drawer is reinstalled.
 7. Label Holder: One will be mechanically fastened to the drawer front from 20-gauge stainless steel matching size on end panels of compactor carriages.
 8. Drawer extension: Full depth of the drawer.
 9. Full suspension full extension stainless steel ball-bearing glides attached and concealed on either side of the shelf.
 10. Intentionally deleted.
 11. Shelves will exhibit no permanent deflection under fully loaded conditions. Maximum deflection: L/140
- (v) Canopy Tops:

1. Same construction as shelf units.

(vi) Shelf Supports:

1. Form from a heavy gauge steel sheet with four solid steel shoulder rivets, two per ear, that interlock with an inner wall of uprights.

(vii) Nominal Shelf Dimensions:

1. Width: Varies
2. Depth: Varies
3. Shelf Edge Vertical Profile: 19mm maximum.
4. Vertical Adjustment Increment: 25-38mm.
5. Width of Intermediate Uprights: Min. 51mm.
6. Clearance Between Uprights: Nominal shelf section width minus 51mm.
7. Levelness of Completed Shelf Units: Maximum 3.2mm bottom shelf and canopy top, measured along the edge of any upright in any direction.
8. Number of Vertical Shelf Spaces: As scheduled

6.10.6.12 Collections Open Shelving – Wide Span

(a) Description

- (i) General: Wide span shelving using adjustable metal plank shelves (or if required by code perforated metal shelving), pull-out shelves and drawers.
- (ii) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals
- (iii) Where Loading requirements can be met, wide span shelving may be used in lieu of four post pallet racks.

(b) Manufactured Components

(i) Base

1. For units installed on the floor, provide a 200mm base with enclosure on all sides

(ii) Uprights:

1. Welded Upright frames will be a welded truss design similar to that used for pallet rack. Upright frame posts will be 14-gauge 1.90 mm steel, box-formed, 50.8 mm by 1-

39.69 mm, designed with notches on the front face of the post, located on 38.1 mm centers, to allow for easy adjustment of horizontal load-bearing beams. Sides of the post will have notches located on 38.1 mm centers to accommodate anchor feet, supports, tie plates, and securing beams to the post. Horizontal braces will be 14-gauge 1.90 mm steel, roll-formed 38.1 mm by 19mm tube MIG welded to posts. Diagonal braces will be 14-gauge 1.90 mm steel, roll-formed 25.4 mm by 19.05mm open channel MIG welded to posts. All welded upright frame construction will meet AWS D1.3 certified welding standards.

2. Provide 'feet' to protect the floor finish where units are placed on the floor.

(iii) Beams:

1. Standard Duty Beams will be 14-gauge steel with a "Z"-shaped structural design. The overall height of the beam will be 92.1 mm nominal. Each beam will have slots punched along its length to accommodate front-to-back shelf supports; length and location of supports are dependent on shelving load requirements. Beam mounting end brackets will be manufactured from 12-gauge 2.66 mm material and welded to each end of the beam. All welded upright beam construction will meet AWS D1.3 certified welding standards.

(iv) Decking:

1. Solid Steel Decking will be 31.75 mm in height and be formed of 18-gauge 1.2 mm cold rolled steel with flanges on all four sides. Side flanges of decking will also be turned "down," "in," and "up" to form a "J" style bend. Decking will be supported, front and rear, by two horizontal beams. Decking may be plank or sheet style.
2. If required by code, plank shelving and solid metal decking may be replaced by perforated metal shelving per clause 6.10.6.13.

(v) Shelves and Drawers

1. Form from sheet steel with flanges on all sides and return hem on front and back flanges. Ends will be formed to clear inside of upright offset panels. Shelves will be independently adjustable.
2. Shelves will be fabricated of sufficient steel gage per loading as scheduled with all components mig welded. Shelf sides will be formed to enclose the bearing surfaces of the drawer, and the upright-mounted drawer glides, thus allowing the drawer will be removed and handled without danger of soiling hands or drawer contents. The

drawer support system will be full ball bearing units to provide for smooth, vibration-free opening and closing of the drawer and will be so constructed as to eliminate any danger of soiling (with accumulated dust or dirt) of any lower drawer(s) as a result of the movement of a higher drawer on its glides.

3. The shelf front will be a formed channel with two chrome handles (offset design to avoid handles on opposite carriages from hitting one another) and a label holder.
4. Each drawer will be supported with two case-mounted glides with adjustable locations on the case.
5. Each glide will be fabricated from stainless steel with a full ball-bearing suspension permanently attached. Glides will provide vibration-free operation.
6. Drawers will have no lips, flanges, or protrusions into the interior space of the front or sides of the drawer that might interfere with the placement or removal of artifacts. There is no rear hood.
7. EVA closed cell foam strips will be applied to the inside back panel of each cabinet to provide cushioned bumpers for each drawer insert.
8. Each drawer will have two stainless steel safety (gravity) stops that will be released to pull out the shelf and additional stops that prevent the drawers from accidentally being pulled completely out of the unit. Users will have the ability to manually disengage the drawer's safety stops without the use of tools. Safety stop will automatically reengage with the mating cabinet track assembly when the drawer is reinstalled.
9. Label Holder: One will be mechanically fastened to the drawer front from 20-gauge stainless steel matching size on end panels of compactor carriages.
10. Drawer extension: Full depth of the drawer.
11. Full suspension full extension stainless steel ball-bearing glides attached and concealed on either side of the shelf.
12. Intentionally deleted.
13. Shelves will exhibit no permanent deflection under fully loaded conditions. Maximum deflection: L/140

(vi) Canopy Tops:

1. Same construction as shelf units.

(vii) Shelf Supports:

1. Form from a heavy gauge steel sheet with four solid steel shoulder rivets, two per ear, that interlock with an inner wall of uprights.

(viii) Nominal Shelf Dimensions:

1. Width: Varies
2. Depth: Varies
3. Shelf Edge Vertical Profile: 19mm maximum.
4. Vertical Adjustment Increment: 25-38mm.
5. Width of Intermediate Uprights: Min. 51mm.
6. Clearance Between Uprights: Nominal shelf section width minus 51mm.
7. Levelness of Completed Shelf Units: Maximum 3.2mm bottom shelf and canopy top, measured along the edge of any upright in any direction.
8. Number of Vertical Shelf Spaces: As scheduled

6.10.6.13 Collections Open Shelving – Perforated

(a) Descriptions

- (i) Units will be engineered, and the manufacturer will be responsible for determining the proper gauge of all metals
- (ii) Four-post type metal shelving with shelves for fluid-preserved collections perforated to the percentage required by code or determined by the authority having jurisdiction.
- (iii) Shelving with wedge-lock type consisting of uprights, shelves, and shelf supports, designed will be assembled without fasteners or clips.
- (iv) Shelves will not have any holes on exposed surfaces. Front and back flanges will be flush with the outside faces of posts. Design will permit individual shelf adjustment and/or removal anywhere along the entire height of uprights.
- (v) All tray components will be designed will be cut from one sheet of material, including front finger lip and tabs, to provide welded corners to accommodate jars as specified. Provide (1) adjustable tray divider for each tray at 25mm increments using side tab and bottom tabs to prevent movement of jars in partially filled trays.
- (vi) Provide perforated trays for fluid-preserved collections on all shelves per schedule in Room Data Sheets

(b) Manufactured Components

(i) Provide Owner of choice of the lip on the shelf or removable seismic bar to prevent trays from sliding off shelves in a seismic event.

(ii) Uprights:

1. Formed from steel sheet to a hollow “tee” shape for intermediate supports and formed angles for end supports. Uprights will have keyhole slots on the inner wall only. Provide with sheet steel panels full height and depth of end uprights. Provide intermediate “tee” uprights between adjacent units

(iii) End Panels

1. Provide solid end panels on all shelving units not covered by carriage end panels. If exposed or stationary, provide label holder matching holder provided by carriage manufacturer.

(iv) Shelves:

1. Form from sheet steel with flanges on all sides and return hem on front and back flanges. Ends will be formed to clear inside of upright offset panels. Shelves will be independently adjustable. Provide front

(v) Shelf Supports:

1. Form from a heavy gauge steel sheet with four solid steel shoulder rivets, two per ear, that interlock with the inner wall of uprights.

(vi) Removable Unit Trays (perforated to match shelves)

1. Fill all shelves with Unit Trays for maintaining groups of collections of bottles and vials
2. Unit Trays, including bottom, sides and full height tabs for welding sides together and finger pull, will be fabricated from a single sheet of metal. Riveting is not acceptable.
3. Unit Sizes Trays will have 102mm High walls on all four sides with welded corners.

(vii) Unit Tray Sizes

1. Intentionally Deleted.
2. Intentionally Deleted.
3. Intentionally Deleted.

4. Per APPENDIX 1B-2 Items Schedule including lip handle on the front.
5. Provide a full-size index card holder welded to the front of the unit.
6. Provide half-round front lip integral to tray sheet (not welded) for finger pull to remove the tray from the shelf.
7. Provide (1) divider per tray with 4 points of contact on sides to prevent the divider from moving when the tray is handled.

(viii) Nominal Shelf Dimensions:

1. Perforation: Percentage as directed by Authority Having Jurisdiction
 2. Width: as scheduled
 3. Depth: as scheduled
 4. Shelf Edge Vertical Profile: 19mm maximum.
 5. Vertical Adjustment Increment: 25-38mm.
 6. Width of Intermediate Uprights: Min. 51mm
- (ix) Clearance Between Uprights: Nominal shelf section width minus 51mm
- (x) Levelness of Completed Shelf Units: Maximum 3.2mm between bottom shelf and canopy top, measured along the edge of any upright in any direction.
- (xi) Load Carrying Capabilities:
1. Shelves and assembled shelf units will exhibit no permanent deflection under fully loaded conditions. Load per shelf will include (3) 4L glass jars, (40) 1 Liter jars, + additional smaller jars to fill shelf trays.

6.10.6.14 Collections Welded Platforms

- (a) Description
 - (i) Welded platforms for custom-sized collections stainless steel tanks in IZ/VZ Fluid Preserved.
- (b) Manufactured Components
 - (i) Engineer a fully welded steel platform with legs with feet protectors to support the associated tank weights and sizes as provided by the tank manufacturer and as noted in APPENDIX 1B-2 – Item Schedule.

- (ii) Platform will be engineered to support overhead collections open shelving units. Refer to sections 6.10.6.11 – Collections Open Shelving and 6.10.6.12 – Collections Open Shelving – Wide Span for shelving specifications.

6.10.6.15 Collections Stainless Steel Tanks

- (a) Description

- (i) Manufactured Components

- 1. Tank and Lid

- a. The material will be 316 ELC Stainless Steel, .036ga. with a 2B Finish.
 - b. The external perimeter of the tank will be reinforced with .47ga. Stainless Steel channel or as determined by fabricator's engineer.
 - c. Seams are fusion welded manually by heli-arc.
 - d. The lid is held in place by #3 Stainless Link Lock mechanical fasteners against a chemical resistant, closed-cell Buna-N gasket. Gaskets are continuous with no butt joints.

- 2. Caster Base

- a. The base will be formed of .060ga. cold rolled steel and finished with chemical resistant epoxy powder coating.
 - b. Each base will roll on 3" diameter locking casters. Four total casters with two swivel and two fixed.

- 3. Sled Base

- a. The base will be formed of .060ga. cold rolled steel with 16 ga. square tubed legs to the desired height and finished with chemical resistant epoxy powder coating.

6.10.6.16 Collections Rolled Textile Storage

- (a) Description

- (i) General: Cantilever Rack System

- (ii) The frame (Single Face and Double Face Configurations)

- 1. Single and double face as scheduled

- (iii) Textile Arm

1. As shown and scheduled, and described below.
- (iv) Textile Roll Insert
1. Quantity as described below.
- (v) Canopy Top + Ends of Rows
1. Full size on all units.
- (vi) Base Cover (Single Face and Double Face Configurations)
1. Full size to cover all units.
- (vii) Dividers on Compacted Shelving
1. Provide solid sheet metal dividers in back-to-back units no more than every four rows apart. Provide solid sheet metal side panels at the ends of the same row of racks for depth of unit going both ways.
- (viii) Manufactured Components
1. Racks will be engineered and fabricated for configuration and mounting as shown on drawings:
 - a. Mounted on carriages or base with levellers as shown on drawings.
 2. Frame
 3. The welded frame will consist of 2 vertical upright columns constructed of min. 14-gauge 1.9mm steel. The upright column will be 51mm deep with a 31.75mm face with 13mm return flanges. The uprights are fully welded to a tubular top spreader and a channel bottom spreader. The uprights will have bracket attachment slots on 25mm increments the entire length of the upright. Slots will be 15.875mm x 6mm. Uprights will include location indicators the entire length of upright on a minimum of 152mm centers.
 - a. The tubular top spreader will be a minimum of 14-gauge 1.9mm steel tube 64mm tall x 25mm wide.
 - b. The bottom spreader channel will be a 16-gauge 1.5mm channel 44mm tall x 25mm wide with two 12mm square holes provided for cage nuts for use with optional levellers
 - c. Non-welded frame cantilever type shelving units are unacceptable.
 - d. The top will be .1.1938mm 18 ga steel welded to the tubing frame.

- e. Bottom Legs to have holes to allow attachment to mobile compactor system. Holes will be capped with a polyethylene snap-in plug after the frame unit is installed. Frame unit will be sandblasted previous to powder coating.
- f. Cantilever Textile Support arms will be able to support will be designed to be moved horizontally on Frame Unit Horizontal Supports from the rear wall or as approved prior to contract. Cantilever Textile Support will be secured in place via a Zinc Plated, Spade Head Shoulder Thumb Screw 6mm - 20 x 20mm long.
- g. Textile arms are rated to 45.3kg. capacity per arm under evenly distributed loads.
- h. Cantilever Textile Support designed to accept Conduit Brackets on 25.4mm centers in the front to back dimension. Rolled Conduit Tube Insert will be supported by two brackets adjustable on 25.4mm centers front to back on the Cantilever Textile Support.
- i. Rolled Conduit Tube Insert will be no less than 38.1mm EMT Conduit. For longer than 3.5m, the EMT will be 50.8 or 76.2mm. Rolled Conduit Tube Insert will be 254mm to 305mm longer than the acid-free cardboard tube it will enter. Provide three full-length tubes per row of arms with arms at 203mm on center vertically.
- j. The shelf and canopy top use the same universal part, which is constructed of 16 gauge 1.524mm steel. The shelf attaches to the horizontal frame members and can create a canopy top when placed on the top-most horizontal frame member. Include a filler panel for all back-to-back units.
- k. Shelves/canopy tops are rated to 68kg. capacity under evenly distributed loads.
- l. The base cover is constructed of 18 gauge 1.2192mm steel. The base cover drops into the bottom of the Cantilever Rack frame with no hardware required.

6.10.6.17 Collections Art Racks and Rails

- (a) Art Racks Suspended from Overhead Structure
 - (i) To support the load of 48.82kg/SM
 - (ii) Pull-out type supported by an overhead rail and trolley system hung from the Building's overhead structure on a fully engineered suspended slotted metal overhead track and

trolley system. Provide additional slotted support system over PDP Access Zone. Spacing between track on overhead metal system to be determined in consultation with the Owner.

- (iii) The overhead structure may be supported on columns to the floor independent of the roof structure as long as the net area capacity of racks is met.
- (b) Art Racks Mounted on Walls
 - (i) Mounted on walls using slotted metal standoffs to support the load of 48.82 kg/SM
- (c) Intentionally Deleted.
 - (i) Intentionally Deleted.
 - (ii) Intentionally Deleted.
- (d) Coordinate the sizes and locations of blocking and backing required for installation of Equipment for seismic bracing and attached to floor wall and ceiling assemblies. This includes a suspended ceiling system with the art rack suspension system.

6.10.7 Mechanically Assisted High-Density Mobile Storage System (HDMSS)

6.10.7.1 System Description

- (a) General: The system consists of manufactured storage units mounted on the manufacturer's track-guided carriages to form a compact storage system. System design permits access to any single-aisle by manually moving units until the desired aisle is opened. The carriage/rail system provides uniform carriage movement along the total length of travel, even with unbalanced loads.
- (b) Carriage System Design and Features: The carriage system consists of a formed structural steel frame with machined and balanced wheels riding on steel rails recess mounted to the floor. Rails will be types selected by the manufacturer to ensure smooth operation and self-centering of mobile storage units during travel without endplay or binding. Rail types, quantities, and spacing will be selected by the manufacturer to suit installation conditions and requirements. All bearings used in the drive mechanism will be permanently shielded and lubricated.
 - (i) In rooms where the carriage system is required, rails will encompass the entirety of the floor area; and
 - (ii) The Design-Builder will supply and install carriages for all Category 1, 2 and 3 equipment.
- (c) Movement Controls: Triple or single-arm operating wheels with rotating hand knobs will be provided on the accessible (drive) ends of shelf units, centred on the end panel, located 1m from the base

of each unit to permit units will be moved to create a single-aisle opening. Turning the handle transmits power through a chain drive to drive wheels on each carriage.

- (i) If HDMSS are required automatic spread by code, electric units may be substituted.
- (d) Drive System: The system will be designed with a positive type mechanically-assisted drive which minimizes end play, ensures there is no play in the drive handle, and that carriages will stop without drifting.
 - (i) The system will include a chain sprocket drive system for each movable carriage to ensure that carriages move uniformly along the total length of travel, even with unbalanced loads. All system components will be selected to ensure a smooth, even movement along the entire carriage length. Drive system gearing will be designed to permit .45kg. of force applied to the drive handle to move a minimum of 1814kg of load.
 - (ii) A tensioning device will be provided on each chain drive with the provision for adjusting tension without removing end panels.
 - (iii) All bearings used in the drive mechanism will be permanently shielded and lubricated.
- (e) Safety Features:
 - (i) Colour-coded visual indicators will verify that carriages are in a locked or unlocked mode.
 - (ii) A single safety lock button, mounted on each operating wheel hub, will permit moving a carriage in either direction to create a new access aisle when pulled out (unlocked) or locking the carriage when pushed in.

6.10.7.2 Performance Requirements

- (a) Design Requirements:
 - (i) Limit overall height as shown on drawings and schedule.
 - (ii) Limit overall length as shown on drawings and schedule.
 - (iii) Total weight capacity engineered for fully loaded shelving or cabinets.
- (b) Ease of Movement: Provide mechanically assisted units capable of being moved by exerting a maximum horizontal force of 2.26kg on the operating wheel.

6.10.7.3 Basic Materials

- (a) General: Provide materials and quality of workmanship that meet or exceed established industry standards for products specified. Material thicknesses/gauges are the manufacturer's option unless indicated otherwise.
- (b) Grout
 - (i) General: Provide non-shrink, non-staining hydraulic cement compound conforming to the following requirements, based on the performance of the test specimens at room temperature and in laboratory air.
 - 1. Linear Movement: No shrinkage while setting; maximum expansion limited to .002 inches per linear inch.
 - 2. Compressive Strength: Based on two-inch cubes made following ASTM standards, tested on a Balding-Southward machine of 27215kg capacity, meet or exceed the following:
 - a. Age: 1 hour ---- 4,500 psi
 - b. Seven days ---- 8,000 psi
- (c) Manufactured Components
 - (i) Rails:
 - 1. Material: ASTM/AISI Type 1035 or 1045 steel, manufacturer's selection.
 - 2. Capacity: 1385kg/M of carriage.
 - 3. Minimum Contact Surface: 16mm wide.
 - 4. Provide rail sections in minimum 1.83M lengths.
 - 5. Rail configuration will permit attachment to the top of the structural floor system with provision for levelling rails to compensate for variations in floor surface level.
 - 6. Provide rail connections designed to provide horizontal and vertical continuity between rail sections to gradually transfer the concentrated wheel point load to and from adjoining rail sections. Butt joints are not permitted.
 - 7. Rail Form Covers: The manufacturer will provide protection if required to prevent damage to rails during concrete back pours and until carriages are installed.
 - 8. Grounding System: Ground rails, carriages, and equipment mounted on carriages in rooms with fluid-preserved collections to meet all applicable codes.
 - (ii) Finished Floor

1. Coordinate finish with a height of rails in each room which may be different.

(iii) Carriages:

1. Provide manufacturer's design movable carriages fabricated of welded or bolted steel construction. Galvanized structural components and/or riveted carriages are unacceptable.
2. Provide fixed carriages of the same construction and height as the movable carriages anchored to rails. Setting fixed shelving directly on floors is not permitted.
3. When required, provide bolted carriage splices designed to maintain proper unit alignment and weight load distribution.
4. Design carriages to allow the shelving uprights to recess and interlock into the carriages a minimum of 19mm. Top mount carriages are unacceptable.
5. Provide each carriage with two wheels per rail.

(iv) Drive / Guide System:

1. Design: Provide a drive system that prevents carriage whipping, binding, and excessive wheel/rail wear under normal operation.
 - a. If line shafts are used, all wheels on one side of the carriage will drive.
 - b. If synchronized drives are used, a minimum of one wheel assembly driving both sides of the carriage at the center location is required. The Drive shaft will exhibit no play or looseness over the entire length of that assembly.
2. Shafts: Solid steel rod or tube.
3. Shaft Connections: Secured couplings, no compression fittings.
4. Bearing Surfaces: Provide rotating load-bearing members with a ball or roller bearings. Provide shafts with pillow block or flanged self-aligning type bearings.

(v) Wheels:

1. Capacity: Minimum load capacity per wheel: 1455kg.
2. Size: Minimum 127mm, outside diameter drive wheels.

3. Guides: Determined by the manufacturer; minimum 2 locations.

(vi) Face Panels:

1. Materials: Metal.
2. Finishes: To match the colour(s) based on current museum shelving and cabinets that may be different in different compartments. Selected from manufacturer's standard available colours and patterns selected by the Owner.
3. End panels are not required to extend full height.

(vii) Accessories:

1. Fluid collections: provide (2) bumpers at 38mm each for a total of 75mm chimney between each carriage or as required by code.
2. Provide a total gap of 25mm between all other carriages with bumpers unless otherwise required by code.

(d) Fabrication

- (i) Wheels: Provide precision machined and balanced units with permanently shielded and lubricated bearings.
- (ii) Carriages: Fabricate to ensure no more than 6mm maximum deviation from a true straight line. Splice and weld to ensure no permanent set or slippage in any spliced or welded joint when exposed to forces encountered in normal operating circumstances.

6.11 Division 11 – Equipment

6.11.1 General Requirements

- 6.11.1.1 Refer to APPENDIX 1B-2 – Items Schedule for furnishing requirements and requirements to provide demonstration samples of actual product for Owner review pursuant to Schedule 2 – Review Procedure.

6.11.2 Appliances

- 6.11.2.1 Refer to APPENDIX 1B-2 – Items Schedule.

6.11.3 Maintenance Manuals:

- 6.11.3.1 Supply operating and maintenance instructions, including spare parts list and optional accessories for all items specified in Section 6.11.
- 6.11.3.2 Identify each item, arranged in sequence, and ensure the numbers correspond to the specifications and drawings.

6.11.3.3 Provide an itemized lead sheet at the front of the manual with a list of the contents and the name and phone number of the 24/7 available local service providers.

6.11.4 Laboratory Equipment

6.11.4.1 General Requirements

- (a) Furnish labour, materials, tools, equipment, and services for Laboratory Equipment, as indicated, in accordance with provisions of Contract Documents.
- (b) Completely coordinate with work of other trades.
- (c) Scientific Equipment and Furniture Association:
 - (i) SEFA 1 Fume Hoods.
 - (ii) SEFA 2 Installation.
 - (iii) SEFA 3 Laboratory Work Surfaces.
 - (iv) SEFA 7 Fixtures.
 - (v) SEFA 8 W Laboratory Grade Wood Casework.
 - (vi) SEFA 8 M Laboratory Grade Metal Casework.
 - (vii) SEFA 8 P Laboratory Grade Polypropylene Casework.

6.11.4.2 Class II, Type A2 Vertical Laminar Flow, 30 PCT Exhausted, Biological Safety Cabinets.

- (a) Base Product: LabGard NU-437ES by NuAire.
 - (i) 70 PCT of air recirculated in cabinet; 30 PCT of air filtered and exhausted from the common plenum.
 - (ii) Performance: Satisfy performance requirements of NSF/ANSI 49 as a Class II Type A2 Biological Safety Cabinet.
 - (iii) Factory Testing:
 - (iv) Each unit will be factory-tested for Class II requirements.
 - (v) A copy of the factory test will be provided with the unit for the Owner's records.
 - (vi) Interior Work Height: 697mm minimum.
 - (vii) Cabinet Height (less base): 1.6m nominal.
 - (viii) Factory Testing: Each unit will be factory-tested for Class II requirements. A copy of the factory test will be provided with the unit for the Owner's records.

- (b) Materials:
 - (i) Work Surface:
 - 1. 1.6mm 16 GA, minimum, Type 304 stainless steel, with No. 4 finish.
 - 2. Reinforce with stainless steel channels or equivalent.
 - (ii) Cabinet Interior:
 - 1. 1.6mm 16 GA, minimum, Type 304 stainless steel, with No. 4 finish.
 - (iii) Cabinet Exterior:
 - 1. 1.5mm 16 GA and 1.2mm 18 GA, minimum, cold-rolled steel.
 - 2. Finish: White baked enamel.
 - (iv) Glass:
 - 1. 6mm safety glass.
 - 2. There will be no permanent etchings on the glass.
- (c) Construction:
 - (i) Cabinet:
 - 1. Worksurface and interior wall and rear panels will be welded, monolithic, sealed structure, or integral one-piece construction.
 - a. Corners coved. Provide exterior removable side panels and enclosure of cold-rolled steel or stainless steel to conceal service piping.
 - b. Each cabinet component will be welded, gasketed, or assembled with air-tight, hermetically sealed joints to provide a gas- and soap bubble-tight sealed assembly.
 - c. Cabinet will have a removable work tray with coved corners.
 - 2. Any contaminated areas of the cabinet will be surrounded by negative pressure plenum/zones.
 - 3. Provide return air slots along the front edge of the work surface at the access opening and in the rear panel of the work area enclosure directly above the work surface.

4. Drain Pan: Provide stainless steel ball valve for effective drainage of drain pan beneath work tray.
 - a. The drain pan will have radiused corners to facilitate cleaning.
- (ii) Base:
 1. 51mm x 51mm tubular steel support stand with baked powder coat finish.
 2. Telescoping legs.
 - a. If legs adjust to preset positions, positions will be at 25mm increments.
 - b. Worksurface height will be adjustable between 762mm and 914mm above the finished floor.
- (iii) Work Surface Height:
 1. The initial height position for the adjustable height work surface will be at 914mm above the finished floor.
- (iv) Airfoil:
 1. Airfoil will be provided at the lower front work area to improve access opening containment capability.
- (v) Screen Style:
 1. Smooth operating, slanted vertical sliding viewscreen operating from the “closed” position to 495mm high, minimum, for visibility, equipment access, and cleaning.
- (vi) Access Opening: 254mm access opening with face velocity of 0.50m/s to 0.56m/s.
- (vii) Bypass air is required to flow through either the airfoil when the viewscreen is fully closed or the viewscreen will not close completely, allowing bypass air to enter when the viewscreen is down.
- (viii) Provide stainless steel air diffuser and filter protector in the work area.
- (d) Utility Requirements: Refer to Equipment Schedule.
- (e) Features:
 - (i) Service Fittings:
 1. When indicated on the drawings, provide ball valve fitting with a single lever handle mounted on the work area

sidewall, factory-installed and complete with gaskets, grommets, and sleeves.

- a. Provide removable serrated hose end unless indicated otherwise.
- b. The fitting manufacturer will be the same as providing the Laboratory Fittings specified under Section 11 53 43.
- c. Petcocks are not acceptable.

2. Provide quick-connect fittings at the top of the cabinet for connection of cabinet piping to piped services; Swagelok or equivalent.

(ii) Lighting:

1. LED light providing a light level of 1076lx 100 FC, minimum, at the work surface.
2. Light will be serviceable from outside the cabinet.

(iii) Electrical:

1. Provide one GFCI-protected 115VAC duplex receptacle with drip-proof covers and stainless steel faceplate in each sidewall or two receptacles in the back wall.
2. Provide cabinet with a 3048mm 10 FT, minimum, power cord with NEMA 5-20P plug.

(iv) Blower:

1. Provide a safety switch to automatically shut off the blower in the event of an exhaust failure.
2. Cabinet will be provided with a single blower/motor.
3. Blower/motor will create even filter loading, prolonging the life of the supply HEPA filter, and will handle an increase of 250 PCT of the initial filter static pressure with no more than a 10 PCT decrease of cmh CFM.
4. The blower will be provided with DC-ECM or AC 3-phase motor.

(v) Filters:

1. Front-loading, HEPA 99.99 PCT, efficient on all particles 0.3 micron by DOP test (both exhaust and supply).
2. Filters will be metal-framed, front-loaded without disassembly of control panel or viewscreen assembly.

3. A removable and reusable neoprene gasket will provide an airtight seal between the filter assembly and the metal plenum.
 - a. Air velocity from the supply filter will average 16.75 m/min 55 FPM to 19.81m/min 65 FPM; supply air velocity may be adjusted at strategic locations as engineered by the manufacturer to enhance containment.
 - b. Supply HEPA filter will be protected by an equivalently sized, perforated stainless steel diffuser covering the entire top of the work zone.
- (vi) The sound level will not exceed 63 dBA measured 380mm above the work surface and 305mm in front of the viewscreen.
- (vii) The unit will recirculate HEPA filtered exhaust air to the room; connection to the Building exhaust system is not required.
 1. Refer to Laboratory Furnishings drawings for locations.
- (viii) Control panel:
 1. The Control panel will be located on the exterior of the cabinet above the viewscreen.
 2. Control functions will be centrally located at eye level.
 3. Electronic touch switches.
 4. Monitor and display airflow system performance.
 5. One circuit breaker for blower and lights, and one for the duplex receptacles.
 6. Timer function.
 7. Complete diagnostic functions.
 8. Provide audible and visual alarms indicating proper fan operation and for canopy exhausted biological safety cabinets indicating a loss of capture of room air at the canopy intake(s).
 9. Access Opening Alarm:
 - a. Provide audible alarm to sound when viewscreen is above its specified operating access opening height.
- (ix) Adjustable, stainless steel footrest.
- (x) Disposable foam armrest pad.

1. Pad will be closed-cell foam and be applied with self-adhesive tape.
- (xi) Germicidal ultraviolet light with UV light interlock, allowing UV illumination only when the sash is fully closed.
- (xii) Provide negative pressure, gas-tight access port to pass tubing and/or electrical cords to the outside of the cabinet.
- (xiii) Seismic restraint.
- (f) Listings:
 - (i) The unit will be listed by NSF International as meeting NSF/ANSI Standard 49.
 - (ii) Underwriters Laboratories for the United States and Canada.

6.11.4.3 High Performance/Low-Velocity Chemical Fume Hoods:

- (a) Base Product: Kewaunee Scientific Corporation LV Fume Hood, or equal, satisfying the identified requirements, characteristics, and features as specified herein.
- (b) Depth: 610mm interior, 876mm exterior (base), nominal.
- (c) Design:
 - (i) Restricted bypass fume hoods for variable air volume or constant volume exhaust systems with the airfoil. The bypass will be sufficient in size to allow 25 PCT flow with sash closed. The bypass will be achieved through low resistance opening at the top of the front lintel panel. The bypass will be designed to provide a smooth downflow effect.
 - (ii) Design fume hoods for consistent and safe airflow through the hood face. Negative variations of face velocity will not exceed 20 PCT of the average face velocity at the designated measuring point as defined in this section.
 1. Fume hoods will be designed to operate safely at a face velocity of 0.51m/s 100 FPM.
- (d) Work Surface: 32mm dished epoxy resin, as in compliance with Section 12 35 53 requirements. Colour: Black.
- (e) Downdraft Bypass: Low resistant type, 1.2mm 18 GA steel chamber; directional louvres are not acceptable. Bypass air will enter the top of the bypass chamber and enter the hood in a downflow direction. Chamber will protect the user from expelled particulate in the event of an adverse internal reaction.
- (f) Airfoil: The airfoil will allow ample room for electrical hospital-grade cords to fit beneath the airfoil. Sill will pivot forward to provide cord and trough access. The bottom horizontal foil will provide a

nominal 25mm bypass when the sash is in the closed position. The bottom foil will not be removable without the use of special tools. Airfoil will be steel with urethane or epoxy powder coating.

- (i) Sill will consist of a half-round bullnose on the front edge. Airfoil and sill will be flush with the work surface height; airfoil sills that are not flush with the top plane of the work surface dish are not acceptable. A secondary containment trough will be located in front of the work surface and extend below the airfoil sill.
- (g) Fume hood sash (Combination horizontal/vertical): Provide vertical and horizontal sash access with an 890mm, nominal, high sightline. Sash will be top hung on nylon tired stainless steel ball-bearing wheels. The sash frame on the bottom and sides will be no more than 38mm thick and radiused to minimize turbulence. The area above the 724mm, nominal, vertical sash opening will be glazed with a minimum of 10mm thick laminated safety glass. Polish exposed edges of the glass. Horizontal panels provided with finger pulls. The maximum width for horizontal sash will be 381mm.
- (h) Counterbalance system: Single weight, sprocket, and chain, counterbalance system to prevent sash tilting and permit ease of operation along with full-width pull. Maximum 3kg 7 LBS pull required to raise or lower sash throughout its full length of operating sash opening. Design the system to hold sash without creep and prevent sash drop in the event of chain failure. Sash will open and close against rubber bumper stops.
 - (i) Sash will have the capability will be raised to a full 724mm, nominal, vertical opening for loading or unloading of large apparatus.
- (i) Sash Stop: Rubber bumper stops to allow manual override with automatic reset for a 457mm sash opening.

6.11.4.4 Laboratory Glass Washer - Base Cabinet Height:

- (i) Intentionally Deleted.
- (b) Base Product:
 - (i) G7883 CD Under-Counter or Free-Standing Electrically Heated Glassware Washer by Miele.
 - (ii) Description:
 1. Undercounter-size glassware washer and dryer designed for laboratory use, with a minimum of nine wash programs.
 2. The washer will be capable of direct injection washing and HEPA-filtered hot air drying.

3. CSA or UL approval.

(iii) Dimensions:

1. Chamber: 570.7mm wide x 570.7mm deep x 458mm high.
2. Overall: 88.9mm wide x 689.5mm deep x 850.9mm high.

(iv) Installation Type:

(v) Features and Characteristics:

1. Interior:
 - a. Sides, back, and top: Type 304 stainless steel.
 - b. Floor and door: Type 316 or Type 304 stainless steel.
 - c. surfaces will be polished. Chamber will be laser welded with no weld marks.
 - d. Chamber and water path capable of utilizing heated 18 megohm purified water without damage to the washer.
2. Exterior: Type 304 stainless steel with a brushed finish.
3. Sound Levels:
4. Spray System:
 - a. Built-in upper and lower spray arms.
 - b. Lower spray arm to include spray nozzles and speed adjustment for optimal performance.
5. Circulation Pump:
 - a. 378L/m **100 GPM**, minimum, constructed of ABS plastic impeller and housing.
 - b. The pump will include a speed sensor to shut down the washer in the event of an obstruction or pump failure and prevent overheating.
6. Drain Pump:
 - a. Provide a separate drain pump to prevent cross-contamination between the drain and intake cycles.
7. Heater rating: 6 kW.
8. Water-Proof System:

- a. Incoming water lines will be double-wall and be protected with electronically activated solenoids and will include a float sensor in the washer drip pan.
 - b. The float switch will shut off incoming water and activate the drain pump in the event of a leak
9. Steam Condenser:
- a. Provide steam condenser and send condensate to drain; no external venting will be required.
10. Water Softener:
- a. Provide a built-in water softener with adjustable water hardness control.
11. Detergent Dispensers:
- a. Provide pull-out drawer for 5L liquid detergent container.
 - b. The detergent will be automatically dispensed into the washer.
 - c. The system will include a detergent level sensor and flow sensor to monitor the system.
12. Neutralizer Dispenser:
- a. Provide pull-out drawer for 5L liquid neutralizer container.
 - b. The detergent will be automatically dispensed into the washer.
13. Cleaning Mechanism:
- a. Dual rotary spray arm located at the top and bottom of the chamber.
 - b. Direct injection manifold will be provided for upper, lower, or dual-level injection baskets or middle rotary spray arm.
14. Flow Meters:
- a. Provide flow meters on water supply lines for precise water fills. Include float switch to prevent overflow.
15. Water Temperatures:
- a. Wash Programmable up to **199 DegF**.
 - b. Final Rinse: Programmable up to **199 DegF**.

c. Temperatures will be monitored by dual sensors for accuracy.

16. Provide flexible hoses for water connections.

17. Drying System:

a. HEPA filtered forced hot air-drying cycle with adjustable temperature up to 99 DegC and time.

b. A second stage will be programmable for cool down.

c. Optional spindle injectors will be used to dry the interior of narrow-necked glassware.

18. RS-232 port for connection to the printer for monitoring/validating washer cycles.

19. Chamber Validation Port:

a. Provide test port for monitoring chamber conditions.

20. Alarm:

a. The alarm will alert the operator to machine status and error conditions.

21. Pressure Reducing Valves (PRV):

a. Provide pressure-reducing valves if incoming steam, water, and compressed air pressure need will be reduced to manufacturer-recommended operating pressures.

(vi) Programs:

1. Nine programs, minimum, including at least four standard wash programs with programmable cycle times and temperatures and at least one custom program slot.

6.11.4.5 Ice Maker:

(i) Intentionally Deleted.

(b) Base Product:

(i) RF1200A/B-570 Ice Flaker and Storage Bin by Manitowoc.

(ii) Ice Flaker with stainless steel auger and storage bin.

(iii) Dimensions: 2m high x 762mm wide x 863mm deep 1981.

(iv) Finish: Stainless steel with No. 4 finish.

(v) Flaker:

1. Ice Producing Capacity: 538kg of flaked ice in 24 hours.
2. Compressor Unit: Air-cooled.
3. Operating Requirements:
 - a. Air Temperature: 10 DegC to 43.3 DegC

(vi) Ice Storage Bin:

1. 195kg capacity ice storage bin.

(vii) Acrylic plaque with silk-screen letters mounted in plain view on ice storage bin door:

1. Dimensions: 70mm tall x 125mm wide
2. Text: NON-POTABLE WATER - NOT SAFE FOR DRINKING.
3. Text Height: 13mm high, minimum.

(viii) Utility Requirements:

1. See Laboratory Equipment Schedule.

(ix) Warranty:

1. Warrant parts and labour on flaker for two (2) years and compressor for five years from the date of Substantial Completion.

6.11.4.6 Disposer:

(i) Intentionally Deleted

(b) Base Product:

- (i) In-Sink-Erator Model SS-75, 0.55kW **3/4 HP** heavy-duty commercial disposer, or equal.

(c) Description:

(i) Features:

1. Syphon breaker to prevent backflow into water supply pipe.
2. Flow control valve to automatically provide the proper amount of water for efficient operation.
3. Solenoid valve to ensure water is in disposer when disposer is operational.

4. Provide support legs when recommended by the manufacturer for application.
 5. Provide necessary mounting hardware.
- (ii) Provide sink flange assembly for 89mm to 102mm sink opening. 38mm waste connection. Coordinate with sink.
- (d) Utility Requirements:
- (i) See Laboratory Equipment Schedule.

6.11.5 Ventilated Balance Safety Enclosure

6.11.5.1 Manufacturers:

- (a) All ventilated balance safety enclosures will be the product of a single manufacturer.
- (b) Intentionally Deleted

6.11.5.2 Base Product: Flow Sciences FS2015, or equal, satisfying the identified requirements, characteristics, and features as specified herein.

6.11.5.3 Description: Enclosure specifically designed to provide maximum containment for balance applications. Enclosure opening will be designed to allow turbulence-free airflow to prevent balance fluctuation. The enclosure will have an angled front for ergonomic design.

6.11.5.4 Construction:

- (a) The enclosure will be constructed of 10mm clear acrylic with an air plenum mounted on the rear of the enclosure.
- (b) The base will be black, solid phenolic resin.

6.11.5.5 Features:

- (a) Enclosure Dimensions: 883mm wide x 584mm deep x 502mm tall.
- (b) Face velocity alarm, providing a visual and audible alarm if the flow is not maintained to the programmed parameters. Sensors will have the ability will be programmed to alarm between 0.152m/s and 0.762m/s.
- (c) 100mm diameter, 2.4m long PVC flexible hose with spring steel wire helix. Hose will be chemical and abrasion resistant and flame resistant to UL 94V-O standards.
- (d) Stainless steel fan filter housing with 100mm duct connections.
- (e) 125mm diameter waste chute mounted on enclosure side.
- (f) Provide 125mm diameter thimble connection for connection to 100mm diameter building exhaust duct.

- (g) Provide 99.99 PCT efficient bag out HEPA filter.

6.11.6 Laboratory Sterilizer (Autoclave): Medium

6.11.6.1 Description:

- (a) Medium chamber sterilizers using steam under pressure as the sterilizing agent; designed for sterilization of certain materials used in laboratories and research facilities.

6.11.6.2 Base Product:

- (a) Model 633LS Sterilizer by Getinge.

6.11.6.3 Chamber Size, nominal:

- (a) Chamber size: 660mm wide x 660mm high x 990mm long.

6.11.6.4 Configuration:

- (a) Steam source: Electric stainless steel steam generator supplied with purified water.
- (b) Doors/installation: Single door, cabinet enclosed unit.
- (c) Arrangement: Arrange chamber and service/equipment space as indicated on the drawings.
- (d) Process:
 - (i) The pre-vacuum process is for the sterilization of porous and non-porous heat- and moisture-stable goods, sterilization of liquids and media in borosilicate glass containers with vented closures, and decontamination of supplies after laboratory procedures. Pre-vacuum sterilizers will be equipped with pre-vacuum, gravity, liquid, leak test, and daily air removal test cycles.

6.11.6.5 Pre-programmed Cycle Descriptions:

(a) Gravity Cycle:

- (i) Provided on pre-vacuum sterilizers for the sterilization of heat- and moisture-stable goods at 100 DEGC 212 DEGF to 141 DEGC 285 DEGF and decontamination of bagged laboratory wastes.
- (ii) The gravity cycle utilizes the gravity air-displacement principle.

(b) Liquid Cycle:

- (i) Provided on pre-vacuum sterilizers for the sterilization of liquids and media in vented borosilicate glass or metal containers at 100 DEGC 212 DEGF to 123 DEGC 254 DEGF.

- (ii) The liquid cycle utilizes the optimal solution cooling feature during the exhaust cooling phase to control the exhaust rate.
 - (iii) Provide automatic jacket blowdown to exhaust steam from chamber and jacket to prevent liquid loads from boiling over.
- (c) Pre-vacuum Cycle:
- (i) Provided on pre-vacuum sterilizers for the efficient, high-volume sterilization of porous, heat- and moisture-stable materials at 121DegC 250 DEGF to 141 DEGC 285 DEGF.
 - (ii) The pre-vacuum cycle utilizes a mechanical air-evacuation system
- (d) Leak Test Cycle:
- (i) Provided on pre-vacuum sterilizers for verification of chamber integrity.
 - (ii) Cycle parameters will be preprogrammed and fixed.
 - (iii) The acceptable maximum leak rate is 1mm Hg/min over 10 minutes following a fixed stabilization time.
- (e) DART (Daily Air Removal Test or Bowie-Dick) Test Cycle: Provided on pre-vacuum sterilizers; is used to conduct a Bowie-Dick test on the sterilizer.

6.11.6.6 Control system:

- (a) Sterilizer manufacturer's standard microprocessor control system.
- (i) Monitors and controls all phases of each sterilizing cycle.
 - (ii) Operator-programmable parameters.
 - (iii) Provide completely programmed and documented control for the unit.
 - (iv) Eighteen-Cycle Capability: To expand the control system to store up to 18 cycles in memory.
 - (v) Adjustable cycle values and operation features.
 - (vi) The Control system will be housed within a sealed compartment to protect components from moisture and heat generated during sterilization processes.
 - 1. Provide a cooling fan with a filter in the housing compartment to maintain positive pressure within the compartment, keeping components cool and dust-free.
 - (vii) The system will include help screens for programming and troubleshooting alarm conditions.

- (viii) The system will conduct an automatic check on the control program and cycle data.
- (ix) Emergency Stop Button will be located at sterilizer door, returning values to a safe condition and halt cycle processing when activated.
 - 1. After activation, the operator will have the ability to abort or continue the cycle operation.
- (x) Security Access Codes will provide restricted access of unauthorized users: The following password levels will be available:
 - 1. Operator: Permits user to select and start a cycle, acknowledge alarms, view cycle parameters, print reports.
 - 2. Supervisor: Allows user Operator permissions and the ability to edit cycle parameters, edit Proportional Integral Derivative (PID) parameters.
 - 3. Calibrator: Allows user Supervisor permissions and the ability to calibrate instruments.
 - 4. Service: Allows user Calibrator permissions and the ability to view inputs, system diagnosis, activate/deactivate outputs, edit common settings, change date/time.
 - 5. Administrator: Allows user Service permissions and the ability to configure user names and edit passwords.
- (xi) Calibration:
 - 1. Provide temperature and pressure calibration through the control panel through the operating end touch screen.
 - 2. The Control system will be capable of providing a printed record of all calibration data for comparison to current readings.
- (b) Operator Interface:
 - (i) Provide at operating (load, non-sterile) end, adjacent to the chamber.
 - 1. Touch-sensitive colour screen with a graphic display area.
 - a. The screen will display sterilizer functions, alarm conditions and be used for cycle configuration and initiation.
 - b. Displayed messages will be in complete phrases with no cross-referenced codes.

c. The screen will be a minimum of 130mm x 100mm.

2. Thermal printer to provide a record of all cycle data.

(c) Internal Battery:

- (i) The battery will be used to back up all cycle memory for up to ten years.
- (ii) The controller will require a complete restart of the cycle upon interruption of power.

6.11.6.7 Construction:

(a) Shell assembly: Double-walled, insulated, Type 316L stainless steel, welded sterilizer vessel. Shielded steam entry inside the chamber.

(i) End Frame: Type 316L stainless steel, welded to door end.

(ii) Vessel: ASME rated at 3.1bar 45 PSIG.

(iii) Baffle: Shield steam supply opening inside the chamber by a Type 316L stainless steel baffle.

(iv) Hinged front cabinet panel to access sterilizer piping and control board housing.

(v) Equipment Stand:

1. Support sterilizers on height-adjustable stainless or carbon-steel stand, shop-coated for corrosion protection.

(vi) Door assembly:

1. Type 316L stainless steel, insulated. Provide safety lock to prevent door opening when chamber pressure exceeds 14kPa 2 PSI.

a. The door will have a replaceable, one-piece, compressed air-activated polymer gasket.

b. Upon completion of the cycle, the gasket will retract under vacuum into a machined groove in the end frame of the sterilizer.

(vii) Hinged door assembly:

1. Type 316L stainless steel, insulated.

2. Provide safety lock to prevent door opening when chamber pressure exceeds 14kPa 2 PSI.

3. The door will be hinged.

4. The door will have a replaceable, one-piece, compressible polymer (crush) gasket.
 5. Hinge Door:
 - a. 660mm x 953mm chamber.
 - b. Manually operated, 60-degree turn door handle actuation required to lock or unlock the door.
- (b) Insulation:
- (i) 25mm thick, fibreglass insulation sleeve, sealed and held in place with hook-and-loop-type closures.
 - (ii) Insulation will be asbestos- and chloride-free, silicone impregnated, oil- and water-resistant.
- (c) Piping, Valves, Switches, and Gauges:
- (i) Piping:
 1. General: Brass, including steam strainer, shutoff valve, and brass pressure regulator.
 2. All piping connections will terminate within the confines of the sterilizer.
 - (ii) Insulation:
 1. General: Insulate hot and cold piping.
 2. Hot Piping:
 - a. Piping conveying water or steam greater than 37.7DegC 100 DEGF.
 - b. Provide vinyl wrap.
 3. Refer to Insulation specification in Division 23 Mechanical for insulation type and R-value.
 - (iii) Check Valves: Provide check valves on water feed piping.
 - (iv) Valves:
 1. Valves and major components are arranged will be easily accessed and replaceable.
 2. All valves will be non-proprietary.
 3. Air-operated solenoid valves with DIN connectors or piston valves located in the manifold.
 4. Utility Shut-Off Valves:

- a. Provide utility shut-off valves for incoming piped utilities
 - b. Manual Steam Shutoff:
 - i) Pressure-rated at 862kPa 125 PSIG for saturated steam.
 - ii) Valve handles will be low heat conducting-type.
5. Safety Relief Valve:
- a. Provide ASME-certified and labelled safety relief valve (SRV) to protect the vessel, jacket, and heat exchanger (where applicable), from pressure build-up beyond the equipment's maximum rated pressure.
 - b. Coordinate relief valve discharge with Mechanical installer for vent piping to the exterior of the Building.
 - c. The manufacturer will pipe multiple steam safety relief valves on a unit to a single point for field connection.
- (v) Gauges:
1. Locations:
 - a. Chamber and jacket pressure gauges will be mounted in the service area.
 - b. Locate visible to the operator in fascia panel or in-service panel adjacent to the door.
- (vi) Steam Valve Interlock:
1. Provide steam valve interlock to prevent the steam valve from opening when the door is open.
- (vii) Pressure Interlock:
1. Provide pressure interlock to prevent the opening of the door when the unit is above or below atmospheric pressure.
- (viii) Chamber Float Switch Alarms:
1. Provide with chamber float switch to indicate alarm that water is in the chamber.
- (d) Electrical Connections:
- (i) Provide lighted DIN Connectors.
 - (ii) All electrical connections will terminate within the confines of the sterilizer.

- (e) Vacuum System:
 - (i) Water ring seal type pump with non-asbestos seal and packing.
 - 1. Install on vibration-isolation mounts.
 - (ii) Provide a cooling water-saving package to reduce water consumption.
 - 1. The initial charge of vacuum pump water will be cooled and recirculated through a heat exchanger to a break tank and cool the chamber effluent with a heat exchanger. Tank, recirculation pump, heat exchanger, and associated components will be factory-piped and provided by the autoclave manufacturer.
 - 2. Vacuum pump seal water will be cooled through the use of a heat exchanger and a closed-loop chilled water supply, reducing water consumption by approximately 99 PCT.
 - 3. Vacuum pump seal water will be drawn from the tank, cooled by the heat exchanger to a maximum of 15.5DegC 60 DEGF, and delivered to the vacuum pump.
 - 4. Tank overflow will be cooled not to exceed 60 DEGC 140 DEGF before discharge.
 - 5. The tank will have an inlet for cold water make-up.
 - 6. Chilled water will be supplied at a temperature not to exceed 5.5 DEGC 42 DEGF and will return from the heat exchanger not to exceed 14 DEGC 57DegF (8.5DegC 15 DEGF temperature rise).
 - 7. The system will accommodate incoming chilled water pressures up to 10.34bar 150 PSIG and will have a pressure drop not to exceed 0.34bar 5 PSIG.

6.11.6.8 Features:

- (a) Resistance Temperature Detectors (RTD):
 - (i) Installed in the chamber drain line and chamber jacket to sense and control temperature variations within the chamber.
- (b) Jacket Temperature Control:
 - (i) Separate jacket RTD installed in the jacket drain line to allow control of jacket temperature for optimal cycle performance.
- (c) Steam Bleed:

- (i) Constant steam flow supplied across chamber RTD to assure even temperature distribution and temperature control.
- (d) Steam Purge:
 - (i) To assist in air removal and to preheat load.
- (e) RS-485 Interface Port:
 - (i) For downloading cycle information to the user-furnished data acquisition system.
- (f) Electronic Water Saving Control:
 - (i) To control the amount of water used in condensing exhausted chamber steam.
- (g) Optimal Solution Cooling:
 - (i) To safely cool various liquids in vented, borosilicate glass containers with minimum liquid loss due to boil-over and keep normal evaporation loss below 5 PCT.
- (h) Automatic Steam Shutoff to Jacket:
 - (i) For liquid cycles, to allow operation of cycles at lower temperatures and more efficient load cooling.
- (i) Automatic Utilities Startup/Shutdown:
 - (i) To shut off utility valves, permitting slow cooling of the entire vessel and load. Programmed and manual restart options.
- (j) Control Lockout Switch:
 - (i) Limit switch on chamber door to prevent the cycle from starting unless door seal is tight against the door.
- (k) Chamber Drain System:
 - (i) To prevent pollutants from entering into the water supply system and sterilizer.
 - (ii) Automatic stainless steel plate-type condensing system to convert chamber steam to condensate and dispose of it to waste.
 - (iii) Provide a non-clogging chamber drain line.
- (l) Provide emergency manual exhaust valve.
- (m) Effluent Temperature Control System:
 - (i) The system will not discharge effluent until it has cooled to less than 60 DEGC 140 DEGF.

- (ii) Provide Type 316 stainless steel tank to collapse steam and receive hot effluent for cooling.
 - 1. The tank will be equipped with a temperature probe and overflow to drain at the top.
 - 2. Hot effluent will flow into the bottom of the tank.
 - 3. Provide cold water for makeup and cooling if demanded by the tank before discharging effluent.
 - 4. The temperature probe will adjust the flow of cold water into effluent discharge to reduce tank water temperature prior to discharge at overflow only when tank water is 60 DEGC 140 DEGF or higher.
 - 5. The system will only require a cold water supply. The system will not require power.
- (n) Integral Indirect Stainless Steel Steam Generator:
 - (i) To produce pure steam using "house" steam and purified water, sized for sterilizer.
 - (ii) Refer to Steam to Steam Generator specifications in this Section.
- (o) Exterior Enclosure:
 - (i) Type 304 stainless steel side and rear panels with louvred stainless steel top panel with No. 3 finish to enclose sterilizer body and piping for freestanding units or where extends into finished space.
- (p) Seismic tie down to conform to Building Code requirements.
- (q) Loading Rack and Shelves:
 - (i) Provide rack and two shelves.
- (r) Loading cart, transfer carriage, and chamber track assembly.

6.11.7 Metal Lockers

6.11.7.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Items Schedule for locker requirements.
- (b) Locker spaces will be either recessed into the wall or complete with a bulkhead incorporated above.
- (c) Provide sufficient closed base for front mounted wood bench.

- (d) Non-stacked banks of half-height lockers are to incorporate a millwork countertop above the lockers.
- (e) Locking and unlocking will be via an integrated electronic key system that allows one-time user-selected codes with master override capabilities.

6.11.7.2 Performance Criteria

- (a) Bodies:
 - (i) will be fabricated from a minimum of 0.61 mm cold-rolled steel. Back and sides will be provided with continuous lock forming, running the complete height of the locker. The door frame will be a minimum 1.4 mm formed steel channel, welded for a one-piece construction, complete with heavy-duty padlock hasp. The frame will be equipped with 2 -1.8 mm 5 knuckle hinges for each door.
- (b) Doors:
 - (i) outer panel 1.5 mm cold-rolled steel, inner panel 0.91 mm cold-rolled steel. Sandwich panel construction fully welded with vent louvres and complete with honeycomb core for strength and soundproofing. The door is complete with a recessed handle box to accept a locking device and two rubber bumpers.
- (c) Include chrome-plated, flush inset handle box and black plastic number plates with white numbers inset in finger pull. The numbering plan will be approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (d) Accessories:
 - (i) Provide one shelf and two coat hooks in each tier of lockers.
 - (ii) Equip lockers with 3.1 mm thick cold rolled steel padlock hasp.
 - (iii) Provide metal trim and finished end panels.
 - (iv) Provide rubber door bumpers.
- (e) Finish: Two coats of high-quality alkyd baked enamel.
- (f) Base: Provide 380 mm steel covered plywood base platform on raised framing to all lockers for bench.
- (g) Bench: Provide 230mm wide bench to abut front face of lockers.

6.11.8 Projection Screens

6.11.8.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Items Schedule for requirements.

6.11.9 Fume Hood Cabinets

6.11.9.1 General Requirements

- (a) Refer to APPENDIX 1B-2 – Items Schedule for requirements.

6.11.9.2 Performance Criteria

- (a) Product: CSA Approved, ATFH double-sided with rear panel containing a smooth sliding counterbalanced sash with 6 mm (1/4") tempered safety glass, 1.2m wide, in stainless steel front stiles and airfoils. The fume hood will be lockable from both sides.

6.11.10 Vacuum Freeze Dryer

6.11.10.1 General Requirements

- (a) The Design-Builder will provide a vacuum freeze dryer system and the following items:
 - (i) One Vacuum freeze-dryer system;
 - (ii) Delivery, Installation, and Testing;
 - (iii) Training;
 - (iv) Manuals; and
 - (v) Warranty maintenance and support
- (b) Refrigeration system
 - (i) The refrigeration system will use non-proprietary refrigerants.
 - (ii) The refrigerants will be free of chlorofluorocarbons (CFC-free).
 - (iii) The Design-Builder will ensure that the refrigerants are approved for use in Canada.
 - (iv) The refrigeration system will use an air-cooled compressor.
 - (v) The product chamber will be controlled between 0°C and -29°C (32°F and -20.2°F).
 - (vi) The condenser will reach a temperature of at least -50°C (-58°F).
- (c) Control systems
 - (i) The control system will have a screen that digitally displays the temperature inside the product chamber, the pressure inside the product chamber, and the temperature in the condenser.

- (d) Piping
 - (i) The piping that connects the components will be made of treated mild steel (e.g. epoxy painted, powder-coated, etc.) or stainless steel.
- (e) Isolation valves
 - (i) The vacuum freeze-dryer system will have isolation valves that are open between the product chamber and the condenser during normal operation, and that can be manually switched closed.
 - (ii) The vacuum freeze-dryer system will have a valve that prevents oil blowback during a power failure or if the pump is turned off while the chamber is under pressure. This valve will normally be closed between the vacuum pump and the condenser but open when the pump is turned on.
- (f) Electrical
 - (i) The vacuum freeze-dryer system will carry a recognized certification mark or label to demonstrate that it meets Canadian Standard Association (CSA) electrical standards.
 - (ii) The electrical requirements for the system will fall within the following ranges: 208-230 volts and 30-40 amps.
- (g) Installation and Testing
 - (i) The Design-Builder will provide installation and testing.
 - (ii) The installation will begin within 14 days of delivery and will be completed within seven days of the start date unless otherwise approved by the Owner pursuant to Schedule 2 - Review Procedure.
 - (iii) The testing consists of demonstrating that the system meets the performance specifications listed in the requirement at 3.4, 4.3, 4.4, 4.5, 5.3, and 5.4. The Design-Builder will be responsible for room preparation prior to commencement of installation.

6.11.10.2 Performance Criteria

- (a) The vacuum freeze dryer system will consist of all of the following components:
 - (i) product chamber;
 - (ii) condenser;
 - (iii) vacuum pump;
 - (iv) refrigeration system;

- (v) control system; and
- (vi) piping to connect the components.
- (b) The vacuum freeze dryer system will
 - (i) have castors for mobility.
 - (ii) have overall dimensions will be suitable to allow it to pass through the room and Facility doors.
 - (iii) have a leak rate of fewer than 30 millitorrs per hour.
 - (iv) will pump down to less than 100 millitorrs in 60 minutes as measured with an empty chamber.
- (c) The product chamber will:
 - (i) be made of treated mild steel with an epoxy coating, or powder coated or be made of stainless steel.
 - (ii) Have minimum interior dimensions of 914 mm wide by 914 mm high by 2.1m. A tolerance range of ± 51 mm) at each dimension is acceptable.
 - (iii) Have a clear hinged acrylic door and will open fully and not obstruct the removal of loaded trays.
 - (iv) Deliver, enable and support cooling with external refrigeration coils wrapped around the outside of the chamber.
 - (v) have a smooth interior surface with no piping or protrusions so that it is free of obstructions.
- (d) Shelving will:
 - (i) not be heated;
 - (ii) be configured using side rails only, no solid shelves to support trays;
 - (iii) be able to fit a minimum of 2 trays per side rail pair.
- (e) Side Rails:
 - (i) a minimum of 3 side rail pairs will be provided;
 - (ii) vertical side rail spacing will be at minimum 102 mm
- (f) Trays
 - (i) will be made of perforated stainless steel;
 - (ii) will slide into the side rails and fit the width of the product chamber;

- (iii) a minimum of 6 removable trays will be provided; and
- (iv) each tray will support a load of up to 22.68 kg.
- (g) The condenser will:
 - (i) be stainless steel.
 - (ii) have a clear acrylic door.
 - (iii) deliver, enable and support cooling by external refrigeration coils wrapped around the chamber
 - (iv) deliver, enable and support either hot gas defrosting or electric defrosting.
 - (v) have an internal volume of a minimum of 35 litres.
- (h) The vacuum pump will:
 - (i) be either a rotary vane or scroll pump.
 - (ii) be a two-stage vacuum pump with an oil mist eliminator.
 - (iii) have a minimum blank off the pressure of 5 millitorrs.
 - (iv) The vacuum freeze-dryer system will
- (i) Training
 - (i) The Design-Builder will provide training as follows:
 1. Hands-on training will be provided onsite for safe operation/cycle options.
 2. Training will be provided in English for up to 3 trainees.
 3. Training will begin within 30 days of installation and will be completed within seven days unless otherwise approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (j) The Design-Builder will provide all of the following documentation:
 - (i) One operation manual in English will be provided. A PDF version is acceptable; and
 - (ii) One copy of electrical and refrigeration schematics will be provided. A PDF version is acceptable.

6.12 Division 12 – Furnishings

6.12.1 General Requirements

6.12.1.1 Refer to APPENDIX 1B-2 – Items Schedule for furnishing requirements and requirements to provide demonstration samples of actual product for Owner review pursuant to Schedule 2 – Review Procedure.

6.12.2 Laboratory Casework and Other Furnishings

6.12.2.1 General Requirements

- (a) Laboratory finishes will be cleanable, durable, and appropriate for the proposed function. Refer to Room Criteria for specific finishes.
- (b) All Laboratory Casework wall cabinets will have under cabinet LED lighting unless otherwise noted.

6.12.2.2 Performance Criteria

- (a) Products containing urea-formaldehyde are not permitted in the Building.
- (b) Provide rough carpentry, steel backing straps for laboratory casework, backing boards for mechanical rooms, and electrical/communication Rooms:
 - (i) In laboratories provide continuous backing along walls with wall-mounted or tall cabinet casework.
- (c) Provide acrylic plastic, stainless steel, or epoxy products as required for wall cladding, wall protection, corner protection, casework finishing, trims, ornamental elements, and other applications to achieve a quality of interior finish suitable for use by Occupants.
- (d) Laboratory casework located accessible to the public will be lockable with interchangeable cores.
- (e) Scientific Equipment and Furniture Association:
 - (i) SEFA 1 Fume Hoods.
 - (ii) SEFA 2 Installation.
 - (iii) SEFA 3 Laboratory Work Surfaces.
 - (iv) SEFA 7 Fixtures.
 - (v) SEFA 8 W Laboratory Grade Wood Casework.
 - (vi) SEFA 8 M Laboratory Grade Metal Casework.
 - (vii) SEFA 8 P Laboratory Grade Polypropylene Casework.

6.12.2.3 Lab Casework

- (a) Laboratory finishes will be cleanable, durable, and appropriate for the proposed function. Refer to Room Criteria for specific finishes.

- (b) Laboratory Casework:
 - (i) Laboratory casework will be painted steel with flush overlay doors and drawer fronts.
 - (ii) Laboratory casework will be an adaptable, mobile system to match.
 - (iii) Provide stainless steel casework in all VZ and IZ Labs.
- (c) Cabinets may be manufacturer's standard height, and depth provided such standard is not more or less than 13mm of the height and depth indicated on the Drawings unless noted otherwise in this Section.
- (d) System Structural Performance:
- (e) Laboratory casework and support framing system will withstand the effects of the following loads and stresses without permanent deformation, excessive deflection, or binding of drawers and doors:
 - (i) Casework, doors, drawers, work surfaces, and shelving will comply with SEFA requirements for the respective casework material.
 - (ii) Work Surfaces: In addition to SEFA test requirements, work surface spans without continuous base cabinet support will support 244kg/m² 50 LB/SF; deflection will be limited to 1/180 of the length of the span, not to exceed 6.35mm.
 - (iii) Shelving: In addition to SEFA test requirements:
 - 1. Shelf spans without continuous support will support 244kg/m² 50 LB/SF.
 - a. Polypropylene shelving will comply with SEFA loading requirements.
 - 2. Deflection will be limited to 1/180 of the length of the span, not to exceed 6.35mm.
 - (iv) Seismic Anchor: Provide seismic anchor for freestanding cabinets and cabinets located below fume hoods designated will be removable for access for the disabled. Seismic anchors may be floor or wall attachments but will not attach to adjacent casework or work surfaces. Seismic anchors will be accessible without the removal of laboratory casework, furnishings, or equipment. Anchor attachment will not void UL listing.
- (f) Components:
 - (i) Cold-rolled sheet steel:

1. Recycled Steel Content: A minimum of 20 PCT of the steel used in the fabrication of laboratory cabinets and modular laboratory systems, if specified, will consist of the sum of post-consumer recycled content plus one-half of the pre-consumer content, based on the cost of the total value of materials.
 2. Fabricators Scrap: Fabricators will provide documentation that manufacturing fall-off is recycled to respective steel mills and neither enters the solid waste system nor becomes a product of landfill space.
 3. Prime grade, roller levelled, and treated at the mill will be free of scale, ragged edges, deep scratches, or other injurious effects. The thickness of metal used in the construction of cases will be 1.3mm 18 GA, except as follows:
 4. 1.0mm 20 GA: Solid door interior panels, drawer fronts, scribe strips, filler panels, enclosures, drawer bodies, shelves, security panels, and sloping tops.
 5. 1.6mm 16 GA: Top front rails, top rear gussets, intermediate horizontal rails, table legs and frames, leg rails, and stretchers.
 6. 2.0mm 14 GA: Drawer suspensions, door and case hinge reinforcements, and front corner reinforcements.
 7. 2.8mm 12 GA: Table leg corner brackets and gussets for levelling screws.
- (ii) Metal Casework Finish Requirements: Refer to Painted Metal Finish Performance Requirements elsewhere in this Section
- (g) Wood:
- (i) Design Requirements:
 1. Casework Grade:
 - a. Base: AWS Premium Grade.
 - b. Modifications: In addition to satisfying the specified grade, products will incorporate the identified modified design and fabrication requirements, characteristics, and features specified herein.
 2. Door and Drawer Edges: Slightly eased square edges.
 - (ii) Wood Veneer:
 - a. Veneers will be in accordance with the AWS requirements for its use and the Face Grade with the following modifications.

- i) Exposed Plywood Veneer Thickness: 0.56mm, minimum, unless otherwise noted, and will be of sufficient thickness so as not to permit show-through of cross-banding after sanding or finishing.
 - ii) Exposed Plywood: HPVA Grade A, unless otherwise noted.
 2. Wood Species and Veneer Cut: Provide materials that are well matched for colour and grain. Do not use materials adjacent to one another that are noticeably dissimilar in colour, grain, figure, or natural character markings.
 - a. Prior to fabrication, veneer panels will be pre-sorted into consistent colour ranges that can be used in common casework elevations. After the colour sort, each veneer will be specifically hand-selected by area (within reasonable visual range) for figure, cathedral, and any other natural characteristics present in the faces prior to fabrication of the cabinet faces and exposed portions. The resulting selection will provide a pleasing uniform colour from a single range with natural characteristics, as pre-selected, to not interfere with the overall aesthetic appearance of the casework installation.
- (iii) Edge Banding:
 1. Doors, drawer fronts, and cabinet edges: 3mm PVC, profiled to 3mm radius. T-Mold is not acceptable.
 2. Exposed other cabinet body edges: 1mm PVC.
 3. Machine applied with hot melt adhesive.
- (iv) Adhesive:
 1. Type II water-resistant glue.
 2. Adhesives, sealants, and sealant primers will comply with South Coast Air Quality Management District (SCAQMD) Rule #1168.
 3. Polyvinyl acetate or thermosetting laminate adhesive applied in accordance with NEMA LD 3.1.
 4. Laminate adhesive will be GREENGUARD Indoor Air Quality Certified®.
- (h) Glass:
 - (i) Type: Laminated with clear PVB inner layer, ANSI Z97.1, ASTM C1036 or C1048.

- (ii) Thickness: Two layers of 3mm glass with 0.76mm inner layer.
- (iii) Without imperfections or marred surfaces.
- (iv) Cut or drill to receive hardware.
- (v) Polished edges where unframed doors are indicated.
- (i) Hardware: As specified elsewhere in this Section.
- (j) Design Requirements:
 - (i) Door and Drawer Design:
 - 1. Casework style:
 - (ii) Inset/Flush:
 - a. Square-edged, inset door and drawer flush front construction with front surfaces above the toe space in the same plane.
 - b. The front width of the end panels will be 19mm, and the front height of the top and bottom members will be 25mm.
 - c. Material: Painted Metal.
 - (iii) Full flush overlay:
 - 1. Provide applied panels in areas such as sink cabinets and knee spaces with apron panels to provide a full flush overlay appearance.
 - a. Apron panels will align with the plane of adjacent doors and drawers for a full flush overlay appearance.
 - 2. Material:
 - a. Painted Metal.
 - b. Wood.
 - c. Plastic Laminate.
- (k) Tall Storage Cabinets:
 - (i) Toe space height and depth to match base units.
- (l) Fume Hood Cabinets:
 - (i) Provide a false front panel above the door at cup sink locations when flush overlay design is specified. Finish to match other laboratory casework

- (ii) Casework manufacture will align under fume hood cabinets with adjacent casework and toe kicks.
- (iii) Fabrication:
 - 1. Cabinets will be constructed and finished suitable for use as stand-alone units and to permit future rearrangement without the need for additional parts or finish.
 - 2. Units will have a cleanable smooth interior. Front and rear posts, reinforcing members, or channel uprights will be enclosed full heights on cabinet openings.
 - 3. Exterior corners: will be spot and arc welded with gussets at exterior corners. Face joints will be arc welded and ground smooth to provide a continuous flat plane.
 - 4. Units less than 1245mm tall: Provide internal reinforcing and rear posts for end panels and cabinet backs.
 - 5. Units 1245mm tall and greater: Provide formed end panels with front and rear reinforcing posts. The back will be formed steel panel, recessed 19mm for mounting purposes.
 - 6. Posts: Front post fully closed with full height reinforcing upright to facilitate cleaning.
 - 7. The front edge will be formed to provide a strike for doors and drawers and will be pre-drilled for intermediate rails and hinge screws.
 - 8. Intermediate Vertical Uprights: will be furnished to enclose cabinets when used in a unit in combination with a half-width bank of drawers. However, to allow storage of large or bulky objects, no upright of any type will be used at the center of double-door cupboard units.
 - 9. End Uprights will be formed into not less than a channel formation at the top, bottom, back, and front.
- (iv) An upright filler will be screwed in place in wall cabinet units to close the back of the channel in front of the upright and provide a smooth interior for the wall cabinet.
- (v) The upright filler will be perforated with shelf adjustment holes at no more than 51mm centers.
- (vi) The inside front of the upright will be further reinforced with a full-height 2.0mm 14 GA hinge reinforcement angle.
- (vii) Exposed fasteners are not allowed without prior approval of the Architect. If allowed, exposed fasteners in BSL-3, ABSL-3, BSL-3Ag, BSL-4, or ABSL-4 will be Type 304 or 316 stainless steel or protected with epoxy paint or sealant.

(viii) Drawer Construction:

1. Drawer bodies will be made in one-piece construction, including the bottom, two sides, back, and inner front. Front and back faces will be spot welded to sides or center section.
 2. Fully coved at the interior bottom on all four sides for easy cleaning.
 3. Full height sides.
 4. 13mm side clearance to frame opening.
 5. Drawers will be a minimum of 460mm front to back.
 6. Drawers will be easily removable in the field without the use of special tools.
 7. Drawers will be sized on a modular basis for interchange to satisfy varying storage requirements.
 8. Drawer Suspension: Refer to Drawer Slides under the Hardware section.
 9. Drawer Heads:
 10. Thickness to match doors.
 11. Widths of drawer front in aprons will be lesser than the width of the apron or 610mm.
 12. Two-piece sheet steel assembly of 19mm overall thickness to consist of an inner pan formed as an extension of the drawer body, an outer pan having a channel formation on all four sides welded and ground to eliminate exposure of sharp raw edges, and the interior space filled with a non-organic sound deadening material at the time of assembly.
 - a. Welds will be ground smooth.
 - b. Painted inside and out prior to assembly.
- (m) Doors: Doors will be readily removable and hinges easily replaceable. Hinges will be applied to the case and door with screws. Welding of hinges to either case or door will not be acceptable.
- (i) Two-piece sheet steel assembly of 19mm overall thickness to consist of an inner pan formed as an extension of the drawer body, an outer pan having a channel formation on all four sides welded and ground to eliminate exposure of sharp raw edges, and the interior space filled with a non-organic sound deadening material at the time of assembly.

1. Welds will be ground smooth.
 2. Painted inside and out prior to assembly.
- (ii) Framed Glazed Doors: Framed glazed door construction will match the construction and quality of solid panel doors. The inner head will include top, bottom, and side framing members, which are removable for installing and replacing the glass. A continuous vinyl retainer will be provided to receive the glass.
 - (iii) Framed Sliding Doors: Design for tilt-out removal after removal of the bottom guide. Doors will be hung with nylon-tired sleeve bearing rollers in formed steel top track and will close against rubber bumpers.
 - (iv) Unframed Sliding Glass Doors: Glass with ground edges will be set in the extruded aluminum shoe with integral pulls, wheel assemblies, and top and bottom extruded aluminum track. Provide rubber bumpers at fully opened and closed-door positions.
- (n) Cabinet Bottom:
- (i) Case bottom and bottom rail will be formed of one piece of metal except in corner units and will have both sides and back formed up or down and will be rabbeted in front for drawers and swinging doors.
- (o) Cabinet Top:
- (i) Wall and Tall Case Top: One-piece, with front edge formed into the front rail.
 - (ii) Provide sloping tops when indicated on the Drawings.
- (p) Cabinet Back, Unexposed: Cabinet back will consist of a top and bottom rail, channel formed for maximum strength and welded to back and top flange of end uprights, with space between left open for access to plumbing lines.
- (i) Provide removable back panels for all fixed base cabinets. Removable panels will not be provided in BSL-3, ABSL-3, BSL-3Ag, BSL-4, and ABSL-4 installations.
 - (ii) Drawer cabinets will have split back panels allowing for removal from the cabinet.
 - (iii) The sink base back will be full half-height construction to allow for plumbing and sink waste connection.
 - (iv) Back panels will be removable from the inside cabinet without the use of special tools.
- (q) Toe Bases, Kicks, and Sleepers:

(i) Toe Space Rail:

1. Provide 75mm deep and 100mm high formed steel base with corner gussets. Whenever the base is omitted for units set on building bases or separate metal bases, the toe space rail will extend back 115mm.
2. Provide 10mm diameter levelling screw with integral bottom flange of minimum 3.6cm² 0.56 IN² area at each corner, accessible through openings in toe space.

(r) Shelves:

- (i) Full depth, turned down 25mm on four sides, and returned under the front and back 25mm, nominal.
- (ii) Shelves over 915mm in length will be additionally reinforced by a flanged channel-shaped member electro-welded to the underside of the shelf.
- (iii) Shelves will be adjustable.
- (iv) Shelf adjustment posts will be perfectly aligned for level setting, with holes for shelf adjustment at 13mm on center.

(s) Pull-Out Shelves:

- (i) Mount on a pull-out slide.

(t) Mobile Units:

- (i) Where indicated on the Drawings, provide cabinets mounted on four swivel casters instead of levellers; the front two casters will be locking.
- (ii) Finish back and side panels as exposed surface.
- (iii) Omit sub-base and provide casework with finished bottom panels.
- (iv) Design mobile units to prevent tipping and allow only one drawer to open at a time.

6.12.2.4 Adaptable Laboratory Furniture System:

1. Intentionally Deleted.

- (b) Description: A modular system of reconfigurable laboratory casework and furniture comprised of utility cores and support structures that house and provide easy access to laboratory plumbing and electrical services, wall rail, panel, and bench-top supports, and table frames, together with a range of supported components including shelves, worktops, and cabinets.

- (i) Coordination with casework, work surface, and raceway components: The adaptable laboratory furniture system, the supported casework, and work surfaces described elsewhere in this Section will be the product of a single manufacturer.
- (ii) Furnishings will consist of a system of modularly dimensioned core and panel-style support structures and tables.
- (iii) Cores: Cores will be support structures for tables, storage units, shelving, and service chases for utility and drain piping and conduit. Cores will be modular units for wall, island, or peninsula configurations. Cores will be supported on floor plates bolted to the floor, anchored to the ceiling system and/or structural deck above, or anchored to panel system, floor-mounted casework, or structural tables. Cores will be equipped with easily removable access panels with integral fasteners.
- (iv) Panels: Panels will be support structures for tables, storage units, and shelving. Panels will be modular units for wall, island, or peninsula configurations. Panels will be supported with adjoining perpendicular panels, or structural tables, or base units. Panels will be equipped with easily removable access panels with integral fasteners.
- (v) Tables: Tables consist of modular, interchangeable worksurface support structures in fixed or adjustable height configurations.
 - 1. Caster and levellers options will be available on fixed and adjustable height tables. Refer to drawings.
 - 2. Adjustable height tables may include cantilever, four-leg mechanically-adjustable, and two-leg crank adjustable configurations.
 - 3. Fixed height tables may include two-leg, structural, and extended frame configurations. Refer to drawings.
 - 4. Supply with clips on all tables for Owner's staff to gang together tables within individual lab spaces.
- (vi) Requirements:
 - 1. Independently support work surfaces, under-counter cabinets, and overhead storage components.
 - 2. Self-supporting and independent of the Building structure.
 - 3. Core-type support structures will support cup sinks, service fittings, fixtures, and plumbing electrical piping and conduit using non-proprietary hardware.
 - 4. Cabinet fastening devices will not be capable of accidental release. The intentional release will be

accomplished without disturbing cabinet contents by simply loosening two bolts.

5. Core access panels will utilize hook and loop, or similar, fasteners for service chase access. Access panels will be half-width and removable when cabinets are directly in front of the panel.
6. Suspended base cabinets will be removable without the removal of the work surface. Suspended base cabinets will be capable of being repositioned while fully loaded and installed in any position between table legs.
7. Wall cabinets will be vertically and laterally adjustable and removable without the use of tools.
8. Worksurface vertical height, wall cabinets, and shelving will be adjusted with simple but positive mechanisms.
9. Provide components necessary for assembly in the types and sizes indicated on APPENDIX 1B-2 - Item Schedule.

(vii) Structural requirements:

Individual Component Minimum Load Ratings		
Component	kg	LBS
Adjustable-height tables (telescoping leg; on levellers)	272	600
Adjustable-height tables (on casters)	136	300
Adjustable-height tables (crank adjuster; in addition to the weight of work surface)	136	300
Fixed-height tables (levels or casters; in addition to the weight of work surface)	272	600
Structural table base (in addition to the weight of work surface)	272	600
Cantilevered table frames (in addition to the weight of the work surface)	272	600
Vertical uprights (extended table frame)	689	1520
Wall cores: total capacity	762	1680
Wall panels: total capacity	517	1140
Support column	1279	2820
Core-supported shelf (305mm and less in width)	81	180
Core-supported shelf (460mm wide)	59	130
Core-supported shelf (610mm wide)	45	100
Wall cabinets	136	300
Island Cores	1279	2820

Note: Spanning components will not deflect more than 1/48 of span under sustained maximum load.

(c) Table Frames:

(i) General:

1. Worksurface support frame:
 - a. 3.2mm 11 GA steel tubing.
2. Cabinet support:

- a. Welded 2.0mm 14 GA steel channels.
 3. Cantilevered support arms and four leg adjustable height table frames:
 - a. 3.2mm 11 GA steel.
 4. End caps: Flame-resistant ABS plastic, colour-matched.
- (ii) Cantilevered frames:
1. Cantilevered Frame will provide support to suspend cabinets and provide horizontal adjustment.
 2. Vertical Adjustability: 25mm increments.
 3. Provide necessary hardware to suspend cabinets, level legs, and positively lock table frame into upright.
 4. Provide leg levellers or, where indicated on drawings, casters.
- (iii) Structural table base:
1. Structural table base will provide support to suspend cabinets and provide horizontal adjustment.
 - a. The base will be capable of attaching to and providing support for cores and panels.
 2. Bases will allow suspended cabinets will be hung in front of leg members for full-width utilization of the base.
 3. Provide necessary hardware to suspend cabinets, level base, and positively lock table frame into upright.
- (iv) Fixed height table:
1. The freestanding table will be capable of suspending cabinets.
 2. Provide necessary hardware to suspend cabinets and level table.
 3. Provide leg levellers or, where indicated on drawings, casters.
 4. Legs: 1.6mm 16 GA steel with die-cast aluminum feet.
 5. Structural modesty panel:
 - a. 1.3mm 18 GA steel; box panel construction.
- (v) Four leg adjustable height table:

1. The freestanding table will be capable of suspending cabinets.
2. Provide necessary hardware to suspend cabinets and level table.
3. Provide leg levellers or, where indicated on drawings, casters.
4. Legs will be telescoping with 3.2mm 11 GA steel channel outer leg and 1.6mm 16 GA tube inner leg.
 - a. Provide locking bolts for vertical adjustment.

(vi) Adjustable height table, crank type:

1. The table will be capable of suspending cabinets.
2. Worksurface height will be infinitely adjustable throughout a 280mm range. Crank will be self-locking securing work surface.
3. Provide necessary hardware to suspend cabinets and level table.
4. Provide leg levellers or, where indicated on drawings, casters.
5. Structural modesty panel: 1.3mm 18 GA steel; box panel construction.
6. Cross rail: 1.6mm 16 GA steel; box panel construction.
7. Front and rear aprons: 1.0mm 20 GA steel.

(vii) Extended table frame:

1. The table will provide support to suspend cabinets and provide horizontal adjustment.
2. Bases will allow suspended cabinets will be hung in front of leg members for full-width utilization of the base.
3. Provide necessary hardware to suspend cabinets and level table.
4. Provide leg levellers or, where indicated on drawings, casters.
5. Structural modesty panel: 1.3mm 18 GA steel; box panel construction with plastic grommets.
6. Vertical uprights: 1.6mm 16 GA steel to accommodate overhead storage.

(d) Support structures

(i) General:

1. Uprights: 1.6mm 16 GA steel with levellers.
2. Frames: 1.6mm 16 GA welded rolled steel frame and tie rail brackets, with 2.0mm 14 GA corner gussets.
3. Tie rails: 1.6mm 16 GA steel
4. Base cover: 1.3mm 18 GA steel.
5. Closure panels: 1.0mm 20 GA steel with dual lock fasteners.
6. Upright and plug caps: Flame-resistant ABS plastic, colour-matched.
7. Adjustable floor clamps: Two per core or frame; 80-55-06 ductile cast iron.

(ii) Island cores:

1. Cores will be capable of having removable uprights and reagent shelves or adding uprights and reagent shelves after installation. When secured to the floor, the core will be capable of supporting minimum structural requirements without end riggers.
2. Suspended components, including cantilevered table frames, wall cabinets, shelving, will be vertically adjustable on 25mm increments.
3. Closure panels will snap on without using tools and removable without removing cantilever table frames or suspended cabinetry.
4. Floor clamps will be supplied with three rawl bolts for concrete deck anchorage.
5. Service chase area: Minimum 140mm x 465mm between uprights and tie rails.

(iii) Wall cores:

1. Cores will be capable of having removable uprights and reagent shelves or adding uprights and reagent shelves after installation. When secured to the floor, the core will be capable of supporting minimum structural requirements without end riggers.
2. Suspended components, including cantilevered table frames, wall cabinets, shelving, will be vertically adjustable on 25mm increments.

3. Closure panels will snap on without using tools and removable without removing cantilever table frames or suspended cabinetry.
4. Cross rails: 1.6mm 16 GA steel.
5. Service chase area: Minimum 140mm x 465mm between uprights and tie rails.

(iv) Island panels:

1. Upper and lower panels will be of the same materials and construction. The lower panel will be capable of having the upper panel removable or added after installation.
2. Suspended components, including cantilevered table frames, wall cabinets, shelving, will be vertically adjustable on 25mm increments.
3. Closure panels will snap on without using tools and removable without removing cantilever table frames or suspended cabinetry.

(v) Wall panels:

1. When secured to the wall and floor, the core will be capable of supporting minimum structural requirements without end riggers.
2. Suspended components, including cantilevered table frames, wall cabinets, shelving, will be vertically adjustable on 25mm increments.
3. Cross rails and brackets: 1.6mm 16 GA welded steel.
4. Panels will be designed so electrical services can run from one frame to the next.

(vi) Freestanding column:

1. Corner uprights and column covers: 1.3mm 18 GA steel.
2. Upright connectors: 1.0mm 20 GA steel.
3. The column will connect to island cores when assembled in L, T, or cross configurations. The column will increase the modularity of the island core by 305mm. The column will provide routing services from the ceiling to an island core from 2.1m to 3m.
4. When used with an island core, suspended components, including cantilevered table frames, wall cabinets, shelving, will be vertically adjustable on 25mm increments within the resulting module width.

(vii) Corner column:

1. Corner uprights and column covers: 1.3mm 18 GA steel.
2. Upright connectors: 1.0mm 20 GA steel.
3. The column will be capable of connecting to island cores when assembled in L, T, or cross configurations. The column will increase the modularity of the island core by 305mm. The column will provide means of routing services from the ceiling to an island core from 2.1m to 3m.
4. The column will be capable of connecting the island core to the wall core and the wall core to the wall core.

(viii) Service column:

1. Uprights: 1.0mm 20 GA steel.
2. Angles: 1.3mm 18 GA steel.
3. Columns will be capable of enclosing services that enter through the center of an island core and will be capable of being constructed around existing services.
4. Closure panels will snap on without tools.

(e) Shelving:

(i) General:

1. Shelves, hat channel reinforcement, and shelf lip: 1.3mm 18 GA steel.
2. Shelf brackets: 3.2mm 11 GA steel.
3. Vertical adjustment: 25mm increments.
4. Shelves will lock into position.

(ii) Outside shelf:

1. Shelf brackets will be bookend-type to provide sides.

(iii) Inside Shelf (305mm Island Core):

1. Bracket core: 1.0mm 20 GA steel.
2. Shelf key: 3.2mm 11 GA steel, spring-loaded to enhance locking.

(f) Work surfaces:

- (i) Worksurface types are indicated

6.12.2.5 Vacuum Pump Cabinet:

- (a) Manufacturers:
 - (i) Manufacturer of laboratory casework.
- (b) Description: Purpose-designed cabinet with interior top, sides, rear, and door lined with sound-absorbing material. Provide louvre indoor for airflow.
- (c) Construction:
 - (i) Construction will be equivalent to laboratory casework.
 - (ii) Provided solid phenolic pull-out shelf.
 - a. Intentionally Deleted.
 - 2. Thickness: 13mm.
 - 3. The shelf will be mounted on a pull-out slide.
 - 4. Shelf Edge: 13mm x 25mm high shelf edge to contain spills; all sides.
 - (iii) Sound Absorbing Material: Closed-cell soundproofing foam.
 - 1. Thickness: 25mm flat sheet.
 - 2. Fire retardant, mould-resistant, and designed to block and absorb sound.
 - 3. HCFC- and CFC-free.
 - 4. Colour: Black.
 - (iv) Pull-out slides will be mounted to 50mm x 38mm x 5mm steel angle mounted on neoprene vibration mounts and secured to the cabinet bottom.
- (v) Vibration Mount:
 - 1. Base Product: Mason Industries Type ND-A-Black.
 - 2. Description:
 - a. Double deflection neoprene mounts to prevent noise and high-frequency vibration.
 - b. Metal surfaces will be neoprene-covered to prevent corrosion.
 - c. Mount will have friction pads, top, and bottom and be provided with bolt holes on the bottom and cap screw and washer on top.

(vi) Pass-Through:

- i) Intentionally Deleted.
2. Base Product: Scientific Plastics Rigid Pass-Through.
3. Description:
 - a. 75mm diameter threaded polyethylene pipe from the work surface into the cabinet for vacuum hoses, connecting Owner-furnished vacuum pump to Owner-furnished equipment.
 - b. Extend pipe approximately 19mm above the work surface.
 - c. Provide pipe nuts with continuous sealant to secure the pipe in the work surface and cabinet.
 - d. Provide cap with a neoprene gasket for hose pass.
 - e. Hoses will be provided by the Owner.

(vii) Electrical:

1. Provide NEMA 5-20R receptacle for Owner-furnished vacuum pump, mounted to the inside back of the cabinet and activated by a remote pilot light toggle switch with a stainless cover plate mounted on the false front panel of the cabinet.
2. The switch will be hard wired to the receptacle.
3. Power to cabinet will be provided under Division 26 scope of work.

(viii) Venting:

1. Pump Discharge: Provide 25mm polyolefin or polypropylene pipe through the rear of the cabinet. Within the cabinet, the pipe will have a 25mm 'tee' to a 50mm long drip leg with a threaded cap. Provide flange to secure pipe to the cabinet.
 - a. Cabinets Below and Adjacent to Fume Hoods:
Extend pipe behind baffle in the fume hood and extend 65mm above-dished fume hood work surface.
 - i) Provide hole through fume hood work surface behind the cabinet to accommodate pump discharge pipe.
 - ii) Seal gap around penetration with a clear sealant.

b. Cabinets Not Below or Adjacent to Fume Hoods:
Extend pipe 38mm from the rear of the cabinet for connection by Division 23.

i) Connection to exhaust duct system will be by Division 23.

2. Cabinet Ventilation (cabinets not located below or adjacent to fume hoods):

a. Axial fan for ventilation of cabinet to room or chase behind the cabinet.

i) Intentionally Deleted.

b. Dimensions: 120mm x 120mm x 40mm nominal.

c. Power: 115V/60Hz. The fan will be operated by the pilot light switch.

d. Airflow: 47l/s 100 CUFTM, nominal.

e. Casing: Aluminum or aluminum alloy.

f. Impeller: Plastic.

g. Bearing: Ball bearings.

6.12.2.6 Casters:

(a) Location: Where indicated in APPENDIX 1B-2 – Item Schedule

1. Intentionally Deleted.

(b) Description:

1. Self-lubricating precision swivel levelling casters with locking.

2. Wheel Material: Urethane or polyurethane.

3. Wheel Material: High-temperature phenolic, nylon, or synthetic rubber designed will be autoclaved.

4. Total locking brake: locks swivel and wheel.

5. Directional locking brake: locks swivel, only.

6. Wheel brake: locks wheel, only.

7. Load Rating: 90kg, minimum, each.

8. Wheel Diameter and Load Height:

- i) Tables: 100mm diameter. Load Height: 125mm. Stem mount.
- ii) Cabinets: 75mm. Load Height: 110mm. Plate mount.

9. Caster Housing: Heavy gauge cold rolled steel with epoxy powder coating.

6.12.2.7 Corrosives Storage Cabinets:

- (a) Manufacturers:
 - (i) Manufacturer of laboratory casework.
 - (ii) Intentionally Deleted.
 - (iii) Intentionally Deleted.
- (b) Description: Purpose-designed cabinet completely lined with a polypropylene liner with sealed or seamless intersections between panels.
 - (i) Provide removable polypropylene shelf.
 - (ii) Construction will be equivalent to laboratory casework of that construction.
- (c) Cabinet Construction:
 - (i) Below Worksurface Locations:
 - 1. Painted metal.
 - 2. Match respective laboratory casework.
 - (ii) Cabinet Construction, Freestanding Cabinets:
 - 1. Painted metal.
- (d) Label:
 - (i) CORROSIVES inconspicuous silk-screened lettering. Stick-on decals are not acceptable.
 - (ii) The size and style of lettering will match the Flammable Liquid/Solvent Storage Cabinet label.
- (e) Door: Inset design to create a tight (near airtight) seal around the face of the cabinet when closed.
- (f) Hardware:
 - (i) Locks: Provide key locks for cabinet doors.

- (ii) Hinge: Provide 5-knuckle or piano stainless steel hinge.
- (iii) Casters: Provide locking casters on cabinets identified will be mobile.
- (g) Venting:
 - (i) Cabinets below or adjacent to fume hoods:
 1. 50mm polypropylene vent pipe extending 50mm above-dished worktop behind baffle in the hood.
 2. Provide hole through fume hood work surface behind the cabinet to accommodate vent pipe.
 3. Seal gap around penetration with a clear sealant.
 - (ii) Cabinets not below and not adjacent to fume hoods:
 1. 50mm polypropylene vent pipe to run horizontally in the chase space behind the casework to nearest pipe drop enclosure and rise vertically to 150mm above ceiling level, or 2.74m 9 FT in rooms with no finished ceiling.
 2. Connection to exhaust duct system will be by Division 23.

6.12.2.8 Flammable Liquid/Solvent Storage Cabinets:

- (a) Manufacturers:
 - (i) Manufacturer of laboratory casework.
- (b) Description: Purpose-designed cabinet for the storage of flammable, combustible, and solvent liquids.
 - (i) Provide removable, adjustable shelf.
 - (ii) Construction will be equivalent to laboratory casework of that construction.
- (c) Cabinet Construction:
 - (i) Below Worksurface Locations:
 1. Painted metal.
 2. Match respective laboratory casework.
 - (ii) Freestanding Cabinets:
 1. Painted metal.
 - (iii) Cabinet construction will comply with the requirements of:
 1. OSHA 29 CFR 1910.106

2. NFPA 1 (latest edition): Fire Code.
 3. NFPA 30 (latest edition): Flammable and Combustible Liquids Code.
 4. International Fire Code (latest edition).
- (d) Regulations, Approvals, and Listings:
- (i) Factory Mutual (FM Global) Approval Standard for Storage Cabinets (Flammable and Combustible Liquids) Class Number 6050.
 - (ii) Underwriters Laboratories (UL) Listed: UL 1275.
- (e) Label:
- (i) FLAMMABLE - KEEP FIRE AWAY inconspicuous silk-screened lettering. Stick-on decals are not acceptable.
 - (ii) The size and style of lettering will match that of the Corrosives Storage Cabinet label.
- (f) Floor pan: 50mm deep, removable, powder-coated or stainless steel, liquid-tight pan with continuously welded corners to cover the entire bottom of the cabinet to contain liquid leaks and spills.
- (g) Doors:
- (i) Inset design to create a tight (near airtight) seal around the face of the cabinet when closed.
 - (ii) Well-fitting, self-closing, and self-latching.
- (h) Hardware:
- (i) Hinges: full-length piano hinge or another hinge that will not lose holding capacity when subjected to fire exposure.
 - (ii) Locks: Doors will have key locks.
 - (iii) Casters: Provide locking casters on cabinets identified will be mobile.
- (i) Cabinets will not be vented; seal vent openings with bungs as provided by the manufacturer.
- (j) Electrical grounding:
- (i) Provide an externally mounted grounding conductor screw terminal for up to #8 AWG conductor, mounted at the top of each cabinet.
 - (ii) The ground connection will be by Division 26.

6.12.2.9 Epoxy Drying Rack: (@ laboratory sinks)

- (a) Comply with requirements for moulded epoxy resin specified under Laboratory Tops in this Section and as described herein.
- (b) Drying rack bodies will be 256mm thick white epoxy with a 5mm to 6mm radius on edges and corners. Each rack will be of the size and with the peg arrangement as provided with APPENDIX 1B-2 Items Schedule.
- (c) Pegs will be of injection-moulded white polypropylene. Pegs will not be bonded into the body but will be held in position by mechanical design.
- (d) Provide a Type 304 stainless steel drip trough with a 1.6mm 16 GA, Type 304 stainless steel screen of 1.8mm x 1.8mm 14 x 14 mesh wire. The drip trough will be continuously welded.
- (e) Provide stainless steel fixing screws of the appropriate type for attachment to support structure.
- (f) Provide a clear, tight-fitting hose to drain from the drip tray into the sink.

6.12.2.10 Epoxy Resin:

- (a) Countertop Grade: AWS Premium Grade.
 - (i) Modifications: In addition to satisfying the specified grade, products will incorporate the identified modified requirements, characteristics, and features as specified herein.
- (b) Thickness:
 - (i) Typical work surface: 25mm.
 - (ii) Fume hood worksurfaces:
 1. 32mm thick at the outer edge, indented 6mm, nominal, to provide a raised rim around exposed edges 25mm wide, minimum, worksurface or as to allow for the fume hood sash.
 2. The front top edge of the raised rim and exposed vertical corners of the top will be rounded or chamfered to a 3mm radius.
 3. The juncture between the raised rim and the top surface will be coved or chamfered to a 6mm radius.
 - (iii) The Colour sample will be submitted for approval by Architect.
- (c) Provide the following:
 - (i) Drip Grooves:

1. Provide underwork surface-exposed edges around the sink to capture water splashes coming from the sink and prevent water from spilling onto the floor.
 2. Where the top overhangs 25mm:13mm from the edge.
 3. Where the top overhangs are 13mm: 6mm from the edge.
- (ii) Edge profile:
1. All exposed upper edges and corner 6mm radius.
- (iii) Marine edges:
1. 25mm wide and 6mm high with chamfered or radiused transition to and an integral part of the work surface.
- (iv) Indented areas:
1. Profile: 6mm deep with chamfered or radiused sides.
 2. Internal and external corners: 6mm to 13mm radius.
 3. Marine edges formed around indented areas will not be less than 25mm wide.
- (v) Sink Mounting:
1. Under-mounted Sink Cutouts:
 - a. Smooth and uniform without saw marks.
 - b. Uniform radius of approximately 3mm on the top edge conforming to the sink shape.
 - c. The bottom edge of sink openings will be finished smooth.
 - d. Supported by brackets mounted to the sides of the base cabinet below the sink.
 2. Drop-in Sink Cutouts:
 - a. Profiled to provide support for the sink and to ensure that the rim of the installed sink is 3mm below the surrounding work surface level or bottom of drain grooves if present.
 - b. The top edge of the cutout will have a 3mm bevel.
 - c. No gaps between the installed sink rim and work surface.
- (vi) Curbs and Splashes:

1. Curbs and Splashes: 25mm thick.
 2. Height: 100mm unless noted otherwise.
 3. Bonded to the surface of the top to form a square joint.
- (vii) Provide holes and cutouts as required for built-in equipment and mechanical and electrical service fixtures. Verify the size of the opening with the actual equipment size that will be used prior to making openings. Form inside corners to a radius of not less than 3mm. After sawing, rout, and file cutouts to ensure smooth, crack-free edges. Seal exposed edges after cutting with a waterproofing material recommended by the manufacturer.
- (d) Physical Properties:
- (i) Chemical resistance:
 1. Organic solvents test:
 - a. Saturate a cotton ball with the test chemical; place; in a one-ounce bottle with a reservoir of liquid above the ball.
 - b. Invert the container to the test material surface for a period of 24 HRS.
 - c. Test temperature: 23 DEGC \pm 2 DEGC.
 2. Other test chemicals test:
 - a. Place five drops (1/4 cc) of the test chemical on the test material surface.
 - b. Cover the chemical with a 25mm diameter watch glass for a period of 24 HRS.
 - c. Test temperature: 23 DEGC \pm 2 DEGC.
 3. Evaluation:
 - a. After 24 HRS exposure: Wash exposed areas with water, then with a detergent solution, finally with naphtha, then rinse with distilled water, dry with a cloth, and rate as follows:

6.12.2.11 Solid Phenolic Resin:

- (a) Countertop Grade: AWS Premium Grade.
 - (i) Modifications: In addition to satisfying the specified grade, products will incorporate the identified modified requirements, characteristics, and features as specified herein.

- (b) Base Product:
 - (i) Acid Resistant Grade - Trespa TOPLAB SSC.
 - (ii) Panels will be of material specifically designed for laboratory work surfaces.
- (c) Thickness: Material will have uniform thickness +0.75mm and flatness (maximum difference of 0.75mm for 3m spans).
 - (i) Worksurface: 25mm.
 - (ii) Fume hood worksurfaces:
 1. Tops will be 25mm thick at the outer edge, indented 6mm to provide a raised rim around exposed edges 25mm wide, minimum, or as to allow for the fume hood sash.
 2. The front top edge of the raised rim and exposed vertical corners of the top will be chamfered to a 3mm radius.
 3. The juncture between the raised rim and the top surface will be coved or chamfered to a 6mm radius.
- (d) Provide the following:
 - (i) Drip Grooves:
 1. Provided under work surface-exposed edges.
 2. Where the top overhangs 25mm: 13mm from the edge.
 3. Where the top overhangs are 13mm 6mm from the edge.
 - (ii) Edge Profile:
 1. All exposed edges: sanded to a smooth finish and chamfered 3mm at the front top edge and vertical corners, except as indicated.
 - (iii) Marine edges:
 1. Add 6mm thick x 25mm wide solid phenolic angle strips to the top of the work surface perimeter using epoxy or clear sealant.
 2. Edges adjoining the openwork surface area will be splayed at an angle of 45 degrees.
 3. Right-angled exposed edges will be sanded to a smooth finish and chamfered 3mm at the front top edge and vertical corners
 - (iv) Provide holes and cutouts as required for built-in equipment and mechanical and electrical service fixtures. Verify the size

of the opening with the actual equipment size that will be used prior to making openings. Form inside corners to a radius of not less than 3mm. After sawing, rout, and file cutouts to ensure smooth, crack-free edges.

(v) Sink Mounting:

1. Cutouts for under-mounted sinks: will be:
 - a. Routed and sanded to form smooth-edged openings with the top edges chamfered approximately 3mm 1/8.
 - b. The bottom edge of the sink opening will be finished smooth, with the edge broken to prevent sharpness.
 - c. Corners of sink cutouts will be radiused, not less than 19mm 3/4.
 - d. Undermounted sinks will be supported by brackets mounted inside the base cabinet below the sink.
2. Cutouts for drop-in sinks: will be
 - a. Routed to form openings with 10mm minimum depth supporting ledge, such that the rims of the installed sinks are 3mm below the surrounding work surface level or bottom of drain grooves if present.
 - b. The top edge of the cutout will have a 3mm chamfer.
 - c. Epoxy sinks will be set in beds of epoxy adhesive. Stainless steel and polypropylene sinks will be set in beds of clear sealant.

(vi) Curbs and Splashes:

1. Height: 100mm
2. Thickness: 19mm
3. Bond curbs and splashes to the surface of the top to form a square joint. Joints between sections of the curb will be stepped or mitered as necessary to minimize the amount of black core exposed.

(vii) Fix work surface panels with blind fastenings into the back or underside of the panel in accordance with the manufacturer's instructions.

(e) Physical Properties:

- (i) Shear strength: 14MPa 2000 PSI minimum.
- (ii) Compressive strength: 165MPa 24000 PSI minimum.

- (iii) Weight: 1490kg/m³ 93 PCF maximum.
- (iv) Bunsen burner test: 30 seconds; no visible effect.
- (v) Water absorption: 3 PCT maximum.
- (vi) Service temperature: 177 DEGC 350 DEGF maximum.
- (vii) Non-porous surface and edges.
- (viii) Will not support micro-organic growth.
- (ix) Chemical resistance:
 - 1. The work surface will sustain contact with the following chemical concentrations for 24 HRS with no detectable stain, loss of gloss, or change.
 - a. Test Procedure:
 - i) Cover five drops of each reagent with a 25mm watch glass convex side up to duplicate the trapping of a reagent under a dispensing container.
 - ii) Test volatiles by using one ounce (30ml) bottle stuffed with saturated cotton.
 - iii) After a 24 HR exposure, flush reagents off with water, clean with naphtha and detergent, rinse and wipe dry.

6.12.2.12 Stainless Steel Work Surfaces:

- (a) Thickness:
 - (i) Typical: 1.6mm 16 GA.
 - (ii) Tops with Field-Welded Joints: 2.0mm 14 GA.
- (b) Fabrication:
 - (i) Edges:
 - 1. Turn down flange in the same dimension as the adjacent non-stainless steel top, if any, with 25mm being a minimum.
 - 2. Return 13mm, minimum, over reinforcing channels.
 - (ii) Reinforcement:
 - 1. General: 1.6mm 16 GA stainless steel channels or equivalent at formed edges, rear, and middle top, below

the surface, to ensure rigidity and prevent buckling, warping, or oil canning.

2. At bench-mounted fittings: Provide reinforcement to allow for rigid, secure mounting of fittings.
- (iii) Undercoating: Waterborne and non-flammable in a liquid state, with no volatile organic compounds (VOCs), providing sound deadening and to prevent condensation.
- (iv) Stainless steel side and backsplashes:
1. Integrally welded to the top, coved, and finished as indicated above.
 2. The backside of exposed backsplashes will be finished to match the front and sides.
- (v) Joints: Electrically weld shop joints; grind smooth and polish. Field joints may be bolted with full length supported, resulting in a hairline seam with flat, level surfaces on each side of the joint.
- (vi) Provide holes and cutouts as required for built-in equipment and mechanical and electrical service fixtures.
1. Verify the size of the opening with the actual equipment size that will be used prior to making openings.
 2. Form inside corners to a radius of not less than 3mm.
 3. After sawing, rout, and file cutouts to ensure smooth, crack-free edges with no burrs.
 4. Marine edges
 5. 25mm wide and 6mm high with chamfered or radiused transition to be an integral part of the work surface.
 6. Seamless die-formed edges.
- (c) Tops with Sinks:
- (i) Integral, fabricated with a marine edge, pitched to sink bowl for proper drainage.
 - (ii) Provide sanitary radii where sink bowls meet drainboards.
- (d) Wall-Supported Benchtop:
- (i) Provide stainless steel wall support and bracket angles as indicated on Laboratory Furnishings Drawings.
 - (ii) Refer to Wall Hung Benchtop requirements elsewhere in this Section.

6.12.2.13 Stainless Steel Laboratory Sink: Integral one-piece construction with a stainless steel work surface.

- (a) Thickness: 1.6mm 16 GA, unless otherwise noted.
- (b) Construction:
 - (i) Provide sufficient reinforcement to prevent oil canning.
 - (ii) Joints:
 - 1. Butt-welded ground smooth by the heliarc welding process.
 - 2. Inside radii will be 25mm, minimum, 44mm maximum.
 - 3. Pitch bottom to the drain indent.
 - 4. No soldering will be permitted in connection with sink construction.
 - (iii) The sink bowl dimensions provided are inside dimensions.
 - (iv) Undercoating Waterborne and non-flammable in a liquid state, with no volatile organic compounds (VOCs), providing sound deadening and prevent condensation.

6.12.2.14 Stainless Steel canopy hood

- (a) A canopy hood will be constructed to avoid interference with autoclave pressure gauges if located in the fascia panel above the autoclave door. Coordinate with autoclave manufacturer.
- (b) Materials:
 - (i) Type 304 stainless steel. Finish, exposed to view components: No. 4.
 - (ii) Canopy Hood, Baffle, and Fascia Panel Thickness: 1.3mm 18 GA, minimum.
 - (iii) Hood Support Brackets; 1.6mm 16 GA, 32mm wide.
 - (iv) Baffle Support:
 - 1. Stainless steel slotted channel framing.
 - 2. Brackets: 1.6mm 16 GA, 32mm wide.
 - (v) Threaded Rod: 10mm minimum.
 - (vi) Hardware and Fasteners: Stainless steel nuts and washers
- (c) Construction:

- (i) Provide reinforcing necessary to prevent oil canning or deflection of the panel between supports.
 - (ii) Continuously weld corners and joints, grind smooth, free of defects. Welded joints with visible burn marks will not be accepted.
 - (iii) Form with 13mm deep condensation gutter with continuous welds will be watertight.
 - (iv) Provide welded 1.30mm 18 GA exhaust collar with no open seams.
- (d) Accessories: Provide stainless steel hangers and miscellaneous support hardware as required for a complete installation.
- (e) Light fixtures and wiring will be provided under Division 26.
- (i) Holes for electrical work will be made by a canopy hood fabricator.
- (f) Provide exhaust duct transition pieces for mechanical connection above the ceiling.

6.12.2.15 Table Frame Materials:

- (a) Frame: 2.8mm 12 GA, 2.0mm 14 GA, and 1.6mm 16 GA cold-rolled steel.
- (b) Bolt Attachment Plates: 4.75mm 7 GA cold-rolled steel.
- (c) Cable Rail: 1.0mm 20 GA cold-rolled steel.
- (d) Finish: As identified under Metal Fabrications and Finish Requirements in the Section.

6.12.2.16 Work Surface:

- (a) Epoxy resin, as described in the Laboratory Work Surfaces section of this specification.
- (b) Solid phenolic resin, as described in the Laboratory Work Surfaces section of this specification.
- (c) Solid lumber core, as described in the Laboratory Work Surfaces section of this specification.

6.12.2.17 Examination/ Treatment Lights:

- (a) Description:
 - (i) Examination Light, Single Head:
 1. A light assembly consisting of a single head unit on a center ceiling mount and extension arm. Beam intensity

3200FC, radiant energy not over 18,600 microwatts per sq. cm. at 1066mm below the rim.

(ii) Examination Light, Dual Head:

1. A light assembly consisting of a dual head unit on a center ceiling mount and two 914mm extension arms. Beam intensity ratings of 3300 FC, 4800 FC, and 9000 FC with respective small, medium, and large patterns.
2. Beam temperature (radiant heat energy) will not exceed 13,000 microwatts per sq. cm. with a light head at 4000FC.
3. Provide a wall-mounted, recessed, variable intensity light control with independent control for each light head.

(b) Standards:

- (i) Illuminating Engineering Society (IES).
- (ii) National Electric Code (NEC).
- (iii) U.L. Standard 60601-1: UL Standard for Safety, Medical Electrical Equipment, Part 1, General Requirements for Safety, Part 1

(c) Features and Characteristics:

(i) Mounting:

1. Ceiling mounted, single fixture, with horizontal suspension arm extension. Provide post and finish canopy. Mount light suspension system to structural steel support using a mounting plate furnished with light assembly.

(ii) Lighthead suspension system will be designed for limitless and continuous positioning without binding or drifting.

(iii) Horizontal Extension Arm:

1. The arm will allow continuous rotational movement about the mounting point.
2. Horizontal arm pivot joint will allow vertical positioning of approximately 40 degrees up from the joint and 45 degrees down from the joint, and allow for 360-degree rotation in the horizontal plane around the joint.

(iv) Optical System:

1. Lamp:

- a. 150 W tungsten-halogen lamp rated at 500 hours.

- b. Colour temperature: 4,400 degK.
- 2. Lighthouse Reflector: Dichroic-coated reflector assembly.
- 3. Lens will be of optical grade polycarbonate, sealed to prevent dust accumulation on the system's optics.

6.12.3 Window Coverings

6.12.3.1 General Requirements

- (a) Refer to APPENDIX 1B-1 – Room Data Sheets for requirements.
- (b) Window coverings will allow control of exterior light entering the room during Natural Light hours and provide privacy during Natural Light and non-Natural Light hours.
- (c) Window coverings will be fully coordinated and complementary with the interior design concept for their respective functional areas.
- (d) Use shading fabric of non-PVC or vinyl-coated polyester or fibreglass yarn that is waterproof, washable, rot-proof, flame-resistant, colourfast to light, glare-reducing, and able to control heat gain while providing external visibility.
- (e) Unless specified otherwise, all exterior glazing will have roller shades with 5% openness fabric.
- (f) All motorized shades will be manually controlled, with the exception of window coverings located within the Lobby and Circulation Spine which will have daylight-controlled dedicated sensors connected to the BMS.
- (g) Window coverings will be included on all exterior glazing, including clerestories.
- (h) All interior shades above 2.5m will be motorized.

6.12.3.2 Performance Criteria

- (a) Roller Blinds:
 - (i) Manually operated roller shade system:
 - 1. Standard roll-shade complete with fascia, clear anodized finish, Stainless steel chains complete with child-safe chain retainers to Owner approval.
 - (ii) Electrically operated roller shade systems are required for all windows above 2.5m in height.
 - (iii) Where used, roller shades systems will operate with a spring wrap mechanism, adjustment-free continuous qualified #10 nickel-plated brass ball chain (50-lb. test), and pulley clutch

operating system. The system will be chain operated with spring assist when required to reduce pull force to lift heavy or large shades. Fabric will be inherently anti-static, flame retardant, fade and stain resistant, light filtering, room darkening, & blackout fabrics, providing 0% - 3% openness factors. Fabric weight 320g/m² containing fibreglass, polyester, acrylic, or vinyl laminates.

(b) Shading Cloth

- (i) The cloth will be waterproof, washable, rotproof, flame resistant, fungal and bacteria-resistant, colourfast to light, control heat gain, and provide external visibility and reduction of glare.
- (ii) The cloth will be selected to suit design criteria for room and solar control and will be:
 - 1. visually transparent single-fabric;
 - 2. room darkening shade cloth.

6.12.4 Photography Curtains

6.12.4.1 Performance Requirements

- (a) Will be floor to ceiling, commercial-grade, black-out curtains on roller track assembly. Roller track assembly will be attached to a lightproof bulkhead close off space to deck.

6.12.5 Walk-Off Mats

- 6.12.5.1 Will be in conformance with LEED V4® credit Enhanced Indoor Air Quality Strategies.

6.13 Division 14 - Conveying Equipment

6.13.1 Refer to APPENDIX 1B-2 Items Schedule for hydraulic lift requirements.

6.13.2 Elevators

6.13.2.1 General Requirements

- (a) Provide an elevator system as described in this Schedule 1 will be used as:
 - (i) Transport for Occupants and Occupants with disabilities or health issues;
 - (ii) Service elevators (transportation of furnishings and/or equipment);
- (b) Elevator operational functions will be programmable by the Owner, integrated with the BMS, and have the ability to provide local control when enabled by a card reader, key fob, or key.

- (c) There will be no access to elevator shafts other than as required for maintenance.
- (d) Elevator sumps will remain dry under all conditions.
- (e) The elevator will have a fail-safe phone.
- (f) Durable elevator cab finishes (including stainless steel fronts and hand and bumper rails) will be provided. Finishes will be reviewed and approved in advance by the Owner as part of the consultation with the Owner.
- (g) Elevator machine design will not require lubrication after installation.
- (h) Provide battery lowering operation of each elevator such that when the loss of normal power is detected, the battery lowering feature is activated. When normal power becomes available, the elevator will automatically resume operation.
- (i) The elevator will serve all accessible floor levels.

6.13.2.2 Performance Criteria

- (a) The elevator will have a minimum load capacity of 1,134kg and a vertical speed of no less than 2.0m per second.
- (b) Codes, by-laws, and regulations:
 - (i) Provide equipment and perform work in accordance with all applicable Laws, including local, provincial, and federal Laws, codes, by-laws, and regulations, including:
 1. ASME A17.1/ CSA B44, and CSA B44.1; and
 2. CSA-C22.1 - Canadian Electrical Code, Part 1, Safety Standards for Electrical Installations.
 - (ii) Elevators will comply with equipment noise Section 8.9.9. of this Schedule 1 and APPENDIX 1C - Acoustical Technical APPENDIX.
- (c) Seismic requirements
 - (i) The Elevator system will withstand the effects of earthquake motions determined according to CAN/CSA S832.
 - (ii) Comply with Section 8.4 [Elevator Safety Requirements For Seismic Risk Zone applicable to the Building, or greater] in ASME A17.1/CSA B44 Safety Code for Elevators and Escalators.
- (d) Platform size:
 - (i) Minimum 2.1 m wide x 1.5 mm deep;

- (ii) suitable for wheelchair disabled person and stretcher access and use and compliant with Code and Health requirements.
- (e) Elevator door location will be oriented for entry to the end to accommodate regular transport of motorized floor cleaning equipment
- (f) Operation: Elevator requires key switch & fob operation; return to ground function and PA system connection.

6.13.3 Waste Equipment Requirements

6.13.3.1 Description

- (a) Provide waste handling and recycling facilities sufficient to support the Design Capacity.
- (b) The waste management facilities will be developed to meet current Standards for building equipment, employee health and safety, and operational efficiency and maximize the potential for waste separation and minimize the amount of waste taken to a landfill.
- (c) Solid debris, recyclable materials, and biohazard waste within the Facility will be collected, separated where possible, and bagged at the source. Efforts will be made from an operational perspective to separate and sort recyclable materials in the following categories:
 - (i) Plastics;
 - (ii) Metals;
 - (iii) Glass;
 - (iv) Paper, newsprint, and magazines;
 - (v) Cardboard; and
 - (vi) Compostable/organic waste.
- (d) Within the Lunchroom and Served, space will be provided to separate waste, organic and recyclable material. In the remaining areas, recyclable materials will be separated from the waste stream to the extent possible.
- (e) Within any Staff rooms and administrative areas, separate waste streams for plastics, cans, glass, paper, and newsprint will be provided.
- (f) Collection of chemicals for disposal from Lab areas will be handled within the EtOH Supply + HAZMAT.
- (g) All pre-sorted recyclable material will be carted to the Waste Management Area and placed in recycling bins.

6.13.3.2 Considerations for Space and Design

(a) Location and Adjacencies

- (i) The Waste Management Area will be fully enclosed and secured to prevent unauthorized pests (including people) from entering.
- (ii) The enclosure will obscure views into the Waste Management Area.
- (iii) Will be located in proximity to the Loading and Receiving department. The area will be located away from Collections Loading Dirty and Clean Enclosed or separated by a solid wall for pest management purposes.

Part 7 Facilities Services

7.1 Division 21 - Fire Suppression

7.1.1 Basic Requirements

- 7.1.1.1 Provide sprinkler systems and all required equipment designed to the NFPA hazard classifications of the Facility.
- 7.1.1.2 Determine water requirements of the sprinkler systems and confirm if a fire pump is required based on municipal service capacity (flow and pressure).
- 7.1.1.3 If a fire pump is required, it will have an emergency power supply. The transfer switch will be part of the fire pump controller and be packaged mounted in a separate mechanically attached enclosure to form a single assembly that is specifically approved for the purpose of a complete unit.
- 7.1.1.4 Sprinklers subject to freezing temperatures will be protected from freezing.
 - (a) Where sprinkler heads may be subject to freezing a dry system will be installed.
- 7.1.1.5 Quick response concealed pendent sprinklers with finishes to match surrounding finish colours will be provided in all areas with dropped/finished ceilings.
- 7.1.1.6 All fire extinguishers in finished spaces will be in fully recessed cabinets.
- 7.1.1.7 Provide water mist type extinguishers in areas where collections are stored. For all other areas, provide 4.5kg ABC-type fire extinguishers.
- 7.1.1.8 All areas of the Building will fall under one of the following levels of fire protection:
 - (a) Fire Protection Level 1 – Conventional standard wet sprinkler system.

- (i) All rooms contained within the classification of Entrance Area;
 - (ii) All rooms contained within the classification of Office Area;
 - (iii) All rooms contained within the classification of Central Shared Facilities;
 - (iv) All rooms contained within the classification of Restrooms and Showers; and
 - (v) Maintenance equipment storage areas with exterior access only.
- (b) Fire Protection Level 1 – Conventional standard dry sprinkler system.
- (i) Canopies and overhangs.
- (c) Fire Protection Level 2 –Single-interlocked pre-action fire sprinkler system:
- (i) All other areas.
- 7.1.1.9 Provide any additional system(s) as required to meet BC Building Code and NFPA. Any alternative solutions required will be designed by the Design-Builder's Code Consultant.
- 7.1.1.10 An aspirating smoke detection system will be used throughout the Facility (refer to the Electrical Division section for requirements). This system will be used in conjunction with the fire suppression systems as an interlock.
- 7.1.1.11 The firewall system will account for air leakage ratings not specifically required by code to limit potential transmission of smoke and other products of combustion.
- 7.1.1.12 A centralized 98% purity nitrogen generator will be provided in the mechanical room to provide nitrogen to the various Dry Pipe Nitrogen Inerting piping systems.
- 7.1.2 Performance Criteria
- 7.1.2.1 All equipment and installation will be in accordance with manufacturers' requirements.
- 7.1.2.2 Locate fire suppression equipment and zone valves, so they are visible and accessible from the floor level. Locate all fire suppression equipment in the water entry room or separate fire suppression room.
- (a) Provide backflow preventer on fire water service feeding the sprinkler systems.
- 7.1.2.3 All fire suppression system components will be monitored by the FACP.
- 7.1.2.4 The fire department connection will be installed at a location approved by the local Fire Department.

7.1.2.5 Install fire extinguishers in accordance with NFPA 10 and to the satisfaction of the local Fire Department.

7.1.2.6 Standard wet sprinkler systems will:

- (a) Comply with NFPA 13: Standard for the Installation of Sprinkler Systems.

7.1.2.7 Single-interlocked pre-action sprinkler systems will:

- (a) Comply with NFPA 13: Standard for the Installation of Sprinkler Systems.
- (b) Use galvanized piping with Dry Pipe Nitrogen Inerting (DPNI). Include packaged pre-action cabinets serving each zone. The cabinets will be visibly located within the fire suppression cabinet along the lab access corridor. The pre-action cabinets will be fed from a crawl space below.

7.1.2.8 Intentionally Deleted

- (a) Intentionally Deleted
- (b) Intentionally Deleted

7.2 Division 22 - Plumbing

7.2.1 Site Services

7.2.1.1 Basic Requirements

- (a) Provide potable water, fire protection water, natural gas, sanitary, and storm services as required and sized to suit the usage needs of the Facility. Coordinate location and size of services with Division 33 – Utilities.
- (b) Coordinate the provision and installation of utility consumption meters (for natural gas and water) with Utilities. Refer to Division 33 – Utilities.
- (c) Provide 200 mm (8 inches) PVC gravity sanitary lines to the Building at two locations: one near the loading zone near the south end, and one near the main entrance at the north end. Where required, in conditions too low to allow for a full gravity system, lines will be connected to a duplex lift pump system with N+1 100% redundancy on emergency power.

7.2.2 Potable Water Distribution Systems

7.2.2.1 Basic Requirements

- (a) Acceptable potable water systems piping/fittings include:

- (i) Schedule 10 Stainless Steel type 304/304L pipe.
 - (ii) Type L copper (domestic hot and cold), Type K copper (domestic hot re-circulation).
 - (iii) PEX-a type with cold-expansion fittings
- (b) Provide and install cross-connection control, including reduced pressure backflow preventers, valves and piping as required by applicable codes and standards.
 - (c) Provide and install a duplex JUDO water filtration system at the point of domestic water entry. The system shall be designed/installed so that maintenance and replacing of filters can be performed without affecting water supply to the Facility.
 - (d) Provide and install individual water filters locally at ice machines and water dispensers.

7.2.2.2 Performance Criteria

- (a) Provide domestic water systems to ensure that water is supplied at the required pressures to all water outlets. Minimum water pressure will be maintained at 35 PSI to the most remote fixture.
 - (i) Provide a duplex domestic water booster pump system if the municipal water pressure is insufficient to achieve the minimum requirements.
- (b) Provide flushing and disinfection of domestic water systems to AWWA and CSA standards. Ensure safe drinking water through independent laboratory testing of potable water system before occupancy. Submit test results as per Schedule 2 – Submittals Schedule.
- (c) Provide isolation valves for all plumbing services and clearly identify the location of all valves. Isolate individual restroom fixture groups separately to allow for maintenance in one room without affecting other areas.

7.2.3 Plumbing Drainage and Venting Systems

7.2.3.1 Basic Requirements

- (a) Acceptable plumbing drainage and venting systems piping/fittings include:
 - (i) PVC DWV, SDR 28 (sanitary), SDR 35 (storm) with glued fittings (below grade).
 - (ii) Cast iron with mechanical joints (above grade).
 - (iii) Copper DWV pipe with soldered joints (above grade).

- (b) The sanitary drainage system will be capable of collecting drainage from all plumbing fixtures and equipment. The storm drainage system will be capable of collecting storm drainage and clearwater waste from the Building.
- (c) Provide floor drains in:
 - (i) Mechanical rooms
 - (ii) Workshops
 - (iii) Janitorial rooms
 - (iv) Restrooms
 - (v) All other areas as required by all applicable codes or recommended by ASPE.
 - (vi) Rooms noted in APPENDIX 1B-1 - Room Data Sheets,
- (d) Provide floor drains for all devices requiring a drain, including:
 - (i) Emergency showers
 - (ii) Backflow prevention devices.
- (e) Ensure all equipment drain piping is terminated at floor drains and floors slope to the drains.
- (f) Provide trap primers in drains that are subject to losing the trap seal.
- (g) Provide foundation drainage as required from a geotechnical report to alleviate water pressure exerted onto the bottom of foundations and/or floor slabs. Provide a sediment sump for foundation drainage before connecting into the storm drainage system.
- (h) All sanitary drainage and venting serving lab areas will be rated for standard drainage (not acid waste).
- (i) Supply and install interceptors, including oil, grease, dirt, and solids, as required by applicable codes, standards and as noted in APPENDIX 1B-1 Room Data Sheets. Interceptors will be pre-manufactured units, ULC listed.

7.2.4 Gas Piping Systems:

7.2.4.1 Basic Requirements

- (a) Gas piping systems will be capable of providing the appropriate gas to all end-uses requiring gas at the flow and pressure required by the equipment.
- (b) Provide hard-piped lab gases to locations, equipment and rooms noted in APPENDIX 1B-1 - Room Data Sheets.

- (c) Where gas cylinders are stored, ensure a gas detection system is provided.
- (d) Provide central compressed air system to serve all outlets requiring compressed air; refer to APPENDIX 1B-1 – Room Data Sheets.

7.2.5 Plumbing Fixtures and Equipment

7.2.5.1 Basic Requirements

- (a) Provide all plumbing fixtures per APPENDIX 1B-1 – Room Data Sheets and BC Building Code requirements. Provide and install all plumbing fixtures and equipment to the manufacturer's specifications, standards, and instructions.
- (b) Floor-mounted carriers will support all wall-hung fixtures.
- (c) All plumbing fixtures will be commercial grade, vitreous china unless specified otherwise in APPENDIX 1B-1 - Room Data Sheets.
- (d) Toilets will be ADA accessible, wall-hung, with elongated bowls with an open front seat, back rest, and electronic flush valves with a manual override button.
- (e) Child-size toilets will be tank-type, manual flush, with an open front seat. Rim height will be 260mm from the floor.
- (f) Showers will be provided with pressure balanced and high-temperature limit shower valves, metal shower heads will be utilized.
- (g) Shower bases will ensure that the water is contained within the shower area and drain fully without puddling.
- (h) Showers required for accessible use will comply with the guidelines put forth in the BC Building Code Part 3.
- (i) Showers in the Staff Facilities will not be less than 1.2m x1.2m.
- (j) Restroom lavatory fixtures will be ADA accessible, made of impervious, durable material and will have electronic hands-free type faucets with a single temperature supply that can be adjusted and set to the desired temperature.
- (k) Drinking fountains will include a bottle filling station with a laminar flow bubbler. The unit will be hands-free, ADA accessible, provide cooled and filtered water.
- (l) Provide floor mop sink in each janitor's room. The faucet will have blade handles, integral stops, a vacuum breaker, and be equipped with a hose connection on the spout.

- (m) Provide a hose thread connection complete with reduced pressure backflow protection to all housekeeping detergent dispensing systems, minimum one per Janitor's room.
- (n) Provide eyewash and emergency shower fixtures to comply with the latest ANSI Z358.1 and WorkSafe BC guidelines. Tempering valves will have a cold water bypass. Provide reduced pressure backflow preventer on both hot and cold water supply.
 - (i) Provide a floor drain under each emergency shower.
 - (ii) Ensure positioning and flow does not result in splashing of water outside of sink basin during testing.
- (o) Hose bibs will be provided around the exterior of the Building, at intervals no greater than 30m length along perimeter wall and interior where specified in APPENDIX 1B-1 Room Data Sheets. Where subject to freezing, hose bibbs will be non-freeze, concealed type with recessed lockable enclosure.

7.2.5.2 Performance Criteria

- (a) Where backflow preventers are required, they will be concealed in-wall or located in the mechanical room or Janitor's room.
- (b) All electronic sensor-activated fixtures will be hardwired.

7.2.6 Domestic Hot Water

7.2.6.1 Basic Requirements

- (a) Provide domestic hot water systems with capacity and recovery rate for the hot water requirements of the Facility. Calculate domestic hot water demand in accordance with ASPE Plumbing Engineering Design Handbook.
- (b) Provide thermostatic mixing valves to mix hot and cold water to the temperature required by each fixture. Thermostatic mixing valves may be central (mechanical room) or distributed (at each fixture).
- (c) Domestic hot water distribution systems shall be of the continuous recirculating type unless the size or configuration of the system is such that hot water is delivered to the fixture on demand (less than 30 seconds from the opening of the hot water tap).
- (d) Design the domestic hot water system to prevent the growth and spread of Legionella bacteria within the piping, fixtures, or any other component. Design methods will include heat sterilization, eliminating dead-leg piping and minimizing uncirculated piping by connecting the circulation system as close as possible to fixtures. Recirculate domestic hot water from the distribution system(s) back to the generating equipment.
- (e) Hot water systems need not have independent heat generation equipment from the HVAC system. If HVAC system heat

generation is used, provide cross-contamination prevention via double-walled heat exchangers with interstitial space vented to atmosphere and visible leak detection path.

- (f) The domestic hot water plant will only use electricity and/or on-site produced renewable energy as its energy source.

7.2.6.2 Performance Criteria

- (a) Generate and store domestic hot water at 60°C.
- (b) Provide 40°C domestic water to all lavatories and hand wash sinks.
- (c) Monitor hot water supply temperatures via the BMS and provide alarm outputs if/when the temperature is outside the design set point ($\pm 20\%$ - adjustable).

7.2.7 Laboratory Systems

7.2.7.1 Piped Services:

- (a) Each lab will have convenient access to all services and will be isolated for service shut down and repair without affecting other labs. Shut-off valves will be located in a consistent manner throughout the Building.
- (b) A complete set of lab piped services will be stubbed out for each lab to increase flexibility and minimize remodel and retrofit costs as lab uses change.
- (c) The following piped services are required in the labs:
 - (i) Domestic (potable) hot and cold water (HW, CW) to serve lab emergency fixtures. Backflow protection required.
 - (ii) Laboratory(non-potable) water for lab use (LHW, LCW). Water quality and temperature to be same as domestic hot and cold water systems. Zone/Lab backflow protection between domestic water and laboratory water is required. Emergency fixtures (showers, eye-washes) to be served by the domestic water system, not the (non-potable) laboratory water system.
 - (iii) Potable tepid water for safety equipment.
 - (iv) Purified Water: A stand-alone (point-of-use) purified water system is required for Shared Ultra-cold Freezer Room. The system will produce ISO 3696:1987 Grade 2 water.
 - (v) Acceptable piping for purified water includes:
 1. Polyvinylidene Fluoride (PVDF) - George Fisher - Sygef Standard;
 2. Polypropylene (PP) - BCF and IR Weld - George Fisher - Progef Natural;

3. Polypropylene (PP) - Socket Weld - George Fisher - Progef Standard, IPEX - Enpure PP;
 4. Chlorinated Polyvinyl Chloride (CPVC) - IPEX – Corzan, George Fischer; and
 5. Stainless Steel Tubing (SS) – Swagelock, Alpha Laval.
- (vi) Compressed air: Distributed at 100 to 120 psi; pressure regulators will be provided at the point of use fittings. Compressed air will be reduced in pressure to 15 psi for general lab use.
- (vii) Laboratory Specialty Gases will be piped locally by the Owner.
- (viii) Equipment Cooling Water Supply and Return.
- (ix) Laboratory Waste.
- (x) Sanitary Sewer.

7.3 Division 23 - Heating, Ventilation and Air Conditioning

7.3.1 Heating and Cooling Plant

7.3.1.1 Basic Requirements

- (a) The primary source of heat will be that recovered from heat recovery systems.
- (b) All heating and cooling loads will be satisfied by the heating and cooling plant throughout the year. The heating and cooling plant will be designed and operated to ensure capacity to maintain temperature and humidity setpoints at all times of the year, without short cycling of major equipment.
- (c) The heating and cooling plants will only use electricity and/or on-site produced renewable energy as their energy source.

7.3.1.2 Performance Criteria

- (a) The heating and cooling plant design and operation will be optimized to achieve the energy targets, as outlined in Schedule 8 – Energy.

7.3.2 Space Environmental Control

7.3.2.1 General Requirements

- (a) The HVAC systems will maintain the space temperature and relative humidity requirements as noted in APPENDIX 1B-1 Room Data Sheets.
- (b) Areas where collections are present will be supplied with a dedicated environmental control system (e.g., built-up (custom or

semi-custom) air handling unit(s) with heating and chilled water/glycol, filtration).

- (c) Low-temperature collections will be stored in a dedicated environmental control chamber using desiccant dehumidification or alternative equivalent technology for maintaining low temperatures/humidity. Environmental control chambers will be provided for the following areas:
 - (i) Quarantine - Natural History (ERC-1);
 - (ii) Quarantine – History & Archives (ERC-2);
 - (iii) Archives Cool Vault – ERC-3;
 - (iv) Archives Cold Vault – ERC-4;
 - (v) Intentionally Deleted
 - (vi) Anywhere else as identified in APPENDIX 1B-1 – Room Data Sheets.
- (d) Condensers for environmental control chambers will be water-cooled. Provide chilled water/glycol loop and used as a source of heat recovery.
- (e) Server rooms, communication rooms will be supplied with dedicated air conditioning systems.

7.3.2.2 Performance Criteria

- (a) Indoor temperature setpoints will be adjustable $\pm 0.5^{\circ}\text{C}$ through the BMS graphic interface;
- (b) Indoor relative humidity setpoints will be adjustable $\pm 5\%$ RH through the BMS graphic interface;
- (c) Control tolerance will be $\pm 0.5^{\circ}\text{C}$ at the zone temperature sensor with no more than 0.5°C swings in any 15-minute period unless there has been an abrupt load change;
- (d) For regularly-occupied spaces, the temperature gradient between 200mm and 1.8m above the floor at any point more than 300mm from an exterior wall will not exceed 1°C . For Collections Storage spaces, the temperature gradient throughout the full volume where collections are stored (floor to uppermost extent of the collections) will not exceed 2°C .
- (e) Air velocity will not exceed 0.15m/s on the head and shoulders of a person who is seated.
- (f) Server, communication and IT rooms will be maintained between 18°C and 27°C dry bulb temperature, between 40% and 55% relative humidity, between 5.5°C and 15°C dewpoint temperature.

- (g) Each area where collections are present will maintain positive pressure relative to adjoining spaces.
- (h) Zoning for HVAC systems will be based on occupancy, room location within the Facility, room orientation, and thermostatic room loads.
 - (i) . Intentionally deleted.
 - (ii) Areas with more than one exposure will be defined as a separate control zone (the corners of a floor plate will be separated).
 - (iii) No more than three individual offices will be on a single control zone provided each room is less than 20m².
 - (iv) Any room larger than 20m² will be provided with a separate control zone.
 - (v) Any room with 24/7 occupancy will be provided with a separate control zone.
 - (vi) Crate Storage & Inspection Room will have separate control for temperature and RH.
- (i) Laboratory Heat Gain: The HVAC system will be sized to compensate for the following equipment heat loads in the laboratories (not including lights or people):

<u>Space</u>	<u>Watts/SF</u>
Typical Laboratory	8
Equipment Room*	40*
Linear Equipment Room	16
Tissue Culture	16
Analytical Laboratory	40

1. * Note: Any room exceeding these values may be provided with a local fan coil unit.
2. 16 W/SF heat gain applies to the following rooms:
 - a. 3.310 Wet Lab Alcove
 - b. 3.706A Biology Shared Alcove #1
 - c. Intentionally Deleted
 - d. 3.708 Biology – Shared Biofreezer

3. 40 W/SF heat gain applies to the following rooms:
 - a. 3.707 Biology – Shared Ultra Cold Freezer Room
 - b. 3.706B Biology Shared Alcove #2

- (j) Entry vestibules (connections to the outdoors) to be temperature controlled to min 15.5°C (winter). No maximum temperature (cooling) required in the summer. There is no setpoint requirement for relative humidity in entry vestibules.

7.3.3 Heating and Chilled Water/Glycol Systems

7.3.3.1 Basic Requirements

- (a) Utilize screw fittings for piping up to 65mm.
- (b) Utilize welded fittings or roll grooved mechanical couplings for piping 75mm and larger.
 - (i) Couplings and valves (where applicable) used for grooved pipe joining will be Victaulic.
 - (ii) Grooved mechanical piping is only acceptable for use where the risk of leaks is contained, and no possibility of water damage to a collection is possible. Spaces include mechanical rooms and exterior (roof). For all other spaces, welded piping will be used.
- (c) All high points in the piping will be equipped with automatic air removal devices, including air collection chambers and air vents. Relief will be piped to the nearest drain. Air vents serving glycol systems will be piped to a receiver tank or back to the glycol feed tank. Discharge termination will be visible.
- (d) Provide expansion compensation for mechanical piping.
- (e) Pumps will be selected to operate without vapour binding or cavitation and will be non-overloading in parallel or individual operation.
- (f) Pump construction and installation will permit complete pump servicing without breaking piping or motor connections.

7.3.4 Steam Systems

7.3.4.1 Basic Requirements

- (a) Provide steam generators/boilers for all steam demands within the Facility (AHU humidification).
- (b) Steam generators/boilers will be electric (not gas-fired).
- (c) Steam generators will not be of canister-type.

- (d) Provide humidification systems that provide necessary water vapour to each supply air system to maintain relative humidity levels in each space.
- (e) Humidifiers will not be located within the zone they serve or above areas at risk for equipment leaks. Humidifiers will be accessible.
- (f) Water for humidifiers will be treated (filters/separators/softeners) to ensure proper operation of the equipment (within manufacturer's specified tolerances) and to ensure no airborne particulates/contaminants are delivered to the controlled space/environment.
- (g) Provide connections in the steam system within 1m of the point-of-use, which can be used to access the steam for quality measurement.
- (h) Install duct-mounted smoke detectors (if applicable) upstream from humidification systems to prevent erroneous tripping.

7.3.4.2 Performance Criteria

- (a) Steam quality will be condensate-free and a minimum of 97% saturated vapour.

7.3.5 Ventilation

7.3.5.1 General Requirements

- (a) Air handling systems will provide necessary air quantity (ventilation and total supply), air filtration, air temperature and humidity, and maintain pressure relationships between various facility areas.
- (b) To prevent moisture and contaminants from collecting within the system, provide fresh air intakes, cooling coil drain pans, air handling units, duct-mounted humidifiers, ductwork, and other interconnected components. Provide access panels to allow for inspection and cleaning.
- (c) Fresh air intakes will be located to not entrain contaminants from outdoor sources. All intakes will be located in areas not accessible by the public and will not be located near exhaust air outlets. Ensure that fumes from the lab exhausts, generator exhaust and Dermestid Colony exhaust are not re-introduced into the Facility's fresh air intakes and/or operable windows.
- (d) All air handling units will include minimum MERV (Minimum Efficiency Reporting Value) 15 filtration with electronic polarizing technology (or equivalent particle removal technology which is UL867/UL2998 certified for zero ozone emissions).
- (e) All supply, return, and exhaust air will be ducted to the space being served. Return air plenums are not acceptable.

- (f) Ensure that no air outside of the central air handling equipment drops below its dew point temperature.
- (g) The ventilation system will provide sustained directional airflow from clean areas and toward contaminated or less-clean areas. Exhaust air will not be recirculated in the Facility.

7.3.5.2 Performance Criteria

- (a) Room air change rates
 - a. Air changes will be determined by either:
 - i) All Lab Areas will be provided with 6 air changes per hour, or more if required by subsequent clauses (ii) and (iii), with the exception of Archaeology Wet Lab, VZ Dirty Prep Lab, IZ Dirty Prep Lab and EtOH Supply + Hazmat that require 12 air changes per hour.
 - ii) The exhaust rate demanded by the exhaust devices will be provided in the room.
 - iii) The rate to remove heat gain in the room to maintain personnel comfort.
 - iv) The rate to maintain environmental conditions per the Statement of Requirements and ventilation requirements per ASHRAE 62.1-2001
 - v) Rooms containing flammable and combustible fluids shall comply with the ventilation requirements of NFPA 30.

7.3.6 Exhaust Systems

7.3.6.1 General Requirements

- (a) Exhaust fans will be located as close as possible to the termination of the exhaust ductwork systems.
- (b) Provide exhaust systems as outlined in the APPENDIX 1B-1 - Room Data Sheets, including all laboratory fume hoods, ducted biosafety cabinets, source capture exhaust (snorkels), heat capture hoods, direct equipment exhaust, chemical storage cabinet exhaust, hazardous gas (isopropanol) control exhaust, metal grinder exhaust, Dermestid Colony exhaust, and all other space/equipment needs for dedicated/point-source exhaust. Multiple exhaust streams may be combined/manifolded and provisions for heat recovery may be utilized provided there is no additional hazard risk to maintenance staff.
- (c) The Dermestid Colony will be a separate dedicated exhaust system exhausting directly to the outdoors, complete with activated carbon filtration to remove obnoxious odours. The exhaust fan will

be high-plume discharge to ensure no re-circulation of fume back into operable windows and/or mechanical air intakes.

- (d) Provide source-capture exhaust above all floor-model printers or copiers to remove fumes.
- (e) Provide flammable gas (Isopropanol) detection and exhaust system(s) in all areas with flammable gas storage.

7.3.6.2 Performance Criteria

- (a) Fume hoods will maintain an average face velocity of 0.5m/s \pm 10%.

7.4 Division 25 – Integrated Automation

7.4.1 Basic Requirements

7.4.1.1 Provide a Building Management System (BMS) to perform the following functions:

- (a) Automatically operate/control, monitor and notify/alarm the Facility's mechanical systems.
- (b) Monitor and notify/alarm the Facility's electrical and communication systems, including:
 - (i) FACP,
 - (ii) Lighting,
 - (iii) UPS,
 - (iv) Security, and
 - (v) Emergency and stand-by power systems;
- (c) Monitor and notify/alarm the Facility's:
 - (i) Lab Areas fridges and freezers status, relative humidity and temperature;
 - (ii) All environmental control chambers status, relative humidity and temperature;
 - (iii) landscape irrigation control system.
 - (iv) Water leak detection systems in areas at risk of internal flooding (each mechanical room, each collection storage area, and all drip pans, as required by the design);
 - (v) heat tracing for mechanical equipment/systems.
 - (vi) all temperature and humidity alarms resulting from set point deviations;

- (vii) failure of any major HVAC or plumbing equipment;
 - (d) Provide a graphical interface (on display devices including computer monitors and smartphone/tablet) for all functions;
 - (e) Allow provision for external/remote monitoring by the Owner including all associated hardware and software;
 - (f) Meter and trend data related to flow of energy (electrical power, natural gas) and water (potable and non-potable), used by the Facility;
 - (g) Provide meters for end-uses and in a quantity appropriate to achieve the LEED EAc3 advanced energy metering credit.
 - (h) Integration with Facility's CMMS software platform. The Design-Builder will recommend CMMS software platform for review and approval by the Owner pursuant to the Review Procedure.
 - (i) Provide an AFD (automatic fault detection) software on Facility mechanical systems;
- 7.4.1.2 The BMS will be non-proprietary and designed with an open protocol.
- 7.4.1.3 The BMS will allow monitoring and operation of the entire Facility from a single location and secure remote Internet connection.
- 7.4.1.4 The BMS will be a completely integrated (front-end and back-end) Native BACnet (Building Automation and Controls Network) protocol digital controls system.
- 7.4.1.5 The BMS will be provided as a complete package from one manufacturer. A composite system from several manufacturers will not be permitted.
- 7.4.1.6 The BMS will be protected from cyber-attacks. Refer to security requirements in Section 7.6.
- 7.4.1.7 Provide flammable gas (Isopropanol) detection system in all areas with flammable gas storage.
- 7.4.1.8 The BMS will be connected to UPS.
- 7.4.1.9 Failsafe components will be hard-wired to provide operation in all circumstances.
- 7.4.1.10 The BMS documentation will include a detailed narrative description of the sequence of operation of each system.
- 7.4.1.11 The BMS user interface will be graphical in nature with animated graphics to indicate equipment operation. Graphics will be grouped in systems and departments. Generate a visual notification on the browser display panel with an audible alarm, informing the operator that an alarm has been received.

- 7.4.1.12 The BMS will only be accessible (hardware and software) by personnel authorized by the Owner. The BMS system will be accessible on all authorized workstations located in the Facility Plan Room.
- 7.4.1.13 Provide an integrated energy management system to monitor, record, analyze, report on and control energy consumption from end sources supplying energy to the Facility that make up 10% or greater of the overall Facility energy consumption. This system will be connected and stored in the BMS.
- 7.4.1.14 Sensors for environmental control of the areas where collections are stored will:
- (a) Be located within the space, and not only in the ducts serving each zone,
 - (b) Not be located near open doors, in front of vents, or on exterior walls.
 - (c) Be provided in at least 4 locations within each area to allow for space averaging.
- 7.4.1.15 The BMS will have the ability to trend data, with environmental readings (temperature and humidity) taken at frequent adjustable intervals. Data will be downloadable and archived for later interpretation.
- 7.4.1.16 All BMS wiring to be installed in conduits. Refer to clause 7.5.9.1 (e).

7.5 Division 26 – Electrical

7.5.1 Electrical Utilities

7.5.1.1 Basic Requirements

- (a) Provide incoming infrastructure for the Site services such that they are protected from mechanical damage and vandalism.
- (b) Initiate and coordinate primary service connections with BC Hydro. Follow all applicable BC Hydro standards in the design and installation of the utility services to the Facility.
- (c) Provide new high voltage service from BC Hydro terminating in an outdoor mounted, primary voltage rated, and BC Hydro approved service entrance type dead-front vacuum circuit breaker enclosure with isolation switch and viewing window of the switching contacts.
- (d) Provide primary voltage revenue metering compartment for BC Hydro approved current and potential transformers with unit-mounted meter base.
- (e) The electrical service will be sized for the Facility's electrical demand as calculated per the Canadian Electrical Code method outlined in section 8 and Table 14 with the appropriate occupancy types.

- (f) The electrical service for the Facility will be sized to meet the current needs of the facility as well as to match future climate targets of the mechanical systems.
- (g) Design-Builder to submit demand load calculations for the service and the generator for review with each submission, including the technical and design submissions.

7.5.1.2 Performance Requirements

- (a) The Design-Builder will execute Utility work in accordance with all applicable Codes, Standards and Regulations to satisfy the requirements of the Utility and the Authority Having Jurisdiction.
- (b) The Design-Builder is responsible for Utility service connections, including associated the Design and the Construction charges.
- (c) The Design-Builder will refer to the Utility's standards for specific details for all work executed on behalf of the Utility. The Design-Builder will coordinate with the Utility on the regulations governing installation to the Facility.
- (d) Any work on behalf of the Utility will be executed in accordance with all Utility Codes, Standards, and Regulations without deviation. Where the Utility infrastructure cannot be meet any required Codes, Standards, and Regulations, the Design-Builder will bring the condition to the attention of the Utility designer for written approval of any deviations prior to performing the work.
- (e) Identify the site's existing underground and overhead services to avoid interference with the proposed routing of new services and future services for known expansions.
- (f) Remove, temporarily relocate, or extend overhead HV lines as required by the Utility to ensure safety to site personnel and to satisfy the requirements of the Utility and WorkSafe BC.
- (g) The location of underground conduits and ducts will not interfere with any surveyed existing or proposed service for the Facility.
- (h) Obtain prior written authorization from the Owner for all service connections. Service connections will be installed to the Owner's reasonable satisfaction.
- (i) All electrical services will be routed underground with drainage connected directly to the Site drainage system. Overhead distribution lines are not permitted. The design-builder will coordinate with other trades to facilitate drainage connections and route electrical service connections to avoid conflicts.
- (j) Main incoming power and telecom services will be installed in a reinforced concrete encased duct bank. Provide slope in the duct bank for proper drainage of ducts.

- (k) Underground services originating from overhead distribution will transition to underground services outside the property line. Design-Builder to coordinate this detail with BC Hydro.
- (l) Underground services will have detectable metallic warning marker tape and will not run under the Building or buildings. Provide record drawings that indicate survey coordinates for all changes of direction and conduit stub outs.

7.5.2 High Voltage Distribution (Over 750V)

- 7.5.2.1 The primary high voltage distribution infrastructure will conform to BC Hydro requirements. The Design-Builder will coordinate with the utility to ensure the installation of primary voltage infrastructure satisfies their requirements.
- 7.5.2.2 Design-Builder will extend primary conduits from utility connection stub-out to the Facility's main substation transformer service entrance cable section through pull-boxes onsite as required by BC Hydro. Locate any pull-boxes onsite as per BC Hydro's requirements.
- 7.5.2.3 Incoming high-voltage feeders will terminate on a vacuum circuit breaker, oil-insulated in the main unit substation transformer lineup.
- 7.5.2.4 The oil-insulated vacuum circuit breaker will be 25kV, rated for 600A maximum continuous current.
- 7.5.2.5 The outdoor pad-mounted switchgear unit will consist of:
 - (a) primary cable service entrance;
 - (b) 25kV oil-insulated vacuum circuit breaker;
 - (c) switchgear controls;
 - (d) visible isolation switch with open, close and ground positions;
 - (e) viewing window of the switchable blades for visual disconnecting mean;
 - (f) key-interlocking mechanism between the visible isolation switch and vacuum circuit breaker;
 - (g) live-line indicators; and
 - (h) surge arrestors.
- 7.5.2.6 The metering compartment will consist of the following components:
 - (a) utility digital metering, which will be located on the primary side as directed by BC Hydro; and
 - (b) power quality metering capable of displaying V, A, kVA, kW peak, and harmonic parameters.

- 7.5.2.7 The outdoor metering enclosure will include anti-condensation heaters and insulation within the enclosure.
- 7.5.2.8 The 25kV circuit breaker will, in turn, feed the primary side of the power transformer.
- 7.5.2.9 The switchgear controls will be a microprocessor-based multi-functional transformer protection relay consisting of the following ANSI/IEEE device functions: 24, 27, 49, 50/51, 50/51N, 59, 81, 87 and 87G.
- 7.5.2.10 Locate the main outdoor substation transformer lineup to minimize secondary feeder run lengths to the main electrical room of the Facility. Submit underground cable ampacity calculation of the transformer secondary feeders as per IEEE 835 for review with each submission, including the technical and design submissions.
- 7.5.2.11 The main substation transformer will be an outdoor, FR3 oil-filled, pad-mounted and complete with a primary-metering compartment.
- 7.5.2.12 Provide red shunt-trip mushroom-head button for remote tripping of the main breaker at major Facility entrances, including the fire department response point.
- 7.5.2.13 Secure the shunt-trip button under the hinged, pad-lockable plexiglass enclosure to prevent unauthorized access. The enclosure will be heavy use rated and tamper-resistant. The enclosure will be keyed alike with fire alarm annunciator enclosures to allow ease of access for the fire department.
- 7.5.2.14 Provide interconnection to the BMS of the shunt-trip button to monitor its status.
- 7.5.2.15 Site Service Exterior Power Transformers:
- (a) will be FR3 oil-filled, with copper windings. The kVA capacity indicated will be based on Class 220°C insulation, 65°C rise;
 - (b) will be equipped with current limiting fuse or electronic trip control and pressure relief valves;
 - (c) will be mounted in a position so as not to contravene Code required clearances to building openings or structure;
 - (d) to have cooling fans that will provide an additional 33% capacity over the base rating with both ratings shown on the name plate;
 - (e) will be installed within a lockable enclosure;
 - (f) to convert utility primary voltage at 25kV three-phase to 600/347V three-phase secondary voltage for use by the Facility.
 - (g) to have delta-connected primary windings and wye-connected secondary windings. The secondary XO wye point will be solidly grounded;

- (h) to have four 2 1/2 % full capacity primary taps, two above and two below nominal voltage;
- (i) to have a digital thermometer, indicating average coil temperature, with two-stage alarm contacts connected to the BMS. The first stage is to alarm when the fans start up, and the second stage is to alarm at a higher temperature. Alarms to indicate on the BMS and at the fire department response point;
- (j) to have integral intermediate class lightning arrestors connected to the primary terminals; and
- (k) will be suitable for exterior installation for the intended environment and with CSA Type 3R enclosure for outdoor use providing protection against the elements.

7.5.3 Low Voltage Distribution (750V and below)

7.5.3.1 Basic Requirements:

- (a) Provide electrical power transmission and distribution from the main, secondary, and other sources of supply (power transformers and diesel generators) to meet all requirements of the Facility.
- (b) Design distributed feeder system for normal, emergency, standby, and UPS power to the Facility to minimize impact of maintenance and shutdowns.
- (c) Provide robust, reliable, easily operated, and maintained systems to supply electrical power from the main sources of power to each load to meet all Facility's operational and functional needs.
- (d) Employ arc flash mitigation and ground fault protection schemes to reduce the risk of harm. Design the distribution system such that at no point in the system does the arc flash hazard energy exceed 8 cal/cm² without compromising operational reliability.
- (e) Provide arc flash hazard analysis and implement measures based on arc flash report. The report will be signed and sealed by a Professional Engineer registered with the Engineers and Geoscientists of British Columbia and in good standing.
- (f) Design the distribution system to provide security of supply and the flexibility to allow concurrent safe maintenance without impacting operations. For major breakers such as, but not limited to, the main secondary breaker, generator switchboard and transfer switches provide features that facilitate serviceability to minimize downtime and shorten the time for access to other electrical equipment. This may include the utilization of draw-out air circuit breakers or double-bypass isolation switches.
- (g) Select, configure, locate, and install all components of transmission and distribution systems to minimize the transmission of noise, vibration, or unwanted heat into other parts of the Building.

- (h) Locate and design electrical equipment for ease of maintenance.
- (i) Conduct and implement a short circuit coordination study to ensure all overcurrent protection devices are selectively coordinated to ensure tripping of the first upstream overcurrent device nearest the fault. A coordination study will be conducted by an independent company. Series-rated devices are not permitted.

7.5.3.2 Performance Requirements

- (a) Locate service rooms such as the main electrical room, sub electrical rooms, and Communications Rooms to maximize reliability and minimize disruption to the operation of the Facility.
- (b) Service rooms containing equipment will have at least 15% more usable spare physical wall space to easily facilitate future additions and changes. Service rooms will be designed to allow for the removal/reinstallation of all equipment in that space. Provide travel paths for equipment as well as suitable door openings or knock-out panels in the walls or roof.
- (c) To permit future expansion, provide sufficient clear physical space equal to one vertical switchboard section on one end of the low voltage main distribution.
- (d) Locate the main electrical room separate from plumbing and mechanical equipment. Design the electrical room will be readily accessible, well ventilated, and free of corrosive or explosive fumes, gases, or any flammable material. Provide a minimum of two entrances/exits from the electrical room and doors sized to allow removal of the largest piece of electrical equipment.
- (e) Locate major electrical equipment to minimize run the length of feeders and branch circuits, and locate within the Facility to provide a clean, dry, safe, accessible installation protected from unauthorized access.
- (f) Provide all code-required clearances in front of and surrounding electrical equipment to ensure the safety of building personnel.
- (g) The main secondary breaker will be draw-out type.
- (h) All circuit breakers at, or exceeding, 400A will be electronic trip with long-short-instantaneous-ground (LSIG) adjustable trip settings.
- (i) Provide automatic variable power factor correction equipment within the Facility to ensure the Facility power factor does not fall below the 95% lag threshold. Coordinate capacitors with VFD and other harmonic generating equipment to avoid resonance conditions.
- (j) All electrical equipment will have drip shield protection.
- (k) All floor-mounted distribution equipment will be placed on concrete housekeeping pads.

- (l) Provide individual K-13 factor rated dry type step down 600V - 120/208V transformers in the main electrical room and mechanical rooms. Additional 600V-120/208V transformers will be located as required by the Design-Builder. Distribution transformers will mitigate harmonics and have minimum efficiency values as per the latest version of the CSA-C802.2 standard.
- (m) Install 600V-120/208V dry-type transformers for small equipment loads on concrete pads or suspended from the structure in electrical rooms. Install transformers so that removal can be facilitated without removal of any other equipment or conduit serving the room. Utilize sound and vibration mitigation installation methods for all transformers to satisfy the APPENDIX 1C – Technical Acoustical APPENDIX requirements.
- (n) Electrical distribution equipment, including panelboards, transformers etc., will not be installed in any visible areas of the Facility. The Design-Builder will receive prior written approval from the Owner before installing any such equipment outside a dedicated electrical service room.
- (o) Rate all distribution devices to handle available fault current at line terminals. Perform a computer-generated fault study to ensure that all devices are properly rated and coordinated as part of the Commissioning Process.
- (p) Design and install protection equipment so that initial electrical installation, future additions, and modifications will provide full selective coordination minimizing the operational impact of a fault in the system.
- (q) Provide a networked digital metering system to monitor electrical loads and quality of power in the Facility. The system will be part of BMS. Digital metering CT's and / or PT's will be provided and activated for all panel feeders in the Facility.
- (r) Provide circuit breaker-type panel boards fully rated to handle calculated fault current level. The series rating of breakers and panelboards is not acceptable.
- (s) All panelboards will be provided with bolt-on breakers.
- (t) Oversize neutral(s) for panel boards, feeders, and branch circuiting where significant non-linear load(s) are anticipated, such as in areas with a high density of personal computers and electronic equipment. Provide extra neutral terminal bus in such panels to accommodate dedicated neutrals in branch circuit wiring.
- (u) Provide integral surge protective devices at the main distribution, sub-distribution panelboards after transformation and local panel boards that serve electronic equipment susceptible to electrical transients. Panelboards serving the Communications Rooms to have integral surge protective devices in addition to panels intended to provide power to electronic equipment.

- (v) Provide transient-voltage-surge-suppression (TVSS) receptacles to communications and electronic equipment susceptible to voltage transients which are not supplied from a branch panel containing an integral surge protective device. TVSS field devices will be limited to six (6) receptacles, or 10% of the branch circuits on any given panel, whichever is lower. Once this value is exceeded, panel integrated TVSS protection is required.
- (w) All distribution panels to utilize moulded case circuit breakers and air circuit breakers over 1600 amps.
- (x) Branch panelboards will be installed on the same floor as the loads they serve and be located inside electrical rooms. Panelboards will be lockable to prevent unwanted access.
- (y) Branch panelboards will be located only in Service Rooms.
- (z) Branch panelboards will include quick-make and quick-break circuit breakers.
- (aa) Provide dedicated lighting panels for all lighting. Do not mix lighting loads with power or mechanical loads.
- (bb) Electrical energy monitoring and measurement devices shall be installed to monitor the electrical energy use of each of the following systems separately as to comply with ASHRAE 90.1 requirements: total electrical energy, HVAC systems interior lighting, exterior lighting, receptacle circuits, EV charging circuits. Separately monitor other major systems as required.

7.5.4 Electrical System Spare Capacity

7.5.4.1 Provide 15% spare electrical and physical capacity (above and beyond Code required factors-of-safety) to all electrical systems covered in this Schedule 1 - Statement of Requirements.

7.5.4.2 All underground secondary duct banks to include the following:

- (a) for power: provide 50% spare feeder conduits in duct bank from main electrical room to every sub electrical room in the Facility;
- (b) for communications/security: ducts will be sized for 40% fill plus one spare empty conduit of the largest duct size for future use; and
- (c) each spare duct will be left empty on completion of the project and will include a polypropylene pull string. Spare ducts will be cleaned and capped to prevent inadvertent ingress of debris prior to their future use.

7.5.4.3 Main switchboards, including normal, emergency, and standby power, will include spare breakers for future use as follows:

- (a) Normal power distribution – four (4) 400A three-pole
- (b) Emergency power distribution – four (4) 100A three-pole

(c) Standby power distribution – four (4) 200A three-pole

7.5.4.4 Branch panelboards will include space for 25% additional circuit breakers in the future.

7.5.4.5 Branch panelboards will include a spare 10% additional 20A single-pole circuit breakers for future use.

7.5.5 Load Classification and Identification

7.5.5.1 Basic Requirements

- (a) Electrical infrastructure and equipment will be connected to backup power to maintain power quality during any power disturbances.
- (b) Life Safety Systems mean those systems defined in the ULC-S1001 standard.
- (c) Identify all electrical loads and the corresponding power source and label them as “Generator Emergency,” “Generator Standby,” or “Normal Power.”
- (d) Identify electrical distribution equipment, conduits, pull boxes, junction boxes and other electrical equipment with a consistent labelling scheme throughout the Facility. The labelling scheme will conform to the requirements outlined below.

7.5.5.2 Performance Requirements

- (a) Area and equipment within the Facility requiring “Generator Emergency” power may include, but not be limited to, (final requirements will be determined by the design specifics employed by the Design-Build team):
 - (i) egress lighting;
 - (ii) exit signs;
 - (iii) fire alarm systems;
 - (iv) smoke control systems;
 - (v) fire pumps;
 - (vi) life safety mechanical equipment, including:
 1. Mechanical equipment/systems serving or connected to laboratory safety equipment, including fume hoods, vented BSC's, chemical storage cabinets;
 2. Hazardous gas detection and control systems; and
 - (vii) Any other mechanical equipment associated with a life-safety function.

- (viii) receptacles and lighting in the service room housing the emergency distribution; and
 - (ix) backup generator battery charger and block heater circuits.
- (b) Area and equipment within the Facility requiring “Generator Standby” power will include:
- (i) Intentionally Deleted.
 - (ii) Intentionally Deleted.
 - (iii) Intentionally Deleted.
 - (iv) all Environmental Control Chambers;
 - (v) Sump pumps;
 - (vi) Exterior lighting around entrances and exits;
 - (vii) Uninterruptible Power System (UPS) system;
 - (viii) Communications equipment, including IT systems and servers;
 - (ix) Public Address system;
 - (x) The BMS;
 - (xi) Auto-Door Operators;
 - (xii) Security, access control, and surveillance systems; and
 - (xiii) All fridges and freezers except in the Office Area and the Entrance Area.
 - (xiv) Mechanical equipment/systems serving the following:
 - 1. Dermestid Colony;
 - 2. Electrical rooms; and
 - 3. Communication rooms.
 - (xv) Hard-wired sensor faucets and flush valves serving plumbing fixtures for all staff washrooms.
- (c) Area and equipment within the Facility requiring “Normal Power” power will include:
- (i) All remaining loads within the bounds of the property line; and
 - (ii) the remainder of mechanical controls and equipment.

- (d) Circuit labels will include the full panel name and circuit number. Example: Normal Power panel A2 will be “NP-A2”. A receptacle fed from circuit number 27 on 120/208V normal power panel “NP-A2” would be labelled as ‘NPA2-27’.
- (e) Distribution equipment and devices will be identified by the type, power, voltage and sequential lettering as follows in Branch Circuit Labels Naming Conventions - Figure 7.5.5.2-1.

Branch Circuit Labels Naming Conventions - Figure 7.5.5.2-1

Equipment	Distribution Voltage	Power Source	Devices
Generator = G	25kV = 25	Generator Emergency = E	Isolation Switch = IS
Automatic Transformer Switch = ATS	12.5kV = 12	Generator Standby = S	Vacuum Circuit Breaker = VCB
Main Distribution Panel = MDP	347/600V = 6	Normal Power (non back-up) = N	Main Breaker = MB
Central Distribution Panel = CDP	480V = 4	UPS = U	Distribution Breaker = DB
Branch Panel = P	120/208V = 2	-	Relay = R
Transformer = TX	-	-	Meter = M
Motor Control Center = MCC	-	-	Capacitor = CAP
-	-	-	Surge Protective Device = SPD

- (f) Identify all conduits, raceways, pull boxes and junction boxes using colour bands. Provide items including, but not limited to, power, lighting, fire alarm, BMS, and 600V systems with unique colours in accordance with a pre-determined colour scheme as developed with the Owner through the review process pursuant to Schedule 2 - Review Procedure. Major colours will be 100mm wide, and minor colours will be 50mm wide. Identify raceways with colour bands using coloured duct tape at intervals of 6m, plus at the point where the raceway enters a wall or floor (i.e. raceway is identified on both sides of a penetration to facilitate tracing of raceway). Colour code all junction boxes using coloured duct tape on the cover.
- (g) Self-adhesive printed labels with circuit numbers will be affixed on all receptacles.
- (h) Identify all equipment with nameplates as follows:
 - (i) Nameplates will be lamacoid 3mm thick plastic engraving sheet, mechanically attached with self-tapping screws;
 - (ii) Normal Power: black face with white letters;

- (iii) Generator Emergency: red face with white letters;
- (iv) Generator Standby: yellow face with white letters.
- (v) UPS power: blue face with white letters.
- (vi) Nameplate sizes will be as follows:

Size 1	10 x 50 mm	1 line	3 mm high letters
Size 2	12 x 70 mm	1 line	5 mm high letters
Size 3	12 x 70 mm	2 lines	3 mm high letters
Size 4	20 x 90 mm	1 line	8 mm high letters
Size 5	20 x 90 mm	2 lines	5 mm high letters
Size 6	25 x 100 mm	1 line	12 mm high letters
Size 7	25 x 100 mm	2 lines	6 mm high letters

(vii) Labels:

1. Embossed plastic labels with 6mm high letters.

(viii) Identification will be English

7.5.6 Generator Power

7.5.6.1 Basic Requirements

- (a) Provide a reliable self-sufficient source of power to all “Generator Emergency” and “Generator Standby” loads in the Facility.
- (b) In the event of a power failure or problems with utility power quality, the generator will provide an alternate source of onsite power for the Facility.
- (c) The generator will be located on the exterior of the Building in a lockable fenced enclosure. It will be positioned to permit convenient servicing and refuelling, prevent unauthorized access and vandalism, provide ease of replacement, and avoid interruptions due to floods, seismic events, or other similar events.
- (d) Generator Emergency loads are all, and only, life-safety loads requiring power to function properly and ensure the Facility remains safe and functional enough to allow safe passage of all occupants to the exterior of the Facility during an event.
- (e) Generator Standby loads are non-life-safety loads that the Owner requires to remain online during a utility failure.
- (f) The design-builder will engage in detailed discussions with the Owner to capture all systems required on generator standby power.

7.5.6.2 Performance Requirements

- (a) Provide a diesel-driven, emergency stand-by power-rated synchronous generator system for the Facility. The generator will be sized to provide power for the total calculated demand of the required “Generator Emergency” and “Generator Standby” loads for the Facility.
- (b) Design generator sizing by the design-builder will consider any regenerative power sources that may be utilized in the Facility.
- (c) The generator will be sized with a minimum of 10% spare future capacity of calculated (peak demand) load.
- (d) Intentionally deleted
- (e) Provide a load bank connection on the generator switchboard to enable 100% load testing without compromising the availability of the generator.
- (f) “Generator Emergency” distribution will be switched between utility and generator power automatically and energized within 10 seconds upon interruption of utility power.
- (g) “Generator Standby” distribution will be switched between utility and generator power automatically and energized no more than 120 seconds upon interruption of utility power and after the “Generator Emergency” branch has transferred.
- (h) Once utility power is back up to the full operation, all loads will automatically be switched back from generator power to utility power.
- (i) Onsite fuel storage will be sized to provide a minimum of 24 hours of run time with the generator operating based on peak demand load for the Facility. The generator will have an integrated belly tank complete with the required fuel for 24 hours of continuous operation. The generator will be capable of being refuelled while under load. Tanks will be of double-walled construction with interstitial alarms and leak detection.
- (j) Fuel tank to come complete with a full tank of diesel fuel.
- (k) The fuel supply will be independent of other building equipment and stored onsite in a permanent storage tank. The BMS will electronically monitor fuel level to alarm if there is an overflow condition, fuel leak condition, and when fuel levels drop below 8 hours of run time at full load.
- (l) Provide a remote generator annunciation panel in the main electrical room and at the Security Operations Center.
- (m) Provide annunciation of alarms and supervisory signals from the generator to the BMS. Include ‘run’ and ‘fail to run’ alarms to the BMS.

- (n) Provide trouble signals on the fire alarm system to indicate 'generator running,' 'generator failed to run,' and 'generator main breaker tripped.'
- (o) The generator will be installed outdoors in an exterior rated level 2 sound attenuated enclosure that complies with APPENDIX 1C - Acoustical Technical APPENDIX. The generator enclosure will be minimum NEMA 3R rated.
- (p) Intentionally deleted.

7.5.7 Automatic Transfer Switches (ATS)

- 7.5.7.1 Provide one ATS for each emergency and standby power branch.
- 7.5.7.2 Automatic transfer equipment will monitor each phase of utility and generator supply.
- 7.5.7.3 The automatic transfer equipment will initiate cranking of emergency standby generator unit on normal power failure or abnormal voltage on any one phase below preset adjustable limits for the adjustable period. Transfer of load to occur from normal supply to backup unit when the backup unit reaches rated frequency and voltage pre-set adjustable limits, and from backup to normal power supply when normal power is restored, confirmed by sensing of voltage on phases above the adjustable pre-set limit for the adjustable time period.
- 7.5.7.4 Automatic transfer switches will be open transition (break before make) and include a means of bypass to both the normal and generator sources.
- 7.5.7.5 Provide annunciation of alarms and trouble ATS signals to the BMS.
- 7.5.7.6 Automatic transfer switches will be double bypass isolation type.

7.5.8 Uninterruptible Power Supply (UPS)

- 7.5.8.1 Performance Requirements:
 - (a) Provide a scalable UPS system to support the following loads:
 - (i) All equipment and systems located in the MEF, MCR, TR, Security Operation Center, and Security Server Room;
 - (ii) Network equipment for the wired and wireless networks;
 - (iii) Wireless access points;
 - (iv) PBX and other telephone equipment;
 - (v) Public address system;
 - (vi) Intercom;
 - (vii) Controls power for protection relays;

- (viii) Digital metering system.
 - (ix) Security Systems
 - 1. Intrusion detection systems;
 - 2. IP Video Surveillance systems
 - 3. Access Controls Systems; and
 - (x) The Facility's BMS including but not limited to the associated server and field devices;
- (b) The UPS system:
- (i) Will be fed from the standby power system backed by the diesel generators. The UPS system will be fed by circuits supported by the generator system and will be rated for a minimum of 30 minutes at full rated load;
 - (ii) To have a modular and scalable architecture with no system-level single point of failure;
 - (iii) To have hot-swappable UPS power modules;
 - (iv) To have scalable, N+1 redundancy, fast serviceability, and reduced maintenance requirements via self-diagnosing, swappable, and field-replaceable modules;
- (c) UPS system will be sized and provided with spare capacity as required in this Schedule 1;
- (d) UPS units will be true online double conversion style complete with static bypass and wrap-around maintenance bypass switching to permit servicing of the UPS without power interruption. The static bypass will automatically bypass the UPS in the event of a UPS failure. UPS system will have an external maintenance bypass cabinet for servicing the UPS system;
- (e) UPS units will operate as an online, fully automatic system in the following modes: Normal, Battery, Recharge and Bypass;
- (f) All UPS systems will automatically transfer the load to and from the Utility power supply without any interruption or disturbance of supply to the load. Provide minimum spare capacity as noted in Section 7.5.4 Electrical System Spare Capacity;
- (g) to have a minimum output power factor of 0.9;
- (h) to have an input filter at each UPS unit to limit the total harmonic current distortion to 5% when the UPS unit is carrying 100% rated load;
- (i) will have a network connection for monitoring and will indicate any alarms to the BMS, including the following:

- (i) battery monitoring system;
 - (i) when the UPS is in bypass mode; and
 - (ii) when the UPS is operating for more than 3 minutes on battery.
- (j) The BMS will display the alarm message and give action instructions to the operator for checking the UPS.
- (k) UPS will include a countdown timer located in the Security Server Room to display output alarm contacts triggered at 25% battery life.
- (l) The main distribution panel that is fed from the UPS system output to have an alternate input that can be energized directly from the main distribution equipment in the event of a UPS system failure. Provide interlock controls such that only one feeder can be energized at any one time.
- (m) Size breakers, electrical equipment and conductors feeding the UPS system, and the conductors and immediate electrical equipment connected on the load side of the UPS to the maximum capacity of the UPS such that the addition of future modules, if applicable, in the UPS will not require an upgrade to the electrical equipment infrastructure.

7.5.9 Wiring Methods and Devices

7.5.9.1 Basic Requirements

- (a) Wiring methods and materials will ensure safe, secure, reliable, and flexible electrical power, lighting control, communication, data, and life safety systems throughout the Facility.
- (b) Install all wiring in a neat and secure manner so that it is protected from damage and is not in conflict with mechanical or architectural components and allows for future changes and additions.
- (c) Wiring and wiring support systems will be concealed from public view and access.
- (d) Utilize non-alloyed copper or aluminum for all conductors and all conducting components of electrical equipment, which form part of the Facility's wiring system. The minimum conductor size will be #12 AWG. Copper conductors must be used for all feeder or branch circuits with ampacities of 100A or less. Copper conductors must also be used exclusively in exterior wiring applications.
- (e) All exposed wiring will be installed in the EMT conduit. The design-builder will not use armoured flexible cable (example: TECK, ACWU, et cetera) except where wiring is concealed.
- (f) Install fire-stopping in all rated assemblies to maintain all fire separations. Fire-stopping will be UL listed and have a minimum rating to match the rating of the assembly.

- (g) Separate all wiring for systems of different voltages and from different sources. Do not run in common raceways. Maintain adequate shielding and separation between wiring for power and communication systems to prevent interference.
- (h) Minimum EMT conduit size is 21mm except that minimum EMT conduit size for all communication systems are 27mm.
- (i) EMT will be surface mounted in service rooms and concealed in ceiling spaces and partition walls. Use rain-tight connectors for surface-mounted conduits. Do not encase EMT in concrete unless such installation is for FA wiring or for the protection of emergency conduits.
- (j) Where EMT conduit is encased in concrete, the runs will:
 - (i) be as short as possible; and
 - (ii) emerge from the concrete in the closest adjacent space above the suspended ceiling.
- (k) The use of ENT (Cor-Line or equivalent) is not permitted.
- (l) Use liquid-tight flexible conduit for all final connections to mechanical equipment, transformers and equipment that generates vibrations
- (m) The minimum flexible conduit size is 21mm, and the maximum length of any flexible conduit run is 1.5m.
- (n) Intentionally Deleted.
- (o) Use rigid PVC conduits for the underground portion of services to lighting, power outlets, and other loads located outside the Building footprint on the Site.
- (p) Wiring will be FT4 rated, except where installed directly in a plenum space, in which case it will be FT6 rated.
- (q) Install individual bond conductors in each conduit and raceway.
- (r) Employ measures to minimize the effects of harmonic currents flowing in neutral conductors.
- (s) Use oversized neutral conductors and separate neutrals with feeders to mitigate harmonics of components. Dedicated neutral conductors will be provided for all branch circuits with receptacle loads or known non-linear loads.
- (t) Terminate branch circuit wiring in panelboards located on the same floor as the branch circuits served.
- (u) Identify pull boxes, junction boxes and conduits with labels to indicate the function and voltage of the system and the next termination point at either end of the run.

- (v) All receptacles connected to “Normal Power,” “Generator Emergency,” “Generator Standby,” or “UPS Power” will be colour-coded to meet the requirement of this Schedule.
- (w) Faceplates will be heavy use rated polycarbonate. Grouped receptacles and switches will have a single cover plate for the whole group. Stainless faceplates will be used in labs, publicly accessible areas, central corridors, and service areas.
- (x) Provide Tamper Resistant receptacles in all public access areas.
- (y) Provide a maximum connection of four (4) general use/housekeeping 5-20R duplex receptacles to a 20A circuit maximum. 15A receptacles are not permitted for this use.
- (z) Provide a maximum of three (3) workstations to a 15A circuit maximum, and provide a maximum of two (2) enclosed offices to a 15A circuit maximum.
- (aa) Provide minimum one convenience 5-20R duplex receptacle on a 20A single-pole circuit every 10m within storage and common areas, and per 8m of a linear corridor on alternating sides throughout the Facility. Convenience receptacles will be logically distributed in a manner appropriate to the area being served. GFCI receptacles will be provided as required by Code.
- (bb) Utilize NEMA 5-20RA style receptacle for each fax machine, printer, copier, coffee machine, microwave, and other breakroom equipment, and provide a dedicated circuit for each.
- (cc) Provide a minimum of one (1) 5-20R duplex receptacle at no more than 10 meters apart in circulation areas and provide one dedicated circuit for a maximum of four (4) receptacles. The receptacles will be zone controlled and switched ON only when the lighting in that zone is ON.
- (dd) Each duplex receptacle spacing will be 1525mm on centre. Provide a maximum of four (4) lab workstation receptacles on a 15A circuit maximum.
- (ee) Provide ten (10) 15A, 120V receptacles with a dedicated circuit to each on Standby Power to each Lab space. The location of the receptacle will be determined through the review process pursuant to Schedule 2 - Review Procedure.
- (ff) Provide Standby power source for specialty Lab equipment.
- (gg) Provide two (2) 20A 208V 1Phase circuits to each Lab on Standby Power.
- (hh) Provide additional receptacles as specified in the Room Data Sheet.
- (ii) The final location of all receptacles and connections will be determined through consultation with the Owner:

- (i) Allow for 60 duplex 15A, 120V receptacles on 40 dedicated circuits, that will be placed as required by the Owner pursuant to Schedule 2 - Review Procedure and connected to any of the power branches as required by the Owner and directed by the Electrical Consultant;
- (ii) Provide dedicated circuits for all equipment and devices where required by code, Standards, or as recommended by the manufacturer.
- (jj) Provide heat tracing and fire alarm monitoring of all heat traced sprinkler lines.
- (kk) Provide heat tracing for all mechanical piping as required and monitor power to the heat tracing panel via the BMS.
- (ll) Provide flexible wall, floor and overhead power connection systems to support project-based work with various equipment on rolling tables and stands in the Digitization Image Studio. The power connection layout will be approved by the Owner pursuant to Schedule 2 - Review Procedure.
- (mm) Provide required power connections to Owner's supplied equipment.
- (nn) Provide power connections to communication/server equipment/UPS. Twistlock type receptacle will be used where required.
- (oo) Provide required power connections and receptacles to audio-visual equipment.
- (pp) Provide power connections to exterior irrigation controllers.
- (qq) Utilize weatherproof NEMA 5-20R 15 or 20Amp style receptacles for Christmas lighting. Provide Class A type GFCI breakers for all exterior lighting outlets. Strategically located in soffits, overhangs, and entrance and exits of the Facility. Provide an additional twenty (20) exterior receptacles that will be located throughout the exterior space as determined in consultation with the Owner.
- (rr) Intentionally deleted.

7.5.10 Electric Vehicle Supply Equipment (EVSE)

7.5.10.1 Basic Requirements

- (a) Provide eight (8) Level 2 EVSE in the parking lot of the Facility. The location of EVSE will be determined in consultation with the Owner.
- (b) Provide EVSE revenue capturing capabilities.

7.5.10.2 Performance Requirements

- (a) EVSE stations will include a user interface, a display and status indicators. The EVSE stations will include all hardware, software and mounting hardware required for a fully functional charging system.
- (b) The EVSE stations will be a complete and integrated unit and will not comprise of individual components that form functional equivalency.
- (c) EVSE stations may be single-output or dual-output and configured as pedestal mount as required by the Facility parking layout and the Owner's requirements.
- (d) Where dual-output assemblies are provided, they will, under normal conditions, provide 100% of the rated output of both connections simultaneously, at all times, without de-rating. Each output will be fed from an independent circuit.
- (e) Provide all hardware, software, licenses, training, and any other supporting components to comprise a complete and operational EVSE system.
- (f) EVSE cables will be minimum of 5.4m in length and will be on a self-retracting internal cable reel or hanger to keep the cable off the ground when not in use.
- (g) EVSE will be provided with wall, unit, or stanchion mountable signage complete with wording and symbology approved by the Owner pursuant to Schedule 2 – Review Procedure.
- (h) EVSE will have built-in wireless communications to facilitate load management and payment logistics.
- (i) EVSE stations will have a user interface with a start/stop mechanism, status indicators, a display readable in sunlight and low ambient lighting conditions, a meter/display showing energy consumption, diagnostic capability, and be Americans with Disabilities Act (ADA) compliant.
- (j) The EVSE stations will be provided with auto short circuit and ground fault shut off, auto restarts in the event of a power outage and/or ground fault, protection against "live power" (de-energizes connector if uncoupled from a vehicle), power surge protection, outdoor-rated enclosure - NEMA 3R, 3S, 3X, 3RX, 3SX, 4, 4X, 6, or 6P (UL50E), UL listed and/or ETL (UL 2594, UL 2231, UL 1998, UL 991) and NEC Article 625.
- (k) The EVSE stations will operate at 208V single-phase, 60Hz -22°F to +122°F (-30°C to +50°C) min., 90% non-condensing relative humidity, FCC part 15 Class A or Class B.
- (l) The EVSE stations will be network-ready, including hardware/software to communicate with a network management system (NMS). The EVSE will use Open Charge Point Protocol (OCPP 1.5 or later) to communicate with an NMS. The EVSE will

be available as a “gateway” (hub) and as a “non-gateway” (node) type. Gateway stations will communicate directly with an NMS; Non-gateway stations will communicate with the NMS via the gateway station. Gateway stations will communicate with one or more non-gateway stations via wireless radios.

- (m) The EVSE stations will be equipped to accept payments from a mobile payment (smartphone application). The payment functionality will comprise of a downloadable smartphone app (available on iOS and Android), QR Code (or similar) and toll-free phone number on the front of the EVSE.
- (n) The EVSE will be equipped with a smart card reader (EMV – Europay, Mastercard, Visa) compatible with contactless credit cards, magnetic strip card compatible, and Payment Card Industry Data Security Standard (PCI DSS) compliant.
- (o) EVSE's will be installed on a separate distribution panelboard and metered by the Owner's information meters. Owner metering will be on the distribution feeder at a minimum. Individual EVSE metering by the Owner's metering system is optional.

7.5.11 Raceway and Cable Tray Systems

7.5.11.1 Basic Requirements

- (a) Provide raceways for all wiring and cable to support, protect and organize all wiring and cabling systems.
- (b) Design raceways to provide ease of access and capacity for expansion and change, consistent with the requirements of the equipment and systems that they serve.
- (c) Install all raceways in a neat and secure manner to protect them from damage and are not in conflict with mechanical or architectural components, and allow for future changes and additions.
- (d) The use of flexible PVC conduit (ENT) is not permitted.
- (e) Refer to APPENDIX 1D – IT Responsibility and Interface Matrix for a list of systems that may share raceways, conduits, pull boxes and back boxes or require their own separate pathway system. ESCS cabling will always be secured in conduit from end to end.
- (f) Use rigid type cable tray, wire mesh or ladder style in steel. Provide bonding as required by Code.
- (g) Provide separate raceway or raceway with barriers to isolate systems of different voltages and to prevent magnetic interference.
- (h) Design and install raceways and cable trays without sharp edges or sharp bends so that cables can be pulled in or laid in and removed without damage to the cables. Any bends in raceways will

not exceed the soft 90-degree bend as per ANSI/TIA cabling standards.

- (i) Provide all cable trays with a minimum of 40% spare (physical space) capacity for installing future cables.
- (j) If cable trays pass through walls with fire resistance ratings, provide fire-rated pathway mechanisms (such as STI EZ-Path or equivalent) to allow easy installation and removal of cables in the future. Cable fill through each adjustable mechanism firestop sleeve will not exceed 40% of the available internal cross-sectional area. Provide a minimum of one (1) additional firestop sleeve at each location for future use, capable of accepting 40% of the number of cables initially installed at each location.
- (k) Provide continuous #6 AWG minimum green insulated copper bond wire in the tray. Provide #6 AWG green insulated copper bonding jumper between the cable tray and every associated conduit to ensure a continuous bond between the tray and low-tension raceways.
- (l) Use conduit for the final drop from cable tray to field devices.
- (m) Install all conduits in finished areas within finished walls and above finished ceilings.
- (n) Provide a minimum of two spare conduits from flush-mounted wall panels to the ceiling space. Spare conduits will be of equal size to the incoming power supply conduit. Label conduits as spare.
- (o) Provide a minimum of three spare 27mm EMT conduits from all surface mounted panelboards to terminate in a 154mm x 154mm ceiling-mounted junction box. Install smoke seal and pull string for future use.
- (p) Provide pull string and smoke seal all spare conduits. Label accordingly.

7.5.12 Grounding and Bonding

7.5.12.1 Basic Requirements

- (a) Provide grounding and bonding for all electrical equipment and systems in the Facility for occupants' safety and protection against damage to equipment and/or property in the event of a fault occurring in any equipment or system.
- (b) Design a station grounding counterpoise for the outdoor substation transformer to meet the allowable step and touch and ground potential rise (GPR) values.
- (c) Install grounding and bonding in conformance with applicable codes and standards, including CEC, IEE, CSA and ANSI/TIA standards for communications, security equipment and systems.

7.5.12.2 Performance Requirements

- (a) Utilize non-alloyed copper for all conductors and all conducting components of electrical equipment which form part of the grounding and bonding systems in the Facility.
- (b) Provide solid or low resistance system grounding, including conductors and bussing.
- (c) Provide a ground bus in each electrical and communication room connected to the central grounding system.
- (d) Determine the Facility R (risk) value by conducting a Lightning Risk Assessment per CAN/CSA B72-2020., Provide a lightning protection system to meet the requirements of CAN/CSA B72-2020.
- (e) Provide a copper bonding conductor within all raceways for feeders and branch circuit wiring.
- (f) Provide a minimum #6 AWG copper conductor will be run to the telecommunications main bus bar (and bond communications systems in accordance with ANSI/TIA 607 requirements).
- (g) Label all grounding and bonding conductors and bus bars consisting of the 'bonding backbone' with printed labels.
- (h) Submit grounding riser diagram for Facility for review as part of technical and design submissions.

7.5.13 Seismic Requirements for Electrical Systems

7.5.13.1 Basic Requirements

- (a) Provide seismic restraint for all electrical equipment and components of electrical systems which are part of the Building(s) electrical systems as defined in the BC Building Code. The seismic restraint systems to facilitate the maintenance and reconfiguration, as well as the installation, will coordinate with the Buildings' architectural finishes.

7.5.13.2 Performance Requirements

- (a) Provide seismic support for all electrical equipment and components of electrical systems that have the potential to cause injury or damage during or following a seismic event.
- (b) Use seismic restraint systems that are designed by a Professional Engineer, or where an identified pre-designed standard restraint device or system exists for a particular item, that equipment may be used provided that written confirmation of its acceptability for the installation is provided by a Professional Engineer signed and sealed drawings as well as typewritten field reports from a professional seismic engineer registered in British Columbia. Obtain certification of the main electrical distribution equipment for

“seismic withstand capability” and to maintain the certification, anchor such equipment according to the manufacturer’s instructions.

7.5.14 Power Quality

7.5.14.1 Basic Requirements

- (a) Establish and maintain an overall power quality that assures suitable conditions for the operation of all electrical and electronic equipment throughout the Facility.
- (b) Provide equipment and systems which minimize the probability that electrical equipment and systems will be harmed or impaired either by external events or conditions, such as lightning, substation switching transient currents, and disturbances on the utility service, or by internal events such as internally generated transients resulting from inductive and/or capacitive load switching, or other conditions generated within the Facility.
- (c) Meet or exceed the IEEE established standards for power quality, including Harmonic Mitigating Transformers, Harmonic Filters, and Surge Protective Devices (SPDs).
- (d) Provide harmonic mitigation equipment to ensure that power quality meets or exceeds recommendations in IEEE standard 519-2014, based on a harmonic study of the Facility’s electrical system. For the purposes of measuring the harmonic distortion within the Facility, the “Point of Common Coupling” (PCC) is the point electrically nearest upstream to the load being evaluated, at which other loads are or could be connected. There are multiple PCCs within the Facility’s electrical system, including VFDs, input to the UPS system, and other non-linear loads. Each PCC will be evaluated in the harmonic study.

7.5.14.2 Performance Requirements

- (a) Provide equipment such as filters, zigzag and/or harmonic mitigating transformers and SPDs specifically designed to control and minimize all adverse power quality conditions that could damage or impair the function of sensitive electronic equipment used in the Facility.
- (b) The voltage phase imbalance will not exceed 3% between phases A, B, C anywhere within the power distribution system.
- (c) Provide station-class lightning arrestors on the primary side of the 25kV main step-down transformer. Provide integral SPDs on all 600V distribution panels and all 120/208V distribution panels. 120/208V panelboards supplying power to sensitive electronic equipment will also have integral SPDs and dedicated neutrals for electronic equipment.
- (d) Retain power quality meters at all secondary distribution centres to demonstrate that power quality meets or exceeds all applicable Standards, including IEEE.

7.5.15 Acoustical for Electrical

7.5.15.1 Basic Requirements

- (a) Minimize noise and vibration impacts to program areas due to electrical equipment such as generators, transformers, and similar and operation of these pieces of equipment. Utilize acoustic screens, vibration isolators and carefully selected exterior equipment to create a comfortable environment for Occupants.
- (b) All electrical equipment and components will comply with acoustical requirements and sound transmission ratings in APPENDIX 1C - Acoustical Technical APPENDIX.
- (c) Minimize constructions such as rigid conduits that act as tubes to transmit sounds from one area to another. Provide acoustic sealant around conduits.
- (d) In acoustically sensitive stud walls, stagger electrical boxes by at least one stud space. Use mineral fibre insulation to seal joints around all cut-outs such as electrical, TV and telephone outlets. Back-to-back electrical boxes in the same stud space is not permitted where precluded by Code, where installed in a fire-rated assembly, or where installed in an acoustic separation.

7.5.15.2 Performance Requirements

- (a) Noise generating equipment will be located within an electrical room.
- (b) For transformers, the sound level at 5ft will not exceed ANSI and NEMA levels for self-cooled ratings:
 - (i) 45dB up to 45kVA
 - (ii) 50dB from 75 to 150kVA
 - (iii) 55dB from 151 to 300kVA
 - (iv) 60dB from 301 to 500kVA
- (c) Noise generated by the UPS under normal operation will not exceed 67 dBA at one meter from any operating surface, measured at 25 degrees Celsius and full load.

7.5.16 Metering

7.5.16.1 Provide a networked metering system and real-time display of electrical demand and consumption at key points (determined through the review process pursuant to Schedule 2 - Review Procedure) throughout the Facility, consisting of:

- (a) secondary feeder for the main 25kV:600V step-down transformer;
- (b) all 600V distribution panel feeders;

- (c) output of each automatic transfer switch;
 - (d) Generator Emergency power feeder;
 - (e) Generator Standby power feeder;
 - (f) Normal Power feeder;
 - (g) Feeders to all lighting panelboards;
 - (h) Feeders to all mechanical panelboards;
 - (i) Feeders to all general power panelboards; and
 - (j) Feeders to all motor control centres (MCCs);
- 7.5.16.2 The metering system will not be dependent on power from the metered circuit for its operation and will be supported by a backup power source or sources, which ensure operation when the metered circuit is de-energized.
- 7.5.16.3 Connect electrical demand and consumption meters to the BMS.
- 7.5.16.4 Implement a networked metering system with terminals for maintenance and plant administration and data transfer to the Facility's BMS. Provide network software, hardware, licensing to provide remote monitoring and third-party assistance, reprogramming and troubleshooting.
- 7.5.16.5 The metering system will, at a minimum, provide the following information about each metered circuit:
- (a) Phase-to-Phase voltage (all phases), line-to-neutral voltage (all phases), phase demand and peak current (all phases and neutral), kW (peak and average), kVA (peak and average), Power Factor, kWh, VAR hours, frequency, current and voltage harmonics for power quality meters.
 - (b) Line-to neutral voltage (all phases), phase demand and peak current (all phases and neutral), kW (peak and average), kVA (peak and average), power factor, kWh and VAR hours for the power consumption meters.
- 7.5.16.6 Include trend logging equipment to comply with and fulfill energy measurement and verification requirements. The logged information will not be overwritten and will be archived.
- 7.5.16.7 Design the metering system network to store historical data and to have the capability to generate user-configurable electronic and printed reports on demand.
- 7.5.16.8 The metering system will provide easily read locally displayed information for all distribution at primary voltage and each secondary distribution switchboard.
- 7.5.16.9 Metering intervals will be 15 minutes or less.

7.5.16.10 Each meter will have internal memory capable of a minimum of 60 days of recording time.

7.5.16.11 Utilize power quality type meters for monitoring harmonics and surges/sags. Provide power quality meters capable of monitoring harmonics on the distribution panels.

7.5.17 Energy Management

7.5.17.1 Provide an integrated Energy management system to monitor, record, analyze, report on and control Energy consumption from all sources that supply Energy to the Facility. This system will be connected to the BMS.

7.5.17.2 Design the system to provide sufficient information to enable the Owner to make Facility wide “demand-side management” decisions relating to the overall Energy demand, with the intent of reducing overall Energy consumption and demand throughout the Facility.

7.5.17.3 Provide a system and equipment that is flexible, controllable and will form an integral part of the Facility.

7.5.17.4 Design the Energy management system will be accessible from any networked computer using appropriate software.

7.5.17.5 Provide a minimum of five site software licenses if licensing is required.

7.5.18 Mechanical Equipment Coordination

7.5.18.1 Basic Requirements

(a) Provide electrical power control and monitoring connections to all mechanical equipment as required for proper operation, protection, and maintenance of the equipment. Materials and installation methods will result in safe, reliable, and serviceable mechanical equipment and systems in the Facility.

(b) Provide either MCC's or mechanical equipment panelboards to consolidate mechanical equipment connections.

7.5.18.2 Performance Requirements

(a) Utilize institutional or industrial quality cables, connectors, conduit systems, fittings and hardware used to make a connection to mechanical equipment to provide for high levels of reliability, durability, and ease of maintenance of the equipment.

(b) Design connections made to motors and/or motor-driven equipment or equipment with noticeable levels of vibration to accommodate the vibration.

(c) Design connections to mechanical equipment to easily permit removal and replacement of the equipment.

(d) Size motor control centres/panelboards, main feeders to distribution equipment, and mechanical distribution centres to

accommodate the initial mechanical equipment with an additional 25% spare capacity.

- (e) Provide individually enclosed motor starters for individual motors.
- (f) Utilize motor control centres or consolidated panelboards when three (3) three-phase motors that require a starter are located within 50m of each other.
- (g) Provide nameplates on MCC's or mechanical panelboards to match motor nametags.
- (h) Provide wiring diagrams of each starter type.
- (i) Provide full-size starters.
- (j) Motor starters will be combination magnetic MCP (Motor Circuit Protector) type with integral control power transformers, Hand-Off-Auto (HOA) or start/stop control and at least two auxiliary contacts in addition to seal-in contacts.
- (k) Provide combination starters for all motors 1/2 HP and larger that are not already controlled by VFD or include an integral control package. All motors of 1/2 HP or more will be 600 volt 3 phase.
- (l) For motors 20HP and above, provide reduced voltage soft-starter or variable frequency drive (VFD). Provide integral harmonic cancellation devices to limit harmonics to 5% current harmonics (iTHD) of the full load fundamental current if solid-state starters are employed.
- (m) Starters and MCC's/panelboards will be indoor sprinkler proof, type 2 enclosures. Arc flash reducing type will be utilized for 600V MCC's/panelboards.
- (n) Provide individual control transformers for each starter.
- (o) Starters or MCC's/panelboards connected to emergency, standby, and normal power will be coloured to match the corresponding system colour. All interiors will be white.
- (p) Electrical connections and power paths to mechanical equipment will reflect the redundancy considerations of the corresponding mechanical system or portion of the mechanical system serving an area.

7.5.19 Lighting

- (a) Basic Requirements
- (b) Provide exterior and interior lighting to create a safe, secure, and healthy environment with illumination levels sufficient to allow Occupants to perform required tasks.

- (c) The selection and location of all luminaires will be closely coordinated with the CCTV system to avoid “wash-out” of CCTV video images and ensure proper illumination levels are maintained to permit video capture from the CCTV system.
- (d) Selected lighting for specific program areas will utilize commercial-grade fixtures and will meet the required task illumination required in each specific area of the Facility.
- (e) Use a combination of natural light, luminaires and natural light-harvesting controls to maximize Energy savings.
- (f) All luminaires will be selected with an emphasis on energy efficiency, glare reduction and high colour rendering.
- (g) Luminaires will have the following characteristics:
 - (i) LED 2700°K to 4100°K with colour rendering index (CRI) > 90;
 - (ii) LEDs will be from the same bin number and will be within a 3 step MacAdams ellipse within the same luminaire or same type of luminaire;
 - (iii) LED luminaires in the following department areas will have R9>50:
 - 1. Public Access Areas (rooms 2.301 through 2.303, and 2.305)
 - 2. Lab Area (all)
 - 3. Collections Storage Areas (all)
 - 4. Loading and Receiving (rooms 6.301 through 6.309, 6.314, and 6.315.
- (h) Lighting power density levels will be lower than ASHRAE 90.1 by a minimum of 10%.
- (i) Provide energy-efficient components such as power supplies, LED drivers, and lamps of high efficacy and quality light.

7.5.19.2 Performance Requirements

- (a) Luminaires will be cUL / CSA certified for wet locations or IP67/68 rated to suit application where required and will be so labelled.
- (b) Utilize LED lighting technology. Do not use incandescent, compact fluorescents or HID lighting unless otherwise noted.
- (c) LEDs will be measured to LM79 standards and tested to LM80 and L70 using TM-21 standards. Provide a minimum five-year warranty and minimum life of 50,000 hours at 70% lumen output for LEDs.

- (d) Design lighting in all spaces to meet the illuminance levels (both horizontal and vertical) required of the most visually demanding task per the IESNA Lighting Handbook. Include dimming and multi-zone controllability where required by Code, or the IESNA Lighting Handbook, whichever is more stringent.
- (e) Provide under-counter light on a dedicated dimming switch for all above counter cabinets.
- (f) Lighting circuits will be loaded up to a maximum of 60% of the circuit breaker rating to allow future flexibility.
- (g) Lighting in areas where computer terminals and similar screens will be used will be specifically designed to eliminate direct, point-source glare and indirect glare in accordance with the Recommended Practices of the IESNA.
- (h) Lighting in collections storage areas will minimize exposure to the collections in the long term. Lighting in collections storage areas will be suspended direct or indirect lighting complete with UV filters or negligible UV contribution (less than 10 μ W/lumen).
- (i) Utilize luminaires with the appropriate BioSafety Lab (BSL) listing for Lab spaces.
- (j) Lighting in Public Access spaces will be indirect only.
- (k) Provide a two-channel track lighting system in Learning Areas 2.301, 2.302, 2.305 and 2.306:
 - (i) The track lighting system will have adjustable floodlights and downlights.
 - (ii) Track mounted downlights will have LED modules with 3000K CRI 97, UGR (unified glare rating)<16, minimum 1190 lumen to 2460 lumen, and adjustable between wide flood, extra-wide flood and oval flood.
 - (iii) Track mounted spotlight will have LED modules with 3000K, Cri 97, minimum 200lm to 1230lm, minimum 2W to 10W output, and a continuously variable zoom from narrow spot to wide flood.
 - (iv) One channel will carry the control signal, and the other channel will carry power.

7.5.20 Exterior Lighting

7.5.20.1 Basic Requirements

- (a) Provide illumination for safety purposes and to assist Staff in the visual detection of any activity and of people or objects accessing the Site. Illumination levels will also consider the neighbouring residential areas and will prevent up-lighting into the sky (dark sky

compliance) and light pollution and trespass onto neighbouring properties.

- (b) The selection and location of all exterior luminaires will be closely coordinated with the CCTV system to avoid “wash-out” of CCTV video images and ensure proper illumination levels are maintained to permit video capture from the CCTV system.

7.5.20.2 Performance Requirements

- (a) All exterior luminaires will be LED vandal-resistant and be full cut off.
- (b) Meet the uplight, light trespass and internally illuminated exterior signage requirements in accordance with the LEED® V4 credit - Light Pollution Reduction credit.
- (c) Light standards located in parking and along roadways will have a cylindrical concrete pole base that extends 1m above finished grade to protect the pole from vehicular impact.
- (d) Parking lot and associated walkaway lighting will be circuited and controlled so that lighting levels can be lowered during non-active periods to 50% of the design illumination levels while maintaining an adequate uniformity ratios.
- (e) The lighting level for surface parking areas will comply with IESNA RP-20-14 Lighting for Parking Facilities.
- (f) Lighting controls will comply with ASHRAE 90.1 requirements as a minimum. Occupancy/Vacancy sensors will be of a technology suitable for the intended applications.
- (g) Provide maintained average illumination levels and uniformity ratios as recommended by the IESNA Lighting Handbook.
- (h) Exterior lighting will have a minimum 80 CRI.

7.5.21 Exit Signs

7.5.21.1 Basic Requirements

- (a) Provide commercial grade LED edge-lit pictogram exit signs in interior areas.
- (b) Provide commercial grade weatherproof LED pictogram exit signs in exterior spaces where required by Code.

7.5.21.2 Performance Requirements

- (a) Interior signs will be edge-lit, LED type with die-cast aluminum construction. Connect to Generator Emergency power supply.
- (b) Exterior signs will be tamper-resistant, CSA type 4X fully gasketed and sealed, suitable for the wet, cold and marine environment and

constructed using heavy-duty polycarbonate housing, LED type.
Connect to Generator Emergency power supply.

- (c) All exit signs will comply with CAN/CSA C860.
- (d) Exit signs will be provided with a ten-year warranty.
- (e) Provide exit signs at corridor intersections for wayfinding to exit doors and where required by all applicable Codes.
- (f) All exit signs are will be visible on approach to the exit and will be clear of all visual obstruction.
- (g) Provide spare exit signs on the order of 5% of the overall project quantity. Hand over to Owner on project completion.

7.5.22 Lighting Controls

7.5.22.1 Basic Requirements

- (a) Provide a scalable digital addressable lighting control system that will provide the ability to adjust the lighting to suit functions and activities, reduce Energy consumption and permit simple and integrated control of lighting both locally and remotely.
- (b) Intentionally Deleted.
- (c) The lighting control system will be accessible via the web server
- (d) The lighting control system will be connected to the BMS for monitoring purposes.
- (e) Consult with the Owner in user group meetings when programming the lighting operation, such as controllability, zones, schedule and timing of the Facility. Design a schedule of lighting controls and include in the design specifications documentation.
- (f) Lighting controls are to meet or exceed ASHRAE 90.1 requirements.
- (g) Dual technology Occupancy sensors, vacancy sensors, and natural light dimming control systems will be used to maintain lighting at levels based upon the Occupancy of the room and the quantity of natural light available. On/off natural light controls are not permitted.
- (h) The natural daylight control system will maintain the ambient light intensity throughout the Public Access areas by adjusting the lighting system in response to the daylighting pattern changes.
- (i) Provide manual switches in Electrical and Mechanical rooms.

7.5.22.2 Performance Requirements

- (a) The Facility will have a low voltage control system divided into logical zones and subdivided to permit Energy management and allow Staff control of light levels for all interior and exterior lighting.
- (b) The lighting system will maximize the use of natural light and Occupancy/vacancy sensors to maintain light levels and use the least amount of Energy to provide the required illumination.
- (c) Lighting controls located where they may be subjected to excessive moisture or to chemicals that may cause deterioration are will be rated specifically for the application.
- (d) Provide all required communications between the BMS control interface, lighting controllers, and Facilities Plan Room.
- (e) All lighting programming, scheduling and controls will be completed through the native lighting control system.
- (f) Corridor and stairwells will be provided scheduled shut-off based on operational requirements from the Owner regarding hours of operation of the Facility.
- (g) Intentionally deleted.
- (h) The exterior lighting system zones will have manual override control through an operable screen located in the Facilities Plan Room. Override controls will be divided into logical zones. Submit exterior lighting zone diagram for review during the development of construction drawings. Include and label the following zones as a minimum:
 - (i) Loading/Receiving
 - (ii) Main Entrance
 - (iii) Parking lot
 - (iv) Fire access routes
 - (v) Site entry road
 - (vi) Pathway/walkway lighting
 - (vii) Building entrances, including exterior stairs and ramps
 - (viii) "ALL ON/OFF" single point control
- (i) Lighting control will provide the flexibility required to adjust the lighting to minimal levels during predetermined nighttime hours to achieve Energy savings while maintaining required uniformity to provide and support CCTV system functionality.
- (j) Lighting control system interface with the security access control system to allow lighting within a space to come on by the detection of authorized entry from the access control system.

7.5.23 Natural lighting Harvesting

7.5.23.1 Provide photocell sensors to optimize energy use as required by the energy code and provide a stable illumination level utilizing natural and artificial lighting.

7.5.23.2 Daylight harvesting is only permitted to dim fixtures according to the amount of natural daylight and is not to toggle fixtures on/off.

7.5.24 Specialty Equipment

7.5.24.1 Basic Requirements

(a) Equipment requiring unique electrical and communications connections will be required in the Facility. Provide power, connections, specially conditioned power, communication conduits, and other electrical operational support to meet all requirements of these unique pieces of equipment. Refer to APPENDIX 1B-1 - Room Data Sheets for details of the unique pieces of equipment.

7.5.24.2 Performance Requirements

(a) Utilize institutional or industrial quality cables, connectors, conduit systems, fittings, and hardware to make connection to special equipment and to provide for high levels of reliability, durability and ease of maintenance of the equipment.

(b) Provide connections to special equipment that easily permit removal and replacement of the equipment.

7.5.25 Fire Alarm (FA) system

7.5.25.1 Basic Requirements

(a) Provide a 2-stage addressable fire system for the Facility that will meet or exceed the requirements of this Section.

(b) Coordinate device types and locations to provide maximum coverage and safety to occupants and collections.

(c) The FA system to comply with all applicable standards, including:

(i) BC Building Code;

(ii) CAN/ULC S524 Standard for Installation of FA systems;

(iii) CAN/ULC S537 Standard for Verification of FA systems;

(iv) Applicable NFPA codes; and

(d) The Design of the FA system will include locating components so that maintenance and testing can be performed with minimal interruption to operations.

7.5.25.2 Performance Requirements

- (a) Provide a complete two-stage, zoned and supervised fire detection and alarm system that includes fully addressable, intelligent, automatic and manual imitation devices and audio/visual alarm devices. Manual pull stations, smoke/heat detection and fire sprinkler water flow devices will initiate alarm activation. Alarm indications to consist of visual and combination visual/audible devices.
- (b) Install all FA wiring in conduit. Provide two-hour rated cable or other means of protection where required to meet survivability requirements of NFPA 72.
- (c) Provide 'Class A' circuit wiring for both initiating and notification circuits.
- (d) FA control panels (or control units) will be networked together, connecting the entire Facility via various communication protocols. FA cable network will have a redundant backbone. A trouble status will annunciate at the main FA panel if a partial break or fault occurs in the data link between any control panel and the main FA panel. Locate the main FA control panel in the same room as the life safety emergency distribution switchboard but outside of the high voltage electrical room.
- (e) Provide aspiration smoke detection system to cover all areas classified as A1.. Fire detection zones to align with the provisions of the Code at a minimum. Additional zones will be provided in consultation with the Owner pursuant to Schedule 2 – Review Procedure.
- (f) Provide addressable two-stage manual pullstations at all required exits.
- (g) All alerts, alarms, trouble signals, and other information will be annunciated at the main FA panel location.
- (h) FA remote annunciator will include LCD display and active graphic representation of the Facility floor plan, including zoning.
- (i) Provide remote annunciators at the Facility's main entrance, the SOC, and fire department response point. Coordinate the fire department response point with the local Authority Having Jurisdiction.
- (j) Audible annunciation will be provided by a wall or ceiling-mounted speakers and/or speaker/strobe combination devices. All public areas will have speaker/strobe combination devices.
- (k) FA audible notification appliances will provide alert levels at 10dBA above ambient noise with a minimum of 75dBA at every space of the Facility.
- (l) Locate air duct detectors away from the humidifiers.

- (m) Sprinkler zoning and fire speaker zoning will be compatible with the FA zoning.
- (n) Coordinate and provide fire alarm zoning and connection requirements with mechanically provided dry suppression systems.
- (o) Coordinate and provide fire alarm zoning and connection requirements with mechanically provided pre-action suppression systems
- (p) FA system to monitor suppression system valve positions.
- (q) As part of early smoke detection, provide addressable smoke detectors in all areas of the Building except those areas classified as A1.
- (r) FA system will monitor all generators and their fuel systems for 'Generator Run,' 'Generator Fail-to-Run,' and 'Generator Trouble' alarms.
- (s) FA system will monitor any pre-action or dry agent fire suppression systems for trouble and alarms.
- (t) Include control devices and connections to close fire and smoke doors on activation of first stage alert condition.
- (u) The FA system will control the smoke evacuation system. Facility controls to interface with the FA system to provide an integrated system.
- (v) FA system will have 25% spare capacity in each loop and every panel, in addition to any spare capacity requirements required for integrated paging, for future addition of devices.
- (w) Provide gel electrolyte-type batteries with overcharge protection for FACP and all transponders. Provide solid-state battery chargers with the capacity to recharge the entire battery system in four hours. Batteries will have enough capacity (with 25% spare time) to operate the entire system (except magnetic door holders) in accordance with the BC Building Code.
- (x) The FA system will have the capability will be monitored by an outside monitoring agency.
- (y) Provide fire alarm riser diagram, plan, and zoning of Building in glazed frame, under plexiglass, at fire alarm control panel. Drawings will be 600mm x 600mm minimum size.

7.5.26 Generator Load Management System

7.5.26.1 Basic Requirements

- (a) Provide an automatic load management system to shed select "Generator Standby" loads based on the backup generator supply demand. Connect the load shedding system to UPS power;
- (b) The load shedding system will support manual and automatic operation. The Owner will have the ability to remotely disable/enable the automatic operation function. The system will alarm the BMS when set to manual mode of operation for more than 2 hours;
- (c) The load shedding system will receive metering data on the generator supply feeder from the metering system and will be capable of analyzing the real-time demand of the generator supply;
- (d) Provide a signal from each ATS to the load shedding system to indicate source transfer status;
- (e) Provide local manual override controls on the system controller to temporarily disable the system operation when the generator is loaded during maintenance testing;
- (f) Provide remote and motor operable breakers for all breakers on the standby power distribution panel and main breakers on panel boards which are not directly connected to the standby power distribution panel. The remote and motor operable breakers will be connected to the load shedding system to allow the system to remotely open the identified loads and then reconnect such loads to the distribution system when the generator supply demand decreases;
- (g) System is to integrate with the BMS and allow the BMS to load shed the mechanical systems based on the generator supply demand; and
- (h) Develop a load shedding scheme priority matrix in consultation with the Owner and submit the load shedding system and matrix design for review during design submissions. This priority matrix will define the order by which loads are to be shed or added to the standby power system when heavily loaded.

7.5.26.2 Performance Requirements

- (a) The system will be comprised of a programmable logic controller and touch-screen display. The system will not utilize intermediary devices (ie. remote relays and contactors combination) between the load and load breaker to achieve the intended functions;
- (b) A self-contained battery storage power supply will be factory supplied with sufficient capacity to operate the system at full load for 24-hours;
- (c) The system will inhibit reconnecting the loads that are disconnected unless an operator override is authorized;

- (d) System will include mapping of all connected breakers and indicate the status of each breaker (i.e., open or closed) on a software program; and
- (e) Include for additional 25% input/outputs on the control system for future expansion.

7.6 Division 27 – Communications

7.6.1 Communications Services

7.6.1.1 Basic Requirements

- (a) Provide three (3) empty conduit pathways in diverse paths from the Main Entrance Facility (MEF) to the property line along Ryder Hesjedal Way for connection by the communications utilities.
- (b) Provide and install conduit pathways in accordance with utility regulations and requirements. The final location and layout of all pathways required will be determined through the review process pursuant to Schedule 2 - Review Procedure.
- (c) Provide physical space in the MEF for installation of utility-supplied communications service equipment and design the MEF to support various telecommunications service providers LEC (Local Exchange Carrier) and /or CLEC (Competitive Local Exchange Carrier).
- (d) The Design-Builder will design the Facility such that MEF, Main Electronic Security & Communication Systems Room (MCR), and Telecommunications Rooms (TR) align with industry standards and are located such that they are: optimized to serve the floor they are one, maximize the area they serve, minimize the distances for cable runs, and avoid interference with other services and systems.
- (e) The MEF may also be used as the MCR and will not be used as a TR for services to the work areas.
- (f) If the MEF and MCR are separate rooms, the incoming underground ducts will extend from the MEF to the MCR.
- (g) Access Control to the MEF will be restricted using card access.

7.6.1.2 Performance Requirements

- (a) Conduit pathways will be DB2 PVC and orange in colour as prescribed by the communications utility.
- (b) A minimum of three (3) 103mm underground conduits will be provided for incoming services.
- (c) The MEF will be the demarcation point for the termination of incoming services and include distribution pathways to the MCR.

- (d) A minimum one (1) sheet of (G1S) good-one-side, 19mm plywood backboard sized at 1.2m by 2.4m painted with fire retardant paint will be provided in the MEF and the MCR above utility conduit pathways and left empty for exclusive use by the communications service providers.
- (e) Delivery of redundant incoming telecommunication services and single cable television services, and outdoor rated cabling will be coordinated by the Owner with the Owner's contracted service provider. The Design-Builder will coordinate, with the Owner's providers, the connection point at the property line along Ryder Hesjedal Way and cabling termination space requirements and locations in the MEF.

7.6.1.3 Main Electronic Security & Communication Systems Room (MCR)

- (a) Provide an MCR to contain the main servers and network equipment for all Facility networks.
- (b) The MCR includes termination hardware, equipment racks, patch panels, cable management, network equipment and servers that are part of the other Facility services.
- (c) All Electronic Security & Communication Systems (ESCS) infrastructure provided by the Design-Builder will be the most recent, proven, and up-to-date version of the equipment in line with the current firmware and software releases in use by the Owner at the time of Contract Execution.
- (d) All ESCS will be easy to operate, easy to maintain, adaptable to change, and expandable to accommodate growth
- (e) The Owner anticipates the following Owners networks will be required in the Facility:
 - (i) An Administrative network for Occupants, including the Owners local area network, 802.11x wireless network, and public wireless access network.
 - (ii) A Security network for all security-based systems is also required and will be physically separate from the Administrative network.
- (f) Provide 2 and 4 post racks for the Owner networks as required to accommodate all provided network components. The Security network will be housed in racks separate from the Administrative network in the MCR.
- (g) The size of the MCR will be adjusted to account for all racks required for the implementation.
- (h) Provide basket cable tray for cable management within the MCR and distribution to surrounding spaces that is suspended above the racks with at least 300mm clearance above the racks to allow for cable installation and relocations. Waterfall cable management will

be provided from the bottom of the tray to the top of the racks to support cable bundles. The cable management system will be sized for 50% future capacity.

- (i) The MCR will not be used as a TR for services to the work areas.
- (j) Any mechanical services not serving the room directly will not be located inside of the MCR.
- (k) Any water sources or water-containing pipes will not be located above, adjacent or run through the MCR.
- (l) Refer to the APPENDIX 1B-1 - Room Data Sheets and the program requirements for services and construction characteristics.
- (m) Access Control to the MCR will be restricted using card access.

7.6.1.4 Telecommunication Rooms (TR)

- (a) TRs will be located to provide wired telecommunications cabling coverage for all areas of the Facility within maximum cabling distances as dictated by ANSI/TIA 568 (90m for CAT6_A unshielded twisted pair cabling).
- (b) The TRs will be the location for termination of horizontal cabling for all Owner systems and networks.
- (c) Furnish all walls with 19mm G1S plywood, void-free, 2.44 m high starting at 300 mm AFF (Above Finished Floor) capable of supporting attached equipment. Plywood will be either fire-rated or covered with two coats of CSA-approved fire-retardant paint.
- (d) Provide lighting at a minimum of 500 lux in the horizontal plane and 200 lux in the vertical plane, measured 1m AFF in the middle of all aisles (where applicable) using suspended luminaires. The lighting will be controlled with an occupancy sensor. The sensor will be programmable and provided with an override when workers are in areas of the room that are not detected by the sensor. Dimmer switches will not be used.
- (e) All ESCS infrastructure will be installed in 2 post racks. Final placement and number of racks in each room will be through the review process pursuant to Schedule 2 - Review Procedure.
- (f) The Security network will be housed in racks separate from the Administrative network; however, in TRs where space is limited, the Security network infrastructure may reside in the Administrative network racks if network design, spare capacity, and cable lengths permit.
- (g) If Administrative and Security networks are collocated in the same rack, then Security network components (active and passive) will also have a mechanism in place in front of the network components, clearly indicating that it is Security network equipment and not Administrative network equipment. This

additional level of security is required to ensure that proper patching procedures are followed.

- (h) Provide an intelligent infrastructure management system for Security network racks to provide automated patching tracking and notification of disconnected patch cords.
- (i) Provide basket cable tray for cable management within the TRs and distribution to surrounding spaces that is suspended above the cabinets with at least 300mm clearance above the cabinets to allow for cable installation and relocations. Waterfall cable management will be provided from the bottom of the tray to the top of the racks to support cable bundles. The tray system will be sized for 50% future capacity.
- (j) The access door will be a hollow metal door with a hollow metal frame to match the security level and will be a minimum of 1m wide and 2m high.
- (k) Floors will be finished with antistatic flooring. Floors, walls, and ceiling will be treated to eliminate dust. The finishes will be light in colour to enhance room lighting.
- (l) Power supplied will be uninterruptable with a local UPS power panel in the room. Each cabinet will be fed from two separate dedicated circuits. Convenience duplex outlets on a separate 20V 120V AC circuit will be placed at 1.83m intervals around the perimeter walls no higher than 300mm AFF.
- (m) Air handling for the TR will accommodate a continuous and dedicated environmental control to accommodate the equipment load based on having data switch ports for the number of ports served from the space with 50% growth. The cooling will be in a 2N configuration with equipment located outside the room.

7.6.2 Structured Cabling

7.6.2.1 Basic Requirements

- (a) Provide main and redundant fibre backbone communications cabling in diverse paths between MEF and MCR and between the MCR and all TRs in a physical star-wired topology throughout the Facility.
- (b) Provide structured horizontal cabling between TRs and field end data ports throughout the Facility.
- (c) Provide a data/communication cabling system with the provision of cables, connectors, and patch panels required for a complete and fully functioning system.
- (d) Provide a communications installation that is clean, tidy, and that utilizes cable management and deploys terminations as noted in the requirements of ANSI/TIA-568-C.2, ANSI/TIA-568-C.4

- (e) The end to end cabling infrastructure for the Administrative network will be white sheathed Category 6_A UTP cable, four pairs, 23 AWG CMR / CMP rated based on jurisdictional/municipal codes, and to conform to this standard, including all patch cables, jumper wires and equipment cords and will be installed, tested and certified by a Design-Builder certified by the cable manufacturer.
 - (i) The end-to-end cabling infrastructure for the Security network will be green sheathed and meet all requirements as per the previous clause.
- (f) The structured cabling infrastructure will not differentiate on the type of end-use equipment that is connected to it. All field and head-end ports will follow these guidelines:
 - (i) Administrative network: all black ports except for the wireless access points, which will be yellow.
 - (ii) Security network: all green ports.
- (g) Cabling infrastructure is required throughout the Facility. Locations and quantity of data will be shown on Communications Drawings. The following is a list of rooms where data is required (but not limited to) these rooms. Refer to APPENDIX 1B-1 for details on room types. Specifically:
 - (i) Office Area. All Offices and Work Rooms will be equipped with power and data. Shared Facilities spaces used as offices, Facilities Plan Room, and Shared Departmental Library also require power and data.
 - (ii) Central Shared Services. Shipping Office, Mail/Copy, Security Command Center, and Security Supervisor Office require power and data.
 - (iii) Loading and Receiving areas require power and data.
- (h) Design-Builder to include 365 allocated data ports, inclusive of the length of all required cabling runs in the overall design to be located at the Owner's discretion. The locations of data ports noted in APPENDIX 1B-1 – Room Data Sheets provide an indication of where many, but not all, will be placed.

7.6.2.2 Performance Requirements

- (a) Structured telecommunications copper cabling installed in this Facility will be used for, but not limited to, the transmission of voice, data, security, surveillance, and audio-visual signals.
- (b) Cabling will be installed in a physical star configuration with separate horizontal and backbone sub-systems. Horizontal cables link work areas (end users) to TRs located in proximity to the termination point (always on the same floor).

- (c) TRs will be linked to the MCR by main and redundant 24 strand multimode fibre optic backbone communications cabling in diverse paths.
- (d) UTP cables will meet or exceed the requirements outlined in NEMA Standard for Low-Loss Extended Frequency Premises Telecommunication Cable. The cabling will meet the performance requirements of the Category cable of the Underwriters Laboratories.
- (e) Each communications port at the field end on the faceplate will be identified with a machine-printed lettering tape label. Design-Builder will develop the unique Facility labelling approach in consultation with the Owner to identify which TR and port at the head end correspond to the port at the field end.
- (f) Each UTP cable consists of four unshielded twisted pairs of 23 AWG (0.5mm) 100-ohm nominal characteristic impedance, solid round annealed copper conductors insulated with flame retardant polymer.
- (g) All cables will be certified/approved by the CSA Standard PCC FT4 flammability test and UL CMR.
- (h) Data/communications outlets will consist of 100 x 100 box c/w single-gang plaster ring and flush-mounted into walls.
- (i) All cables will have all pairs connected using the EIA/TIA standard pin configuration 568A.
- (j) Communications system faceplates will be the same coloured faceplates to match electrical outlets. Cover plates to have four keystone cutouts for ports. Blank filler plugs will be provided for all unused ports. Faceplates will be clearly and permanently labelled with clear identification of cable/termination numbers.
- (k) Provide modular RJ45 patch panels for a communications system for termination of communications cabling. Modular patch panels will have a maximum density of 48 ports in a 2U (rack unit) panel and a minimum size of 24 ports in a 1U panel. Cabling for wireless access points will be terminated on a separate patch panel. Label patch panel ports, indicating room locations of all outlets in consultation with Owner requirements and the developed labelling approach. Cross-connect ports will be labelled to correspond to the workstation/endpoint address and riser cable number.
- (l) Provide 10% spare patch panel space in each cabinet and 50% additional space for future patch panel expansion. Based on this loading, provide the same amount of space in the racks for active equipment.
- (m) Notwithstanding the findings of any lightning risk assessment completed as part of these works, provide surge suppression type lightning arrestors to protect all exterior installed cabling that uses copper conductors.

- (n) Fibre optic horizontal cable is required for the SOC. This cable will be a two-strand multimode OM4 fibre optic cable and is required over and above any standard CAT6_A horizontal cabling in the same work area.
- (o) All patch panels, racks, and cable trays will be bonded to the ground with #6 Cu. green insulated ground wire.
- (p) All used and empty raceways will be clearly and permanently marked at both ends to indicate destination and function with machine-printed and coloured labels. The markings will be clearly visible after construction is completed.
- (q) Each cable will be clearly marked with a permanent unique sequential identifier at each end of the cable. All horizontal cable terminations will be labelled identically within 300mm of each termination end through the review process pursuant to Schedule 2 - Review Procedure and the developed labelling approach.
- (r) The structured cabling will be neatly organized, bundled separately by sheath colour and clearly labelled for ease of use by the Owner. In a stacked switch configuration, the machine-printed label identifying the cable in the communication room at the modular patch panel end will be placed in line with the back of the switch and not within 300mm of the cable termination for ease of reading.
- (s) All two post and four post racking will be fully welded (not bolted together onsite). A rack system will be provided, complete with horizontal and vertical wire management and seismically restrained.
- (t) The complete end-to-end installation, including ports, cables, patch panels, and patch cords, will meet the industry-standard performance parameters for enhanced Category 6_A as recommended by ANSI/TIA-568.1-E.
- (u) Wires and cables will be as short as practical except that sufficient slack will be provided to prevent undue stress on cable forms, wires, and connections; to enable network components to be removed and replaced during servicing without disconnecting other parts and facilitate movement of equipment for maintenance purposes.
- (v) Wires and cables will be placed and protected to avoid contact with rough surfaces or sharp edges. Where wires or cables run through holes in metal, they will be protected by suitable grommets or bushings.
- (w) Provide clearance between cables and heat emitting or interference generating devices to avoid deterioration of cables due to heat dissipation and comply with industry standards. Cables will have a minimum separation of 150mm from unshielded power lines.

- (x) The horizontal wiring will be continuous with no splice points. Bridged taps are not permitted, and there will be no cross-connects between the outlet and the patch panel.
- (y) The maximum cable length for each run is 90 meters.
- (z) Cabling components installed in the structured cabling system will carry a 25-year warranty from the date of installation against defects in materials and workmanship.
- (aa) Provide a pull string in each data/communications outlet conduit. Provide bushings on all conduit ends.
- (bb) All horizontal communications copper cabling will be Category 6A unshielded twisted pair. All data, video, voice, security and Building Systems endpoints will be cabled as required with Category 6A cabling.
- (cc) Each wireless access point location will be provided with one white sheathed horizontal cable and a yellow port at the head and field end termination.

7.6.3 Patch Cords

7.6.3.1 Basic requirements

- (a) Supply two patch cords for each horizontal cable installed in the Facility.
- (b) Installation of patch cords for Owner networks will be by the Owner.
- (c) The patch cords will match the type of horizontal cable and have booted plugs.

7.6.4 Network and Server Cabinets/Racks

7.6.4.1 Basic requirements

- (a) Cabinets/racks that house servers, cabling or network equipment will be a minimum of 750mm wide x 1.1m deep and have a minimum of 44 usable rack units.
- (b) Cabinets/racks will have solid, lockable side panels, separate key lockable perforated front and rear doors, and have vertical wire management on both sides at the front and back of each equipment cabinet.
- (c) For each server cabinet/rack, provide a 24-port modular patch panel with six cables terminated on a corresponding patch panel within the network cabinet serving of the same network in the room.
- (d) Provide primary and secondary 208V vertical power strips for each cabinet. Server cabinets will be sized for 30A, and network cabinets will be 20A. Each power strip will be monitored by the

electrical metering system with a local display of amperage per phase.

7.6.5 Fibre Optic System

7.6.5.1 Basic Requirements

- (a) Provide a main and redundant fibre optic backbone cabling system to interconnect the MCR and TRs in the Facility.
- (b) This includes installation of a complete fibre optic cabling system, complete with provision of cables, connectors, and patch panels.
- (c) All fibre optic backbone cabling will be enclosed in EMT conduit to the point of entry and exit of a cable tray. All exposed fibre and between the points where the EMT conduit enter the MEF, MCR, or TR, and enter the terminating enclosure, including a service loop, will be protected with riser or plenum rated corrugated High-Density Polyethylene Innerduct (HDPEI). Conduit quantities and size will be selected to provide a 40% fill rate with an empty conduit for at least 50% future capacity for each network grouping with separation between main and redundant cables for the same network.
- (d) HDPEI will be securely fastened to the wall or vertical and horizontal cable management systems.
- (e) Backbone pathways supporting primary and secondary backbone cables for one network between rooms within the Facility will be separated by at least 3m, where the secondary path is separated by at least a one-hour fire separation.
- (f) All backbone cabling will be continuous between the MEF, MCR and TRs with no splices or terminations

7.6.5.2 Performance Requirements

- (a) All fibres will be terminated using LC style epoxy connectors for multimode, and SC style 8° angle polished pigtailed fusion spliced for single-mode fibres.
- (b) Fibre optic cables will be single-mode 9µm/125µm indoor/outdoor distribution fibre or multimode 24-fibre 50µm/125µm OM4 indoor distribution fibre.
- (c) Fibre optic backbone cabling will support a minimum 10Gb with cable configured to support future fibre migration to 100Gb capacity without adding backbone cabling. For each network, provide a minimum of 24 strands of multimode OM4 fibre optic cable with an indoor/outdoor rating from the MCR to each TR. For the networks requiring redundancy, provide a secondary 24 strand multimode OM4 fibre optic cable in separated and diverse pathways. If the distance exceeds the maximum distance allowable for OM4 multimode cabling, single-mode cabling will be used.

- (d) A passive optical network (GPON) configuration will be considered an Acceptable Equivalent option for Owner networks.
- (e) One 25 pair Category 5E copper analog backbone cables will be installed in a star wired configuration from the MEF to the MCR and each TR for emergency voice and other miscellaneous legacy voice requirements. The voice backbone will terminate on IDC wall-mounted panels in a cross-connect layout using the 25-pair colour code method. To allow for cross-connecting between horizontal and backbone voice cabling, 25 pin Amphenol tails will be run from the rack-mounted patch panel to the corresponding IDC blocks.

7.6.5.3 Installation requirements

- (a) All fibres will be terminated onto patch panels. Provide all required equipment and components, including cabinets, patch panels, splice trays, adapters, connectors, pigtails, cable guides as part of an integrated cable management system, and heat shrink sleeves.
- (b) All fibre optic cables will be installed in conduit or encased in HDPEI when exposed, including within cable trays. The cables will be installed such that they will not be crushed or damaged during or after installation.
- (c) Do not exceed the minimum bend radius of 20 times cable outer diameter for installation and ten times cable outer diameter upon completion of the installation.
- (d) Vertical run cables will be supported using intermediate tension relief as recommended by the manufacturer. Use a split wire mesh grip and install the cable from the top down. Vertical cables will be installed using a pulling grip to ensure the stress is placed on the cable itself and not the fibre.
- (e) Notwithstanding the findings of any lightning risk assessment completed as part of these works, provide surge suppression type lightning arrestors to protect all exterior installed cabling that uses copper conductors.
- (f) Cabling will not be installed in 90° elbows or junction boxes.
- (g) Bushings and grommets will be used on all metal ends, edges, and openings, where cables pass through to ensure the cable, is not damaged.
- (h) Leave a minimum of 1.5m service loop at each end of each cable at each point of termination.
- (i) Cables will be continuous with no splice points.
- (j) Label all individual cables as per Owner requirements.
- (k) Install all fibre runs in separate conduits from other systems cables. Do not install fibre optic cables in conduits with copper cables.

7.6.6 Administrative Network Design

7.6.6.1 The Administrative Network highlighted as requiring redundancy will be designed to mitigate all foreseeable threats affecting network availability and incorporate any mitigation and/or contingency measures necessary to maximize the availability, including the following:

- (a) primary and secondary backbone cables installed in separate conduits;
- (b) primary and secondary core network equipment located in separate cabinets in the MCR sized to handle the entire load and configured in a 2N mode so that failure and recovery of any one of the core switches will not disrupt the operations of the network and its connected devices. Failover time from one core switch to the surviving core switch will not exceed one network heartbeat (128ms);
- (c) all network equipment will be managed and have two power supplies and two supervisor modules, and two fans configured to each support the entire load and share the load when both are active; and
- (d) primary and secondary fibre uplink ports on the access switches to provide connections to each core switch, with configuration to provide virtual switch consolidation for a 128-millisecond transition in case of a failure.
- (e) A collapsed two-tier system would be satisfactory given the Owner's review and acceptance of a detailed network infrastructure design.
- (f) The Owner will accept a G-PON network infrastructure for the Administrative Network Design that meets or exceeds the requirements of this and corresponding sections in Division 27 Communications.

7.6.6.2 During design development, prepare a comprehensive Network Threat and Risk Assessment plan, identifying all foreseeable threats, critical points of failure, risk of failure, resulting mitigation and contingencies and incorporate into the network design;

7.6.6.3 Prepare a comprehensive network DRP for the Owner networks in consultation with the Owner. As a minimum, the DRP will address all threats identified in the Network Threat and Risk Assessment; and include:

- (a) a system backup and recovery plan for every server and network switch;
- (b) a recovery plan for all critical system components;
- (c) a software and firmware patch and update plan; equipment end-of-life refresh;

- (d) the approach to replacing failed equipment; and
- (e) include expected probability and severity of each identified item, including estimated downtime (if any), area affected, and description of operational impact.

7.6.7 Administrative Network Devices

- 7.6.7.1 The design of the Administrative Network will include all required network devices such as routers, core switches, distribution switches, access layer switches, DHCP servers, domain controllers, active directory servers and firewalls to constitute a fully functional data network supporting all Owner Systems.
- 7.6.7.2 All Administrative Network will be open architecture in compliance with standard protocols.
- 7.6.7.3 Redundancy and security will be taken into account in all network design.
- 7.6.7.4 Provide all required Administrative Network equipment, including Owner approved PoE access layer data switches compliant to the current, at time of Substantial Completion, IEEE 802.11 standards for Power over Ethernet (minimum IEEE802.11 at PoE+), and in accordance with all applicable IEEE and EIA/TIA 802.1, and 9802.3 standards.
- 7.6.7.5 Access layer data switches for the Administrative network will be current, at the time of Substantial Completion, the production model of the Cisco 3850 series.
- 7.6.7.6 Each access layer data switch will be connected back to each of two core switches through a minimum of two 10Gb fibre optic uplinks connected to opposite ends of the stack, configured to maintain continuous connectivity in the event of failure and recovery of any one of the core switches and one of the access layer switches in a stack.
- 7.6.7.7 Provide multiple switches as necessary to support the number of connected devices served from each TR with 10% spare ports and multiple stacks.
- 7.6.7.8 Communication between the Administrative and Security networks and sub-systems is carried out via TCP/IP protocol on Ethernet. These connections will reside on the respective Administrative or Security networks and will be physically separate from all other networks in the Building.
- 7.6.7.9 Employ the current, at time of Substantial Completion, version of Cisco Stackwise, Cisco Virtual Switching System (VSS), and Cisco StackPower for the Administrative network, and the similar configurations available from the manufacturer of the Security network.
- 7.6.7.10 Provide media converters required to encode and decode transmission of signals over copper and fibre cables if required to overcome distance or protocol limitations.

7.6.7.11 Administrative network core switches will be current, at the time of Substantial Completion, the production model of the Cisco 6500 series.

7.6.7.12 Network management licenses will be signed over to the Owner after installation, testing and commissioning.

7.6.8 Administrative and Security Systems Network Requirements

7.6.8.1 Bandwidth Management

- (a) All Owner networks will have adequate bandwidth throughout to transport data without delay or latency that impedes normal operations by Occupants; and
- (b) All Owner networks will employ mechanisms to prevent over-subscription throughout the entire network; the mechanisms used will calculate the available bandwidth, determine actual usage (i.e., admission control), and deploy corrective actions to prevent oversubscription when available bandwidth is exceeded at any point in the networks.

7.6.8.2 Quality of Service (QoS)

- (a) The Administrative and Security networks will employ QoS and priority queuing as necessary to achieve and maintain optimal network performance. The networks will employ QoS algorithm(s) and priority queuing to manage jitter, delay, packet loss and collisions to optimize and maintain data network performance;
- (b) The Administrative network will be designed to permit a voice over IP telephony solutions such as INT systems and meet or exceed International Telecommunications Union (ITU) Standards for voice quality to achieve voice quality comparable to that offered on a circuit-switched voice network; and
- (c) QoS algorithms will facilitate IP-based audio and video communications such as the INT systems and video surveillance streams prioritized for live streaming.

7.6.8.3 Administrative and Security Systems Data Network Performance

- (a) Employ VLANs, subnets, QoS and bandwidth management as necessary to achieve and maintain optimal network performance.
- (b) Optimize network performance to achieve the system speeds as described in this Section.
- (c) Optimize the Administrative Network to support IP video and IP audio as follows:
 - (i) employ an IP network that complies with ITU-T G.114 standards, including the requirement for a one-way delay budget of not more than 150 ms for high voice quality;
 - (ii) compliant with ITU-T G.165 for echo cancellation; and

- (iii) video and audio quality will meet or exceed the ITU-T standards with a MOS score of 4.0 or greater.

7.6.8.4 Administrative and Security Systems Network Security

(a) Network Security Principles:

- (i) provide security applications having flexibility will be installed on various network components including the LAN switch and WAN routers as either additional hardware or software;
- (ii) provide one common management platform for all security devices to give a consistent and efficient implementation of security policy;
- (iii) network security will support published standards where they exist; and
- (iv) network security will employ strong endpoint user authentication compliant with IEEE 802.1x.

(b) Firewalls

- (i) Provide appliance-type firewalls (software firewalls are not permitted) and configured to align with the security mitigation measures arising from Network Threat Risk Assessment and the Facility Threat Risk Assessment.

(c) Network Intrusion Detection:

- (i) provide network intrusion detection and access control capable of supporting all network devices and users;
- (ii) provide network intrusion detection for protection against external/internal threats;
- (iii) provide host-based intrusion detection for protection of all servers connected to the ESCS Network; and
- (iv) consult with the Owner on network access levels prior to configuration.

7.6.8.5 Network Authentication:

- (a) authentication will be token-based;
- (b) provide dedicated DHCP server (embedded DHCP servers are not acceptable); and
- (c) provide primary domain controller and active directory server. Populate users in active directory in consultation with the Owner.

7.6.8.6 Network Monitoring, Reporting & Diagnostics:

- (a) provide network monitoring software for the ESCS and Building Systems networks to allow reporting and diagnostics by the Design-Builder installed network will be used by the Owner and the Owner's facility manager for investigative, auditing and diagnostic purposes.

7.6.9 Servers, Storage and Data Retention

7.6.9.1 Servers and storage equipment

- (a) Owner-provided equipment will be onsite in the MCR.
- (b) Administrative and Security servers will be onsite in the MCR.
- (c) Systems servers will be Windows server-based systems (not appliances).

7.6.9.2 Time Synchronization – for the Administrative and Security Systems networks

- (a) Provide a central time server for each network to synchronize all communications, servers and controllers.
- (b) Each central time server will be GPS-based and obtain time from localized geo-synchronous satellite(s).
- (c) Employ automatic switch over to natural light savings time.
- (d) Each central time server will communicate and synchronize all servers and workstations connected to the networks.

7.6.9.3 Redundancy

- (a) Onsite servers and storage will be configured in active/active configuration with two instances of each system for all systems requiring redundancy.

7.6.10 Wireless Infrastructure

7.6.10.1 Basic Requirements

- (a) The wireless network will operate as a VLAN off the Administrative Network and is required both inside and outside the Facility.
- (b) Separate wireless 802.11x networks required for the Facility are as follows but not limited to;
 - (i) Owner Network
 - (ii) Public Network (separate VLAN)
- (c) Redundancy for wireless networks requires dual wireless controllers and a full overlap design so that signal is maintained even if one component (antenna, switch or controller) experiences

a failure. During a failure, full coverage is required, but the minimum signal strength in the zone affected may decrease.

- (d) The Design-Builder will:
- (i) Procure, program and configure all required network equipment for the wireless solution, including network switches, wireless controllers and access points;
 - (ii) Provide all required wireless access points, licensing, and controllers as required to constitute a fully operational wireless LAN system for wireless mobile devices.
 - (iii) Be responsible for all logical network design and network equipment configuration;
 - (iv) Install all network switches and pigtails and cross-connect and test all network equipment and cable infrastructure for the wireless network. Install all network equipment in accordance with all applicable standards, including the following IEEE and EIA/TIA standards: 802.1, 802.11 and 802.3;
 - (v) Provide a complete structured cabling infrastructure that will allow the installation of the complete wireless network, including PoE wireless access points. The final location and quantity of allocated data ports and access points will be determined and approved by the Owner pursuant to Schedule 2 - Review Procedure.
 - (vi) Setup and test of all aspects of the wireless network and provide heat maps for the Facility indicating the channel coverage, signal level, data rate and noise floor for 802.11b, 802.11g, 802.11a and 5GHz 802.11n, 802.11ac (Wave 3) wireless networks;
 - (vii) Ensure wireless management tools include access point locations mapped to a floor plan with RF characteristics defined for structural layers including glass, concrete, wood, drywall, and metal permanently mounted RF obstacles;
 - (viii) Provide the wireless network management tool configuration file to the Owner at the completion of the wireless network testing;
 - (ix) Provide support for integration with existing wireless management systems and wireless IDS/IPS systems. Ensure that IDS features are part of site planning and configuration for the wireless network;
- (e) The wireless infrastructure will be Cisco Based system and will service 802.11b (2.4Ghz DSSS), 802.11g (2.4Ghz OFDM), 802.11a (5Ghz OFDM), 802.11n(5Ghz and 2.4Ghz MIMO), and 802.11ac (Wave 3) wireless communications and data transfer requirements for access by wireless devices to data and voice services within the New Facility.

7.6.10.2 Performance Requirements

- (a) Wireless network signal strength within the areas of expected coverage will be higher than -60dB for all frequencies with overlapping coverage between adjacent access points as per the requirements of section 7.6.10.1(c).
- (b) Wireless coverage is required around the perimeter of the Building, including all outdoor learning areas and community event space. The exact coverage area and placement of access points will be determined with a wireless survey.
- (c) Wireless Survey of coverage areas will be approved by the Owner pursuant to Schedule 2 - Review Procedure prior to installation.
- (d) Provide WPA2 (AES encryption) wireless LAN (WLAN) coverage with IEEE 802.1x (port-based network access control) authentication for the Administrative Network.
- (e) Provide wireless access points (AP) for the Administrative Network that support, as a minimum:
 - 1. WPA2 (AES encryption), IEEE 802.1x;
 - 2. Ability to modulate the signal strength to limit connectivity to specific areas and specific schedules;
 - 3. A minimum WPA2 encryption key of 20 hexadecimal characters.
- (ii) Wireless APs will provide network access to Administrative wireless devices that are dedicated to each area ONLY and have a separate SSID broadcast domain (disable SSID broadcasting).
- (iii) Employ security certificate for Administrative wireless device authentication or by other methods in the future in consultation with the Owner.
- (iv) Provide 2N redundancy for the WLAN controller. Locate the primary controller in the MCR and redundant secondary controller in one of the TRs;
- (f) Include the Switch Ports required by the wireless network access points in the total port count for the New Facility. The list of layer 2/3 Switch Ports will be provided, indicating the ports connected to a given access point and the power load on the switch with the remaining available PoE power on the switch. The wireless network documentation to include a list of access points with the switch identification and port number indicated in a spreadsheet.
- (g) Design-Builder to coordinate all vendors that require Wireless Network access to ensure proper coverage and performance is maintained by all systems in accordance with the Owner requirements as applicable.

7.6.11 Responsibility and Maintenance

- 7.6.11.1 APPENDIX 1D – IT Responsibility and Interface Matrix indicates the split of responsibility for design, supply, installation and commissioning of systems between Owner and the Design-Builder
- 7.6.11.2 The Design-Builder will provide spare parts for provided systems. Spare part list will be confirmed through the review process pursuant to Schedule 2 - Review Procedure
- 7.6.11.3 For all installed technology systems, the warranty and software licensing will be handed over to the Owner with at least one-year post Substantial Completion. Refer to APPENDIX 1D – IT Responsibility and Interface Matrix for details.

7.6.12 Building Audio-Visual Systems

- 7.6.12.1 Refer to APPENDIX 1D – IT Responsibility and Interface Matrix, Table 1 for audiovisual systems in the Facility.
- 7.6.12.2 For items provided by the Owner, the Design-Builder will provide infrastructure including power, a conduit for AV cabling, network cabling, and architectural support systems.
- 7.6.12.3 For items provided by the Design-Builder, all components, software, and licenses for a fully functional system will be provided.
- 7.6.12.4 All required ceiling and wall backing and support will be provided by the general Design-Builder, to facilitate the installation of Audiovisual equipment.
- 7.6.12.5 Design-Builder will provide all required components, software, licenses, programming, testing and commissioning, to supply a fully functional Audio-Visual system. Design-Builder will include all required components that are not listed in the Statement of Requirement and Room Data Sheets but require to supply a fully functional Audio-Visual system.
- 7.6.12.6 Design-Builder will supply and install the Audio-Visual System in line with the latest available technology at the time of construction, regardless of what have been allowed for during the design stage, at no additional cost.
- 7.6.12.7 IP-Based Public address System
 - (a) Provide all necessary hardware, software, programming, testing and commissioning for a fully functional and operational conventional public address system (PA)
 - (b) This system will provide a method to broadcast an audible message of an emergency or informative nature (i.e. paging parents of lost children, public advisories, false alarm information, and be able to play music) throughout the Building.
 - (c) Design-Builder to ensure full building coverage, message will be broadcasted either to a specific zone or a general building message.

- (d) Provide all required system controllers, amplifiers, digital signal processors, input/output controllers, analog bridges, power supply, ceiling and wall-mounted speakers, admin paging, wiring necessary for the PA system.
- (e) PA system will be integrated with the Building fire alarm system to mute the PA system in case of emergency.
- (f) Audible devices will be provided by ceiling and/or wall-mounted speakers. Speakers will have 10/100Ethernet connection, PoE powered, 10W building Amplifier, DHCP deployment with full range, complete with mounting brackets.
- (g) Touch display Admin phone will be used for paging to general or a specific zone. Design-Builder will coordinate with the Owner regarding the allocation of each zone during design submission.
- (h) PA system will be integrated with a seismic warning system to mute all audio signals and broadcast a prerecorded warning message in an emergency situation.
- (i) PA system will be integrated with the background music system (BGM), BGM system will have a second priority after the public address system.
- (j) Outdoor learning spaces will be connected to the PA system via outdoor-rated PA speakers and be programmed as a separate paging zone.
- (k)
- (l) Intentionally Deleted.
- (m) Provide paging zones for each room except for service rooms, restrooms, and storage room which will be part of the common areas.
- (n) Cables will be shielded and colour coded and individually labelled.
- (o) Install equipment and cabling in accordance with manufacture recommendation
- (p) BGM will have a player capable of playing MP3s and streaming services.
- (q) Ground equipment, conductor, and cable shields to eliminate shock hazard and to minimize, to the greatest extent, possible ground loops, common mode returns, noise pickup, cross talk, and other impairments. Measure, record, and report ground resistance.
- (r) Except where specifically noted otherwise, all equipment supplied will be the standard product of a single manufacturer of known reputation and a minimum of 10 years experience in the industry.

7.6.12.8 Projector System

- (a) Provide ceiling mounted projector complete with suitable lenses, controller and screen.
- (b) Projectors in the Lobby will be controlled from the tabletop touch screen at the reception desk as well as from the Interactive Multi-touch table.
- (c) Main Lobby Laser projector (Type-1) will be 4K native resolution, multi-lens, minimum 20,000lm, , 4:3, 16:9, 16:10 aspect ratio, 1 HDMI 20., 1 Display port, one fibre and 1 HDBaseT inputs. The projector will be complete with fixed projector's ceiling mount designed to withstand the projector weight.
- (d) Main Lobby Motorized projection screen (Type-1) will be minimum 300" diagonal, matt white finish, 16:10 aspect ratio, extruded aluminum housing 120V, fully recessed, wireless, RF and RS-232/network control, with customizable black drop
- (e) Learning Access and Lab Zones Laser projector (Type-2) will be 4K native resolution, multi-lens, minimum 20,000lm, 4:3, 16:9, 16:10 aspect ratio, 1 HDMI 20., 1 Display port, one fibre and 1 HDBaseT inputs. The projector will be complete with ceiling mounted bracket.
- (f) Learning Access and Lab Zones projection screens (Type-2) will be minimum 150" diagonal, 16:10 aspect ratio extruded aluminum housing, 120V fully recessed connection, wireless RF and RS-232/network control.
- (g) The outdoor project (Type-3) will be mounted on a mobile cart. The projector will have a minimum of 30,000 Lumen, 4k resolution, 3DLP, 120V power supply, 1 HDMI 20., 1 Display port, one fibre and 1 HDBaseT input; noise level will not exceed 49dBA, competed with a long-throw adjustable lens.
- (h) The outdoor screen (Type -3) will be a free stand, portable folding screen, multi-format, matt finish, suitable for outdoor application, and the screen will be 7.6m diagonal, frame sections are connected with permanently attached threaded links and guide pins, the screen will not require hinges, snaps or handy cranks.
- (i) The mobile cart will be suitable to house the outdoor projector system and audiovisual equipment, power coated steel, minimum load capacity 181kg, four rubber swivels.
- (j) Provide a Green screen in Learning Access #2. The green screen will be wrinkle-free tension fabric type, 5.2m (W) x 13m (H) x 300mm (D), complete with collapsible aluminum hardware.

7.6.12.9 Microphone System

- (a) Provide digital wireless microphone system complete with receivers, handheld transmitters, bodypack transmitter, antennas and all necessary wiring. Design-Builder will ensure that the

spaces have full wireless coverage by providing remote wireless Michonne antennas.

- (b) Wireless microphone system will be 470-937 MHz RF carrier range, up to 100m working range, minimum latency, 20Hz to 20kHz frequency response, 120dB dynamic range, minimum two (2) Mic/line inputs.
- (c) Wireless handheld transmitters will be super-cardioid condenser microphones, 50-20,000Hz frequency, Alkaline battery, <200kHz occupied bandwidth, 1mW, 10mW, 20mW power consumption.
- (d) Wireless Bodypack transmitter will be minimum 24bit digital audio, extended 20Hz to 20kHz frequency range, 32 available channels per frequency band, up to 8 hours operation battery.

7.6.12.10 Sound Reinforcement System.

- (a) Provide sound reinforcement system complete with passive and active speakers, amplifiers, digital signal processors, control, wiring and all required components to supply a complete system.
- (b) Design-Builder will ensure that the sound reinforcement system will be free of feedback, noise and echo, either through stand-alone digital signal processors (DPS) or amplifiers with built-in DSP.
- (c) Wall-mounted speakers will be high-impact polystyrene, with painted stainless-steel grill, 70V, 60W, 30W, 15W, 7.5W taps, 70Hz-23kHz Frequency Range, 87dB SPL, 1W @1m, suitable for indoor use.
- (d) Ceiling mounted speakers will be 10" formed steel with medium impact polystyrene fire-rated baffle, 70V, 60W, 30W, 15W, 7.5W taps, 75Hz-20kHz Frequency Range, 89dB SPL, 1W @1m, suitable for indoor use.
- (e) Active outdoor speakers will be used in outdoor learning spaces to provide sound reinforcement for teaching and presentation purposes. Speakers will have a built-in high efficient class D amplifier minimum 1500W, 120V power input, 138dB maximum SPL, two-way, built-in equalizer, volume control, indicators and wireless control via touchpad, complete with mobile adjustable floor mounting stand.
- (f) Provide wall-mounted outdoor-rated XLR speakers' output and microphone line input outlets at the outdoor learning spaces to connect the active outdoor speakers.
- (g) The audio power Amplifier will be high-efficiency multi-channels and will support 4/8Ω or 70V outputs, mono, stereo and bridged modes, comprehensive fault and speaker protection per channel 20Hz-20kHz frequency response, high pass filters, 120V power supply.

- (h) A sound reinforcement system will be integrated with the fire alarm system to mute the sound reinforcement system in case of an emergency.
- (i) The Design-Builder will provide high-directive, active, wall-mounted speakers outside the labs to play the audio content from the lab presentation system.

7.6.12.11 Digital Signage Monitor

- (a) This system will provide a method to share information in designated areas of the Facility.
- (b) The Design-Builder will provide a content management system to control the display of content, including the ability to group displays and split displays into multiple frames for display of varying content depending on location.
- (c) The content management system will be accessible via a web application on the Administrative network for curating content and control of what is shown on each screen.
- (d) Live data from “broadcast streams” on the network will be accessible to the content management system for display.
- (e) Flat-panel displays will be 1.6m professional series 24/7 operation, complete with a digital signage player.
- (f) For all flat-panel displays for digital signage, power and cable connections will be minimized and concealed behind the display.

7.6.12.12 Interactive Multi-touch Panel System

- (a) Provide interactive multi-touch 4K panel system for collaboration and interactive events.
- (b) Interactive multi-touch panels will have multi-touch points, simultaneous writing, capacitive touch technology.
- (c) Interactive multi-touch panel minimum size will be 1.9m diagonal, 3840x2160 resolution, 500 cd/m² brightness, backlight LED full array.
- (d) The interactive multi-touch panel will have a minimum of 30 points multi-touch, wireless communication, and onboard PC, 2 HDMI inputs, DP inputs, USB port, RJ45 connection
- (e) Interactive multi-touch panels will include all required thin client computers, licenses and software.

7.6.12.13 Interactive Multi-touch Table System

- (a) Provide an interactive multi-touch table for collaboration with object-recognition technology. The interactive multi-touch table will

be a 1.6m LCD multitouch, 4k resolution, 16:9 aspect ratio, 80 touchpoints, 500 cd/m², object recognition.

- (b) The interactive multi-touch table will be complete with a robust manufacturer metal body table stand, mini-PC, and required licenses, software and hardware.
- (c) The interactive multi-touch table will operate 24/7 with HDMI, USB 2.0 LAN, Audio and microSD connections.

7.6.12.14 Video Wall System

- (a) Public Lobby: Design-Builder will provide video wall rough-in, including all required power and data connections and wall support for future 12m diagonal video wall.

7.6.12.15 Video Conference System

- (a) Provide Video conference system, competed with camera video conference codecs, microphones, camera mount, and all required cables in all meeting rooms.
- (b) The camera will be full HD1080p, H.264 compression, auto-zoom, autofocus 30fps, 260° pan, 130° tilt PTZ, 8m range, 0.5 lux minimum illumination with audio and video tracking capability.
- (c) Speakerphone will be tabletop, full-duplex, built-in echo cancellation and noise reduction, ultrawide band audio, LCD display, support up to four (4) omnidirectional microphones, built-in speaker, 120Hz-14kHz frequency response, 91dBSPL output.

7.6.12.16 Audio-Visual Capture Camera System

- (a) Provide a camera system (broadcast quality) complete with the camera's encoder/decoder and controller.
- (b) The camera will be IP 4K Pan-Tilt-Zoom with NDI | HX capability, 1.6lux minimum illumination, 1/2.5 Exmor R CMOS sensor, Auto/Manual Gain, 4.4mm to 88mm focal length, Auto/Manual Focusing system.
- (c) IP Video Resolution will be 3840x2160, H.264 compression format, H.265: 60fps Frame rate. 2 audio channels.

7.6.12.17 Audio-Visual Capture System (AVCS)

- (a) Provide an Audio-Visual Capture System (AVCS) to capture and stream multi-video sources in learning access zones utilizing the Owner communication network.
- (b) AVCS will be capable of recording and simultaneously stream multiple video/content, capture and synchronize any combination of cameras, laptops.

- (c) AVCS will be capable of recording and live stream HD video (1080p) at 4.5Mbps and preserve every detail, including annotations and mouse movement.
- (d) AVCS will be capable of local and remote monitoring for audio and video content quality, start/stop/pause recording, adjust capture setting and manage publishing, trim, cut, add video intros/outros, capture and watermarks.
- (e) AVCS will store the recorded content locally on 64TB network-attached hot-swap storage units.

7.7 Division 28 – Electrical Safety & Security

7.7.1 General

- 7.7.1.1 Design-Builder will design, provide, furnish and install a DSS to meet the Owner's security programs within the collection areas, exhibition areas, archival, research, learning and public facility.
- 7.7.1.2 Design-Builder to perform a Security Network and Physical Threat and Risk Assessment, the Physical Threat and Risk Assessment will include and adopt CPTED guidelines.
- 7.7.1.3 Design-Builder will provide a fully networked integrated DSS to protect occupants, collections, exhibits, corporate assets and property across the Facility. As part of this overall security program, at a minimum, provide the following:

7.7.9 Spare Capacity

- 7.7.9.1 DSS will be scalable and of modular design, and it will be possible in the future to add modules and associated equipment to the basic installed complement without changing existing software and/or hardware.
- 7.7.9.2 Power supplies, switching and communications equipment, I/O modules will not be loaded more than 80% of their capacity and reserve the remaining 20% available for connection of future devices. This loading limitation will apply to each type of I/O and to each location where equipment is installed.

7.7.10 EMI Compatibility and Interference

- 7.7.10.1 Performance of the DSS will not be affected in any way by the use of standard CSA/ULC/FCC/CE compliant electronic equipment.
- 7.7.10.2 DSS will not interfere with the operation of any standard CSA/ULC/FCC/CE compliant electronic equipment.
- 7.7.10.3 DSS equipment will comply with Industry Canada ICES-003 (or current issue at commissioning time) Interference-Causing Equipment Standard for Digital Apparatus.

7.7.11 Surge and Lightning Protection

- 7.7.11.1 Surge suppression-type lightning arrestors will be installed to protect all equipment connected to all DSS cables and wires entering or leaving the Building.
- 7.7.11.2 Arrestors will be installed where the cables and wires enter the Building in the main electrical room or the Communications Service entrance room. Arrestors are not permitted will be installed anywhere other than in these rooms.
- 7.7.11.3 Arrestors will be installed as close to the point of entry into the Building as possible; and will be installed with less than 15M of cable length from the point of entry into the Building.
- 7.7.11.4 Notwithstanding the findings of the Lightning Risk Assessment referred to in Section 7.5 [Electrical] of this Schedule, provide surge suppression type lightning arrestors to protect all exterior installed security equipment that use copper conductors.

7.7.26 UHF Radio System Performance Requirements

7.7.26.1 Design-Builder will provide a local onsite digital UHF repeater with six radio handsets.

7.7.26.2 Intentionally Deleted.

7.7.26.3 Intentionally Deleted..

7.7.26.4 Intentionally Deleted.

7.7.26.5 Intentionally Deleted.

7.7.29 Security Network Devices

- 7.7.29.1 The design of the security network will include all required network devices to constitute a fully functional data network supporting the DSS and all subsystems and ready to connect to the administrative network.
- 7.7.29.2 Design-Builder will provide PoE access layer data switches compliant to the current, at time of commissioning time, IEEE 802.11 standards for Power over Ethernet (minimum IEEE802.11 at PoE+); Each access layer data switch will be connected back to each core switch through a minimum of dual 10Gb uplinks, configured to maintain continuous connectivity in the event of failure and recovery of any one of the core switches and one of the access layer switches in a stack; Provide multiple switches as necessary to support connected devices and multiple stacks as required to avoid oversubscribing, with each stack connecting back to the core switches.
- 7.7.29.3 All network devices will employ Quality of Service (QoS).

- 7.7.29.4 Design-Builder will provide managed network devices and any required interfaces for devices to transport high bandwidth data information on an Ethernet network to head-end processing and recording equipment over copper UTP or fibre optic cabling. Provide power injectors as required to support devices and associated components installed.
- 7.7.29.5 Design-Builder will provide media converters required to encode and decode transmission of signals over copper and fibre cables.
- 7.7.29.6 Design-Builder will provide core switches located in the MCR configured to operate in 2N redundancy mode.
- 7.7.29.7 Failure and recovery of any one of the core switches will not disrupt the operations of the DSS and its connected devices.
- 7.7.29.8 Failover time from one core switch to the surviving core switch will not exceed one network heartbeat (128ms).
- 7.7.29.9 Security Network core switches will be complete with dual power supplies and fan trays operating in 2N redundant mode, all required cards to support connected servers and network appliances (including Supervisory 720-10GE cards).
- 7.7.29.10 Employ the current, at time of commissioning time, version of Cisco Virtual Switching System (VSS).
- 7.7.30 Virtual Server Environment
 - 7.7.30.1 All servers will be virtualized using the latest, at time of commissioning time, supported VMware.
 - 7.7.30.2 Design-Builder will provide all required software, operating systems and licensing to support the virtualized environment.
 - 7.7.30.3 All server virtual machines will have High Availability instances so that failure of any non-critical VM will limit the disruption to the time it takes for the secondary VM instance to boot up (five minutes or less).
 - 7.7.30.4 Design-Builder will provide all necessary hardware, software and licensing so that the Main CER becomes the 2N redundant disaster fail over site for all 2N redundant DSS and Communications servers and data switches. In other words, if the Security Server Room is lost, all services will automatically fail over to the Main CER as the backup fail over disaster site.
 - 7.7.30.5 Design-Builder will ensure storage of DVMS data and VM profiles, and data will be on SANs. Each SAN will have 2N internal redundancy (e.g. 2N power supplies, minimum 2N disk controller, 2N backplane). Failure of one of the disk controllers, or recovery from failure, will not impact the operation of the SAN or DSS in any manner.
 - 7.7.30.6 Locate the primary SAN in the Security Server Room and a fully redundant secondary failover SAN in the Main CER as the disaster failover site. The catastrophic failure or recovery from failure of one of the SANs will not impact the operation of the DSS in any manner.

7.7.30.7 Design-Builder will configure the SANs with a RAID array: so that failure of one drive, replacing of a failed drive, and recovering from a failed drive will not impact the DSS operations in any way; provide a global hot spare for each SAN; with adequate IOPs (input/output operations) and bandwidth to support the DSS with no perceivable delay or latency.

7.7.31 Bandwidth Management

7.7.31.1 The security network will have adequate bandwidth throughout to transport DSS data without delay or latency that impedes normal operations by Owner Security staff.

7.7.31.2 The security network will employ mechanisms to prevent oversubscription by sub-systems throughout the entire network; the mechanisms used will calculate the available bandwidth, determine actual usage (i.e., admission control), and deploy corrective actions to prevent oversubscription when the available bandwidth is exceeded at any point in the security network.

7.7.32 Quality of Service

7.7.32.1 The security network will employ QoS and priority queuing as necessary to achieve and maintain optimal network performance.

7.7.32.2 The security network will employ QoS algorithm(s) and priority queuing to manage jitter, delay, packet loss and collisions to optimize and maintain data network performance.

7.7.32.3 QoS algorithms will facilitate IP-based audio and video communications such as the Video Visitation system with little to no delay in the video component and voice quality meeting or exceeding that for Voice-over-IP telephony applications.

7.7.33 Security Network Performance

7.7.33.1 Design-Builder will employ VLANs, subnets, QoS, bandwidth management as necessary to achieve and maintain optimal network performance.

7.7.33.2 Design-Builder will optimize network performance to achieve the system speeds as described in this Section.

7.7.33.3 Design-Builder will optimize the network to support IP video and IP audio as follows:

- (a) employ an IP network that complies with ITU-T G.114 standards, including the requirement for a one-way delay budget of not more than 150 ms for high voice quality;
- (b) compliant with ITU-T G.165 for echo cancellation; and
- (c) video and audio quality will meet or exceed the ITU-T standards with a MOS score of 4.0 or greater.

7.7.34 Security Network Security

7.7.34.1 Network Security Principles

- (a) Design-Builder will provide security applications having flexibility will be installed on various network components, including the LAN switch and WAN routers as either additional hardware or software.
- (b) Design-Builder will provide one common management platform for all security devices in order to give consistent and efficient implementation of security policy.
- (c) Network security will support published standards where they exist.
- (d) Network security will employ strong endpoint user authentication compliant with IEEE 802.1x.

7.7.35 Firewalls

7.7.35.1 Design-Builder will provide appliance-type firewalls (software firewalls are not permitted) and configure them to align with the security mitigation measures arising from the Network Threat and Risk Assessment and the Facility TRA.

7.7.35.2 Design-Builder will provide firewall protection for layers 3-7 of the OSI model, including stateful packet inspection.

7.7.36 Network Intrusion Detection

7.7.36.1 Design-Builder will provide network intrusion detection and access control capable of supporting all network devices and users.

7.7.36.2 Design-Builder will provide network intrusion detection for protection against external/internal threats.

7.7.36.3 Design-Builder will provide host-based intrusion detection for the protection of all servers connected to the Security Network.

7.7.36.4 Design-Builder will consult with the Owner on network access levels prior to configuration.

7.7.37 Network Authentication

7.7.37.1 Authentication will be token-based.

7.7.37.2 Design-Builder will provide a dedicated DHCP server (embedded DHCP servers are not acceptable). VSS will have an assigned static IP address for each device. DHCP is not permitted within VSS.

7.7.38 Network Monitoring, Reporting and Diagnostics

7.7.38.1 Design-Builder will provide network monitoring for the Security Network to allow reporting and diagnostics by the Owner Sec. Mgmt. for investigative, auditing and diagnostic purposes.

7.7.39 DSS Central Time Server NTP

- 7.7.39.1 Design-Builder will provide a central time NTP server to synchronize all DSS servers.
- 7.7.39.2 DSS Central Time NTP Server will be GPS based and obtain time from localized geo-synchronous satellite(s).
- 7.7.39.3 Employ automatic switch over to daylight savings time.
- 7.7.39.4 DSS Central Time NTP Server will communicate and synchronize all servers and workstations connected to the Security Network.

7.7.40 DSS Maintenance and Administration Workstations

- 7.7.40.1 Design-Builder will provide a rack-mounted maintenance administration workstation (MAW) PC in the Security Server Room, complete with all required administration software for the security network.

7.8 Division 30 - Site Works

7.8.1 Site Description:

- 7.8.1.1 The subdivision surrounding the project Site (offsite works) will be designed and constructed by the Royal Bay Developer. The Royal Bay Developer will also provide preliminary grading on the project Site.

7.8.2 Standards:

7.8.2.1 All civil works will be constructed to:

- (a) MMCD Platinum Edition, Volume 2 specifications including all Supplemental General Conditions, Supplemental Specifications and Supplemental Standard Detail Drawings published by MMCD at time of contract award, and
- (b) BC Building Code and Plumbing Code (latest editions).
- (c) Units, Coordinate System and Vertical Datum:
 - (i) The coordinate system for the civil design and drawings will be based on ground-level distances.
 - (ii) The vertical datum will be Canadian Vertical Datum 1927 (CVD27).
 - (iii) Provide notes on the drawings documenting how to scale, rotate and shift between the civil drawing coordinates and architectural drawing coordinates.

7.8.3 Quality Control for Site Works:

- 7.8.3.1 The Design-Builder will provide quality control of the works, including, but not limited to, the tests as outlined in this Division 20 of the Statement of Requirements. Test results will be made available upon request of the Owner as the works proceed, with time being of the essence when any requests are made.

- 7.8.3.2 The Owner reserves the right to conduct quality assurance tests on the Site as per MMCD General Conditions. The Design-Builder will make the Site available to the Owner’s consultants to conduct such quality assurance tests.
- 7.8.3.3 Aggregate Sources:
- (a) Prior to commencing construction, generate test reports as per MMCD Section 31 05 17 (Aggregates and Granular Materials), 1.3 Approvals, except the Design-Builder will be responsible for obtaining samples and demonstrating materials meet the specified requirements; and
 - (b) Provide notification of any non-compliant test results immediately to the Owner.
- 7.8.3.4 Aggregate Compaction:
- (a) Provide notification of any non-compliant test results immediately to the Owner.
- 7.8.3.5 Asphalt:
- (a) Perform tests as per MMCD applicable sections, spaced to provide representative results for the subject area;
 - (b) Confirm details of the asphalt mix design at least one week prior to commencing paving;
 - (c) Perform test results for Marwill density tests within one week of test date; and
 - (d) Provide notification of any non-compliant test results immediately to the Owner.
- 7.8.3.6 Concrete:
- (a) Perform tests as per MMCD applicable sections, spaced to provide representative results for the subject area.
 - (b) Confirm details of the concrete mix designs at least one week prior to commencing the concrete work required.
 - (c) Provide slump tests and compressive strength tests (7-days and 28-days).
 - (d) Provide notification of any non-compliant test results immediately to the Owner.
- 7.8.3.7 Water, Storm and Sanitary Utilities:
- (a) Provide tests in accordance with MMCD requirements.
- 7.8.3.8 The minimum frequency of tests will not be less than:

Material	Location	Type of Test	Minimum Frequency
Sub-base	Roads and Parking Lot	Compaction	1 per 500 m ²
Base	Roads and Parking Lot	Compaction	1 per 500 m ²
Asphalt	Roads and Parking Lot	Density Core Samples for Marwill Test	3 samples
Concrete	Loading Dock Parking Area	Slump	1 test for every two loads
		Compressive Strength	3 tests (each with 3 cylinders)
	Curbing	Slump	1 test for every two loads
		Compressive Strength	2 tests (each with 3 cylinders)

7.8.4 Erosion and Sediment Control During Construction:

7.8.4.1 The Design-Builder will design and construct all erosion and sedimentation infrastructure in accordance with MMCD Section 01 57 01 Environmental Protection.

7.8.4.2 The Design-Builder will remove all erosion and sedimentation infrastructure after completion of construction.

7.8.4.3 Treatment for any pumped construction water will meet the City of Colwood requirements:

7.8.4.4 Environmental Monitoring:

(a) The Design-Builder will provide environmental monitoring during construction periods where earthworks or any other activities that may produce offsite runoff may adversely affect the water quality of receiving waters.

(b) The environmental monitoring will include:

(i) Site inspections of construction work and water quality of receiving waters, occurring:

1. a minimum of twice a month during dry months (May to September),
2. weekly during wet months (October to April), and
3. after Significant Rainfall Events (≥ 20 mm per 24-hours).

- (c) Environmental monitoring reports will be available to the Owner for review within one week of each site inspection.
- (d) Environmental monitors will be overseen by a qualified professional approved by the Owner pursuant to Schedule 2 - Review Procedure.

7.9 Division 31 – Earthworks

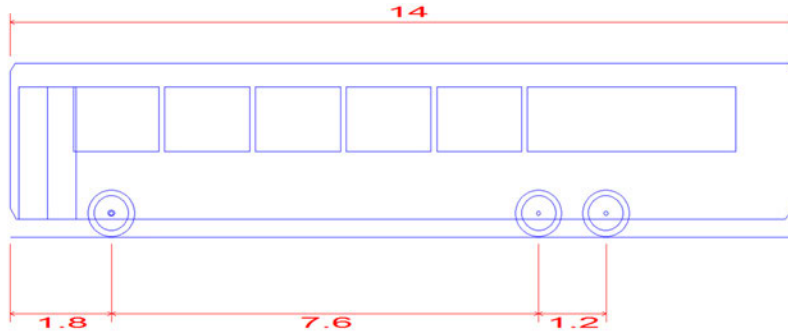
- 7.9.1 Perform all earthworks required to construct a subgrade to design grades for the Facility.
- 7.9.2 Abide by all City Bylaws regarding trucking, weight restrictions, soil removal and maintaining clean City streets.
- 7.9.3 Coordinate with landscaping requirements for final grading outside the road, parking, loading dock and building areas.

7.10 Division 32 – Exterior Improvements

7.10.1 Roads and Parking Lot:

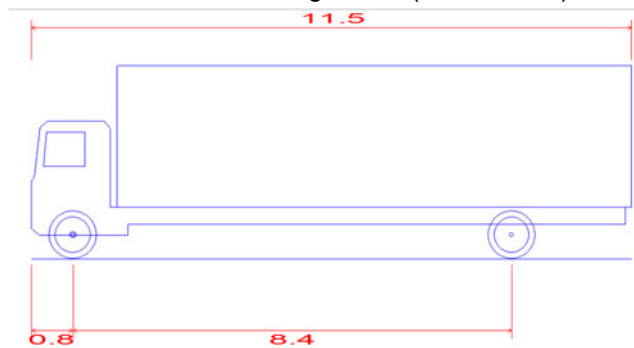
- 7.10.1.1 One primary road access point will be provided to Ryder Hesjedal Way, a minimum of 40 m from the west property line of Metchosin Road. This is the entrance approved by the City of Colwood.
- 7.10.1.2 No road access points will connect to Metchosin Road (unless for emergency access purposes).
- 7.10.1.3 All stormwater from the parking lot will pass through the wetland zone.
- 7.10.1.4 Minimize the use of concrete curbs when conditions are present that allow for alternative material separation strategies that support the goals of creating a natural landscape public impression.
- 7.10.1.5 The Design-Builder will design access points and the onsite road network to accommodate the following design vehicles:
 - (a) passenger cars
 - (b) Tour buses

overall length	14.000 m
overall width.....	2.400 m
body height	3.084 m
Min. ground clearance.....	0.319 m
Track width	2.400 m
Lock-to-lock time	4.00 s
Turning radius (curb to curb).....	13.900 m



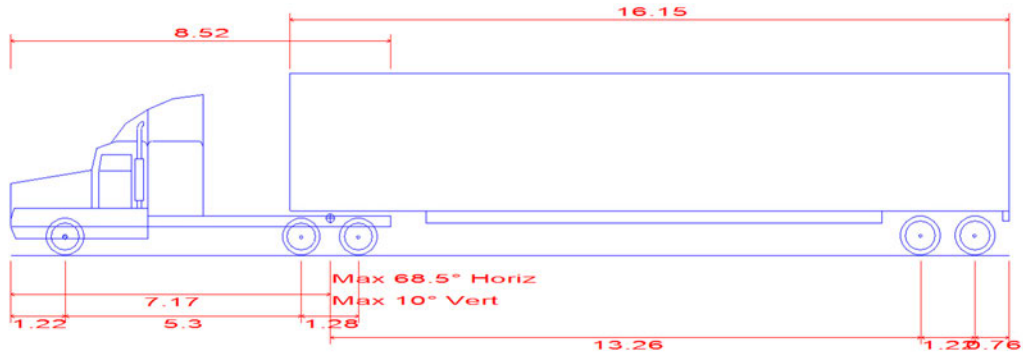
(c) HSU (heavy single unit) truck

overall length	11.500 m
overall width.....	2.600 m
body height	3.650 m
Min. ground clearance.....	0.445 m
Track width	2.600 m
Lock-to-lock time	4.00 s
Turning radius (curb to curb).....	14.100 m



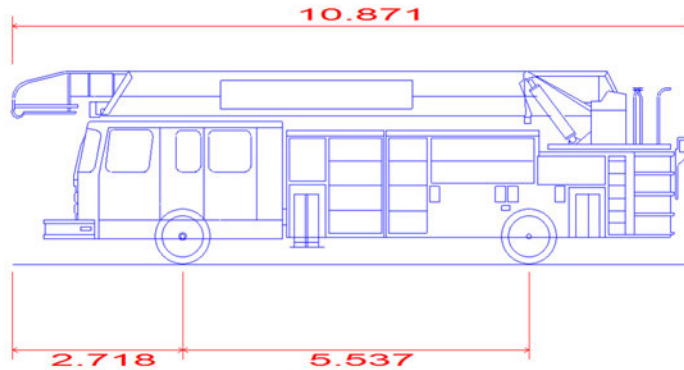
(d) WB-20 truck & trailer

overall length	22.410 m
overall width.....	2.590 m
body height	4.110 m
Min. ground clearance	0.407 m
Track width	2.590 m
Lock-to-lock time.....	6.00 s
Max. steering angle	28.40°



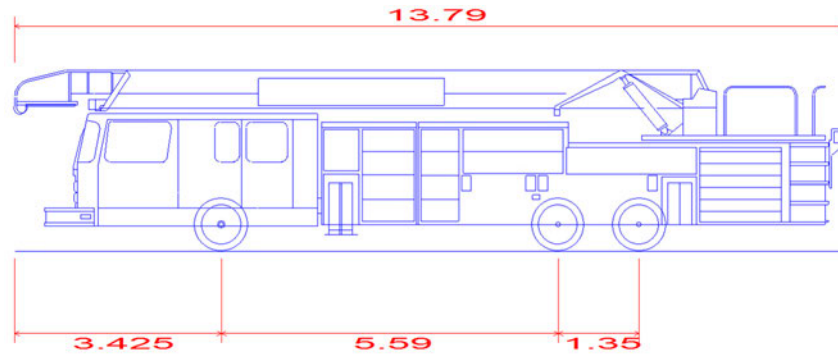
(e) fire pumper truck

- overall length10.871 m
- overall width.....2.540 m
- body height3.079 m
- Min. ground clearance.....0.281 m
- Track width2.540 m
- Lock-to-lock time6.00 s
- Max. wheel angle 45.00°



(f) fire ladder truck

- overall length13.790 m
- overall width.....2.565 m
- body height3.003 m
- Min. ground clearance.....0.281 m
- Track width2.540 m
- Lock-to-lock time6.00 s
- Turning radius (curb to curb).....22.500 m



- 7.10.1.6 The Design-Builder will design and construct roadways, including the pavement, curbs and gutters, sidewalks, walkways, signage and pavement markings.
- 7.10.1.7 Parking lots and roads will be paved with hot-mix asphaltic concrete. Gravel roads or parking areas are not permitted.
- 7.10.1.8 The pavement structure will meet recommendations by a geotechnical engineer based on a design life of 25-years.
- 7.10.1.9 Longitudinal grades for parking lots will be a minimum of 1.0% slope and will not exceed 5.0% slope.
- 7.10.1.10 Longitudinal grades for internal roads with no parking will not exceed 7%.
- 7.10.1.11 Longitudinal concrete gutter grades in parking lots will be a minimum of 0.7%.
- 7.10.1.12 Curbs, gutters, and sidewalks will be concrete type to MMCD standards except that curbs will be flat except as follows: Curbs butting up to ponds or raingardens are to have vertical components to stop rollover of wheels. Drainage openings are required.
- 7.10.1.13 The curb return radii will accommodate all design vehicles and not be less than 7.5 m.
- 7.10.1.14 The minimum road structure as per MMCD for onsite roads and parking lot will consist of:
- (a) approved compacted subgrade,
 - (b) 300 mm sub-base,
 - (c) 100 mm base,
 - (d) 75 mm asphalt, and
 - (e) concrete flat curb along the perimeter of parking lot c/w reverse pan and barrier where the road is sloped away from the curb at sidewalk and wheelchair ramps where required.

7.10.2 Sidewalks:

7.10.2.1 Provide concrete sidewalks as per MMCD.

- (a) minimum 2.50 m wide adjacent to the drop-off/pick-up lane,
- (b) widened 4.00 m wide at the main entrance, and
- (c) minimum 2.0 m wide in all other areas.

7.10.2.2 Provide wheelchair ramps as per MMCD Standard Detail Drawing C8 at all crosswalks and access points.

7.10.3 Parking Requirements:

7.10.3.1 The required minimum number of parking spaces will be:

- (a) 120 parking spaces, including eight electric charging stalls
- (b) Two tour bus parking spaces.

7.10.4 Drop-Off / Pick-Up Lane:

7.10.4.1 A drop-off/pick-up lane will be located in near proximity to the Building public entry and will be constructed to accommodate one (1) tour bus plus two (2) personal vehicles.

7.10.4.2 The minimum dimensions for the drop-off/pick-up lane will accommodate the vehicles identified above and be a minimum of 2.70 m wide.

7.10.5 Loading Dock:

7.10.5.1 The loading dock parking area will:

- (a) contain two (2) exterior concrete aprons for WD 20 trucks at the entrance to the two enclosed loading bays,
- (b) contain three (3) exterior concrete aprons to suit LSU's as exterior bays at the bay doors.
- (c) accommodate the full length of the design trucks,
- (d) provide a minimum center-to-center distance between trucks of not less than 3.80 m,
- (e) have a maximum longitudinal grade of not more than 5%,
- (f) be constructed of 30 MPA reinforced concrete, minimum 150 mm thick with 10m top bars on 250mm centers. Broom finished with saw cut Control Joints for any areas greater than 4.0 m.
- (g) provide drainage at the loading dock area.

7.10.5.2 For the loading dock maneuvering area, provide sufficient space and clear lines of sight to facilitate easy parking.

7.10.5.3 The concrete pads for the garbage bin pads will be constructed of a minimum of 30 MPA reinforced concrete, a minimum 150 mm thick with 10m top bars on 250mm centers. Broom finished with saw cut Control Joints for any areas greater than 4.0 m.

7.10.6 Pavement Markings:

7.10.6.1 Provide pavement markings to delineate traffic, delineate parking, identify stops, and provide safe pedestrian crossings.

7.11 Division 33 – Utilities

7.11.1 Watermain and Appurtenances

7.11.1.1 The Design-Builder will design and construct all onsite domestic, fire protection and irrigation water infrastructure within the project Site boundary.

7.11.1.2 The Design-Builder will connect to the City of Colwood's existing stub out services and will meet the CRD's requirements for backflow prevention on each service.

7.11.1.3 The water supply will meet the demands outlined by the mechanical engineer for both domestic and fire protection.

7.11.1.4 The water system requires metering. Metering will be to Colwood's (CRD) requirements allowing access to an external reader will be located as per CRD water requirements.

7.11.1.5 Fire hydrants will be located to meet Fire Underwriters Survey (FUS) requirements. Provide two onsite 'private' hydrants and two offsite perimeter hydrants. These are to meet City of Colwood/CRD specifications.

7.11.1.6 The Building will be designed such that the calculated FUS fire demand is below 300 L/s that the CRD water system can provide at the frontage at Ryder Hesjedal.

7.11.1.7 Provide written notice to the City and Owner at least 72-hours prior to connection to the offsite water system. The system will be disinfected, tested and approved prior to any connection to the City watermain.

7.11.2 Irrigation Well

7.11.2.1 Refer to Groundwater Supply Report_WWAL 21-018-01VC_2021_09_24 for well details.

7.11.2.2 In the event that the Design-Builder doesn't make use of the well, decommissioning will be undertaken as per the requirements stipulated in Part 9 of the *Groundwater Protection Regulation* under the Water Sustainability Act.

7.11.3 Storm Sewers and Drainage:

- 7.11.3.1 The Design-Builder will design and construct all onsite stormwater infrastructure within the project Site boundary.
- 7.11.3.2 Drainage will be directed away from the Building at all bus stops and drop-off curbs. I.e. water should not collect at pedestrian drop-off and pickup locations.
- 7.11.3.3 Offsite storm drainage piping from the project Site to the Latoria Creek and offsite conveyance will be designed and constructed by others to convey the ten-year storm event. There will be a stub located on the SE corner of the Site next to Metchosin Road.
- 7.11.3.4 Offsite overland flow routes for 200-year storm events will be available to convey overland flows from the project Site to Metchosin Road.
- 7.11.3.5 The stormwater for the Site will collect in raingardens and ponds for storage and treatment. Refer to the Royal Bay Master Stormwater Report for details on discharge treatment and storage requirements.
- 7.11.3.6 Storm Water Management Plan:
 - (a) The Design-Builder will prepare and submit for approval a Storm Water Management Plan for the project Site outlining the stormwater calculations, parameters, proposed infrastructure, and methods to achieve the requirements.
 - (b) Include a diagrammatic rationale to visually explain the site stormwater strategy integrating the conveyance from roof, site parking and interconnected Wetland/Pond and Rain Garden;
 - (c) Highlight opportunities for learning by making natural processes visible to the public;
 - (d) Ensure that grading allows for water flow into designated infiltration and collection areas;
 - (e) Incorporate Low Impact Development (LID) strategies to manage all stormwater onsite. LID strategies to include:
 - (i) Harvesting rainwater from roofs and Site for use in Wetland / Pond;
 - (ii) Specifying permeable surfacing to infiltrate water into underlying soils;
 - (iii) Directing surface runoff to vegetated swales, rain gardens, and absorbent, above ground infiltration basins;
 - (iv) Selecting drought-tolerant and native plants;
 - (v) Using tree canopy in areas with hardscape to increase evapotranspiration rate of water, reducing surface runoff; and
 - (vi) Making best management practices visible as a learning opportunity.

- (f) Submit the Storm Water Management Plan for review prior to construction.
- (g) The Storm Water Management Plan will also require review and approval from the City of Colwood. The Design-Builder will allow sufficient time for this process.

7.11.3.7 Minor Storm (Piped) System:

- (a) The minor storm system will be based on a 10-year storm event.

7.11.3.8 Major Storm (Overland Flow) System:

- (a) The major storm system will be based on a 200-year storm event.
- (b) Overland flows from the project Site will be directed to Metchosin Road after storage and treatment.
- (c) The Design-Builder will consider the design elevations to ensure positive drainage.
- (d) Ensure grades provide overland flow routes away from the Building entrances and openings without relying on piped systems. A sealed calculation showing that the critical 200-year event can be carried overland around the Building will be presented for approval. The water level within 5 m of the Building during this event will not come within 200 mm of the Finished Floor Elevation.

7.11.3.9 Storm Water Quality:

- (a) Refer to Royal Bay Master Drainage Plan update for quality requirements.

7.11.3.10 Raingardens:

- (a) Raingardens will be used to collect and treat storm runoff from parking lots. Not all the runoff needs to drain to a raingarden.
- (b) The minimum extent of total raingardens will be 3.0% of the parking lot travelled surfaces, excluding the driveway. The raingarden area will be measured as the flat section below the side slopes.
- (c) No raingarden should be smaller than 5.0% of the paved parking area draining to it.
- (d) The raingarden will be designed to meet the stormwater quality requirements noted below:
 - (i) Dimension:
 1. Depth of basin (from top of growing medium to overflow evaluation); 100mm.
 2. Side slopes of basin: 3:1 maximum

(ii) Overflow:

1. The overflow will connect to the municipal connection or the pond. And be sized for a ten-year storm event.
2. Protect from debris and sediment with a grate.
3. A minimum sump of 300 mm is required for a manhole below the overflow pipe.

(iii) Inflow:

1. Sheet flow is preferred, but if a point-source inlets are used, then river rock, or an approved system, to transition from inlets and splash pad to growing medium is required.
2. Allow 100 mm freeboard between the inlet elevation and the maximum ponded elevation (overflow elevation).

(iv) Sand/Silt/Clay/Organic Content: To meet definitions as per MMCD 32 91 21 and in the following percentages:

(v) Growing medium depth will be a minimum of 600 mm deep

(vi) Vegetation: Will be approved by Landscape Architect

(vii) Underdrain: A slotted 100 mm diameter PVC SDR 35 pipe is required under the topsoil layer and housed in a porous layer of gravel at least 150mm thick. This drain will be connected to the overflow to allow for drainage of any stagnant water. A suitable filter is required between topsoil and gravel.

(viii) Drainage: minimum Saturated Hydraulic Conductivity will be 4.0 cm/hr in place. Proponent to provide test results from qualified Geotechnical Engineering showing results.

7.11.4 Sanitary Sewer

7.11.4.1 The Design-Builder will design and construct all onsite sanitary infrastructure within the project Site boundary.

7.11.4.2 A single sanitary service will be provided by others to the property line along Ryder Hesjedal Way. The Design-Builder will connect to this service.

Royal BC Museum – Collections and Research Building
Colwood, BC

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Appendix Intent

1.1 Contents

Part 1

- 1.1.1 This Appendix sets out the program-specific intent for the Project, including internal functionality, activity descriptions, and the nature of each room, sub-department, and department.
- 1.1.2 This Appendix also sets out the external room, sub-department, and department locations, and adjacency requirements for the Project.

1.2 General Notes

- 1.2.1 APPENDIX 1A-2 - Adjacency Diagrams set out a graphical representation demonstrating the required adjacency and functional relationships between spaces for the Project.
- 1.2.2 APPENDIX 1A-3 – Functional Program Room List sets out the complete list of program rooms and the minimum NSM required for each room for the Project.
- 1.2.3 APPENDIX 1B-1 – Room Data Sheets set out room-specific details for the Project that are not otherwise captured in overarching information in APPENDIX 1A-1 – Functional Program Narratives and Schedule 1 – Statement of Requirements.
- 1.2.4 APPENDIX 1B-2 – Item Schedule sets out item-specific details for the Project that are not otherwise captured in the simplified item list on the Room Data Sheets.

1.3 Interpretation

- 1.3.1 This Appendix and all Appendices referenced in Section 1.2 form part of Schedule 1 - Statement of Requirements, and the provisions of Part 1 - Interpretation of Schedule 1 - Statement of Requirements and Part A - Definitions and Interpretation of this Agreement apply *mutatis mutandis*.
- 1.3.2 For greater certainty, these Appendices are written as output specifications and define what the Design-Builder will achieve in the Design and the Construction. Except where otherwise expressly stated within these Appendices, the Design-Builder will carry out the Design and the Construction as required and contemplated by each provision of these Appendices, whether or not the provision is written as an obligation of the Design-Builder or stated in the imperative form.
- 1.3.3 Areas specified within the same sub-departments will be located in proximity to one another, unless noted otherwise.

Functional Program

2.1 Intent

2.1.1 This appendix outlines the required functional and operational objectives for the spaces and is not intended to indicate a singular design solution to planning and functional department organization.

Part 2

2.2 Introduction

2.2.1 The CRB program:

2.2.1.1 has been designed to support the Owner's primary work activities - defined as research, collection care, and public engagement – and to foster a busy, bustling environment that excites curiosity, invites people to enter, and promotes active public engagement;

2.2.1.2 was created with a focus on education with the goal to extend the learning opportunities from the outdoor spaces to the interior spaces. The learning experience will begin from the drop-off area and proceed through a landscape with native plantings, engaging points of interest designed to provoke curiosity.

2.2.1.3 will expose the Owner's work activities behind the scenes, promoting visitor engagement; and

2.2.1.4 consists of departments grouped by activity type and sub-departments grouped by discipline.

APPENDIX 1A-1 – Functional Program Narratives

Department Descriptions

- Part 3**
- 3.1** Entrance Area
- 3.1.1 The Entrance Area serves as the front door for the public and will be an easily identifiable architectural feature. This entrance will be highly visible from the drop-off area and will be oriented toward the Salish Sea with a direct line of sight to the water.
- 3.1.2 The department includes spaces for large public gatherings and symposia, smaller group rental space for evening events, and public support spaces.
- 3.1.3 All functions related to arrival and orientation for visiting researchers and the public including groups and volunteers are located in the Entrance Area
- 3.1.4 The interior public learning experience begins in the Entrance Area and seamlessly transitions into the Public Access Areas.
- 3.2** Public Access Areas
- 3.2.1 The Public Access Areas department will be the primary circulation component for all Occupants and a central connection hub for all departments.
- 3.2.2 It will contain the key components of the Building's educational program and the major public engagement spaces that will provide access for the public to see the Owner's work in the preservation and care of the provincial collections.
- 3.2.3 A major feature of the Building and component of the educational program will be an Interpretive Wall that begins in the Lobby and extends along the full length of the Circulation Spine. This multi-dimensional feature will provide numerous opportunities for public learning and engagement.
- 3.2.4 Collections Access Zone's will be spaced out along the Circulation Spine, punctuating the Interpretive Wall. These secured areas will contain the entrances to the Collections Storage Areas and will occasionally be used for facilitated visitor education experiences and will primarily be used as workspaces for Staff and visiting researchers.
- 3.2.5 Learning Access Zones will provide opportunities for the Public to directly engage with the work of the Owner. Branching off of the Circulation Spine, zones will be adjacent to various labs as they relate to the work of different disciplines.
- 3.3** Lab Area
- 3.3.1 The Lab Area will include workspaces for:
- 3.3.1.1 Post-quarantine specimen and artifact preparation and processing.
- 3.3.1.2 Collections research and care activities.
- 3.3.1.3 Collections preparation for shipping to the downtown exhibition building or other institutions.
- 3.3.2 The Lab Area will support interdisciplinary and collaborative research creating a nexus for diverse perspectives from the various disciplines.

APPENDIX 1A-1 – Functional Program Narratives

- 3.3.3 The most active and engaging spaces for each sub-department will be directly accessed from the Circulation Spine and be viewable through glazing/windows. The associated sub-department's Collections Storage Area will be located across the Circulation Spine.
 - 3.3.4 During events, the lab fronts on the Circulation Spine will open up for public access. The size and location of these openings will create a seamless access and exit experience from the Circulation Spine.
 - 3.3.5 The Lab Area sub-departments will be organized in suites with internal circulation according to discipline.
 - 3.3.6 Due to the high level of security required, access to the labs will be highly limited and controlled. Visiting researchers and volunteers will require security clearance to access the labs. The Archives Reading and Access Room is the only space in the Lab Area that the public will be able to access.
 - 3.3.7 The Lab Area sub-departments will be located along the Circulation Spine in a series of groupings where all Lab spaces of the grouping sub-department are co-located in suites. The most active areas to be positioned on the Circulation Spine are identified in Appendix 1A-2 [Adjacency Diagrams.] The following groupings will be maintained, although the order of the groupings may be different than the order in Appendix 1A-2 [Adjacency Diagrams].
 - 3.3.7.1 Human Culture Grouping
 - (a) History Labs
 - (b) Archives Reading Room and Lab
 - 3.3.7.2 Conservation and Digitization Grouping
 - (a) Conservation Labs – Note the Archaeology Lab is located at the Loading & Receiving Area per the Adjacency Diagrams
 - (b) Digitization Labs
 - 3.3.7.3 Natural History & Paleontology Grouping
 - (a) Botany Lab
 - (b) Entomology Lab
 - (c) Vertebrate Zoology (VZ) Labs
 - (d) Invertebrate Zoology (IZ) Labs
- 3.4 Collections Storage Area**
- 3.4.1 The Collections Storage Area will be the provincial repository for multiple collection types and will house the Owner's vast collections in a new fit-for-purpose HDMSS designed to efficiently house collections with maximum compression in a safe, secure, and environmentally stable environment.
 - 3.4.2 The Collections Storage Area will be divided into sub-departments based on specific types and environmental conditions.

APPENDIX 1A-1 – Functional Program Narratives

- 3.4.3 Intentionally Deleted
 - 3.4.4 The Collections Storage Area will not be accessible to the public.
 - 3.4.5 The spaces within the Collections storage area will not be regularly occupied. The only activities that will occur in these spaces are inventory and collections access.
- 3.5 Office Area**
- 3.5.1 This department will be a non-collection area for administrative activities.
- 3.6 Loading and Receiving**
- 3.6.1 The Loading and Receiving department will include all the major back of house support functions for the Facility and will be the main hub for all deliveries and shipments.
 - 3.6.2 The security control center will be located in this department, providing a high level of supervision for all deliveries as well as a secure entry and checkpoint for Staff, visiting researchers, and volunteers.
 - 3.6.3 The spaces within this area will be organized to minimize the collection item's risk of contamination, pest infestation, physical damage, and theft.
 - 3.6.4 There will be a clear and strict separation between the personnel, maintenance, and operations workflows and the collections workflows.
 - 3.6.5 Exhibit Shop 2 and Site Supply Gardens will be the only spaces in this department that will be accessible to the public.
- 3.7 Service Spaces**
- 3.7.1 This department will include all rooms associated with building services and restrooms.
 - 3.7.2 Unless specifically assigned a program area in Appendix 1A-3 – Functional Program Room List the Design-Builder will size these spaces to comply with the Drawings and Specifications and satisfy the requirements outlined in Schedule 1 – Statement of Requirements and its associated Appendices.
 - 3.7.3 Unless specifically assigned a program area in Appendix 1A-3 – Functional Program Room List, the areas for the service spaces and restrooms will be part of the Gross Building Area for the Building.
 - 3.7.4 Custodial closets will be located strategically to support the efficient operation of the facility,
 - 3.7.5 Restrooms will be located for the public and staff to minimize distance that must be traveled from key spaces.
- 3.8 Outdoor Areas**
- 3.8.1 The Outdoor Areas will be an extension of the educational programming for the Facility.
 - 3.8.2 These areas will connect directly to associated interior program spaces and will flow seamlessly from one space to the next around the Site.

APPENDIX 1A-1 – Functional Program Narratives

- 3.8.3 A pathway system connecting, and running through, all the Outdoor Areas will provide easy access for all ages and abilities to enjoy outdoor learning opportunities.
- 3.8.4 Unless specifically assigned a program area in Appendix 1A-3 – Functional Program Room List the Design-Builder will size these spaces to comply with the Drawings and Specifications and satisfy the requirements outlined in Schedule 1 – Statement of Requirements and its associated Appendices.

Sub-Department Descriptions

4.1 Entrance Area

4.1.1 Entrance Area

- Part 4
- 4.1.1.1 There is only one sub-department in the Entrance Area department.
 - 4.1.1.2 Refer to Section 3.1 for the functional overview.

4.2 Public Access Areas

4.2.1 Circulation Spine

- 4.2.1.1 There will be only one room in the Circulation Spine sub-department
- 4.2.1.2 Refer to Section 7.2.1 for the functional details

4.2.2 Collections Access Zones

- 4.2.2.1 The Collections Access Zones will provide access to various spaces within the Collections Storage Area.
- 4.2.2.2 All Collections Access Zones will have the same functional requirements.
- 4.2.2.3 Refer to Section 7.2.2 for the functional details.

4.2.3 Learning Access Zones

- 4.2.3.1 All Learning Access Zones will function as enclosed classrooms and extensions of the Circulation Spine.
- 4.2.3.2 When fully enclosed, the Learning Access Zones will be quiet enough to support a learning environment even as a noisy event is happening in the Circulation Spine.
- 4.2.3.3 During events, these spaces will open up to create a seamless access and exit experience from the Circulation Spine.

4.3 Lab Area

4.3.1 History Lab

- 4.3.1.1 The History Lab will consist of two spaces, a clean space for processing, re-housing, and research and a dirty space for light cleaning.
- 4.3.1.2 In this sub-department, the most active and engaging activities will occur within the History Clean Lab.
- 4.3.1.3 The spaces within this sub-department will be directly connected and internal sub-departmental circulation is not required.
- 4.3.1.4 This department will frequently work on very large collections items.

- 4.3.1.5 The dirty collections items in this sub-department will only require light cleaning and will be occasionally transferred through the clean lab. Separation of clean and dirty workflows is required.
- 4.3.1.6 Artifacts and collections items will be moved to/from this sub-department on forklifts and carts.
- 4.3.1.7 The History Lab will support activities in Learning Access #1.
- 4.3.2 Archives Lab
 - 4.3.2.1 The Archives Lab will include public access areas and secure areas for processing paper records, various media (microfilm, legacy sound and film, photo and video media), and digital material collections.
 - 4.3.2.2 The most active and engaging activities in this sub-department will occur within the Reading and Access Room.
 - 4.3.2.3 The spaces within this sub-department will be directly connected and internal sub-departmental circulation is not required.
 - 4.3.2.4 Clean and dirty post quarantine work will occur in the same space and separation of work-flows is not required for this sub-department.
 - 4.3.2.5 Collections items will move to/from this sub-department on forklifts and carts.
 - 4.3.2.6 The Archives Lab will support activities in Learning Access #1 – History and Archives.
- 4.3.3 Conservation Lab
 - 4.3.3.1 The Conservation Lab will provide state-of-the-art preservation assessment and conservation services for all Lab Area sub-departments.
 - 4.3.3.2 The Conservation Lab will be a community of collaborating preservation expertise and will have opportunities for spontaneous interactions as researchers move between labs and retrieve supplies.
 - 4.3.3.3 The most active and engaging activities in this sub-department will occur within Conservation Paper Lab.
 - 4.3.3.4 This sub-department will require dedicated internal circulation for ease of movement between the spaces as the researchers will frequently move between them. This circulation space will connect the sub-department to the BOH Corridor and the Circulation Spine to maintain a reasonable walking distance for access to the Collections Storage Area. This circulation will be secured from the Public and have open and accessible shared supply storage along the BOH Corridor.
 - 4.3.3.5 Artifacts and collections items will move to/from this sub-department on carts and may be post quarantine clean or dirty. Separation of clean and dirty workflows is not required.
 - 4.3.3.6 Although the Archaeology Wet Lab is part of the Conservation Lab sub-department it will not be co-located with the other conservation labs. Due to

highly wet and messy processes, it will be located in proximity to the Loading and Receiving sub-department.

4.3.4 Digitization Lab

4.3.4.1 The Digitization Lab will provide digital imaging capture and processing services to support the preservation of collections items for all sub-departments.

4.3.4.2 All Lab area sub-departments will have access to a flexible shared studio to document specimens, artifacts, and collections items through a variety of digital media. The resultant media will then be processed in an adjoining shared computer lab for digital archiving.

4.3.4.3 Specimens, artifacts, and collections items will move to/from this sub-department on carts and may be clean or dirty. Separation of clean and dirty workflows is not required.

4.3.4.4 The Digitization Lab will primarily support activities in Learning Access #2 – Media Lab.

4.3.5 Botany Lab

4.3.5.1 There will only be one room in the Botany Lab sub-department. Botany will also use the shared biology spaces.

4.3.5.2 Refer to Section 7.3.5 for functional details

4.3.6 Entomology Lab

4.3.6.1 There will only be one room in the Entomology Lab sub-department. Entomology will also use the shared biology spaces.

4.3.6.2 Refer to Section 7.3.5.1(b)(v) for functional details

4.3.7 VZ/IZ and Shared Biology

4.3.7.1 There will be three functional areas within this sub-department:

(a) Vertebrate zoology (VZ) spaces

(b) Invertebrate zoology (IZ) spaces

(c) Shared biology spaces

4.3.7.2 Vertebrate and invertebrate zoology will both have dedicated clean and dirty spaces for specimen processing and collections research and care activities.

4.3.7.3 The most active and engaging activities in this sub-department will occur in the VZ and IZ Dirty Prep Labs.

4.3.7.4 The VZ and IZ spaces within this sub-department will require internal circulation for ease of movement between the clean and dirty spaces. This circulation space will connect this sub-department to the BOH Corridor and the

Circulation Spine to maintain a reasonable walking distance for access to the Collections Storage Area. This circulation will be secured from the Public.

4.3.7.5 Specimens and collections items will be moved to/from this sub-department with carts and large lift tables.

4.3.7.6 Intentionally Deleted.

4.3.7.7 The shared biology spaces include Biology Shared Instrumentation, Shared Biofreezer and Shared Ultracold Freezer rooms. These areas will be used by all Lab Area sub-departments for both clean and dirty activities. Separation of workflows and dedicated circulation will not be required.

4.3.8 Paleontology Lab

4.3.8.1 The Paleontology Lab will be a brand new Lab Area sub-department for the Owner. The current museum only has a small fossil preparation lab, so this new set of labs will greatly increase the research and preservation activities available to the paleontology department.

4.3.8.2 This sub-department will process new fossil specimens from field expeditions and donated discoveries and provide care for the current collections items that span over 500 million years of life on earth.

4.3.8.3 This sub-department will have dedicated clean and dirty spaces for specimen processing and collections research and care activities.

4.3.8.4 The most active and engaging activities in this sub-department will occur in the Paleo Dirty Prep Lab.

4.3.8.5 This department will not require dedicated internal circulation.

4.3.8.6 Collections items will range from very large to teeny-tiny.

4.3.8.7 Collections items will move to/from this sub-department with carts and large lift tables.

4.3.8.8 Intentionally Deleted.

4.4 Collections Storage Area

4.4.1 History Collections

4.4.1.1 History Collections will contain a range of cultural collections of various materials in significantly different sizes.

4.4.1.2 Collections items in this space requiring different levels of security will be in sub-compartments accessed from within the main compartment.

4.4.1.3 Vehicle storage will be directly accessible from the main compartment or from within the Loading and Receiving department.

4.4.2 Archives Collections

- 4.4.2.1 The archives collections will consist primarily of books and paper-based collections stored in one compartment.
- 4.4.2.2 Film and still photography, video, and audio recordings will be stored in specialized environmental chambers accessed from within the main compartment.
- 4.4.2.3 High value and collections whose accession records require separate spaces will be housed within sub-compartments in this compartment.
- 4.4.2.4 The collections also include small quantities of associated furniture, art, and other materials.
- 4.4.3 Botany Collections
 - 4.4.3.1 There will only be one room in the Botany Collections sub-department.
 - 4.4.3.2 Refer to Section 7.4.3 for the function details.
- 4.4.4 Entomology Collections
 - 4.4.4.1 The Entomology Collections will contain a range of specimens stored in wet and dry compartments.
- 4.4.5 VZ/IZ & Shared Biology Collections
 - 4.4.5.1 Biology collections will include dry and fluid-preserved specimens compacted in separate storage spaces.
 - (a) Vertebrate Zoology
 - (i) Dry specimens in the dry sub-compartment will include skeletal, antler racks, mounts, and some skin collections preserved without hazardous preservatives.
 - (ii) Dry specimens in the environmental control chamber will include taxidermy, mounts and skin collections, many with hazardous preservatives.
 - (iii) Vertebrate Zoology fluid-preserved collections will be stored with Invertebrate Zoology fluid-preserved collections.
 - (b) Invertebrate Zoology
 - (i) Dry specimens in the dry sub-compartment will include skeletal and skin collections preserved without hazardous preservatives.
 - (c) Fluid preserved collections (both IZ and VZ) will be stored in the fluid-preserved sub-compartment with different levels of fluid dilution in large tanks, jars, and vials of different sizes.
- 4.4.6 Paleontology & Mineral Collections
 - 4.4.6.1 Fossil collections from deep time to the ice age will be housed in this space including fully prepared and unprocessed materials in field jackets.

4.4.6.2 Unprocessed materials will be stored in this space after quarantine along with processed materials. No separation between processed and unprocessed will be required.

4.4.6.3 This space will be the official repository for any fossil material found in British Columbia.

4.4.7 Chinese Canadian Collections – Intentionally Deleted

4.4.8 BC Archaeology Collections

4.4.8.1 There will only be one room in the BC Archaeology Collections sub-department.

4.4.8.2 Refer to Section 7.4.8 of this Appendix for the function details.

4.4.9 PDP Collections

4.4.9.1 There will only be one room in the PDP Collections sub-department. Depending upon room configuration, the compacted area may be separated from the art rack area.

4.4.9.2 Refer to Section 7.4.9 of this Appendix for the function details.

4.5 Office Area

4.5.1 Office Area

4.5.1.1 The Office Area is for a range of non-collection work and administration activities by the Owner's collection, education, facility, and administrative staff as well as staff visiting from the downtown exhibition building.

4.5.1.2 This segregation of office work from the collections-based work is crucial to maintaining a safe space for collections-based work and creating a collaborative environment for staff across the Owner's departments and sub-departments.

4.5.1.3 Offices will be located in proximity to corridors connecting to their work in other areas of the building.

4.5.2 Work Rooms

4.5.2.1 The Work Rooms will be shared departmental office spaces that include workstations as well as additional area for shared working space and storage.

4.5.2.2 The Work Rooms will provide support for various functions in other non-collection departments.

4.5.2.3 Work Rooms will be located in proximity to corridors connecting to their work in other areas of the Building.

4.5.3 Shared Facilities

4.5.3.1 The Shared Facilities will provide the typical support spaces for staff including conference room, shared library, lunch room, pantry, supplies, and copy.

4.5.3.2 Shared Facilities will be located centrally within the Office Area with access to natural light.

4.6 Loading and Receiving

4.6.1 Central Shared Services

4.6.1.1 These spaces will provide support for the Building personnel, maintenance, and operations functions.

4.6.2 Shared Building Loading/Receiving

4.6.2.1 These spaces will be dedicated to personnel, maintenance, and operations deliveries and shipments. Collections will not be present in these spaces.

4.6.3 Shared Collections, Learning, Exhibits

4.6.3.1 These spaces will be used for collections receiving, loading, and processing and will be divided into clean and dirty collections spaces that will retain strict segregation and separated circulation.

(a) Clean collections spaces – will be used for collections items coming from verified conditions which the conservator determines are free of pests, infestations, or other threats to the collections.

(b) Dirty collections spaces – will be used for collections items coming from unverified conditions that cannot be determined by the conservator to be free of pests, infestations, or other threats to the collections.

4.7 Service Spaces

4.7.1 Support

4.7.1.1 These spaces will provide storage and workspace related to building services.

4.7.2 Other

4.7.2.1 This sub-department will include public and staff restrooms along with janitor rooms

4.8 Outdoor Areas

4.8.1 There will only be one sub-department in the Outdoor Areas department.

4.8.2 Refer to Section 3.8 for a functional department overview.

Requirements for CL-2 Labs and Labs with Exhaust Devices

5.1 Item Locations

5.1.1 Refer to APPENDIX 1B-1 Room Data Sheets for CL-2 and exhaust device locations.

Part 5.2 Codes, References, Standards, and Guidelines

5.2.1 Health Canada: Canadian Biosafety Standard 2nd Edition.

5.2.2 Scientific Equipment and Furniture Association:

5.2.2.1 SEFA 1 Fume Hoods.

5.2.2.2 SEFA 2 Installation.

5.2.2.3 SEFA 3 Laboratory Work Surfaces.

5.2.2.4 SEFA 7 Fixtures.

5.2.2.5 SEFA 8 W Laboratory Grade Wood Casework.

5.2.2.6 SEFA 8 M Laboratory Grade Metal Casework.

5.2.2.7 SEFA 8 P Laboratory Grade Polypropylene Casework.

5.2.3 American National Standards Institute/American Industrial Hygiene Association:

5.2.3.1 ANSI/AIHA Z9.5 Standard for Laboratory Ventilation.

5.2.4 National Fire Protection Association:

5.2.4.1 NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals.

5.2.5 Fume Hoods will be UL tested and labeled and conform to Class A requirements of ANSI Z9.5 Laboratory Ventilation.

5.3 Modular Planning, Flexibility, and Adaptability

5.3.1 The Building will be designed utilizing modular planning principles to provide flexibility and adaptability of the Lab Areas.

5.3.2 A modular unit will be the basis for small instrumentation-based or special use labs. Multiple modular units will be combined for larger labs.

5.3.3 The modular unit will be based on a 750mm deep bench area and a minimum aisle space of 1.5m in front of the bench area. The 1.5m aisle can be shared with 2 bench areas.

5.4 Circulation

5.4.1 Equipment lists will be coordinated with door widths to verify that equipment can be transported and maneuvered between spaces. Any apparent discrepancies will be brought to the attention of the Owner.

5.4.2 Fume hoods within labs will be located to avoid passing in front of the fume hood on the way to the exit.

5.5 Laboratory Safety Equipment

5.5.1 Safety showers and eyewash fixtures will be provided throughout the lab in accordance with ANSI Z-358.1 or as noted in Appendix 1B-1 - Room Data Sheets.

5.6 Primary Containment

5.6.1 Hazardous chemical vapours, particulates, and biological aerosols will be removed by the ventilation system.

5.6.2 Chemical Fume Hoods

5.6.2.1 All fume hoods will be positioned at least 3.0m horizontally from doors.

5.6.2.2 The sash will be fully opened only during set up/take down operations.

5.6.2.3 Fume hood sashes will be installed with a combination sash.

5.6.3 Biological Safety Cabinets (BSC)

5.6.3.1 BSC's will be positioned at least 3.0m horizontally from doors to reduce drafts effects and allow for safe egress.

5.7 Secondary Containment

5.7.1 Secondary containment will be achieved by a combination of ventilation system designs and other exhaust devices that are not engineered to the sorts of regimes established for primary containment devices

5.7.2 Room Pressurization

5.7.2.1 Where negative pressure of Laboratory spaces is identified in Appendix 1B-1 [Room Data Sheets], this will be relative to adjacent corridors and non-lab spaces. To be effective, windows will not be operable and doors require closers to be kept closed.

5.7.3 Snorkel Fume Extractors

5.7.3.1 Snorkels will be primarily used to capture heat from a point source; they are not effective for hazardous fume capture. Snorkels will utilize a flexible or adjustable arm with a capture device that can be positioned in proximity to odour or heat source. Typical exhaust rates will be in the 2.12 to 2.83 m³/min range for small 75mm diameter arms.

5.7.4 Canopy Hoods

5.7.4.1 Canopy hoods will be primarily used to capture heat and/or steam over large equipment. The typical exhaust rate will be 2.12 m³/min per 305mm of open perimeter.

5.7.5 Vented Cabinets

5.7.5.1 Corrosives storage cabinets: cabinets used for acid and base storage will be kept under negative pressure by extending a pipe from the cabinet to the fume exhaust system.

5.7.5.2 Flammable liquids storage cabinets: cabinets used for storage of flammable liquids will not be exhausted or will be kept under negative pressure; the Design-Builder will confirm with the fire marshal and the Authority Having Jurisdiction which method is preferred.

5.7.5.3 Intentionally deleted.

5.7.6 Ventilated Enclosures, Back Draft and Down Draft Exhaust

5.7.6.1 Ventilated enclosures will be provided per Appendix 1B-2 Item Schedule.

5.7.6.2 Dowlndraft exhaust will be provided per Appendix 1B-2 as a means of fume removal.

5.7.6.3 Exhaust connections will be provided for equipment that features direct exhaust ports.

5.8 Laboratory Wastes

5.8.1 Laboratory staff will contain and identify chemical and biological wastes in the labs and take them to EtOH Supply + Hazmat room for pick up and disposal.

5.9 Biological Safety Requirements

5.9.1 The Facility will comply with the following biological safety requirements:

5.9.1.1 CL-2 Requirements per Canadian Biosafety Standard 2nd Edition.

Requirements for Collections Storage Areas

6.1 High Density Mobile Storage Systems

6.1.1 The spaces within the Collections Storage Areas will be proportioned to maximize the efficiency of the HDMSS.

Part 6

6.1.2 The HDMSS areas will be column-free.

6.1.3 Static aisles (permanent aisles providing access to the HDMSS) and moving aisles (aisles within the HDMSS footprint) will be provided with the specified clearances noted in APPENDIX 1B-2 - Item Schedule for minimum aisle widths.

6.1.4 The HDMSS static aisle clear width may be reduced by a maximum of 450mm at column locations only.

6.1.5 Refer to APPENDIX 1B-2 - Item Schedule for quantities and sizes of collections storage assemblies.

6.1.6 Refer to Schedule 1 – Statement of Requirements for collections storage assemblies' specifications

6.2 Services

6.2.1 A dedicated horizontal or vertical chase with waterproof walls and flooring sloped to drain will be provided for all building service piping running through the Collections Storage Areas.

6.2.2 Roof drains and stormwater piping are not permitted to be located above any collection's storage spaces.

6.3 Exiting

6.3.1 Except for History Collections – Vehicles, Collections Storage Areas will exit into an exit corridor and not directly to the outside.

6.4 Daylighting

6.4.1 Natural daylighting is not permitted within the Collections Storage Area.

6.5 Separations

6.5.1 Provide a 2-hour rated fire separation between all spaces within and adjacent to the Collections Storage Area. Seal all openings/penetrations through this separation.

6.5.2 Install air/vapour barriers in all walls (both interior and exterior) separating areas with different environmental requirements. Refer to Appendix 1B-1 – Room Data Sheets for the environmental requirements of different spaces. Insulate interior walls between different spaces as required to prevent possible condensation.

6.6 Optional Revisions to Collections Storage Equipment Heights

6.6.1 All collections shelving, art racks and cabinets within the following spaces will be the sizes specified in Appendix 1B-2 – Item Schedule:

- 6.6.1.1 PDP Vault (except 10.56.RCK-ART.10);
 - 6.6.1.2 Archives Cool Vault – ERC-3;
 - 6.6.1.3 Archives Cold Vault – ERC-4;
 - 6.6.1.4 Botany Collections;
 - 6.6.1.5 Entomology – Dry Collections;
 - 6.6.1.6 Entomology – Fluid Preserved Collections;
 - 6.6.1.7 IZ/VZ Fluid Preserved;
 - 6.6.1.8
 - 6.6.1.9
 - 6.6.1.10
 - 6.6.1.11 Item 10.56.CAB-COL.44.
- 6.6.2 For all other spaces within the Collections Storage Area not listed in clause 6.6.1, shelving, art racks and cabinets with a specified combined height of 3660 mm in Appendix 1B-2 – Item Schedule, may be revised to 4880 mm high provided:
- 6.6.2.1 The final volume, linear meters, or face area is equivalent;
 - 6.6.2.2 The interior fit-out requirements listed in Appendix 1B-2 – Item Schedule are all accommodated; and
 - 6.6.2.3 Where Appendix 1B-2 – Item Schedule specifies a maximum height for drawers, flat files, pull-out shelves or trays, all remaining space to total height of 4880 mm will be filled with adjustable shelving.
- 6.6.3 Item 10.56.RCK-ART.10 in PDP Vault may be 4880 mm high provided the total rack face area is equivalent.

Room Narratives

7.1 Entrance Area

7.1.1 Entrance Area

Part 7

7.1.1.1 Vestibule

(a) Description

- (i) Will be the primary access point for the public and visiting researchers
- (ii) Will be the secondary entrance for staff
- (iii) Will maximize transparency into the Vestibule, from both the exterior and the interior

(b) Location and Adjacency

- (i) Direct access to Outdoor Covered Gathering
- (ii) Direct access and line of sight to Lobby
- (iii) Direct line of sight from Reception

7.1.1.2 Lobby

(a) Description

- (i) The Lobby will be a warm, welcoming, safe, flexible, and informal space. It will be used for gatherings, community festivals, public and private events, symposia, and presentations.
- (ii) The Lobby will provide space for groups to gather for orientations along with space for casual seating and café style tables and chairs.
- (iii) During events, furniture will be removed and replaced by a collapsible platform stage and seating for 125 people, along with various arrangements of tables and chairs.
- (iv) A large projection screen will be mounted behind the stage area. The screen will be used during events as well as during regular operation times for displaying interactive educational materials. The educational materials will be accessed by the public via a portable interactive touch table connected to an overhead ceiling-mounted projector and the Lobby sound system.
- (v) A suspended ceiling grid system will cover the full extent of the Lobby for suspension of banners, educational materials, and a flexible lighting system. The grid above the stage will be arranged to accommodate stage lighting.

- (vi) A discrete glazed pull-out barrier will be used to secure the Lobby from the rest of the Building for use during evening and weekend events. When open, the doors will fold into a fully concealed pocket creating a seamless appearance between the Lobby and the Circulation Spine.
- (vii) During evening and weekend events the Public will have access to supporting spaces only and the rest of the Building will be locked off.
- (viii) Access will be provided through the Lobby to the Reading and Access Room for use during weekend hours while the rest of the Building remains secured.

(b) Location and Adjacency

- (i) Direct access through Vestibule
- (ii) Directly adjacent to Reception
- (iii) Direct access to Servery and Circulation Spine
- (iv) Direct access to Lobby Storage
- (v) Indirect access to Reading and Access Room and Office Area
- (vi) Indirect access to supporting spaces: Public Restrooms, Public Universal Restroom, Family Room, Adult Change Room, Coat Room, Multi-Purpose, Volunteer Lounge, First Aid, and Janitor

7.1.1.3 Reception

(a) Description

- (i) Reception will be the first point of contact for the Public, welcoming them to the museum and the educational experience. It will be the main information centre for the Building. The reception desk will be directly visible upon entering the Lobby.
- (ii) Reception will not be used during all open hours and will be equipped with doors that when closed will blend into the Lobby finishes concealing its presence. When open, the doors will fold into a fully concealed pocket creating a seamless appearance between the Lobby and Reception.
- (iii) Reception will be the check-in point for visiting groups. Provide space near the desk for groups to congregate.
- (iv) When in use Reception will be able to function as a security point and will be equipped with a monitor to view security feeds and an intercom to the exterior of the vestibule.
- (v) Reception will be the control point for the Lobby sound system and will have paging capability for the entire Facility.

- (b) Location and Adjacency
 - (i) Directly adjacent to Vestibule and Lobby
 - (ii) Direct line of sight to the Servery
 - (iii) Direct line of sight from the reception desk into Vestibule for security

7.1.1.4 Servery

- (a) Description
 - (i) The Servery will be used for a coffee/tea station, laying out dishes buffet style for catered events, and the sales of cold food and beverage items out of self-serve refrigerators. It is not intended to be used for food preparation.
 - (ii) Will be an unstaffed food service area.
 - (iii) The Servery will not be used during all open hours and will be equipped with doors that when closed will blend into the Lobby finishes concealing its presence. When open, the doors will fold into a fully concealed pocket creating a seamless appearance between Lobby and Servery.
 - (iv) The Servery will be laid out linearly and will be no deeper than required to suit the equipment.
- (b) Location and Adjacency
 - (i) Direct access to Lobby
 - (ii) Direct line of sight from Reception
 - (iii) In proximity to Lobby Storage

7.1.1.5 Lobby Storage

- (a) Description
 - (i) The Lobby Storage will contain tables, chairs, the stage platforms, the speaker's podium, and other equipment intended to support the Servery and Lobby.
 - (ii) When closed, the Lobby Storage doors will blend seamlessly into the Lobby finishes.
- (b) Location and Adjacency
 - (i) Directly accessed from the Lobby.

7.1.1.6 Coat Room

- (a) Description

- (i) The Coat Room will be an unstaffed area with lockers, wheelchairs, and coat racks for visitor use.
 - (b) Location and Adjacency
 - (i) Indirect access from Lobby
 - (ii) In proximity to Reception and Public Restrooms
- 7.1.1.7 First Aid
- (a) Description
 - (i) In addition to providing first aid and emergency supplies, this room will also function as a low stimulus environment for overwhelmed visitors who need a quiet place to calm down.
 - (b) Location and Adjacency
 - (i) In proximity to Reception
 - (ii) Indirect access from Lobby
- 7.1.1.8 Multi-Purpose Support
- (a) Description
 - (i) Multi-Purpose Support will be the entrance vestibule into the Multi-Purpose room.
 - (ii) This will be the main entry point for visiting school groups and will include an area for handwashing and storage for coats and bags.
 - (b) Location and Adjacency
 - (i) Direct access from Outdoor Covered Gathering and Multi-Purpose
- 7.1.1.9 Multi-Purpose
- (a) Description
 - (i) The Multi-Purpose room will be used as a classroom and lunchroom for visiting school groups and summer camps, informal meeting space for staff, for symposia, and as a rental event space.
 - (ii) During evening or weekend events the Public will have access to supporting spaces only and the rest of the building will be locked off.
 - (b) Location and Adjacency
 - (i) Direct access to Multi-Purpose Support

- (ii) Indirect access to Lobby
- (iii) Indirect access to supporting spaces: Volunteer Lounge, Adult Changeroom, Family Room, Coat Room, Janitor, First Aid, Public Restrooms, and Public Universal Restroom.

7.1.1.10 Volunteer Lounge

(a) Description

- (i) The Volunteer Lounge will be used by volunteers as an orientation and training space, a lunchroom, casual work, and meeting space and for relaxing during break time. A secondary use is for informal meetings by staff or for symposia.

(b) Location and Adjacency

- (i) Indirect access to Lobby
- (ii) In proximity to Multi-Purpose

7.1.1.11 Family Room

(a) Description

- (i) The Family Room will be a casual space for visitors who would like privacy or need a space for resting, breastfeeding, changing, quiet time, and other various uses.
- (ii) This will be a warm, calm, and kid-friendly space.

(b) Location and Adjacency

- (i) Indirect access to Lobby.
- (ii) In proximity to Public Restrooms and Public Universal Restroom.

7.1.1.12 Adult Change Room

(a) Description

- (i) The Adult Change Room will be a restroom and changerroom designed for use by Occupants with support needs.
- (ii) The room will be designed for ease of movement with generous clearances. All fixtures and fittings within the room will accommodate a bariatric patient.

(b) Location and Adjacency

- (i) Indirect access to the Lobby
- (ii) In proximity to the Public Restrooms, Public Universal Restroom, and Family Room

7.2 Public Access Areas

7.2.1 Circulation Spine

7.2.1.1 Circulation Spine

(a) Description

- (i) The Circulation Spine will be the primary organizing element of the Building. It will bridge the Lab Area and the Collections Storage Area on opposite sides and lead the Public through a learning experience starting at the Lobby and ending at Learning Access #4A – Maker Space then transitioning to the Outdoor Areas educational program through Learning Access #4B – Exterior Space.
- (ii) The Circulation Spine will be the internal public image of the Facility and will generate a memorable visitor experience through the use of natural materials, volume, and both natural and artificial light.
- (iii) The Lobby and Learning Access Zones will be key components of this internal image, and their design will flow into and from the Circulation Spine creating a visually cohesive space.
- (iv) The beginning and termination of the Circulation Spine will be designed to provide special points of interest.
- (v) The volume of the Circulation Spine will allow for the display of four ceiling suspended items up to 3.05m high x 15.3m long. The underside of the suspended item will be above the clear height specified in Schedule 1 – Statement of Requirements.
- (vi) The educational opportunities will be highlighted by maximizing viewing into labs with direct access from the Circulation Spine, the Learning and Access Zones, and the Interpretive Wall.
- (vii) Groups of 24 will be able to collectively:
 - 1. Observe activities within the Lab Areas and Learning Access Zones along the Circulation spine without taking turns.
 - 2. View displays of collections items along the Interpretive Wall while allowing one group to move freely past another group engaged in activity within the Circulation Spine.
- (viii) The design of the space will maximize elements that promote movement and activity to foster community health and well-being.
- (ix) The Circulation Spine will be the main circulation route for staff to move between the Lab Areas and the Collections Storage Areas, for the Public to move between educational opportunities, and for

collections items to be moved between Lab Areas, Collections Storage Areas, and Loading and Receiving.

(x) The Interpretive Wall:

1. The Interpretive wall will be a continuous feature that will animate the face of the abutting Collections Storage Area. The depth of the Interpretive Wall provides a critical design opportunity for public engagement/community activities and displays that are animated.
2. The lower portion of the wall will be 1.3m deep and will accommodate:
3. The recessed entrances to the Collections Access Zones.
4. Collections information kiosks will allow visitors to augment collection data with their own stories, photographs, or videos.
5. Wall recesses for mobile collections vitrines that public curators from many diverse communities in BC will be invited to populate with changing pocket exhibitions.
6. Areas for the storage and temporary set-up of tables and carts for demonstrations and learning activities.
7. Casual seating areas to provide opportunities for rest, reflection, and conversation.
8. The upper portion of the wall will provide surfaces for graphic displays and art installations.
9. The design elements of the lower portion of the wall system will be modular so that functions can be shifted over time. The module will regularize the locations/sizes for doors and niches to suit a 2.44m wide module as programmatically required and aesthetically fitting. Doors into Collections Access Zones will not swing beyond the face of the Interpretive Wall.

(b) Location and Adjacency

- (i) Direct access to all Collections Access Zones, all Learning Access Zones, Lobby, History Clean Lab, Reading, and Access Room, Conservation Paper Lab, PDP/Matt Frame Lab, Botany Lab, Entomology Lab, IZ Dirty Prep Lab, VZ Dirty Prep Lab, Paleo Dirty Prep Lab, and Archaeology Wet Lab.
- (ii) Indirect access to everything else.

7.2.2 Collections Access Zones

7.2.2.1 All Collections Access Zones

(a) Description

- (i) Individual Collections Storage Areas will be accessed through the Collections Access Zones and create two layers of security between the public and the stored collections.
- (ii) Functioning similarly to vestibules these spaces will help maintain stable environmental conditions within the storage areas.
- (iii) These zones will be used for facilitated visitor experiences and a workspace for staff and visiting researchers. Work will not occur within the Collections Storage Areas due to an increased risk of compromising security or harming collections due to human error.
- (iv) Provide a 2-hour fire rating between all adjacent spaces.
- (v) A forklift and work-assist vehicle will be able to enter, move through and exit without difficulty.
- (vi) The spaces will be column and obstruction-free to allow access to collections and create flexible workspaces.
- (vii) Intentionally Deleted.
- (viii) Locate doors entering the Collections Access Zone from the Collections Storage Areas and the Circulation Spine directly across from each other to minimize forklift and work-assist vehicle turns.
- (ix) Work-assist vehicles will be stored in the Collections Access Zones and will require a 2-hour fire-rated closet for charging when not in use. Locate the closet to minimize obstruction within the room and the number of turns for the work-assist vehicle.
- (x) History Collections Access Zone will be temporarily sub-divided for short-term access to other sub-department collections stored in a sub-compartment in History Collections. Ensure no services are located in the sub-division wall and the materials used are easily deconstructed and will not create any dust when demolished. Provide separate entry doors into each sub-compartment.

(b) Location and Adjacency

- (i) Direct Access from Circulation Spine and associated Collections Storage Areas.
- (ii) Opposite alignment with the associated Lab Area sub-department.

7.2.3 Learning Access Zones

7.2.3.1 Learning Access #1 – History and Archives

(a) Description

- (i) Learning Access #1 – History and Archives will be a flexible space used by groups of up to 30 visitors from all ages for a variety of activities. Visitors will explore the history, archives, and PDP collections through hands-on experiences, courses, and workshops.

(b) Location and Adjacency

- (i) Direct access and direct line of sight from the Circulation Spine
- (ii) Directly adjacent to the Reading and Access Room and History Lab
- (iii) In proximity to Learning Access #1 - Closet
- (iv) Direct access to Learning Access #2 - Oral History Room and Learning Access #2 - Control Booth
- (v) Direct access to Learning Access #2. Do not provide a physical separation between the spaces.

7.2.3.2 Learning Access #2 – Media Lab

(a) Description

- (i) The Learning Access #2 - Media Lab will use next-generation interactive technology to support onsite and remote learning.
- (ii) It will be a portal into BCs History, providing access to the Owner's archives, exhibits, education programs, and online resources to inform and entertain the public.
- (iii) This room will provide learning and activity space for all disciplines and will accommodate a wide range of activities including:
 - 1. A recording studio for occupants to create historical and contemporary content through a wide range of media including video, audio, and photography.
 - 2. A broadcast studio for occupants to present both pre-recorded and live content over a variety of media platforms including internet, television, and radio.
 - 3. A classroom that will simultaneously educate learners onsite and in remote classrooms through videoconferencing.
 - 4. A videoconference center to deliver online educational programs to reach a wider audience and connect learners across the province and around the world.

- (iv) The space will provide school and community groups access to cutting-edge experiences in media production. Through state-of-the-art technology, users will have the Owner's primary resources and expertise at their fingertips to experiment and creatively develop independent perspectives on BC history

(b) Location and Adjacency

- (i) Direct Access from the Circulation Spine
- (ii) In proximity to the Digitization Lab
- (iii) Directly adjacent to Learning Access #5 – Community Digitization
- (iv) In proximity to Learning Access #2 - Closet
- (v) Direct access to Learning Access #2 – Oral History Room and Learning Access #2 – Control Booth
- (vi) Direct access to Learning Access #1. Do not provide a physical separation between the spaces.

7.2.3.3 Learning Access #2 – Oral History Room

(a) Description

- (i) Learning Access #2 – Oral History will be a small recording studio for community members to share and record oral history.
- (ii) It will be a warm and inviting space designed for storytelling. It will have comfortable furnishings and finishes made from natural materials to put people at ease while telling their histories.

(b) Location and Adjacency

- (i) Direct access and line of sight from Learning Access #1 – History and Archives

7.2.3.4 Learning Access #2 – Control Booth

(a) Description

- (i) Learning access #2 – Control Booth will be used for sound/video control/engineering and post-production work on content created in or for broadcast from Learning Access #2 – Media Lab recordings.
- (ii) It will be an acoustically separated work and storage space for equipment used in Learning Access #2 – Media Lab.
- (iii) The room will have a window into Learning Access #2 – Media Lab with internal shades for privacy.

(b) Adjacency

- (i) Direct access and line of sight from Learning Access #2 – Media Lab

7.2.3.5 Learning Access #3 – Natural History - Intentionally Deleted.

- (i)

7.2.3.6 Learning Access #4A – Maker Space

(a) Description

- (i) Learning Access #4A – Maker Space will be used for wet, messy, and dirty activities associated with all Lab Area sub-departments and the outdoor educational program, summer camps, and weekend activities.
- (ii) The space will primarily function as an indoor classroom providing visitors with the opportunity to interact with any kind of collection type.
- (iii) The space will be used in conjunction with Exhibit Shop #1 as a workspace for the design and production of displays for community projects and exhibits.
- (iv) This space will be used on its own during evenings and weekends while the rest of the Building remains secure.
- (v) A discrete pull-out barrier will be used to secure Learning Access #4A from the rest of the Building. When open, the barrier will fold into a fully concealed pocket creating a seamless appearance between Learning Access #4A and the Circulation Spine.
- (vi) During evening and weekend events visitors will have access to restrooms only and the rest of the building will be locked off.
- (vii) The space will be used to support the botany, entomology, vertebrate and invertebrate zoology, archaeology, and paleontology education programs along with various learning activities including hands-on collections workshops that will be wet and messy.

(b) Location and adjacency

- (i) Direct access from the Circulation Spine
- (ii) In proximity to Learning Access #3 - Closet
- (iii) In proximity to Exhibit Shop 1
- (iv) Direct access to Learning Access #4B – Exterior Space
- (v) In proximity to Public and Child Restrooms

7.2.3.7 Learning Access #5 – Community Digitization

(a) Description

- (i) Learning Access #5 – Community Digitization will be a flexible space used to teach visitors about preservation practices and provide visitors and visting researchers in the Reading and Access Room with access to various types of equipment for the digitization of personal documents.

(b) Location and adjacency

- (i) Access will be provided through the 3.201 Reading and Access Room.
- (ii) Intentionally Deleted.
- (iii) Intentionally Deleted.

7.3 Lab Area

7.3.1 History Lab

7.3.1.1 History Dirty Lab

(a) Description

- (i) After leaving Quarantine – History, and Archives the history artifacts will be moved to the History Dirty Lab for evaluation, cleaning, and processing.
- (ii) Due to the large sizes of history collections items, a minimum 3.1m x 3.1m clear opening is required to move collections items into the lab.
- (iii) The activities within the History Dirty Lab will be visible to visitors but may be viewed through the History Clean Lab.

(b) Location and Adjacency

- (i) Direct access and line of sight to History Clean Lab
- (ii) Direct line of sight to the Circulation Spine
- (iii) Indirect access to the BOH Corridor

7.3.1.2 History Clean Lab

(a) Description

- (i) The History Clean Lab will be used for cataloging, studying, and preserving the clean artifacts as well as for collections care.
- (ii) The dirty artifacts processed within this sub-department will only require a light cleaning and will be allowed to pass through the History Clean Lab on their way to the History Dirty Lab.
- (iii) The History Clean Lab will have the most active and engaging activities in this sub-department.
- (iv) The history collections manager will have a permanent workstation within this lab. Locate the workstation to allow full views of History Clean Lab and History Dirty Lab for supervision of all activities.
- (v) A minimum 3.1m x 3.1m clear opening is required to move collections items from the dirty lab into the clean lab.

(b) Location and Adjacency

- (i) Direct access and line of sight to the Circulation Spine and History Dirty Lab
- (ii) In proximity to Learning Access #1 – History and Archives

- (iii) Opposite alignment with the associated Collections Storage Area sub-department

7.3.2 Archives Lab

7.3.2.1 Reading and Access Room

(a) Description

- (i) The Reading and Access room will be a public space where visitors will have access to archival collections for research. The activities within this space will be viewable by the Public.
- (ii) Staff will be available to retrieve collections items from the Collections Storage Areas. These items will be brought to the visitors in the Reading and Access room on carts.
- (iii) The space will be used as a library with readers tables spaced out for individuals and groups to spread out materials.
- (iv) Adequate space will be required between the readers tables for carts containing collections items to be maneuvered without disrupting other visitors.
- (v) Adjacent to the readers tables there will be an area with various types of media readers for use by visitors.
- (vi) An HDMSS containing microfilm cabinets will be accessible from within the space.
- (vii) This space will require constant supervision when open to the public and a reference archivist will have a workstation within the Reading and Access Room. This workstation will have visibility to all readers tables, the media reader area, the Secure Private Reading Rooms, and the door from the Circulation Spine.

(b) Location and Adjacency

- (i) Direct access and line of sight to the Circulation Spine
- (ii) Direct access to the Archivist Workroom, and the Secure Private Reading Room
- (iii) Directly adjacent to Learning Access #1 – History and Archives
- (iv) Opposite alignment with the associated Collections Storage Area sub-department
- (v) Provide access to the Learning Access #5 – Community Digitization

7.3.2.2 Secure Private Reading Rooms (2)

(a) Description

- (i) The Secure Private Reading Room will be for visitors to view confidential or sensitive collections items.
 - (ii) The space will have an operable partition to create two acoustically separated spaces with a high level of privacy.
 - (iii) Each of the two spaces will have its own access and vision glazing for supervision by the reference archivist desk.
- (b) Location and Adjacency
- (i) Direct access from the Reading and Access Room
 - (ii) Direct line of sight to the reference archivist desk

7.3.2.3 Archivist Workroom

- (a) Description
- (i) The Archivist workroom will be a secure space for Staff to process, catalogue, and house incoming collections items.
 - (ii) The space will have a central work area with tables that can be reconfigured into various groupings as well as an open office area with individual staff workstations.
- (b) Location and Adjacency
- (i) Direct access to Reading and Access Room and Locked Storage
 - (ii) Indirect access from the BOH Corridor

7.3.2.4 Project Processing Room

- (a) Description
- (i) This space will temporarily be used for working with a confidential collection and will be accessed from the BOH corridor with a door into the Archivist Workroom. In the future, the space will be absorbed into the archivist workspace.
 - (ii) The walls separating this space from the Archivist Workroom will not contain any building services for future demolition purposes.
 - (iii) This room will have direct access from the BOH corridor or from within the Archivist Workroom. If access is provided from within the Archivist Workroom, the path of travel will not pass through the central working area or directly in front of any workstations to avoid any exposure to confidential documents.
- (b) Location and Adjacency
- (i) Direct access from the BOH Corridor

7.3.2.5 Locked Storage

- (a) Description
 - (i) This space will be used as a workspace with storage for collections and supplies.
- (b) Location and Adjacency
 - (i) Direct access from the Archivist Workroom

7.3.3 Conservation Lab

7.3.3.1 Conservation Paper Lab

- (a) Description
 - (i) The Conservation Paper Lab will be used to assess the conditions of paper-based collections and perform wet and dry treatments, end painting, and colour matching among other activities.
 - (ii) Collections items will frequently be transferred between the Conservation Paper Lab and PDP/Mat Frame Lab.
- (b) Location and Adjacency
 - (i) Direct access and line of sight from the Circulation Spine
 - (ii) In proximity to PDP/Matt Frame Lab with the opposite alignment of entry doors, or direct access to PDP/Matt Frame Lab.
 - (iii) Opposite alignment with the associated Collections Storage Area sub-department
 - (iv) Indirect access from the BOH Corridor

7.3.3.2 PDP/Matt Frame Lab

- (a) Description
 - (i) PDP/Matt Frame Lab will be used to assess the conditions of, artifacts and perform preservation work on paintings, drawings, and printed (PDP) collections items.
 - (ii) This space will be used for the matting and framing of collections items from all sub-departments.
 - (iii) Intentionally Deleted.
- (b) Location and Adjacency
 - (i) Intentionally Deleted.
 - (ii) Direct line of sight to the Circulation Spine
 - (iii) In proximity to Conservation Supply Storage

- (iv) In proximity to Conservation Paper Lab with the opposite alignment of entry doors
- (v) Indirect access from the BOH Corridor
- (vi) Direct access and line of sight from the Circulation Spine

7.3.3.3 Conservation Shared Lab - Intentionally Deleted

7.3.3.4 Conservation Object Lab

(a) Description

- (i) The Conservation Object Lab will be used to assess the conditions of, perform treatments on and stabilize organic and non-organic artifacts and collections items from any sub-department.
- (ii) Processes including dry and wet that may use solvents or hazardous materials.
- (iii) This space will be used to prepare collections items for loans and inspect them once returned.

(b) Location and Adjacency

- (i) Indirect access from the BOH corridor
- (ii) In proximity to Collections Storage #1 and #2

7.3.3.5 Conservation Textile Lab

(a) Description

- (i) The Conservation Textile Lab will be used to assess the conditions of, clean, repair, stabilize and research textile and fibre-based collections items.
- (ii) Processes including HEPA vacuuming, washing, mending, colour matching and preparation for exhibitions or loans.
- (iii) Provide enough clearance to bring a 4.6m long textile roll into the room.

(b) Location and Adjacency

- (i) Indirect access to the BOH Corridor

7.3.3.6 Conservation Supply Storage

(a) Description

- (i) For ease of access due to the large sizes of materials used by the conservation labs, the storage of supplies will be located

along the length of the sub-department internal circulation corridor using the corridor as a logistical space.

(ii) The supply area may be split into multiple sections to accommodate doors into the labs.

(iii) The supply areas will have a minimum depth of 1.3m.

(b) Location and Adjacency

(i) In proximity to Conservation Paper Lab, Conservation Object Lab, Conservation Textile Lab, and PDP/Matt Frame Lab.

7.3.3.7 Collection Storage #1 & #2

(a) Description

(i) A variety of collection types will be held in these rooms before and after treatments as well as before and after exhibitions at the downtown museum or other institutions.

(b) Location and Adjacency

(i) Indirect Access to the BOH Corridor

7.3.3.8 Archaeology Wet Lab

(a) Description

(i) The Archaeology Wet Lab will be used for holding and conservation treatment of frozen or wet archeological artifacts, specimens, and collections items including treatments to stabilize organic materials with a variety of processes.

(ii) Various dry and wet processes performed within this space will use solvents and hazardous materials.

(iii) Due to the frozen/wet/dirty status of the artifacts and specimens going to the Archaeology Wet Lab, the path of travel from Quarantine – Natural History will be as short as possible.

(b) Location and Adjacency

(i) Direct access from the Central Service Corridor

(ii) Direct access and line of sight from the Circulation Spine

(iii) In proximity to Quarantine – Natural History.

7.3.4 Digitization Lab

7.3.4.1 Digitization Image Studios (DIS)

(a) Description

- (i) The DIS will be a flexible black box space with an overhead lighting grid that will be sub-dividable into three studios of different sizes as directed by the Owner which can be combined as needed to suit various uses. The studios will be separated by blackout curtains suspended from drywall bulkheads to prevent light trespass between sub-compartments and mitigate noise.
 - (ii) Specimens, artifacts, and collections items will be brought into the studios for digital imaging capture using small/medium/large format machines set up for digitization projects including flatbed scanners, map scanners, photography stands, and book scanners.
 - (iii) The space will be flexible for staff and volunteers to set up the studios in various arrangements to accommodate the various activities and collections items ranging from very small to very large.
- (b) Location and Adjacency
- (i) In proximity to Conservation Lab
 - (ii) Indirect access from the BOH Corridor
 - (iii) Directly adjacent to the Corporate Photographers Studio
 - (iv) Intentionally Deleted.

7.3.4.2 Corporate Photographers Studio

(a) Description

- (i) Photography studio black box space for the corporate photographer with overhead lighting grid.
- (ii) Uses include digital photography of large specimens and collection items for web/exhibit/programing.

(b) Location and Adjacency

- (i) Indirect access from the BOH corridor.
- (ii) Directly adjacent to the DIS.

7.3.4.3 3D Printing Studio - Intentionally Deleted

7.3.4.4 3D Dirty Studio - Intentionally Deleted.

7.3.4.5 Digitization Equipment Storage (DES)

(a) Description

- (i) This space will be used as a storage area for legacy equipment or equipment that is not in use within the DIS.

(ii) The DES may be fully open to Digitization Post Production

(b) Location and Adjacency

(i) In proximity to the DIS

(ii) Direct access from Digitization Post Production

(iii) Indirect access from the BOH corridor

7.3.4.6 Digitization Post Production

(a) Description

(i) This space contains workstations for the post-processing of digital imagery.

(b) Location and Adjacency

(i) Direct access from DES and the BOH corridor.

7.3.5 Botany Lab

7.3.5.1 Botany Lab

(a) Description

(i) The Botany Lab will be used for drying, sorting, mounting, identification, cataloging, and organizing botany collections items.

(ii) Collections items coming from quarantine will be processed in the same space as previously processed collections items. No separation of clean and dirty workflows will be required.

(iii) Collections items will move between Loading and Receiving, the Collections Storage Area, and the Botany Labs on carts.

(iv) Intentionally Deleted.

(b) Location and Adjacency

(i) Direct access and line of sight from the Circulation Spine

(ii) Indirect access from the BOH corridor

(iii) Directly adjacent to the Entomology Lab

(iv) In proximity to Biology - Shared Instrumentation.

(v) Opposite alignment with the associated Collections Storage Area sub-department

7.3.6 Entomology Lab

7.3.6.1 Entomology Lab

(a) Description

- (i) The Entomology Lab will be used for drying, sorting, pinning, identification, cataloging, and organizing entomology collections items.
- (ii) Collections items coming from quarantine will be processed in the same space as previously processed collections items. No separation of clean and dirty workflows will be required.
- (iii) Collections items will move between Loading and Receiving, the Collections Storage Area, and the Entomology Labs on carts.
- (iv) Intentionally Deleted.

(b) Location and Adjacency

- (i) Direct access and line of sight from the Circulation Spine
- (ii) Indirect access from the BOH Corridor
- (iii) Directly adjacent to the Biology Lab
- (iv) In proximity to Biology - Shared Instrumentation
- (v) Opposite alignment with the associated Collections Storage Area sub-department

7.3.7 VZ/IZ and Shared Biology Lab

7.3.7.1 VZ Dirty Prep Lab

(a) Description

- (i) After leaving Quarantine – Natural History, vertebrate zoology specimens will be directly transferred to the VZ Dirty Prep Lab to be processed, dissected, cleaned, dried, and prepared for study and preservation.

(b) Location and Adjacency

- (i) Direct access and line of sight from the Circulation Spine
- (ii) Indirect access to the BOH Corridor
- (iii) In proximity to VZ Clean Lab
- (iv) In proximity to Biology – Shared Instrumentation
- (v) Opposite alignment with the associated Collections Storage Area sub-department

7.3.7.2 IZ Dirty Prep Lab

(a) Description

- (i) After leaving Quarantine – Natural History, invertebrate zoology specimens will be directly transferred to the IZ Dirty Prep Lab processed, dissected, and prepared for study and preservation. This will be the primary fluid-preserved collection processing space for IZ, VZ and Entomology.

(b) Location and Adjacency

- (i) Direct access and line of sight from the Circulation Spine
- (ii) Indirect access to the BOH Corridor
- (iii) In proximity to IZ Clean Lab
- (iv) In proximity to Biology – Shared Instrumentation
- (v) Opposite alignment with the associated Collections Storage Area sub-department
- (vi) Intentionally Deleted.

7.3.7.3 VZ Clean Lab

(a) Description

- (i) After the specimens are cleaned in the VZ Dirty Lab, they will be transferred to the VZ Clean Lab for housing, identification, cataloging and study.

(b) Location and Adjacency

- (i) Indirect access from the Circulation Spine
- (ii) Indirect access to the BOH Corridor
- (iii) In proximity to VZ Dirty Lab

7.3.7.4 IZ Clean Lab

(a) Description

- (i) Will be working space for staff for organizing collection by cataloging new additions to the collection. Space will be used for final preparation including identification, microscopy, research of new specimens, cataloging, and labeling.

(b) Location and Adjacency

- (i) Provide direct access to BOH Corridor.
- (ii) Adjacent to IZ Dirty Prep Lab

7.3.7.5 Biology – Shared Instrumentation

(a) Description

- (i) Will be a shared flexible working space for all Lab Area sub-departments. It will be used by Staff as well as overflow workspace for interns and volunteers when there are not enough workstations in the labs.
- (ii) This will be an open lab space with zones for the separation of clean and dirty activities.

(b) Location and Adjacency

- (i) Direct access from the BOH Corridor
- (ii) Direct access to Biology - Shared Alcove #1-2

7.3.7.6 Biology - Shared Alcove #1-2

(a) Description

- (i) The Biology – Shared Alcoves contain flexible working spaces for activities requiring an isolated work area.

(b) Location and Adjacency

- (i) Direct access from Biology - Shared Instrumentation

7.3.7.7 Biology – Shared Ultra Cold Freezer Room

(a) Description

- (i) The Biology – Shared Ultra Cold Freezer Room will be used by all Lab Area sub-departments for the cold and ultra cold storage of biological samples.
- (ii) The space will be divided into two sub-compartments with a demountable partition.
- (iii) The main sub-compartment will contain a preparation area and space for moderate cold freezers. The secondary compartment will be sized to suit (6) ultra-cold freezers with required clearances and circulation space.
- (iv) A sterilizer for use by all Lab Area sub-departments will be located in this space to mitigate the noise.

(b) Location and Adjacency

- (i) Direct access to BOH Corridor

7.3.7.8 Biology – Shared Biofreezer

(a) Description

- (i) The Biology – Shared Biofreezer space will be an open area for fridges, freezers, and storage and will be used by all Lab Area sub-departments.
- (ii) This area may be arranged as an alcove along the BOH corridor to use the corridor as the circulation space.

(b) Location and Adjacency

- (i) Direct access to the BOH Corridor

7.3.8 Paleontology Lab

7.3.8.1 Paleo Dirty Prep Lab

(a) Description

- (i) The Paleo Dirty Prep Lab will be used for activities that produce a large amount of dust and noise including removal of fossils from the surrounding rock matrix and plaster field jackets.
- (ii) Specimens from Quarantine – Natural History will be transferred to the Paleo Dirty Prep Lab for processing and mechanical and manual preparation.
- (iii) This space will also be used to create storage cradles for collections items.

(b) Location and Adjacency

- (i) Direct access and line of sight from the Circulation Spine
- (ii) Direct access from the BOH Corridor
- (iii) Directly adjacent to the Cast and Mold Lab
- (iv) Opposite alignment with the associated Collections Storage Area sub-department
- (v) Intentionally Deleted.

7.3.8.2 Cast and Mold Lab

(a) Description

- (i) This space will be used for the moulding and casting of fossils.
- (ii) Chemical preparation will occur in this lab with resin-based and fibreglass-based casting and moulding.

(b) Location and Adjacency

- (i) Direct access from BOH Corridor.
- (ii) Directly adjacent to Paleo Dirty Prep Lab

7.3.8.3 Sectioning Lab

(a) Description

- (i) The Sectioning Lab will be used for preparing, cutting, and grinding various sizes of rock and fossil materials generating dust and noise requiring isolation from neighboring spaces.

(b) Location and Adjacency

- (i) Direct access to the BOH Corridor
- (ii) Directly adjacent to Paleo Dirty Prep Lab

7.3.8.4 Paleo Clean Lab

(a) Description

- (i) The Paleo Clean Lab will be used for identification, cataloging, and researching specimens and for the preparation of collections items for storage.

(b) Location and Adjacency

- (i) In proximity to the Paleo Dirty Lab across the BOH corridor.
- (ii) Direct access from the BOH Corridor.

7.4 Collections Storage Area

7.4.1 History Collections

7.4.1.1 History Collections Storage

(a) Description

- (i) The history collections will contain a variety of collections items in a large range of sizes stored on several HDMSS and in two zones along compartmental demising walls.
- (ii) The main compartment of History Collections Storage will be subdivided into two roughly equal spaces with a 2-hour fire-rated assembly. Both sub-compartments will share the History Collections Access Zone which will be temporarily subdivided into two spaces, each will have separate entry doors from the access zone. Direct access between sub-compartments is not required.

(b) Location and Adjacency

- (i) Opposite alignment with the associated Lab Area sub-department
- (ii) Direct access into the two main compartments from History Collections Access Zone
- (iii) Direct access in one of the two main compartments to _____, and History Vehicles Storage
- (iv) Indirect access to Collections Exit Corridor.

7.4.1.2 History Vehicles Storage

(a) Description

- (i) History Vehicles storage will contain various vehicles ranging from farming equipment to high value vehicles. A 4.7m high clear height will be provided for vehicles to be stored above each other using future hydraulic lifts.
- (ii) The space will also be used for vehicle maintenance which will require running combustion engines with the exterior doors closed.
- (iii) Due to the high value of some collections items within this space, a separate security gate locked from the inside of the space will be provided inside the main garage doors.
- (iv) The vehicles will be transferred directly from History Vehicle Storage to flat-bed trucks for transport. Provide a stable, hardscape suitable for parking large trucks.

- (v) Provide a loading apron.
- (b) Location and Adjacency
 - (i) Direct access from the exterior
 - (ii) Adjacent to History Collections Storage or Collections Loading - Clean or Dirty Enclosed.

7.4.2 Archives Collections

7.4.2.1 Archives Collections Storage

- (a) Description

(i) The archives collections will primarily store boxes of paper and boxes on an HDMSS.

(b) Location and Adjacency

(i) Opposite alignment with the associated Lab Area sub-department

(ii) Direct access from the Archives Access Zone

(iii) Direct access to Archives Cool and Cold Vaults ERC-3 and ERC-4, and

(iv) The Sisters of St Ann collection will be fully integrated into the Archive HDMSS, but the entire collection must be located together.

7.4.2.2 Archives Cool and Cold Vaults

(a) Description

(i) The Archives Cool and Cold Vaults will be environmental chambers ERC-3 and ERC-4 located and access from within Archives Collections Storage.

(ii) The environmental chambers will primarily store photographs, film, sound recordings on HDMSS's.

(iii) Note the environmental control chambers are the individual rooms and no additional walls beyond that of the chamber need to be constructed between the chambers and Archives Collection Storage.

(b) Location and Adjacency

(i) Direct access from Archives Collections Storage to Archives Cool Vault – ERC-3

(ii) Direct access from Archives Cool Vault – ERC-3 to Archives Cold Vault – ERC-4

7.4.2.3 Sisters of St. Ann's Collections

(a) Description

(i) This space will contain a variety of collections items stored on an HDMSS.

(ii) Intentionally deleted.

(b) Location and Adjacency

(i) Intentionally Deleted.

7.4.3 Botany Collections

7.4.3.1 Botany Collections

(a) Description

- (i) This space contains the botany collections items stored on an HDMSS.
- (ii) Physical separation between Botany Collections and the Botany Access Zone will not be required.

(b) Location and Adjacency

- (i) Direct access from the Botany Access Zone
- (ii) Adjacent to Entomology Collections.
- (iii) Opposite alignment with the associated Lab Area sub-department

7.4.4 Entomology Collections

7.4.4.1 Entomology – Dry Collections

(a) Description

- (i) This space will contain the entomology collections items stored on an HDMSS.
- (ii) There will be no physical separation between Entomology - Dry Collections and the Entomology Access Zone.

(b) Location and Adjacency

- (i) Direct access from the Entomology Access Zone
- (ii) Adjacent to Botany Collections.

- (iii) Opposite alignment with the associated Lab Area sub-department

7.4.4.2 Entomology - Fluid Preserved Collections

(a) Description

- (i) This space will contain the entomology collections items in solutions ethyl alcohol and isopropanol stored on an HDMSS.

(b) Location and Adjacency

- (i) Direct access from the Entomology Access Zone

7.4.5 VZ/IZ and Shared Biology Collections

7.4.5.1 VZ – Dry Collections

(a) Description

- (i) This space will contain the VZ collections items without preservative compounds stored on an HDMSS.

(b) Location and Adjacency

- (i) Direct access from VZ Access Zone
- (ii) Opposite alignment with the associated Lab Area sub-department
- (iii) Direct access to the Fur and Feather

7.4.5.2 Fur and Feather

(a) Description

- (i) The Fur and Feather space will be accessible from or through VZ-Dry Collections.
- (ii) The space will primarily store animal pelts and skins, taxidermy, and mounts. Some collections items have been treated with preservative compounds such as arsenic.
- (iii) Intentionally Deleted.

(b) Location and Adjacency

- (i) Direct access from VZ - Dry Collections. Walls separating the spaces are not required.

7.4.5.3 IZ – Dry Collections

(a) Description

- (i) This space will contain IZ dry collections items stored on an HDMSS.

- (b) Location and Adjacency

- (i) Direct access from the IZ Access Zone.

- (ii) Opposite alignment with the associated Lab Area sub-department

- (iii) Direct access to VZ/IZ Fluid Preserved

7.4.5.4 IZ/VZ Fluid Preserved

- (a) Description

- (i) This space will contain IZ and VZ collections items in solutions ethyl alcohol and isopropanol stored on an HDMSS, designed in accordance with NFPA requirements.

- (ii) Topping off of evaporated alcohol will be performed within this room.

- (b) Location and Adjacency

- (i) Access from IZ Access Zone or IZ Dry Collections

7.4.6 Paleontology & Mineral Collections

7.4.6.1 Paleontology & Mineral Collections

- (a) Description

- (i) This space will contain the paleontology collections items on an HDMSS.

- 1. Unprocessed specimens and specimens in field jackets will be transferred directly to Paleontology & Mineral Collections from Quarantine – Natural History.

- (b) Location and Adjacency

- (i) Direct access from the Paleo Access Zone

- (ii) Opposite alignment with the associated Lab Area sub-department

7.4.7 Chinese Canadian Collections - Intentionally Deleted

7.4.8 BC Archaeology Collections

7.4.8.1 BC Archaeology Collections

- (a) Description

- (i) This space will contain the archaeology collections items ranging from boxes of soil samples to long timber items stored on an HDMSS.
 - (ii) Physical separation between BC Archaeology Collections and the Archaeology Access Zone will not be required.
- (b) Location and Adjacency
- (i) Direct access from the BC Archaeology Access Zone.

7.4.9 PDP Collections

7.4.9.1 PDP Vault

- (a) Description
- (i) The PDP collections include high-value paper items, photographs, some 3D items, and archival materials stored in an HDMSS
 - (ii) Paintings will be stored on overhead mounted pull-out art racks. The 2.203 PDP Access Zone should be laid out in the same width and completely open to this space. The overhead support system for art racks should be extended overhead from the art rack zone into the Access Zone allowing flexibility in spacing for the art racks within both footprints. See APPENDIX 1B-2 Items Schedule for clearance between art racks. Organize the space to ensure both sides of all art racks are accessible.
 - (iii) Intentionally deleted.
 - (iv) The PDP Collections and PDP Access Zone will be fully open to each other.
- (b) Location and Adjacency
- (i) Opposite alignment with the associated Lab Area sub-department
 - (ii) Direct access from the PDP Access Zone.

7.5 Office Area

7.5.1 Office Area

7.5.1.1 Open Office Area

(a) Description

- (i) The Open Office Area will support the researcher's administrative tasks and work that needs to be completed outside of the Lab Areas and Collection Storage Areas.
- (ii) The space will be arranged to ensure ample amounts of natural daylight and views of the exterior.
- (iii) The space will have operable glazing.

(b) Location and Adjacency

- (i) Will provide access to Private Offices
- (ii) Will be directly accessed from the Admin Corridor
- (iii) Will provide indirect access to the BOH Corridor
- (iv) Will provide indirect access to Staff Restrooms and Janitor closet

7.5.1.2 Private Office 1 (3) and 2 (11)

(a) Description

- (i) The Private Offices will be used by individuals who require a greater degree of privacy.
- (ii) The Private Offices will be partially glazed, to allow for borrowed natural daylight to enter the spaces.

(b) Location and Adjacency

- (i) Adjacent to and accessed from the Open Office Area.

7.5.1.3 FOI/CORP Office

(a) Description

- (i) The FOI/CORP Office will be a private office supporting the administrative duties of FOI/CORP including archival corporate records management.

(b) Location and Adjacency

- (i) Will be in proximity to the FOI/GOV. Records Office

7.5.1.4 FOI/GOV. Records Office

(a) Description

- (i) The FOR/GOV. Records Office will be a private office supporting the administrative duties of FOI/GOV. including the management of archival government records.

(b) Location and Adjacency

- (i) Will be in proximity to the FOI/CORP Office

7.5.1.5 HR & Volunteer Office

(a) Description

- (i) The HR & Volunteer Office will be a private office supporting the administrative needs of human resources and volunteer management.

(b) Location and Adjacency

- (i) Adjacent to and accessed from the Open Office Area.
- (ii) Will be in proximity to the Lobby.

7.5.2 Work Rooms

7.5.2.1 Learning Workroom

(a) Description

- (i) Will be a workspace to support the preparation of materials for visiting classes or groups.
- (ii) Will support the storage of manipulatives, handling collections and supplies.

(b) Location and Adjacency

- (i) Adjacent to and accessed from the Open office Area.
- (ii) Will be in proximity to the Lobby Area.

7.5.2.2 IT Workroom/Storage

(a) Description

- (i) Workstations will support the repair of hardware and loading software

(b) Location and Adjacency

- (i) In proximity to the Digitization Lab

7.5.2.3 Registrar Workroom

- (a) Description
 - (i) Will serve as a space for records holding and administrative workspace.
- (b) Location and Adjacency
 - (i) Locate in proximity to Loading and Receiving
 - (ii) Provide access from the Central Service Corridor

7.5.2.4 Facilities Plan Room

- (a) Description
 - (i) Will support the building's operational administrative work.
- (b) Location and Adjacency
 - (i) Provide access from the Central Service Corridor
 - (ii) Locate in Proximity to Loading and Receiving.

7.5.3 Shared Facilities

7.5.3.1 Staff Lunch

- (a) Description
 - (i) Will include an open function with a kitchenette and a variety of seating options for lunches and informal meetings
- (b) Location and Adjacency
 - (i) Provide exterior access to a 14m2 outdoor patio, screened from public view.
 - (ii) Locate Adjacent to Open Office Area

7.5.3.2 Copy Area (2)

- (a) Description
 - (i) Will be the designated space to support the copier and storage of stationery supplies
- (b) Location and Adjacency
 - (i) Will be directly accessed from the Open Office Area

7.5.3.3 Shared Departmental Library

- (a) Description

- (i) Will act as a library for all of the departmental and conservation resources
 - (ii) Will be an area that allows for quiet reading of materials
 - (b) Location and Adjacency
 - (i) Provide natural daylighting in seating area.
- 7.5.3.4 Mobile Locker Area
- (a) Description
 - (i) Will be split into multiple alcove areas for temporary storage of the mobile lockers.
 - (b) Location and Adjacency
 - (i) Will be apportioned among doors from other areas (Lobby, Labs and Loading/Receiving).
- 7.5.3.5 Conference Room
- (a) Description
 - (i) The space will provide the necessary support and flexibility for formal meetings of various sizes
 - (ii) Will be subdividable to accommodate smaller, intimate meetings, or larger ones, both of which could be occurring at the same time, with minimal disruption caused between the two
 - (b) Location and Adjacency
 - (i) Provide natural daylight
- 7.5.3.6 Collaboration Space
- (a) Description
 - (i) Will be a casual meeting area to support informal interaction and collaboration
 - (b) Location and Adjacency
 - (i) Will be adjacent to the Open Office area.
 - (ii) The space may be open to the Open Office area or separated by a door.
- 7.5.3.7 Corporate Records Holding
- (a) Description

- (i) Will serve as the secure, designated space for corporate records storage.

- (b) Location and Adjacency

- (i) Will be located in proximity to the FOI/Corp Office.

7.5.3.8 FOI Records

- (a) Description

- (i) Will serve as the secure, designated space for FOI records storage.

- (b) Location and Adjacency

- (i) Will be accessed only through the FOI/Gov Records Office.

7.6 Loading and Receiving

7.6.1 Central Shared Services

7.6.1.1 Shipping Office

(a) Description

- (i) The Shipping Office will be the management hub for all shipping and receiving activities and distribution of mail and office supplies
- (ii) This space will require transaction windows into the Central Service Corridor and Building – Staging Receiving.
- (iii) An intercom and line of sight to the Outside Loading Zone and Staff Entry are required to allow access for deliveries.
- (iv) This space will be fully open to Shipping supplies. Physical separation between the spaces is not required.

(b) Location and Adjacency

- (i) Direct access and line of sight from the Central Service Corridor
- (ii) Direct access to Shipping Supplies,
- (iii) In proximity to Mail/Copy, Office Supplies, and the Security Command Center
- (iv) Direct line of sight into Building - Staging/Receiving
- (v) Direct line of sight to the Staff Entry and Outside Loading Zone entry door.

7.6.1.2 Shipping Supplies

(a) Description

- (i) This space will support the shipping office with storage and workspace to organize incoming and outgoing building-related supplies.

(b) Location and Adjacency

- (i) Direct access from the Shipping Office.

7.6.1.3 Mail/Copy

(a) Description

- (i) This space will contain the Staff mailboxes and print/copy station for the personnel, maintenance, and operations spaces
- (ii) Two separate workspaces will be provided for printer/copier activities and mail sorting.

- (b) Location and Adjacency
 - (i) In proximity to the Shipping Office and the Office Area
 - (ii) Indirect access from the Central Service Corridor

7.6.1.4 Office Supplies

- (a) Description
 - (i) Storage for office supplies.
- (b) Location and Adjacency
 - (i) In proximity to Shipping Office, Mail/Copy, and the Office Area.
 - (ii) Indirect access from Central Service Corridor.

7.6.1.5 Security Command Centre

- (a) Description
 - (i) This will be the main security hub for the Facility and will be staffed 24/7.
 - (ii) A security operations monitoring centre will be located within this space. This centre will be screened off to avoid any visibility from windows and doors into the Security Command Centre monitors.
 - (iii) The Security Command Center will have a transaction window with line of sight to the staff entry, adjacent to the intelligent key cabinets to monitor Staff and check in any visitors.
 - (iv) A workstation will be located within the command center with a line of sight to all corridors connected to BOH entry points.
- (b) Location and Adjacency
 - (i) Direct line of sight to the Staff Entry, Outside Loading Zone Entry, Building – Staging/Receiving, the Shipping Office, and all adjacent corridors.
 - (ii) Direct access from the Central Service Corridor
 - (iii) In proximity to Collections Staging Receiving – Clean and Dirty.

7.6.1.6 Security Supervisor Office

- (a) Description
 - (i) This will be a private office for the supervisor and small security operations meetings.
 - (ii) The supervisor workstation will be located with a direct line of sight to the Staff Entry.

- (b) Location and Adjacency
 - (i) Direct access from the Security Command Centre
 - (ii) Direct line of sight to the Staff Entry
- 7.6.1.7 Security Patch
 - (a) Description
 - (i) This space will contain the IT and camera service equipment with a small workspace.
 - (ii) The Security Patch and Security Server space may be fully open to each other and physical separation will not be required.
 - (b) Location and Adjacency
 - (i) Direct access from Security Command Centre or Guard Supply.
 - (ii) Direct access to Security Server
- 7.6.1.8 Security Server
 - (a) Description
 - (i) This space will contain the security servers.
 - (b) Location and Adjacency
 - (i) Direct access from Security Patch
- 7.6.1.9 Guard/Supply
 - (a) Description
 - (i) This space will contain guard supplies including lockers and a lunchroom.
 - (b) Location and Adjacency
 - (i) Will be accessed directly from the Security Command Centre
- 7.6.1.10 Building Maintenance
 - (a) Description
 - (i) Will contain supply storage and a desk to accommodate administrative work.
 - (b) Location and Adjacency
 - (i) In proximity to Custodial Central Supply and Facilities Storage

- (ii) Directly access from Central Services Corridor

7.6.1.11 Site Maintenance Equipment

(a) Description

- (i) Will contain site supply and equipment storage, including gas-powered engines.
- (ii) Provide a minimum 2.0m access apron from Loading/Receiving apron.

(b) Location and Adjacency

- (i) Provide exterior access to this space.
- (ii) Adjacent to Loading/Receiving apron with hardscape to allow trailered delivery of equipment.

7.6.1.12 Staff Lockers

(a) Description

- (i) Will be a GN locker area.
- (ii) Will be built into an alcove located along a corridor.

(b) Location and Adjacency

- (i) Locate in proximity to Staff Entrance.
- (ii) Will be adjacent to shower rooms.

7.6.1.13 Staff First Aid

(a) Description

- (i) The room will be fit to support the administration of first aid.

(b) Location and Adjacency

- (i) Locate in proximity to the Security Command Centre.

7.6.1.14 Custodial Central Supply

(a) Description

- (i) Will accommodate the storage of supplies for Building cleaning

(b) Location and Adjacency

- (i) Will be in proximity to Building Maintenance and Facilities Storage

- (ii) Provide direct access from the Central Services Corridor

7.6.1.15 Facilities Storage

(a) Description

- (i) Will be used for the storage of supplies

(b) Location and Adjacency

- (i) Will be located in proximity to Building Maintenance and Custodial Central Supply
- (ii) Will be accessed from Central Services Corridor

7.6.2 Shared Building Loading/Receiving

7.6.2.1 Outside Loading Zone

(a) Description

- (i) This space will be an exterior, covered loading zone complete with three loading bays and a 3.0m overhang protecting the bays
- (ii) The space will not be used for collections shipping/receiving.
- (iii) One bay will accommodate a permanently installed recessed loading dock scissor lift.

(b) Location and Adjacency

- (i) Will be separated from the Collections Loading Area to preclude pest migration.
- (ii) Provide direct access to Building - Staging/Receiving and the Central Services Corridor
- (iii) Viewable from Security Command Centre.
- (iv) In proximity to waste management area.

7.6.2.2 Building – Staging/Receiving

(a) Description

- (i) Will be an interior area for holding the delivered or outgoing materials related to Building operations
- (ii) Will be at the same elevation as Outside Loading Zone.
- (iii) Items will be unloaded into a dedicated staging receiving area before being transported to the applicable support space.
- (iv) It will also serve as a charging area for forklifts

(b) Location and Adjacency

- (i) Accessed from Central Service Corridor
- (ii) Accessed from Outside Loading Zone

7.6.3 Shared Collections, Learning, Exhibits

7.6.3.1 Collections Loading – Dirty Enclosed

(a) Description

- (i) Will be an enclosed loading bay for a 10.7m long vehicle that accommodates secure shipping and receiving activities related to collections.
- (ii) All collections items not previously processed by the CRB or other museums will enter the Building through a dedicated dirty collections loading dock.
- (iii) The fully enclosed loading dock will allow a truck to enter the Building completely through the exterior door while the interior door remains closed. Only when the exterior door is closed will the interior door be opened.
- (iv) The dirty collections items will then be unloaded into a dedicated dirty staging/receiving area before being transferred into a quarantine space.
- (v) Once the collections items are deemed to be pest and disease-free, they are removed from the quarantine spaces and transferred to the Lab Area for processing.

(b) Location and Adjacency

- (i) Provide direct access into Collection Staging Receiving - Dirty

7.6.3.2 Collections Staging Receiving - Dirty

(a) Description

- (i) Will be the logistics area for unloading the delivery vehicle
 - 1. Will be at the same elevation as Collection Loading – Dirty Enclosed
- (ii) For temporary holding of pallets of materials with pallet racks overhead for supplies
- (iii) Charging area for forklift
- (iv) Provide recessed permanently installed loading dock scissor lift.

(b) Location and Adjacency

- (i) Provide direct access from Collection Loading — Dirty Enclosed
- (ii) Direct access to the quarantine rooms
- (iii) Direct access through Staging Receiving — Clean to the Central Services Corridor

7.6.3.3 Collections Loading – Clean Enclosed

(a) Description

- (i) Will be an enclosed loading bay for a 10.7m long vehicle for secure shipping and receiving activities related to collections.
- (ii) Will accommodate previously processed collections items going to or coming from the downtown exhibition building or other museums
- (iii) The fully enclosed loading dock will allow a truck to enter the Building completely through the exterior door while the interior door remains closed. Only when the exterior door is closed will the interior door be opened.
- (iv) The clean collections items or very large crates from traveling exhibitions will then be unloaded into a dedicated clean staging/receiving area to be sorted before being transferred.

(b) Location and Adjacency

- (i) Provide direct access into Collection Staging Receiving – Clean.

7.6.3.4 Collections Staging Receiving – Clean

(a) Description

- (i) Will be the logistics area for unloading delivery vehicles
- (ii) Will be at the same elevation as Collection Loading – Clean Enclosed.
- (iii) For temporary holding of pallets of materials with pallet racks overhead for supplies
- (iv) Charging area for forklift
- (v) Provide permanently installed recessed loading dock scissor lift.

(b) Location and Adjacency

- (i) Provide direct access from Collection Loading — Clean Enclosed
- (ii) Direct access from the Central Services Corridor

7.6.3.5 Registrar Holding

- (a) Description
 - (i) Will be a holding area for clean collections
 - (b) Location and Adjacency
 - (i) Direct access from Collection Staging Receiving — Clean
- 7.6.3.6 Crate Storage + Inspection
- (a) Description
 - (i) Will support inspection and storage of large crates from traveling exhibitions.
 - (b) Location and Adjacency
 - (i) Direct access from Collection Staging Receiving — Clean
- 7.6.3.7 Quarantine – Botany & Entomology
- (a) Description
 - (i) Will support holding, unpacking, inspection, documentation, and pest mitigation for incoming collections
 - (b) Location and Adjacency
 - (i) Access from Collection Staging Receiving — Dirty
- 7.6.3.8 Quarantine – History & Archives
- (a) Description
 - (i) Will support holding, unpacking, inspection, documentation, and pest mitigation for incoming collections
 - (b) Location and Adjacency
 - (i) Access from Collection Staging Receiving — Dirty
- 7.6.3.9 Quarantine – Natural History
- (a) Description
 - (i) Will support holding, unpacking, inspection, documentation, and pest mitigation for incoming collections
 - (b) Location and Adjacency
 - (i) Access from Collection Staging Receiving — Dirty
- 7.6.3.10 Field Gear

- (a) Description
 - (i) Will be the space for storage and cleaning of field gear for all natural history departments
 - (ii) Field gear will be cleaned in an outside wash-down area with a concrete apron and exterior hose bibb.
- (b) Location and Adjacency
 - (i) Provide an exterior access door
 - (ii) Provide access via the sidewalk connect to Loading and Receiving

7.6.3.11 Dermestid Colony

- (a) Description
 - (i) Will be the space for dermestid colony
 - (ii) Space will be temperature and RH stable.
 - (iii) Will accommodate the storage of supplies
 - (iv) Seal space off from any adjacent space to prevent pest entry into Building.
- (b) Location and Adjacency
 - (i) Accessed directly off of Quarantine - Natural History or Collection Staging Receiving – Dirty through a negatively pressurized vestibule.

7.6.3.12 EtOH Supply + HAZMAT

- (a) Description
 - (i) Will be a storage area for alcohol and bulk storage of chemicals.
 - (ii) Will support pumping of alcohol into carboys atop of carts rolled into the room
- (b) Location and Adjacency
 - (i) Outside-only access with sidewalk from the loading area to the closest entry point.

7.6.3.13 Site Supply - Gardens

- (a) Description
 - (i) Will accommodate the storage of gardening equipment and Learning Access #4 – Exterior Space supplies.

- (b) Location and Adjacency
 - (i) Adjacent to Learning Access Area #4 – Exterior Space
 - (ii) Outside only access

7.6.3.14 Exhibit Shop 1

- (a) Description
 - (i) Will accommodate storage and use of power tools, equipment, and supplies for maintenance of exhibits and fabrication of mounts for collections.
- (b) Location and Adjacency
 - (i) Direct access from Central Service Corridor.
 - (ii) Adjacent to Exhibit Shop 2

7.6.3.15 Exhibit Shop 2

- (a) Description
 - (i) Will be a public working space for the fabrication of mounts for collections.
- (b) Location and Adjacency
 - (i) In proximity to Learning Access #4 – Maker Space.
 - (ii) Adjacent to Exhibit Shop 1

7.7 Service Spaces

7.7.1 Support

7.7.1.1 MEP Tool Shop, MEP Filters, MEP Supplies

(a) Description

- (i) Will be space used for the storage of supplies related to the maintenance of building services.

(b) Location and Adjacency

- (i) In proximity to the main building service spaces

7.7.2 Restrooms and Showers

7.7.2.0 General

- (a) The Design Builder will provide a total of 16 toilets, 16 sinks and 2 showers for the Building.

- (b) All restrooms, cubicles, and shower rooms will be gender neutral and barrier-free.

- (c) The following restroom descriptions are intended as a guide to their location and will be finalized pursuant to Schedule 2 – Review Procedure.

- (a) Refer to 7.1.1.12 for requirements in the Adult Changeroom.

7.7.2.1 Public Shared Restrooms

- (a) Provide four toilets and four sinks in the Public Shared Restroom in the Entrance Area.

7.7.2.2 Public Single-Occupant Restrooms

- (a) Provide one toilet and one sink in a single-occupant restroom located in proximity to the end of the Circulation Spine farthest from the Entrance area.

7.7.2.3 Public Child Restrooms

- (a) Provide one child sized toilet and one sink in a single-occupant restroom sized to sink. Room area will be sized to accommodate one child with a helper. Locate in proximity to Learning Access #4A – Maker Space.

7.7.2.4 Staff Restrooms (7)

- (a) Provide six toilets and six sinks in shared or single occupant restrooms. At a minimum three restroom will be single-occupant. Locate restrooms strategically throughout the Building for convenient staff access.

- (b) Provide one additional toilet and sink in a single-occupant restroom with direct access from within the Security Command Centre or Guard Supply.

7.7.2.5 Staff Restrooms with Showers (2)

- (a) Provide two showers with toilets and sinks in single occupant shower rooms. Locate in proximity to the Staff Entry and Staff Lockers.

7.7.2.6 Janitor Rooms

- (a) Janitor rooms will be strategically located throughout the building for ease of maintenance.

7.7.3 Building Services

7.7.3.1 As Required

- (a) Building service rooms are considered part of the gross-up. These rooms contain the service spaces and equipment necessary for the function of the Building. The Design areas will be submitted by the Design-Builder as part of the accommodation schedule per Schedule 2.

7.8 Outdoor Areas

7.8.1 Outdoor Areas

7.8.1.1 Entrance Walk

(a) Description

- (i) Pedestrian oriented sidewalk connecting drop-off, parking lot, and Site perimeter to the Outdoor Covered Gathering
- (ii) Provide programmable ground-mounted double-sided LED signs, to be used by the museum, community partners, or artists.

7.8.1.2 Outdoor Covered Gathering

- (i) Gathering area, outdoor classroom, and exterior public queueing area
- (ii) Architectural feature for the Facility.
- (iii) Activity area with water, power, data, lighting, and portable tables and seating.

(b) Location and Adjacency:

- (i) Direct access to the Lobby Vestibule
- (ii) Direct access from Multi-Purpose Support

7.8.1.3 Learning Access #4B – Exterior Space

(a) Description:

- (i) Canopy coverage over 25% of the area;
- (ii) Allow open area for seating up to groups of 30 people along with smaller break-out groups.
- (iii) Area for exterior activities and as an outdoor extension of the Learning Access #4A – Maker Space
- (iv) Allow for horticultural learning with movable potting benches.
- (v) Include lockable alcove to house outdoor casework;

(b) Location and Adjacency:

- (i) An extension of the Circulation spine with direct access to Learning Access #4A – Maker Space

7.8.1.4 Learning Access #4C – Alcove

(a) Description

- (i) Learning Access #4C – Alcove will be a secured exterior closet support area for Learning Access #4B – Exterior Space
- (ii) The alcove will contain a sink accessible for outdoor workshops and storage for exterior activity supplies.
- (iii) This support space will only be used during scheduled programming events and will be equipped with doors that when closed will blend into the exterior finishes concealing its presence. When open, the doors will fold into a concealed pocket so that they don't infringe on the program area of Learning Access #4B – Exterior Space.

(b) Location and Adjacency

- (i) Direct access from Learning Access #4B

7.8.1.5 Wetland and Observation Deck

(a) Description

- (i) Wetland observation environment and informal classroom for stewardship and learning.
- (ii) Provide a wetland with plantings and landscapes to attract biodiversity.
- (iii) Provide observation deck at water edge for gathering and viewing.
- (iv) The observation deck will be 50m²

7.8.1.6 Garry Oak Gathering Circle

(a) Description

- (i) Circular seating focused around a wood-burning fire pit set into the ground for events and demonstrations.

(b) Location and Adjacency

- (i) Locate away from Building and parking lot.
- (ii) In proximity to the Building entrance

7.8.1.7 Demonstration Landscapes

(a) Description

- (i) Observational and educational landscapes for each of three ecosystems located around the Site.

(b) Location and Adjacency

- (i) Distributed around the Site and connected by a set of pathways,

7.8.1.8 Open Play Meadow

(a) Description

- (i) Uncovered flexible space for summer camp and school group activities and games.
- (ii) Open area with soft surface planting where up to 40 kids can run and move freely. No hardscape allowed.
 - 1. Provide natural barriers to contain activity so boundaries are clear.

(b) Location and Adjacency

- (i) Adjacent to the Learning Access Space #4B – Exterior Space

7.8.1.9 Site and Nature Play

(a) Description

- (i) Open area with shrubbery and boulders, tree stumps, and logs of various sizes and shapes for informal play.
- (ii) Space will create opportunities for 30 children to interact and explore in nature.

(b) Location and Adjacency

- (i) In proximity to Learning Access #4B – Exterior Space

Royal BC Museum – Collections and Research Building
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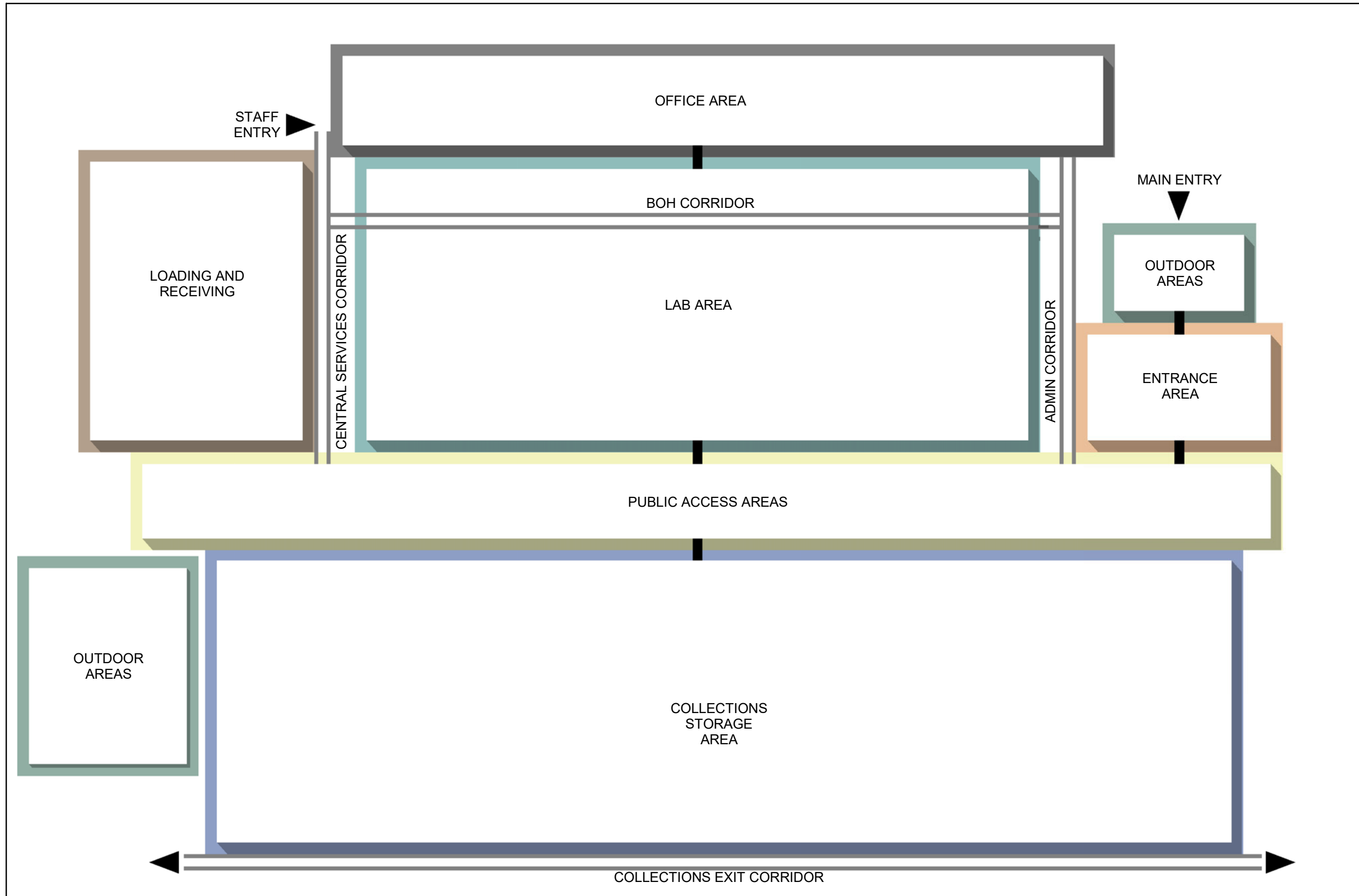
APPENDIX 1A-2 – Adjacency Diagrams

Design-Build Agreement

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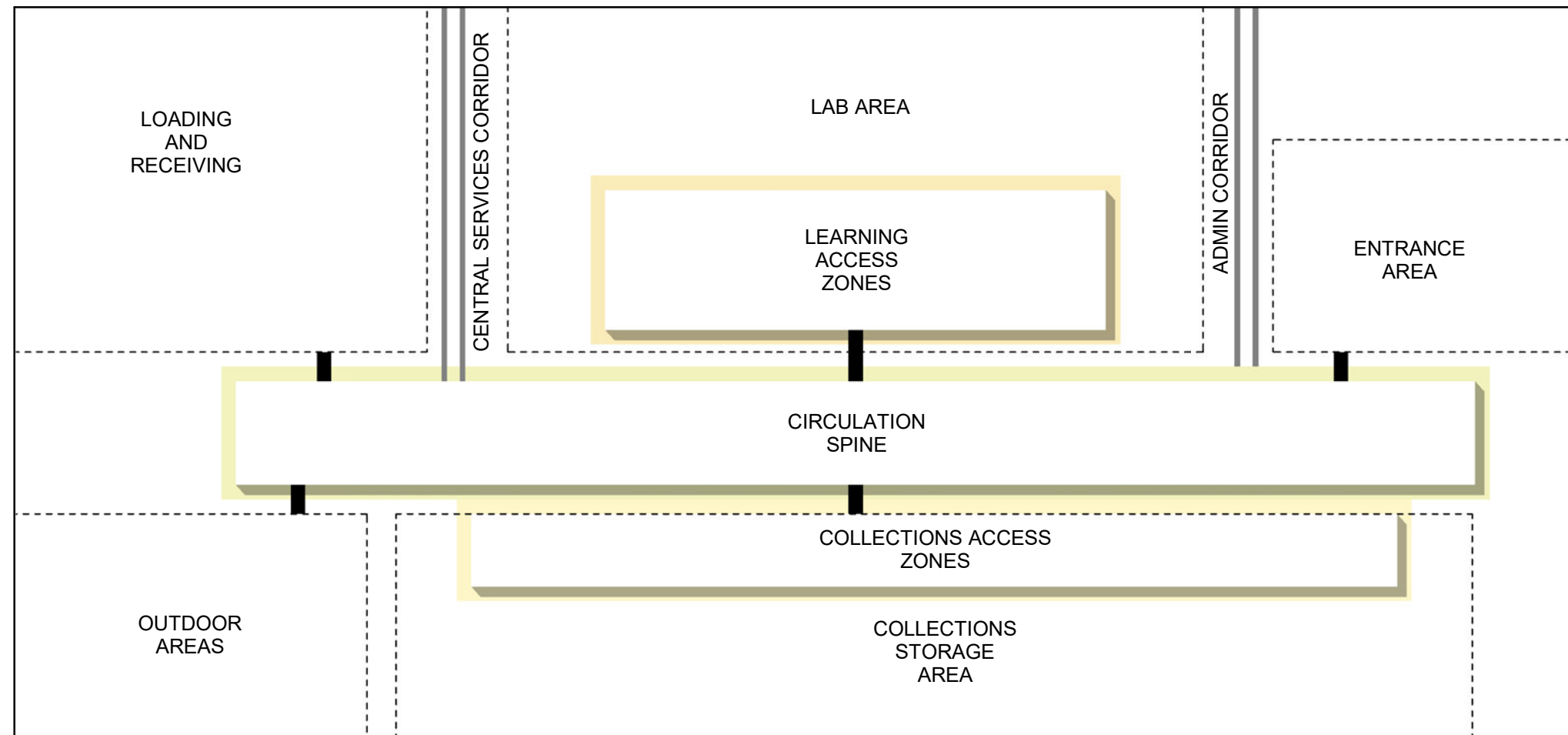
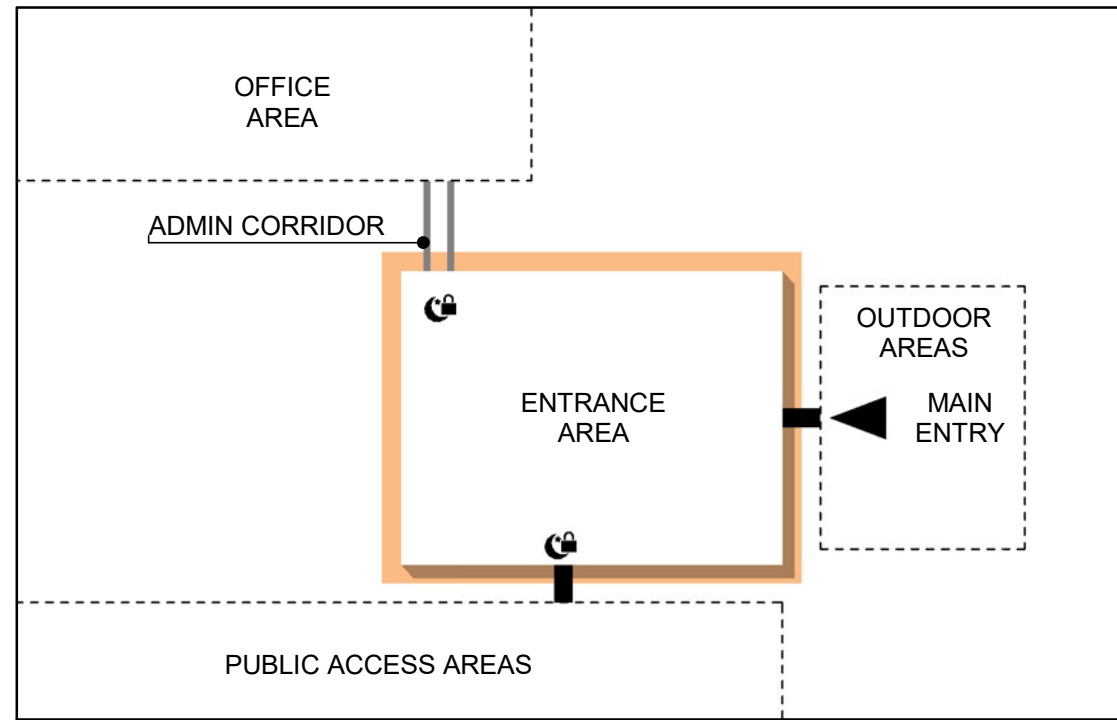
A1 Overall Building













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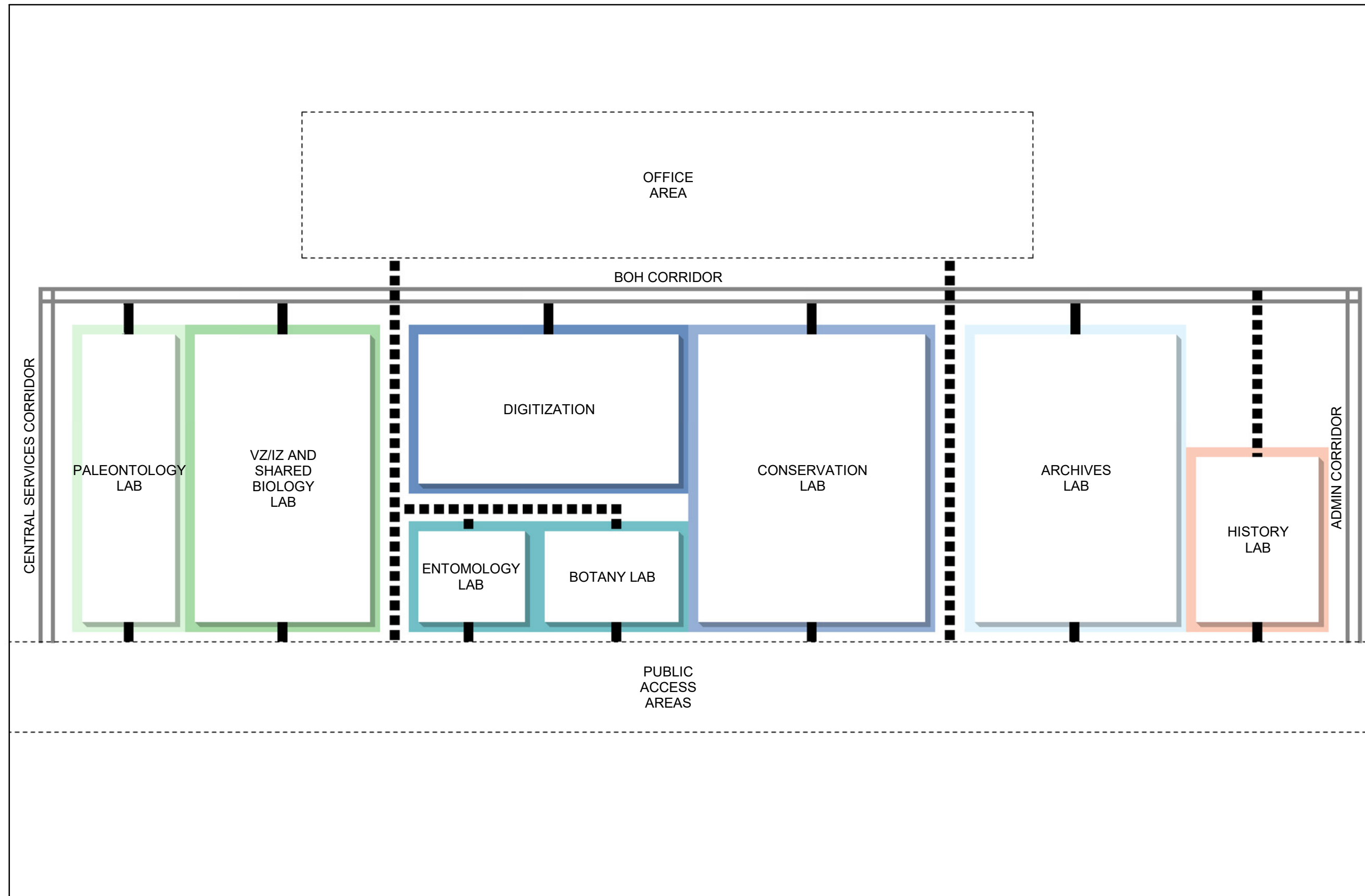
A2

1.0 Entrance Area and 2.0 Public Access Areas



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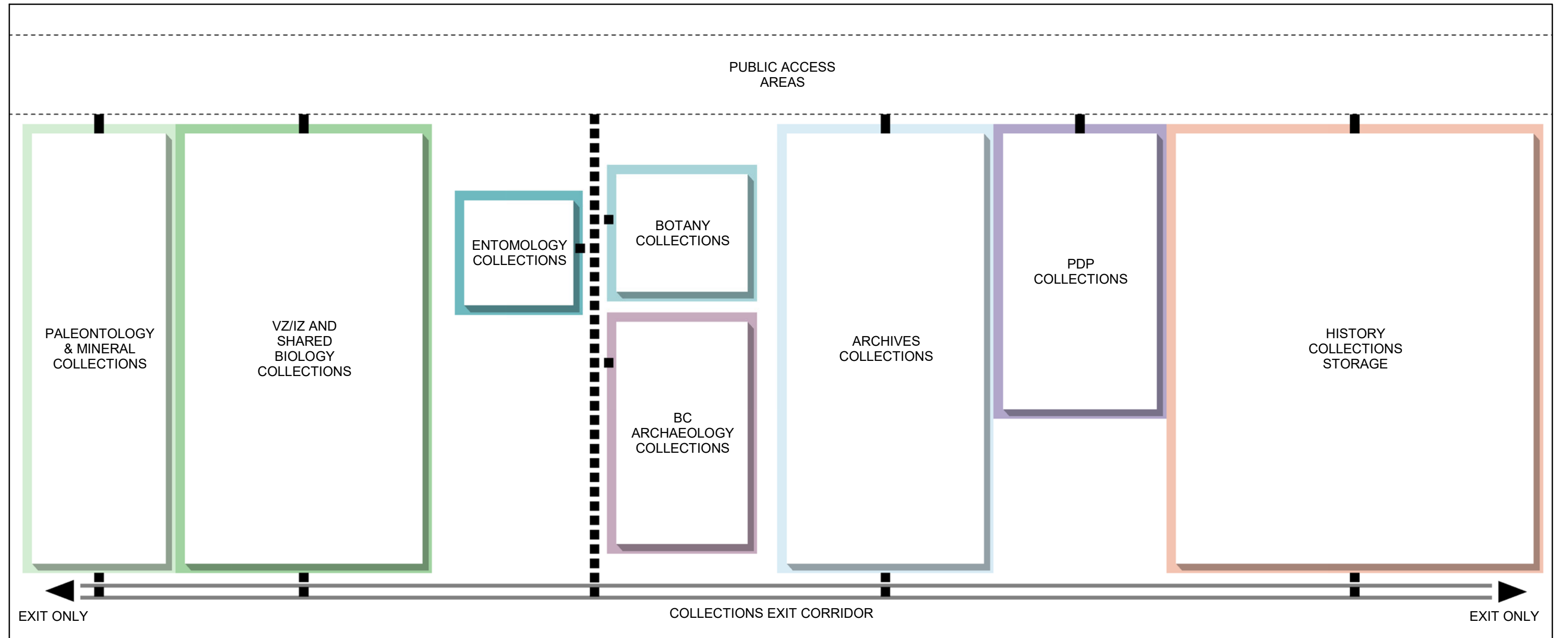
A3
3.0 Lab Area



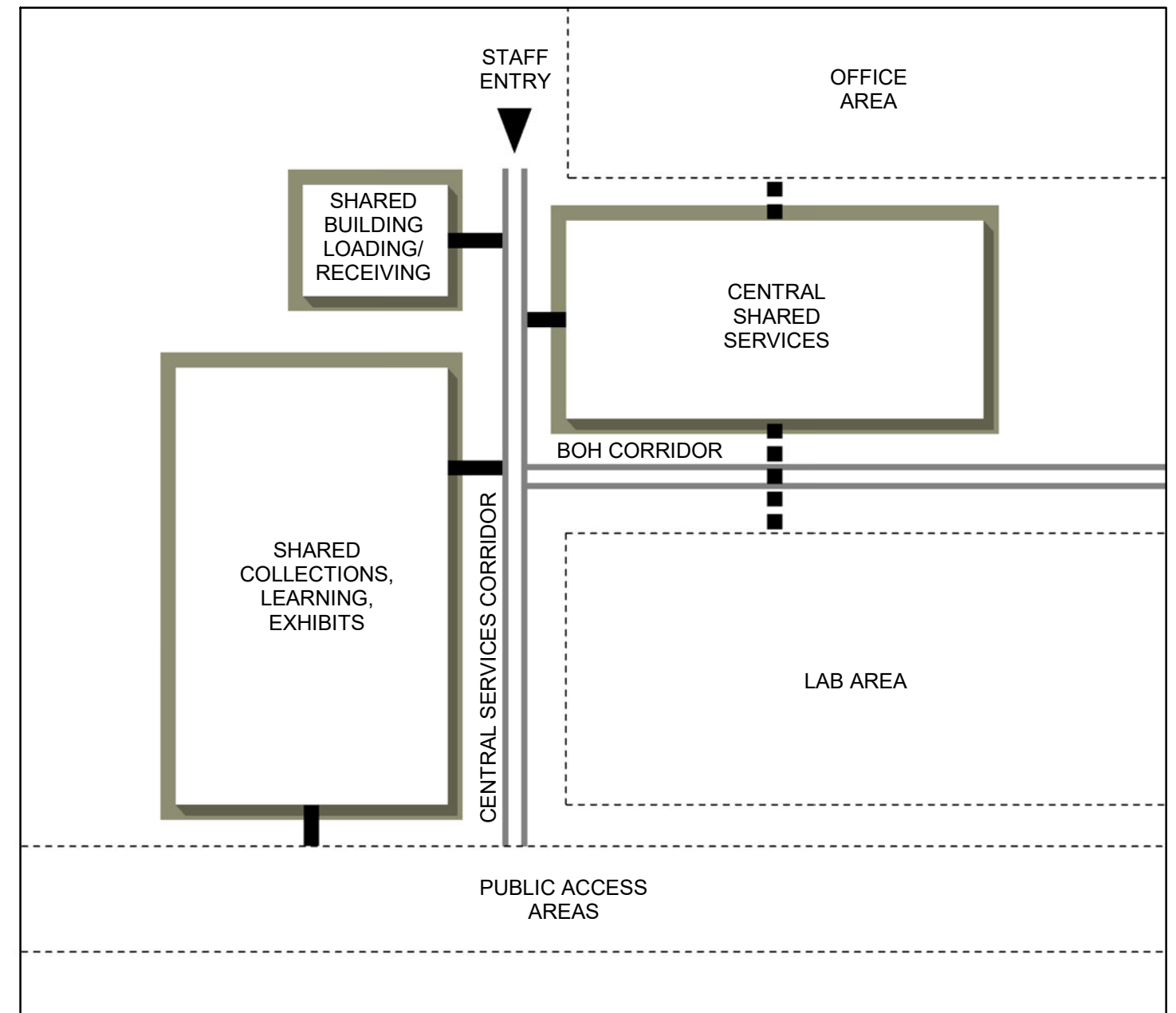
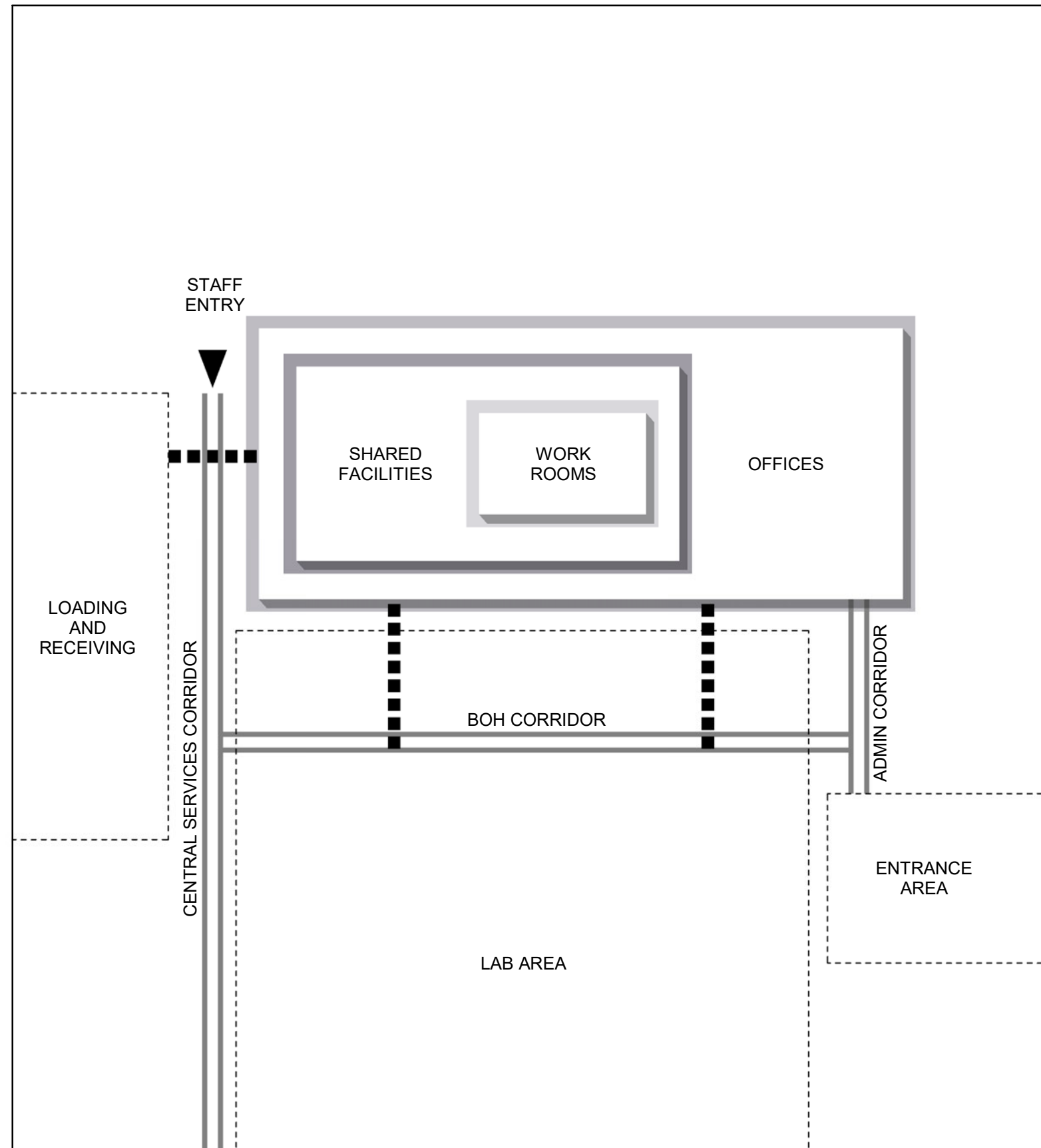
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4.0 Collections Storage Area



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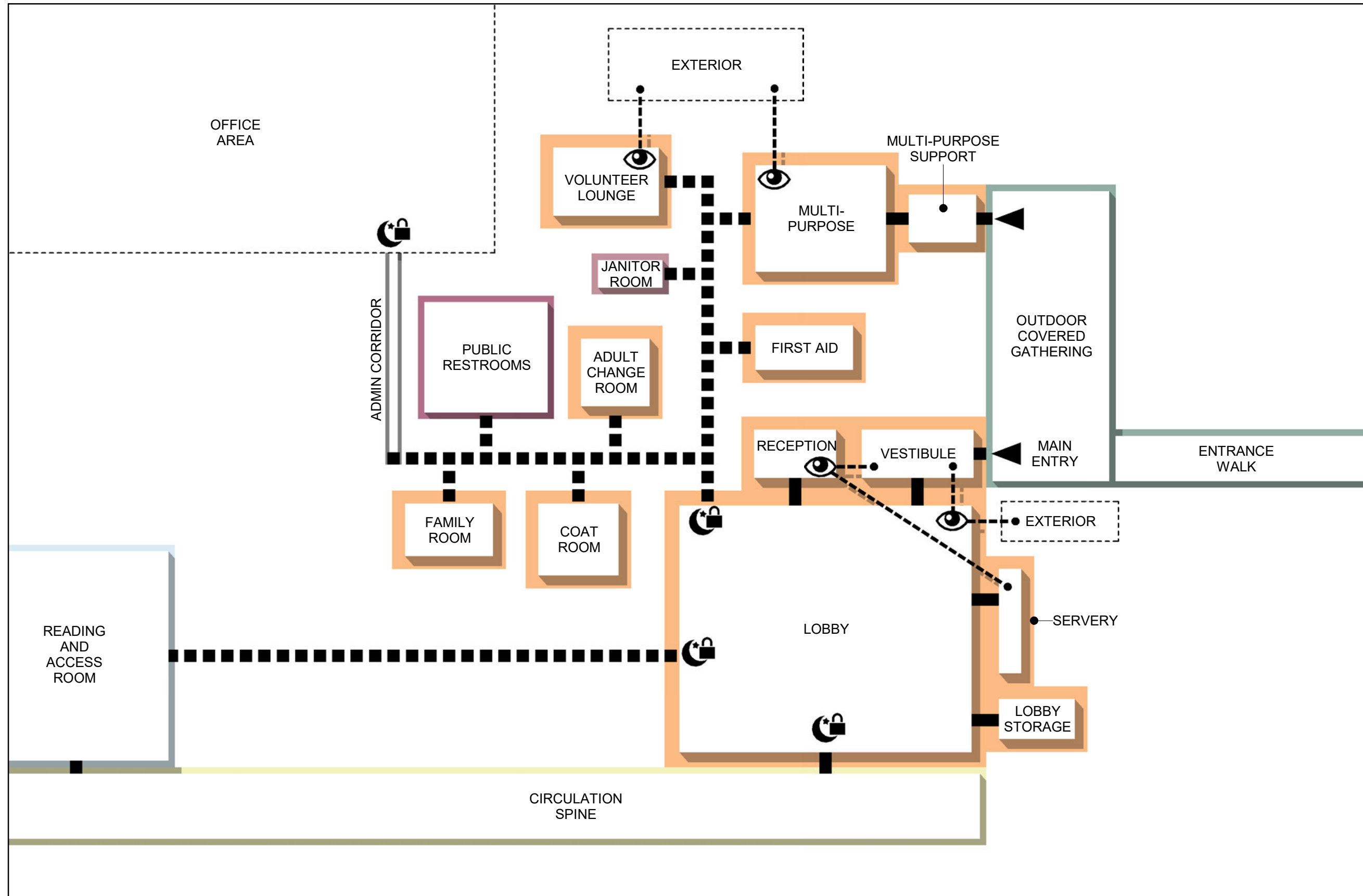


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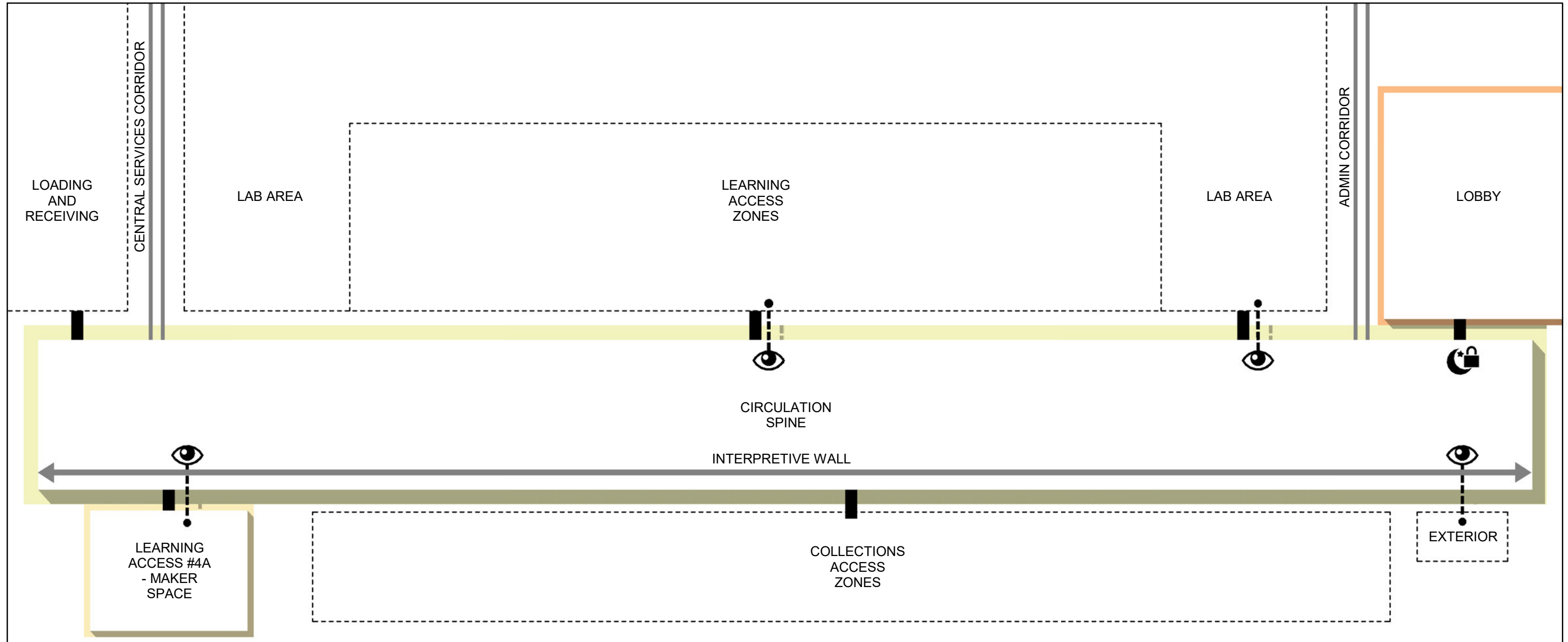
1.1 Entrance Area



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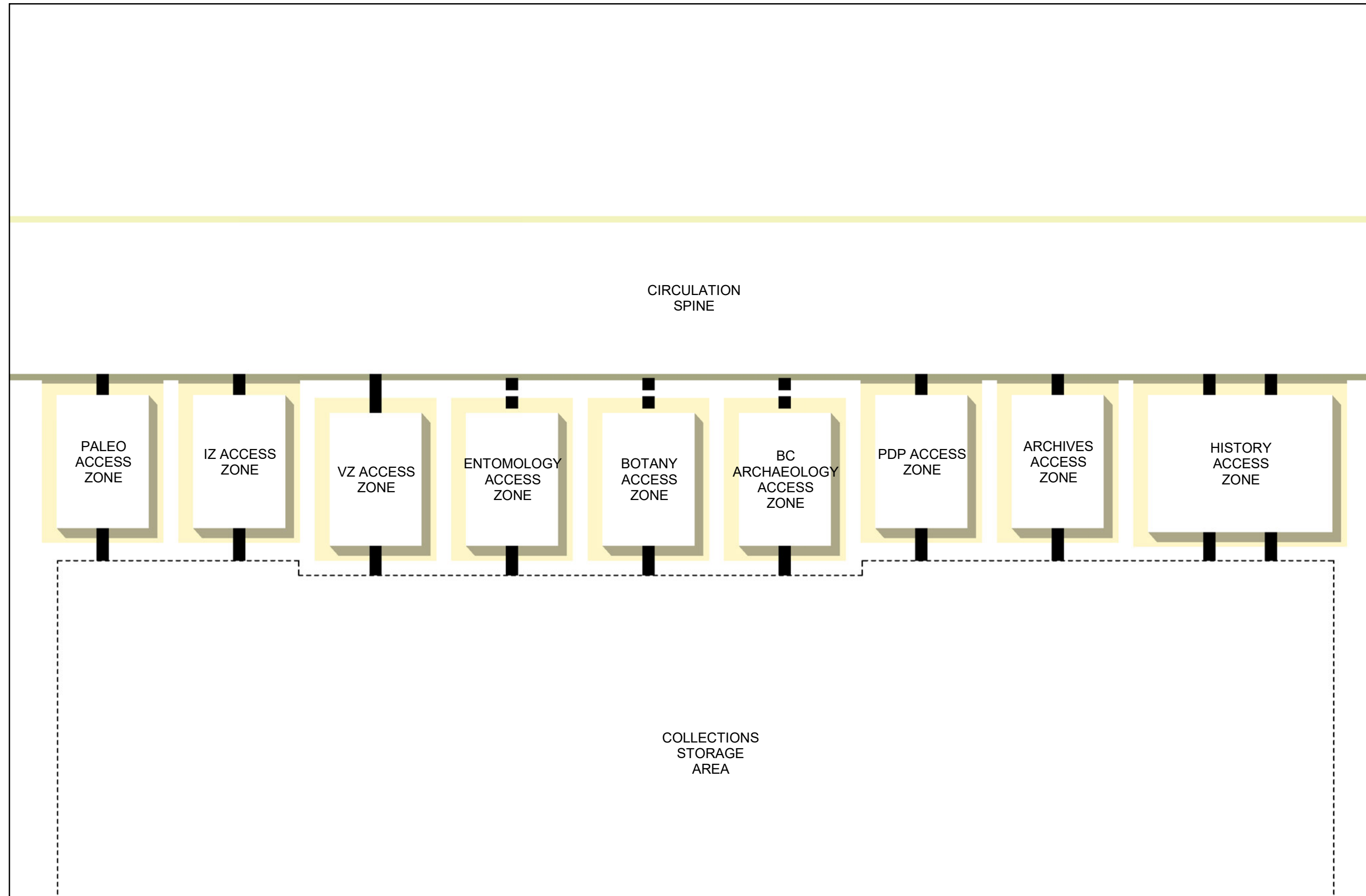
2.1 Circulation Spine













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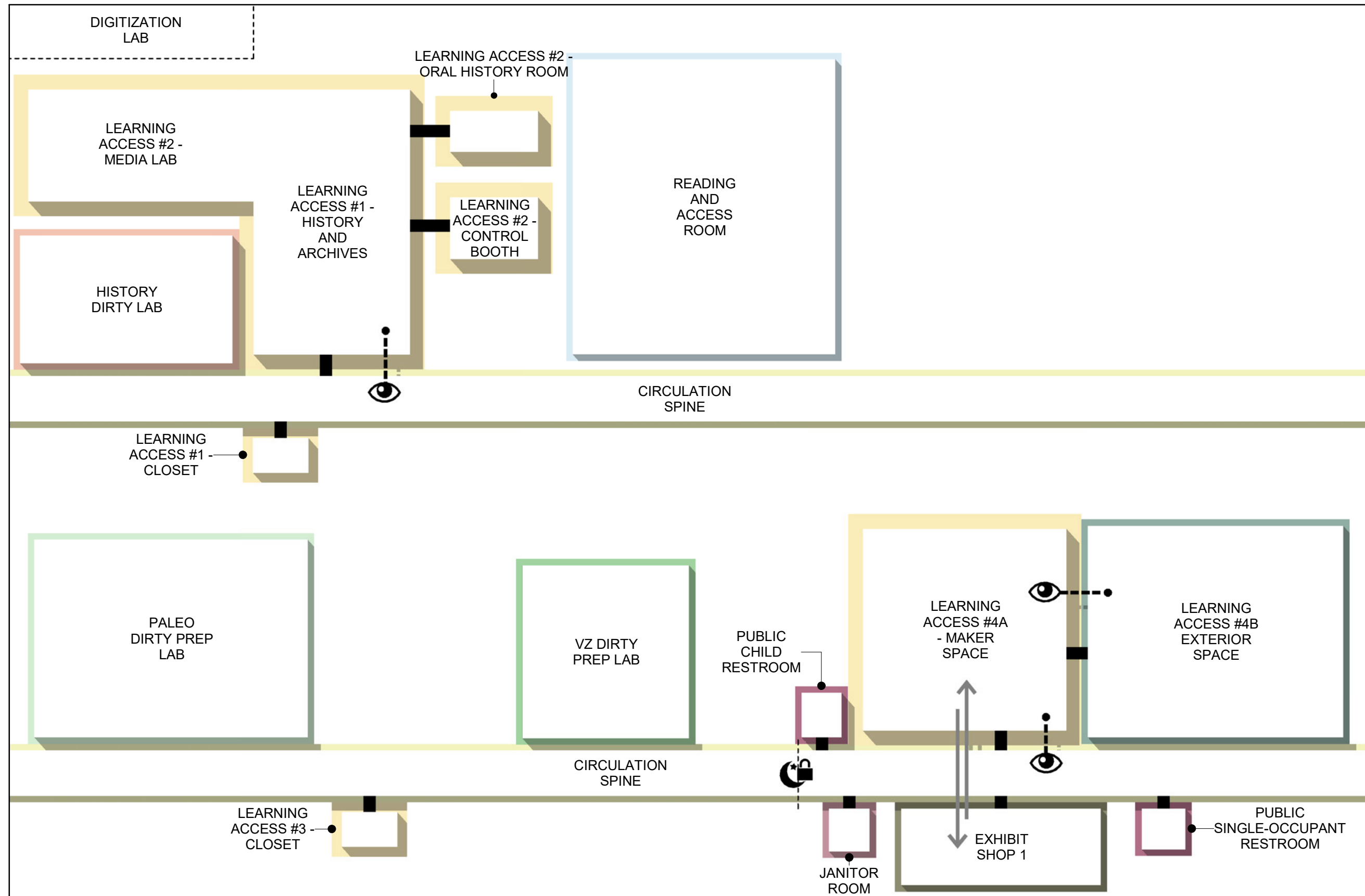
2.2 Collections Access Zones



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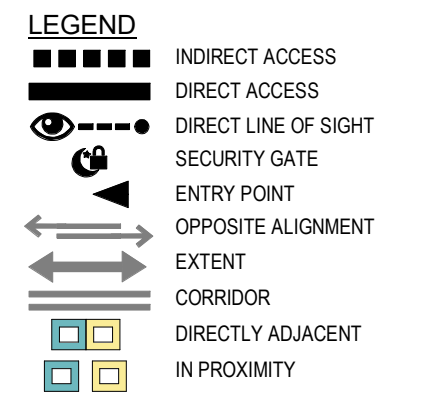
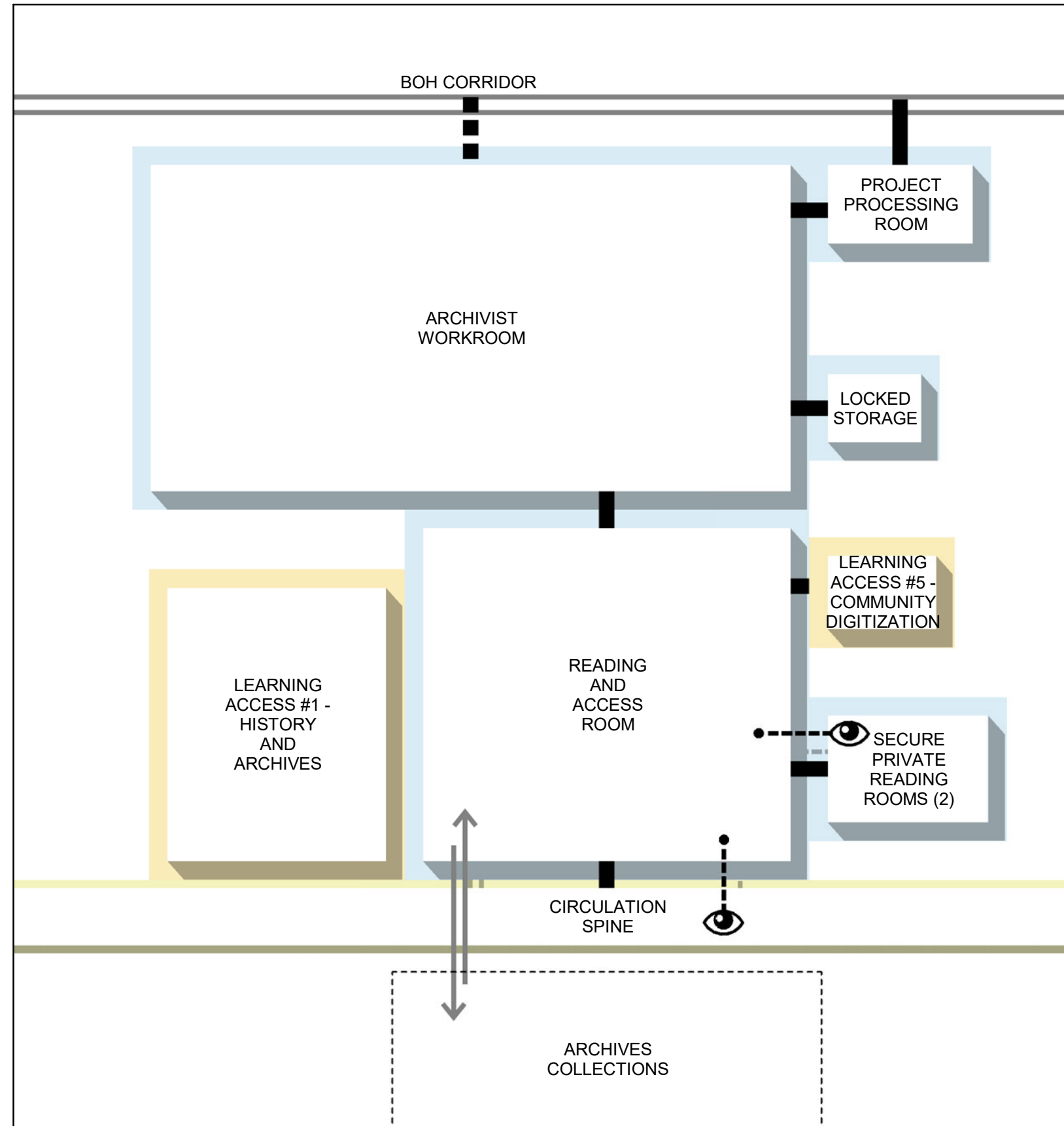
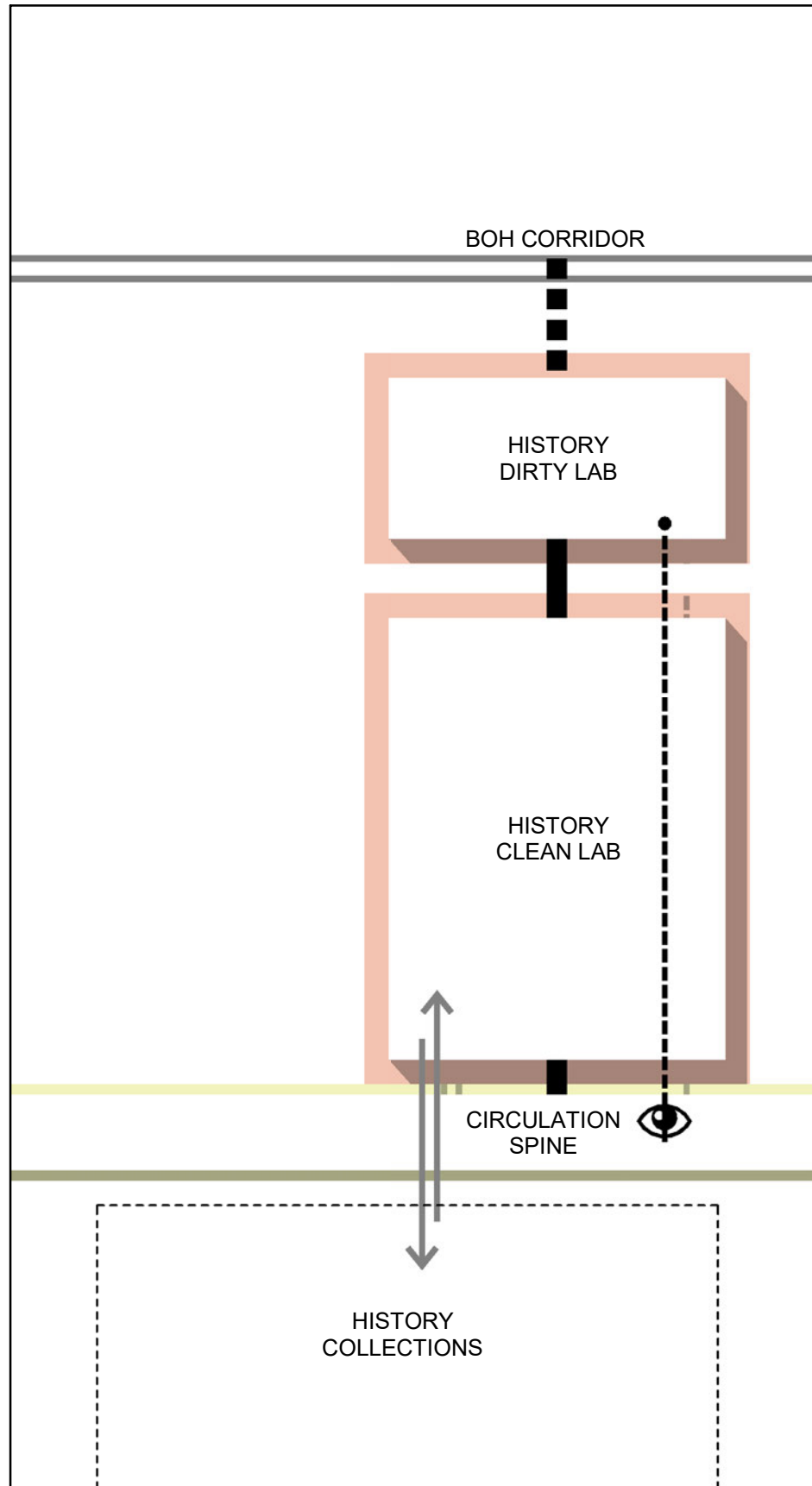
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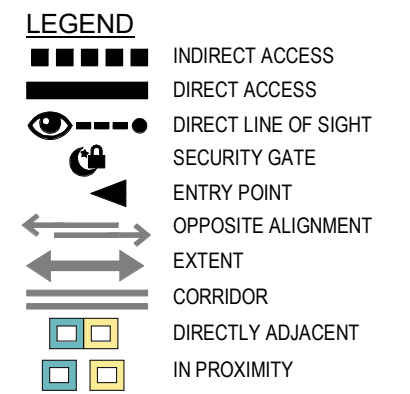
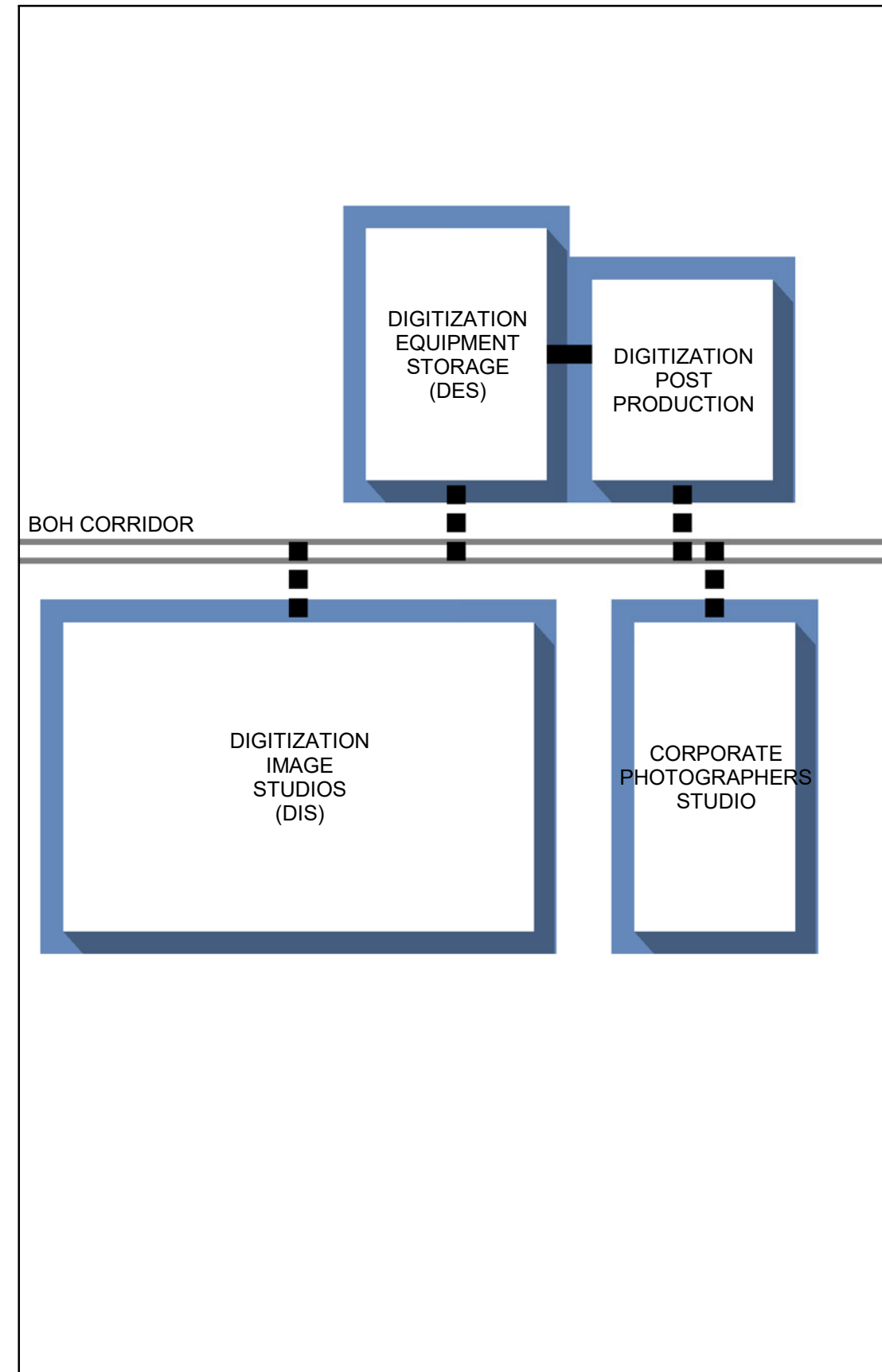
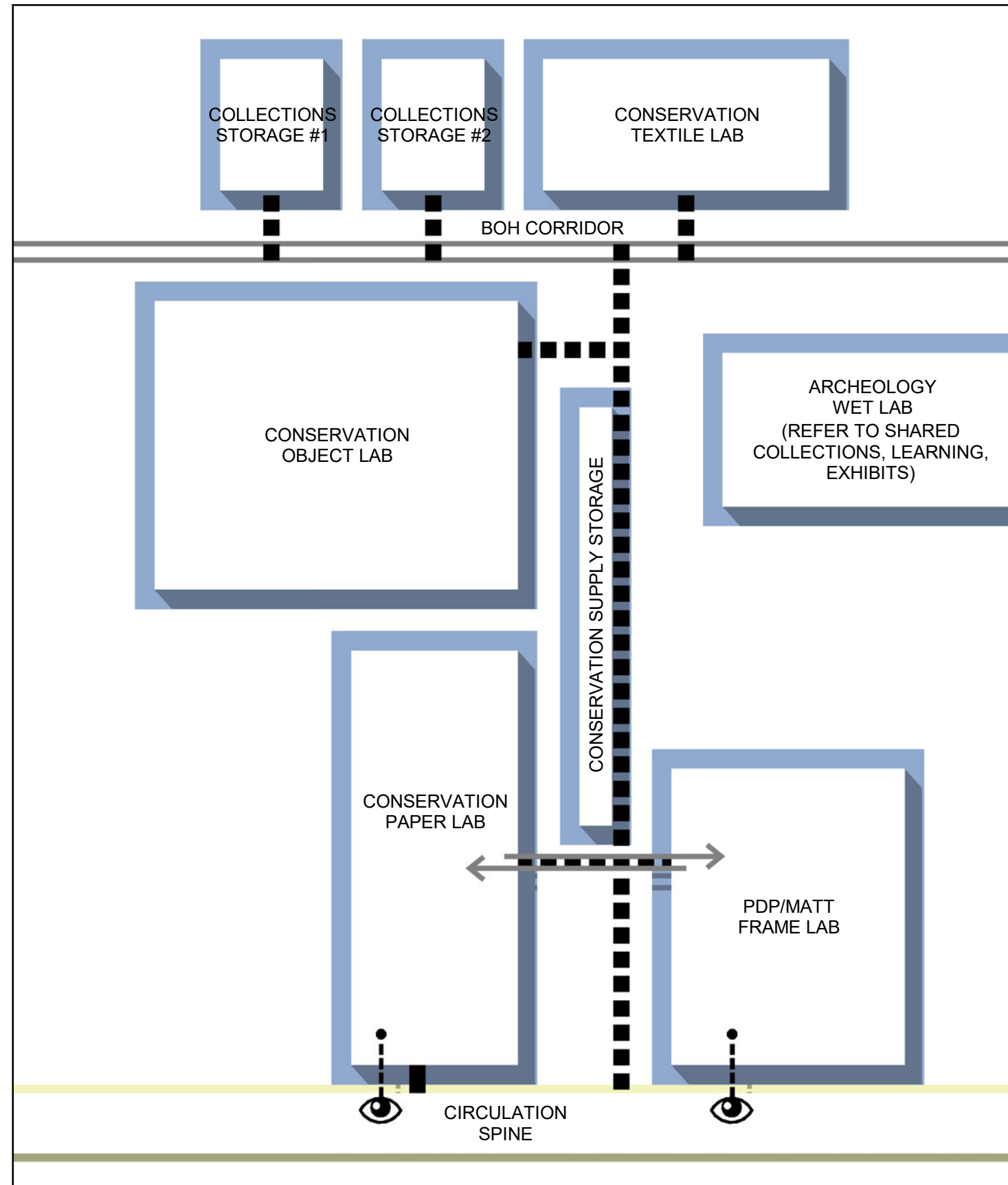
2.3 Learning Access Zones



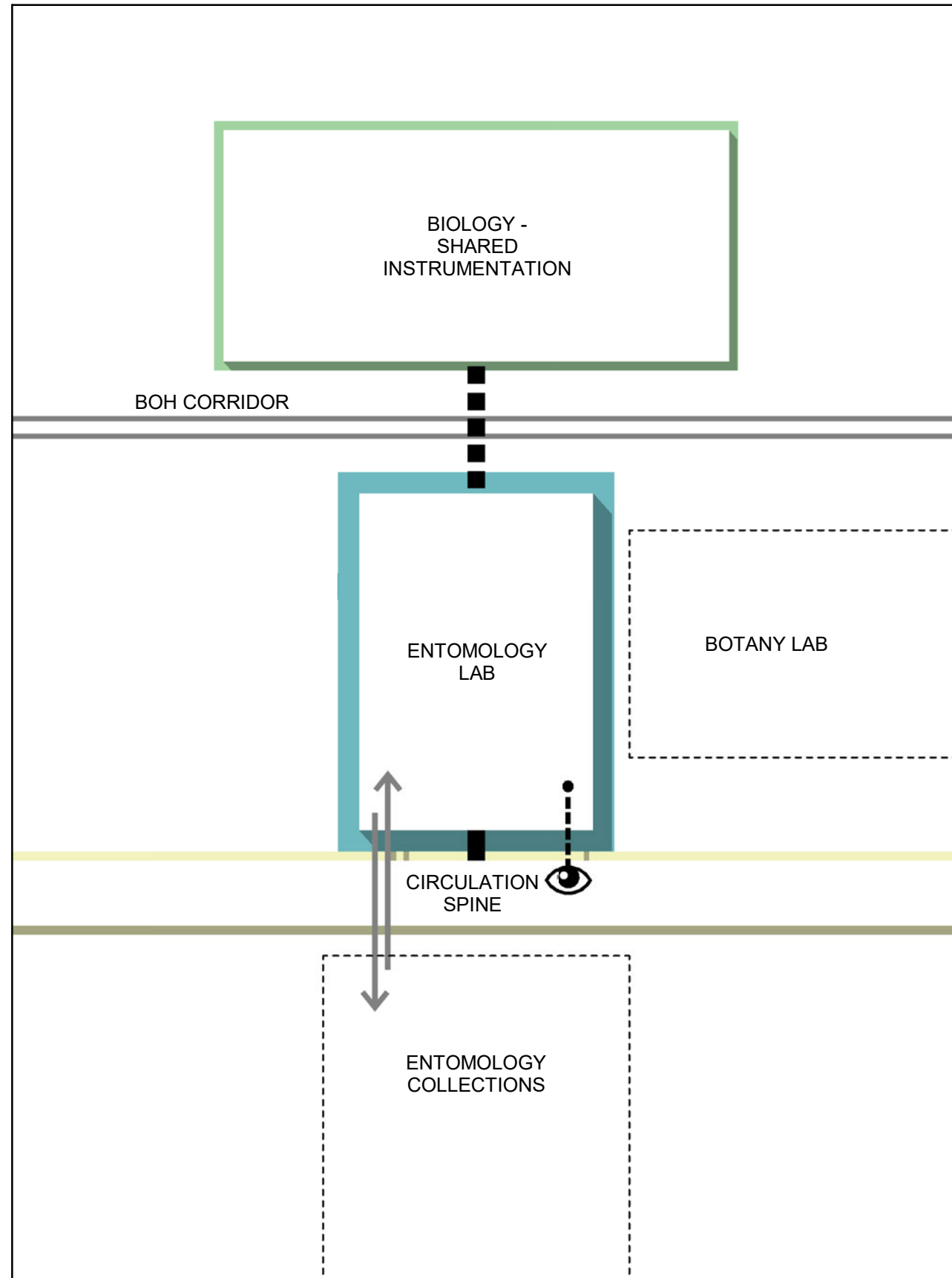
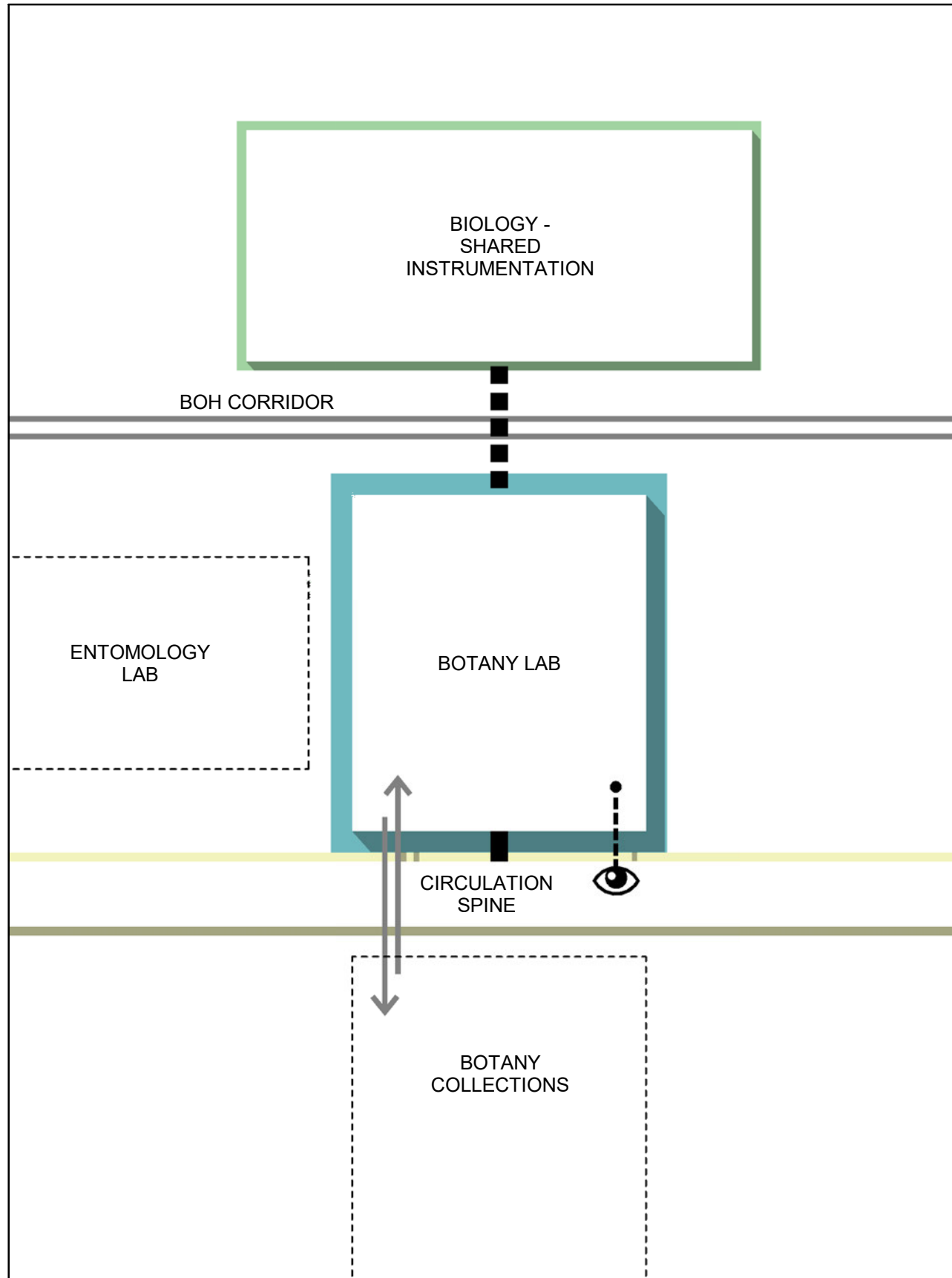
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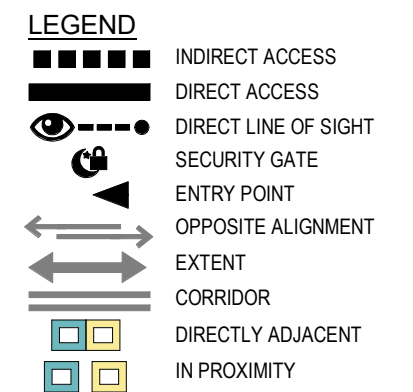
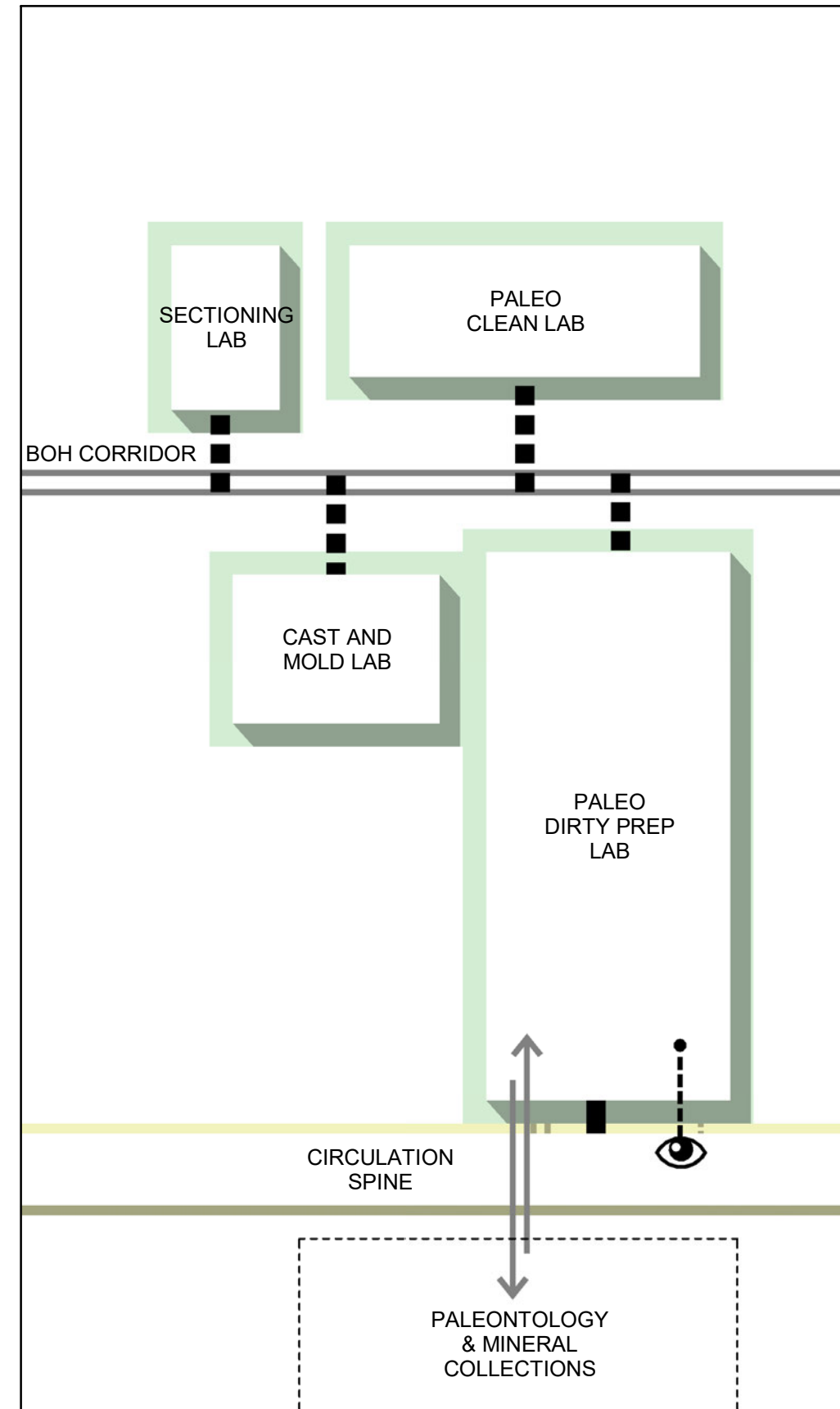
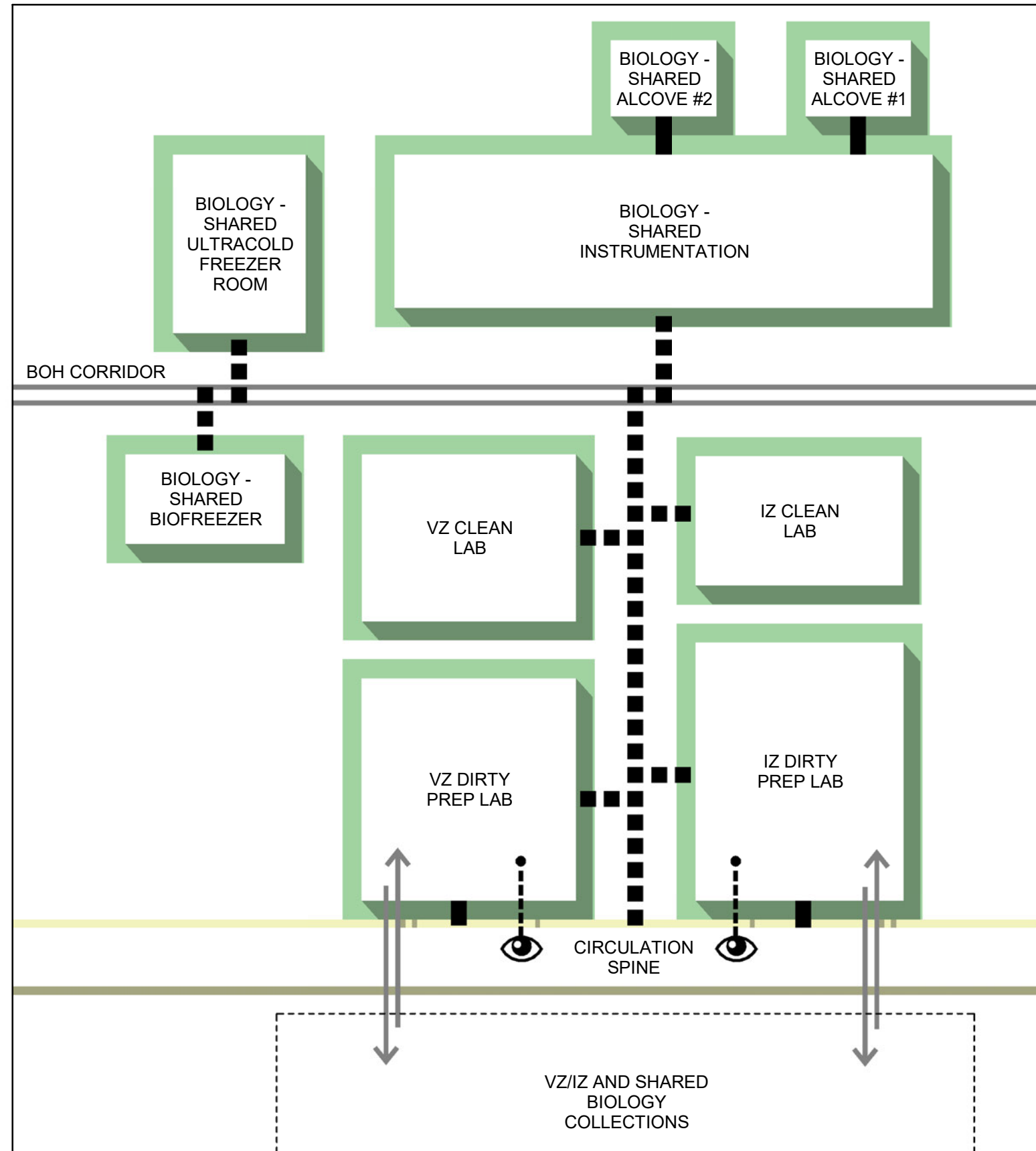




A12
3.5 Botany Lab and 3.6 Entomology Lab

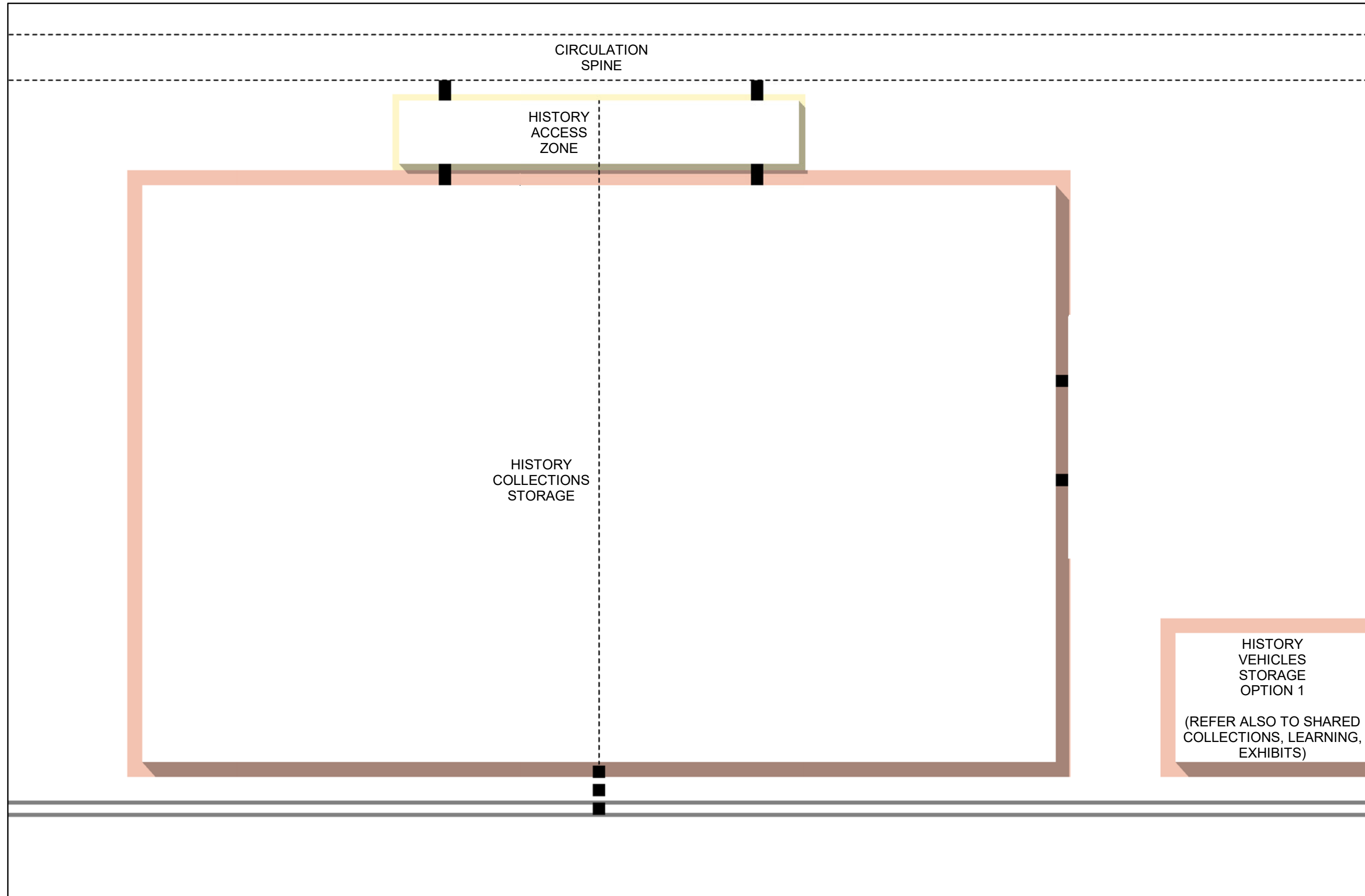


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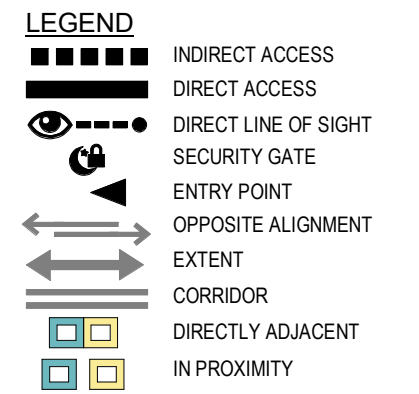
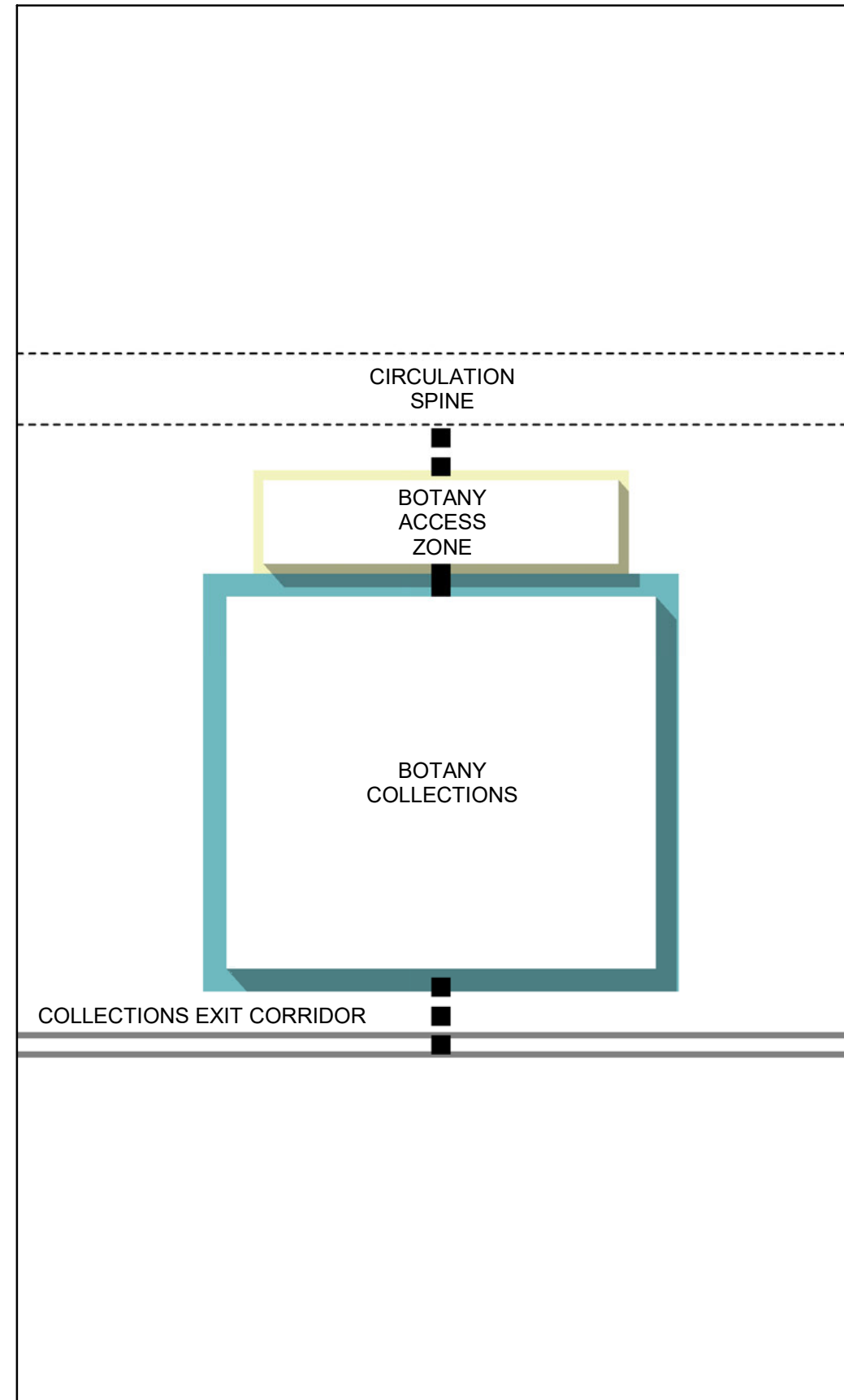
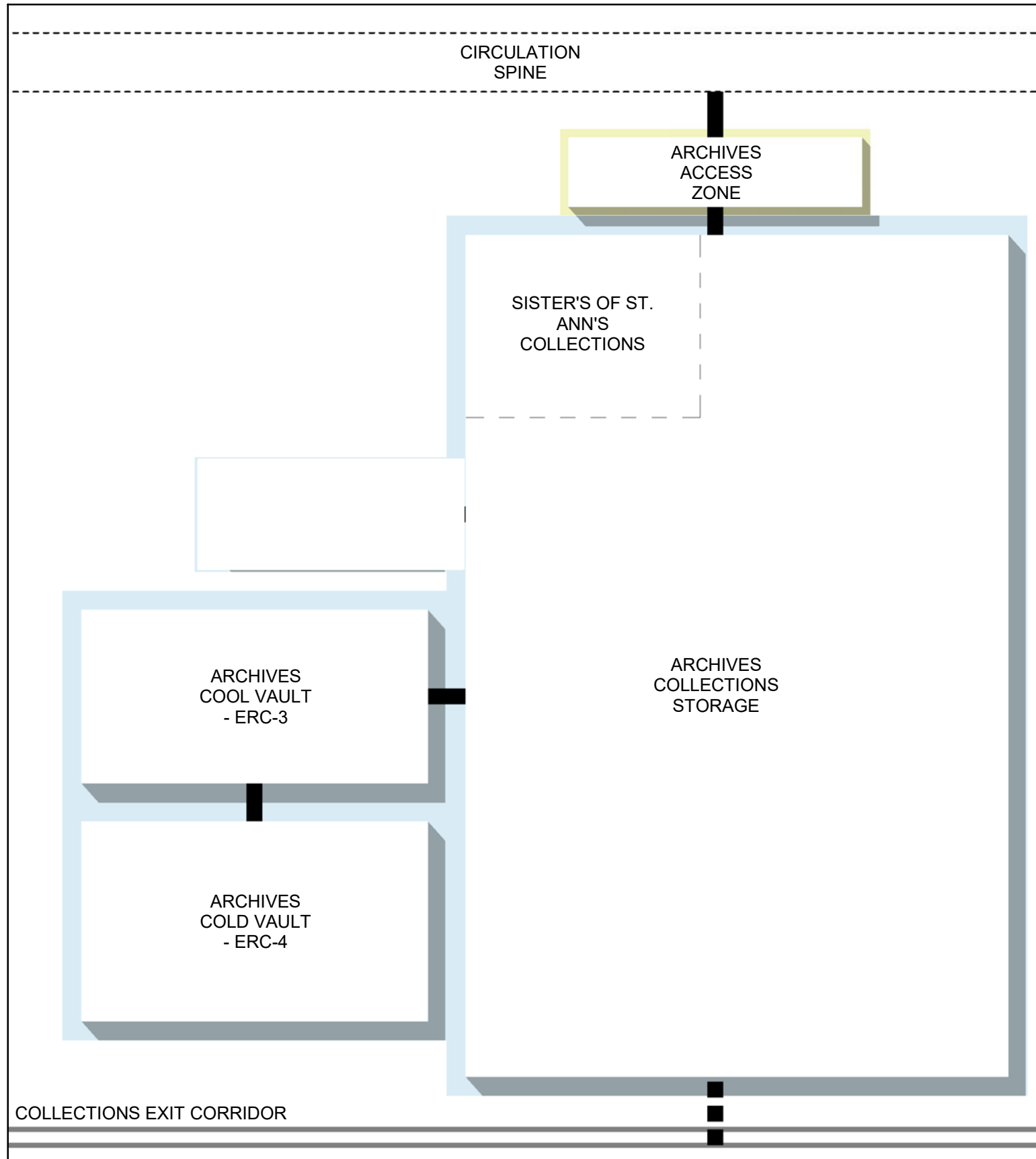


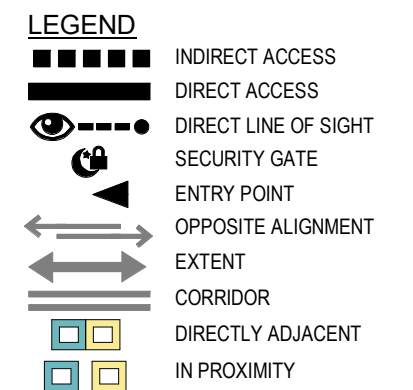
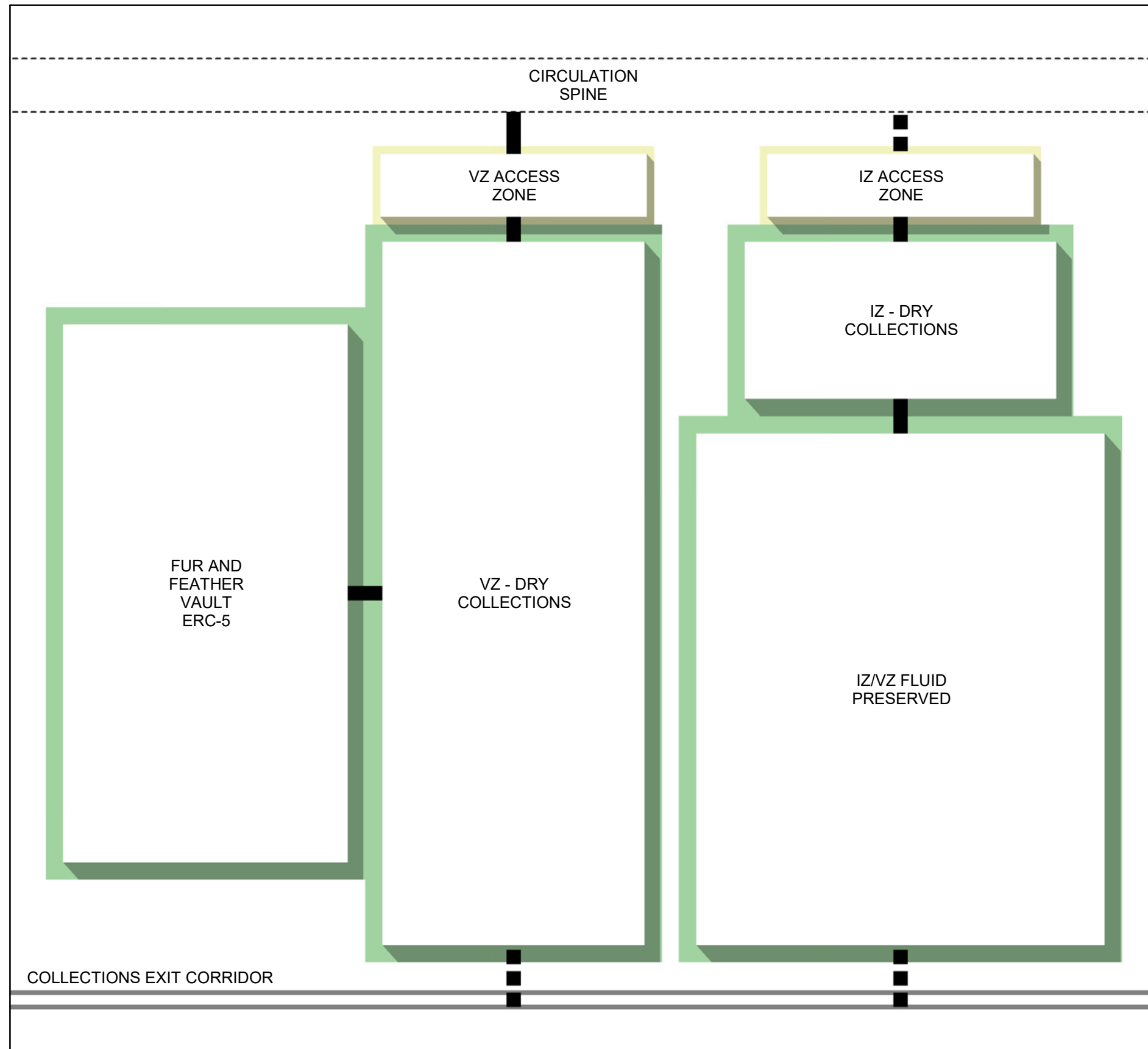
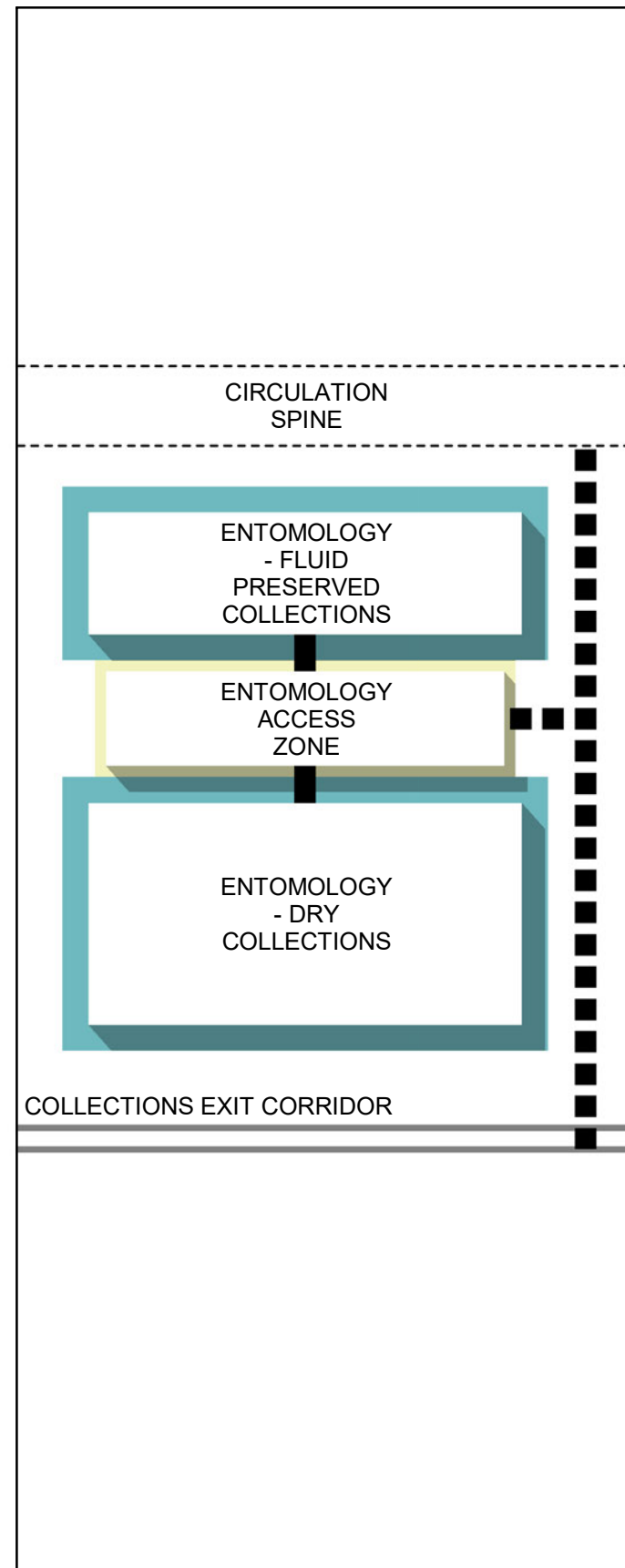
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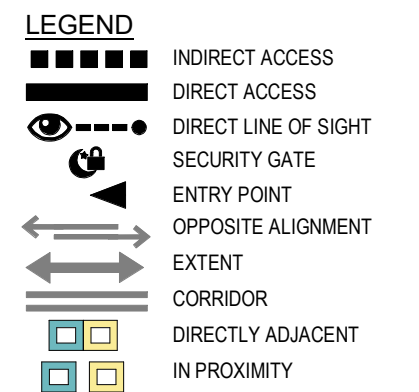
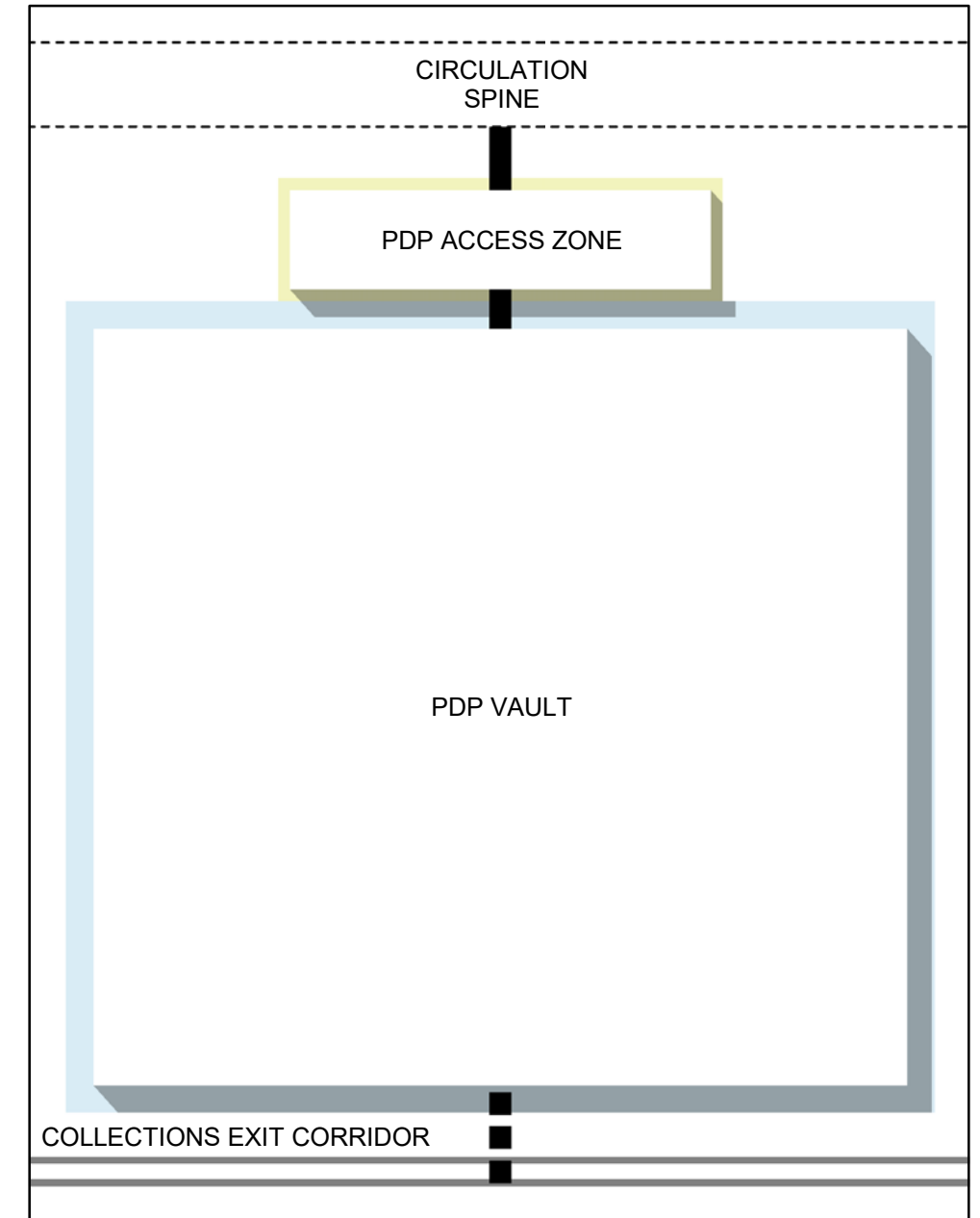
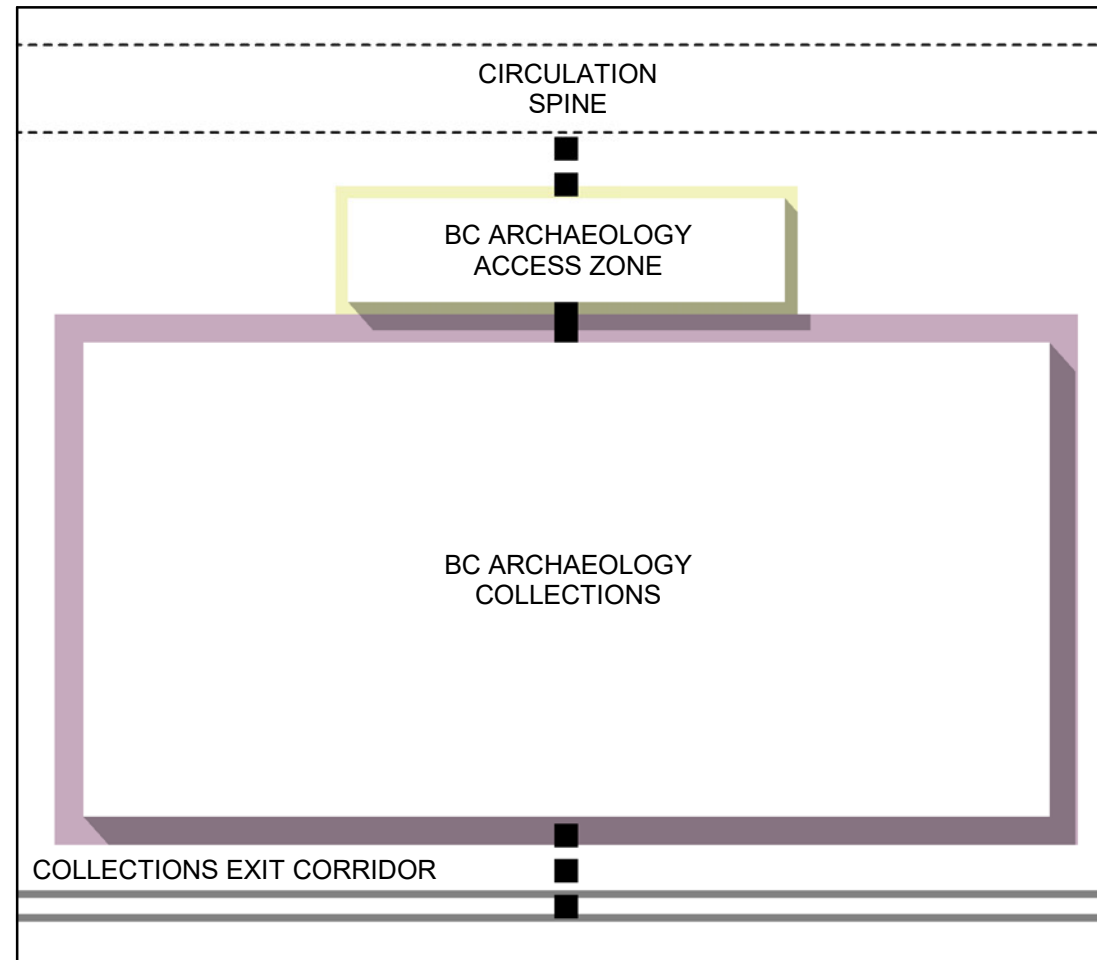
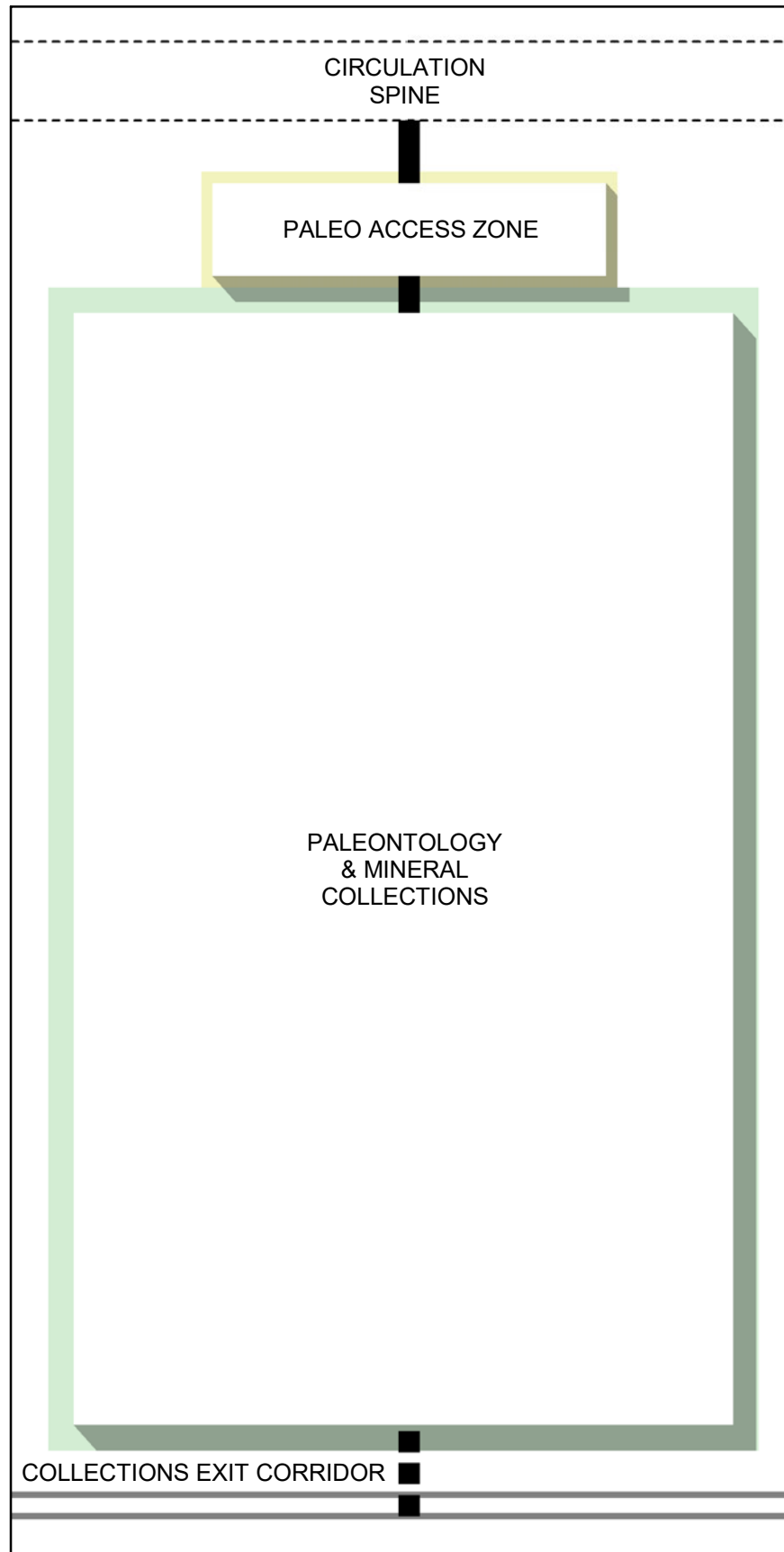
4.1 History Collections



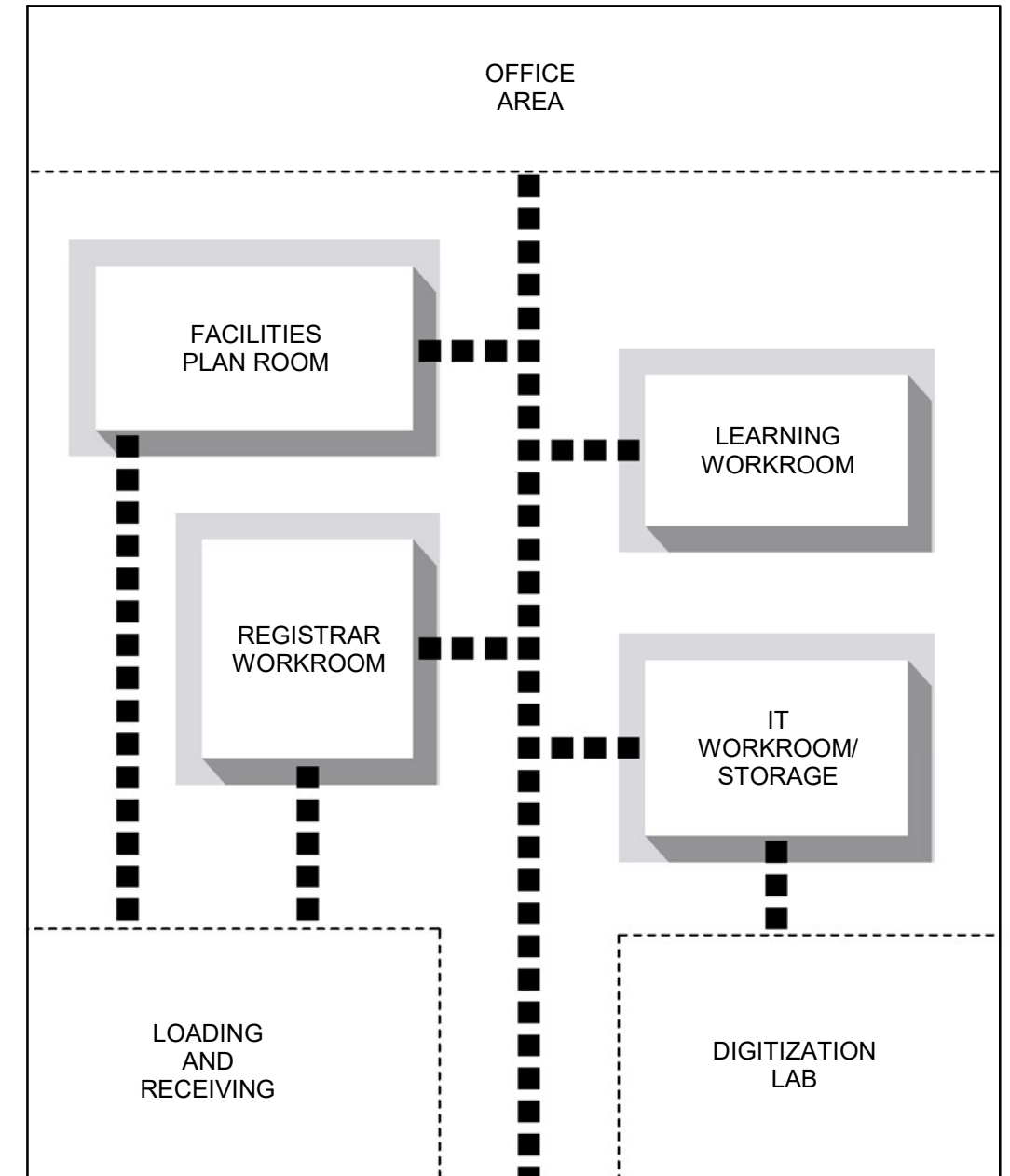
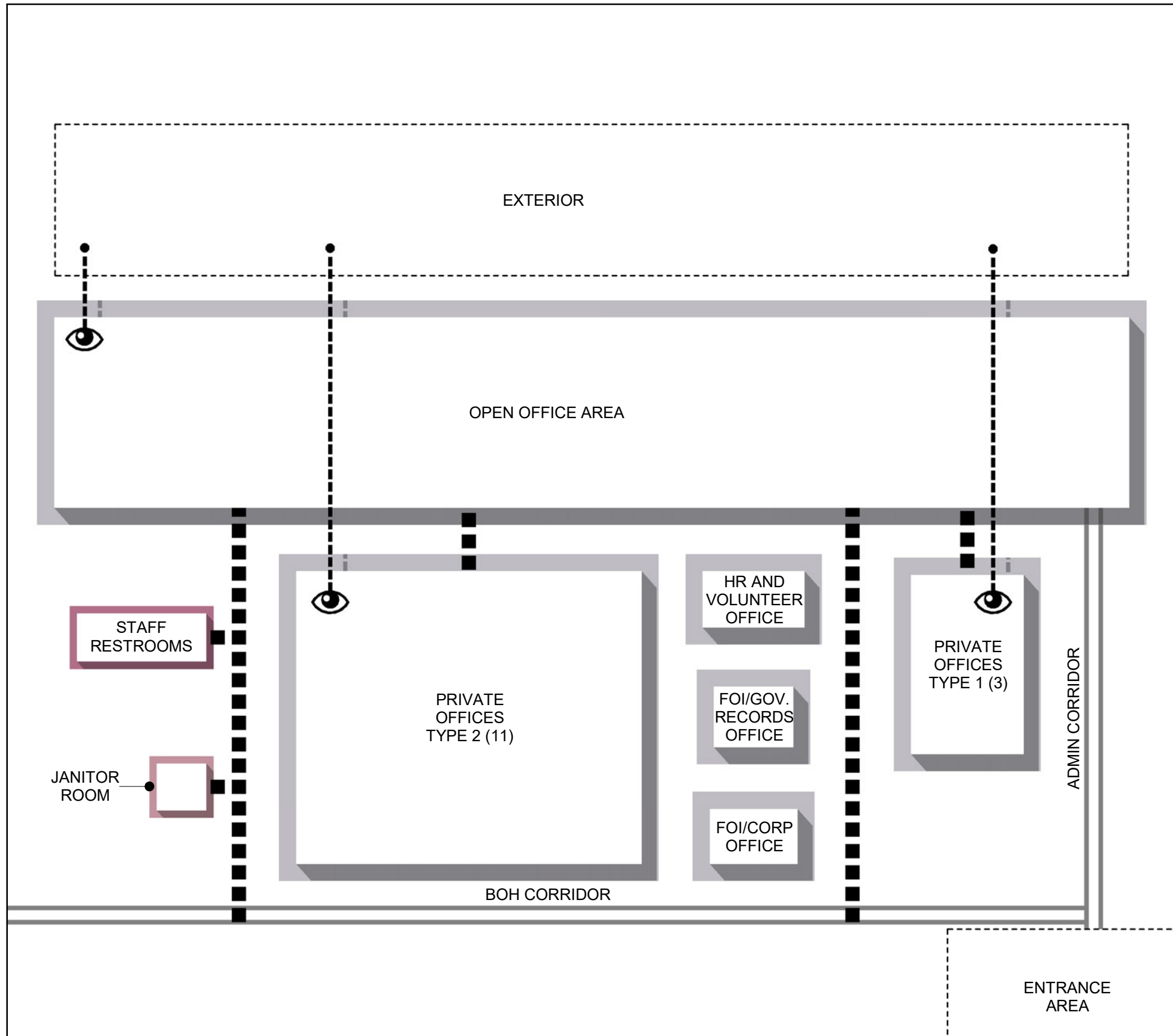
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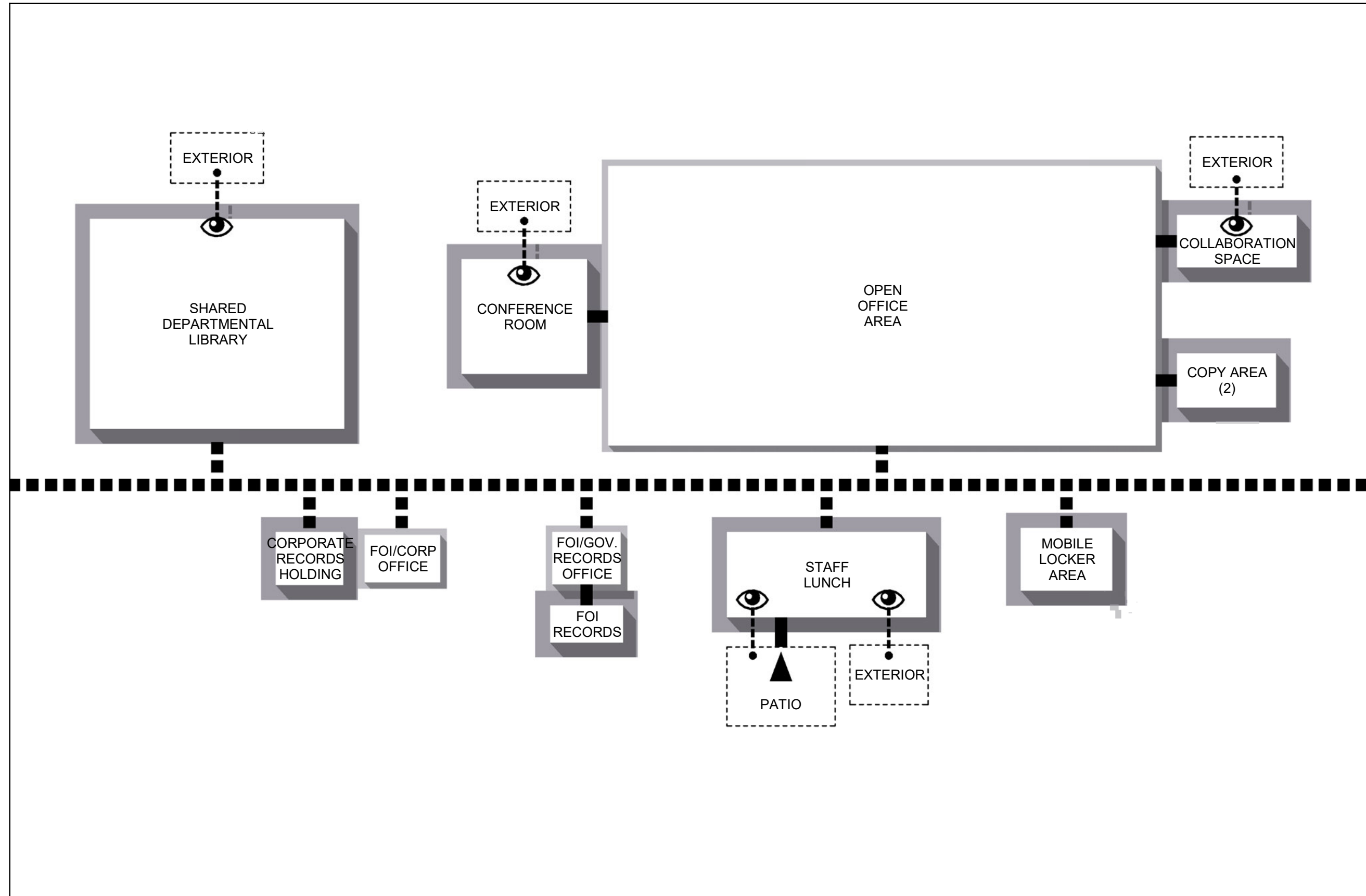




A18
5.1 Offices and 5.2 Workrooms

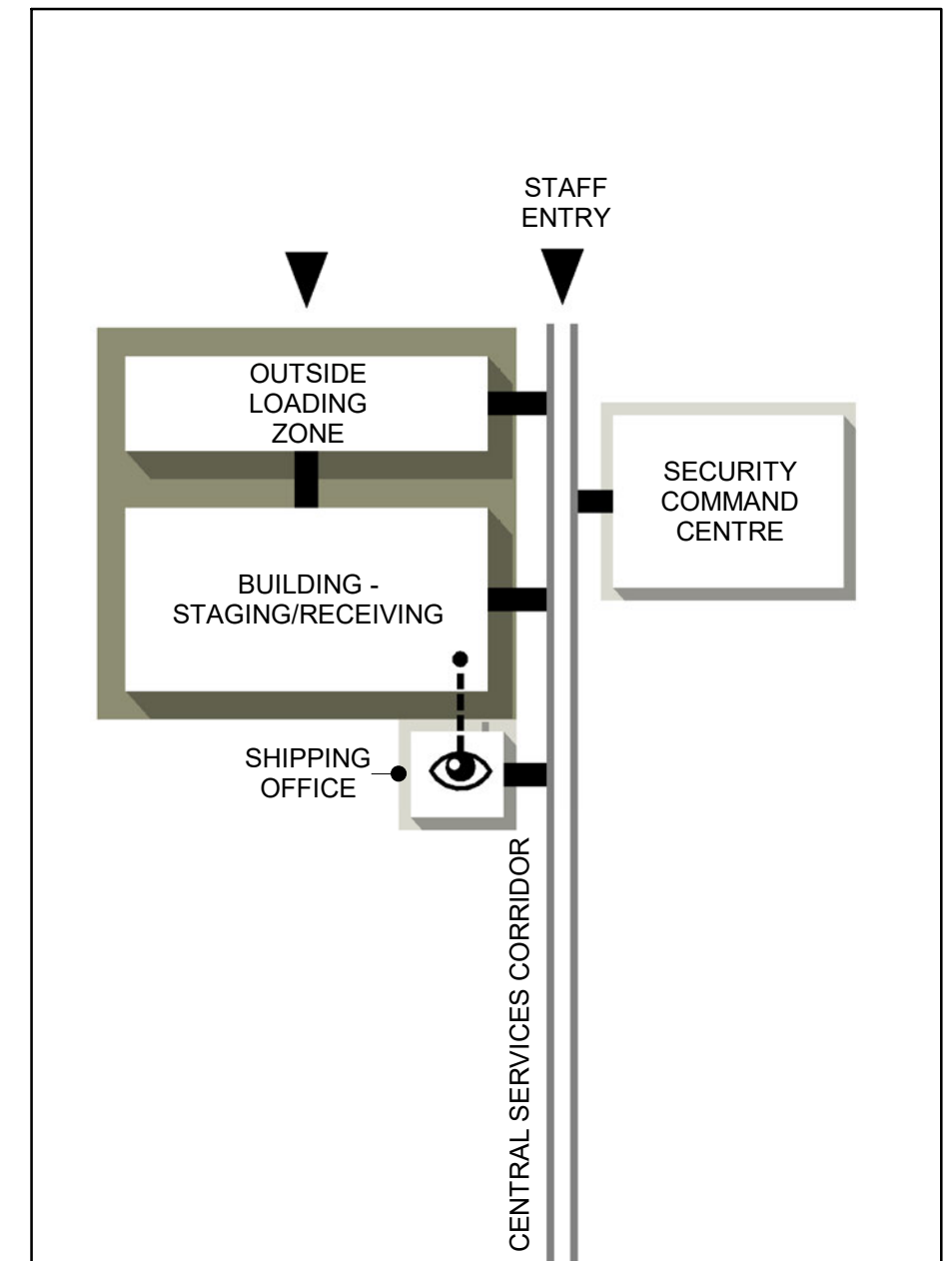
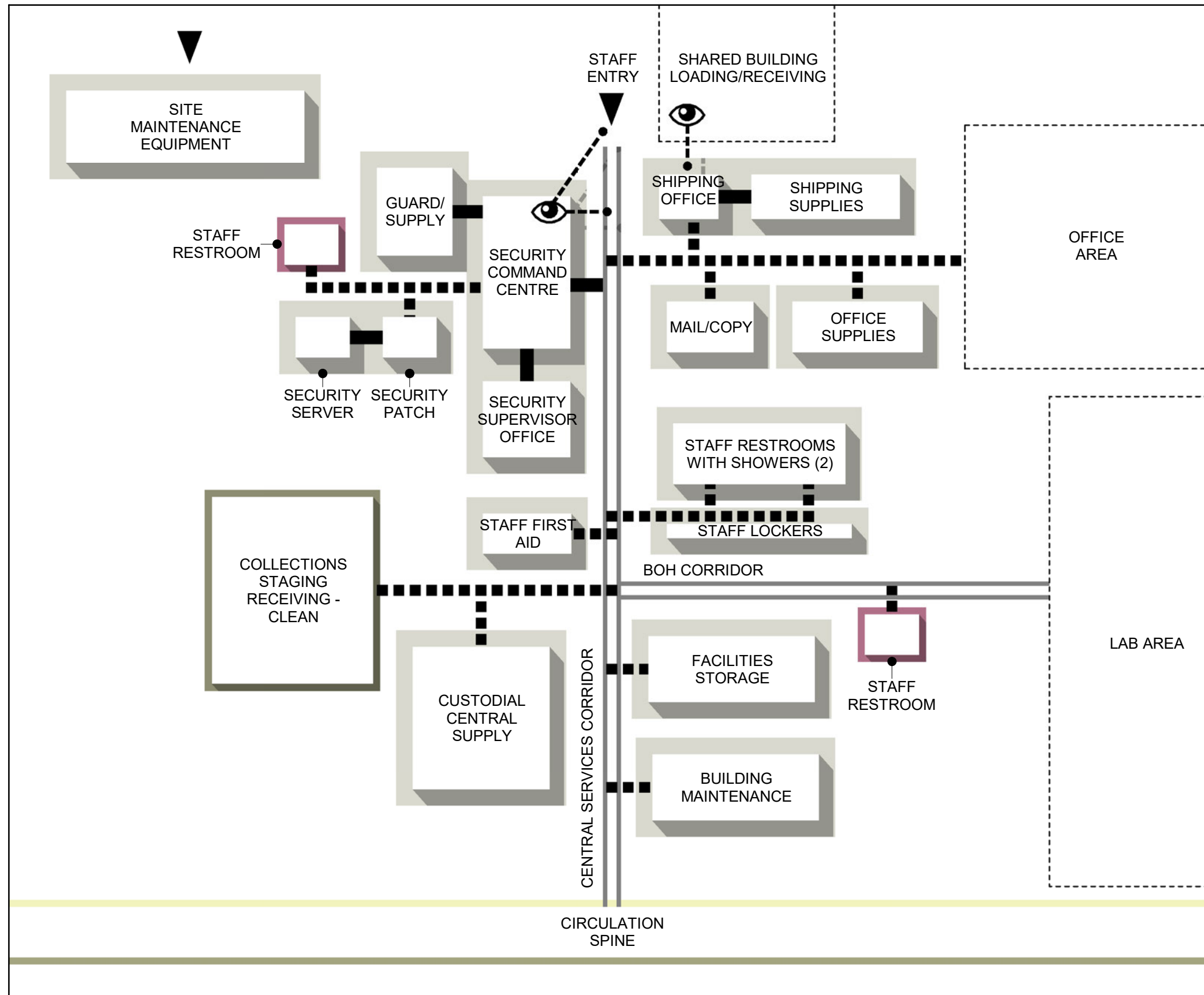


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5.3 Shared Facilities

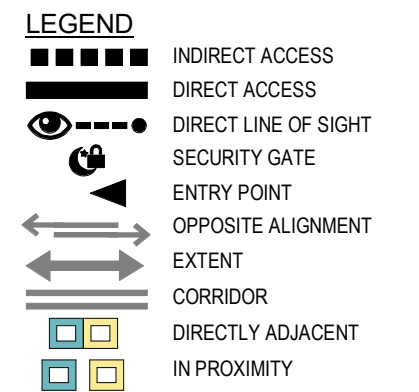
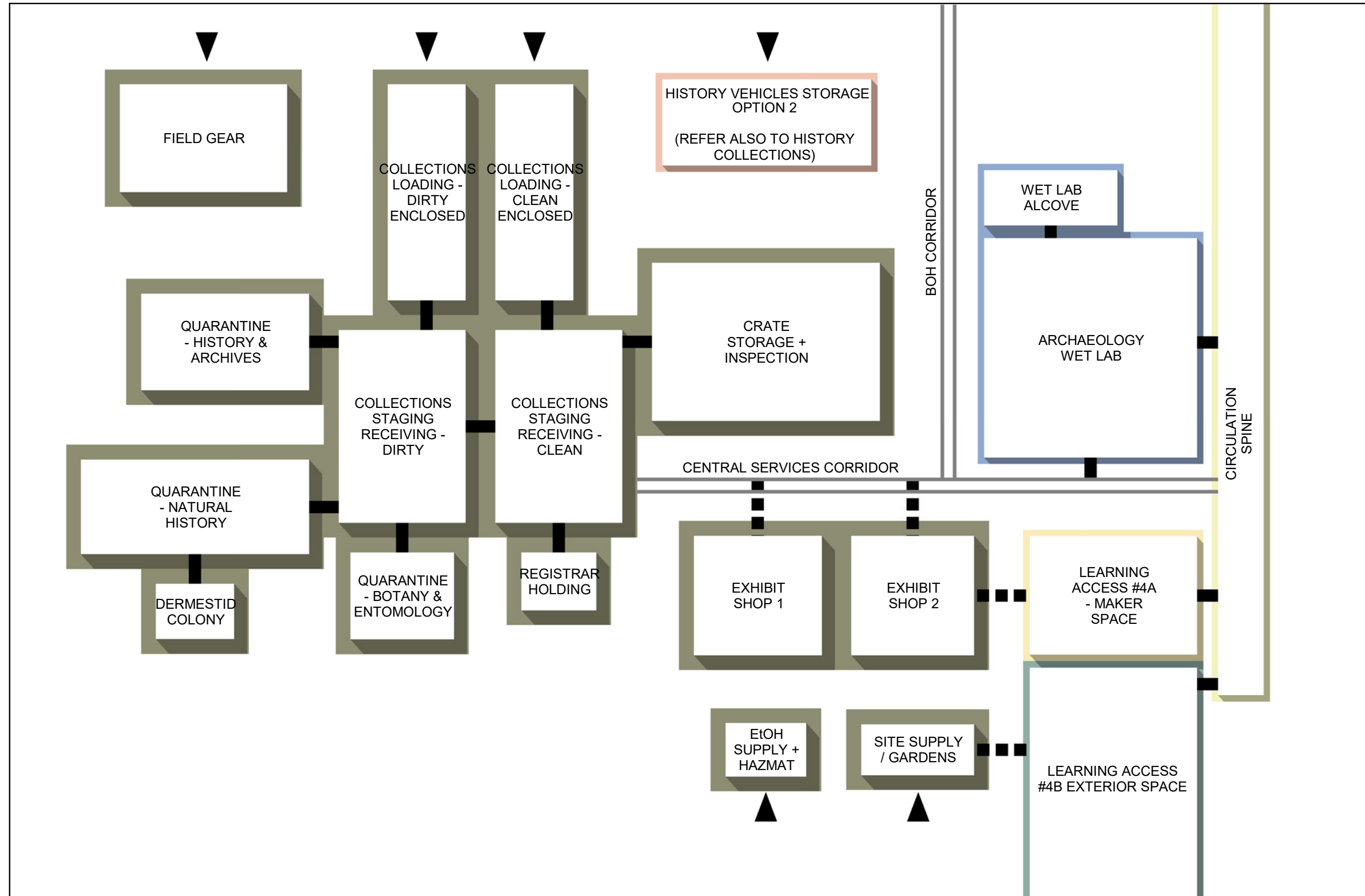


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6.1 Central Shared Services and 6.2 Shared Building, Loading/Receiving



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 - □ DIRECTLY ADJACENT
 - □ IN PROXIMITY



Royal BC Museum – Collections and Research Building
Colwood, BC

APPENDIX 1A-3 – Functional Program Room List

Design-Build Agreement

Sub-Department Areas

		Net Area (SM)
1 - ENTRANCE AREA		
1.100	ENTRANCE AREA	337
	Total	337
2 - PUBLIC ACCESS AREAS		
2.100	CIRCULATION SPINE	604
2.200	COLLECTIONS ACCESS ZONES	321
2.300	LEARNING ACCESS ZONES	330
	Total	1,255
3 - LAB AREA		
3.100	HISTORY LAB	190
3.200	ARCHIVES LAB	599
3.300	CONSERVATION LAB	615
3.400	DIGITIZATION LAB	307
3.500	BOTANY LAB	125
3.600	ENTOMOLOGY LAB	100
3.700	VZIZ AND SHARED BIOLOGY LAB	470
3.800	PALEONTOLOGY LAB	239
	Total	2,645
4 - COLLECTIONS STORAGE AREA		
4.100	HISTORY COLLECTIONS	1,669
4.200	ARCHIVES COLLECTIONS	931
4.300	BOTANY COLLECTIONS	163
4.400	ENTOMOLOGY COLLECTIONS	140
4.500	VZIZ AND SHARED BIOLOGY COLLECTIONS	1,390
4.600	PALEONTOLOGY & MINERAL COLLECTIONS	581
4.700	CHINESE CANADIAN COLLECTIONS - INTENTIONALLY DELETED	0
4.800	BC ARCHAEOLOGY COLLECTIONS	177
4.900	PDP COLLECTIONS	465
	Total	5,516
5 - OFFICE AREA		
5.100	OFFICES	658
5.200	WORK ROOMS	149
5.300	SHARED FACILITIES	283
	Total	1,090
6 - LOADING AND RECEIVING		
6.100	CENTRAL SHARED SERVICES	269
6.200	SHARED BUILDING LOADING/RECEIVING	70
6.300	SHARED COLLECTIONS, LEARNING, EXHIBITS	599
	Total	938

7 - SERVICE SPACES

7.100	MEP SUPPORT	97
7.200	RESTROOMS AND SHOWERS	0
7.300	BUILDING SERVICES	0
7.400	RESTROOMS	
	Total	97

8 - OUTDOOR AREAS

8.100	OUTDOOR AREAS	290
	Total	290

Total Program Net Area (SM) 12,168

1 - ENTRANCE AREA

		Net Area (SM)
1.100	ENTRANCE AREA	
1.101	VESTIBULE	14
1.102	LOBBY	186
1.103	RECEPTION	10
1.104	SERVERY	6
1.105	LOBBY STORAGE	8
1.106	COAT ROOM	15
1.107	FIRST AID	11
1.108	MULTI-PURPOSE SUPPORT	8
1.109	MULTI-PURPOSE	36
1.110	VOLUNTEER LOUNGE	19
1.111	FAMILY ROOM	12
1.112	ADULT CHANGE ROOM	12

Sub-Department Total 337

1 - ENTRANCE AREA

Department Total 337

2 - PUBLIC ACCESS AREAS

		Net Area (SM)
2.100	CIRCULATION SPINE	
2.101	CIRCULATION SPINE	604
Sub-Department Total		604
2.200	COLLECTIONS ACCESS ZONES	
2.201	PALEO ACCESS ZONE	32
2.202	VZ ACCESS ZONE	32
2.203	PDP ACCESS ZONE	32
2.204	ARCHIVES ACCESS ZONE	32
2.205	HISTORY ACCESS ZONE	65
2.206	BOTANY ACCESS ZONE	32
2.207	ENTOMOLOGY ACCESS ZONE	32
2.208	BC ARCHAEOLOGY ACCESS ZONE	32
2.209	IZ ACCESS ZONE	32
Sub-Department Total		321
2.300	LEARNING ACCESS ZONES	
2.301	LEARNING ACCESS #1 - HISTORY AND ARCHIVES	107
2.302	LEARNING ACCESS #2 - MEDIA LAB	65
2.303	LEARNING ACCESS #2 - ORAL HISTORY ROOM	9
2.304	LEARNING ACCESS #2 - CONTROL BOOTH	14
2.305	LEARNING ACCESS #3 - NATURAL HISTORY - INTENTIONALLY DELETED	0
2.306	LEARNING ACCESS #4A - MAKER SPACE	107
2.307	LEARNING ACCESS #5 - COMMUNITY DIGITIZATION	13
2.308	LEARNING ACCESS CLOSET (3)	15
Sub-Department Total		330
2 - PUBLIC ACCESS AREAS	Department Total	1,255

3 - LAB AREA

		Net Area (SM)
3.100 HISTORY LAB		
3.101	HISTORY DIRTY LAB	51
3.102	HISTORY CLEAN LAB	139
Sub-Department Total		190
3.200 ARCHIVES LAB		
3.201	READING AND ACCESS ROOM	200
3.202	SECURE PRIVATE READING ROOMS (2)	28
3.203	ARCHIVIST WORKROOM	341
3.204	PROJECT PROCESSING ROOM	19
3.205	LOCKED STORAGE	11
Sub-Department Total		599
3.300 CONSERVATION LAB		
3.301	CONSERVATION PAPER LAB	102
3.302	PDP/MATT FRAME LAB	102
3.303	CONSERVATION SHARED LAB - INTENTIONALLY DELETED	0
3.304	CONSERVATION TEXTILE LAB	56
3.305	CONSERVATION OBJECT LAB	156
3.306	CONSERVATION SUPPLY STORAGE	20
3.307	COLLECTIONS STORAGE #1	20
3.308	COLLECTIONS STORAGE #2	20
3.309	ARCHAEOLOGY WET LAB	120
3.310	WET LAB ALCOVE	19
Sub-Department Total		615
3.400 DIGITIZATION LAB		
3.401	DIGITIZATION IMAGE STUDIOS (DIS)	160
3.402	CORPORATE PHOTOGRAPHERS STUDIO	56
3.403	3D PRINTING STUDIO - INTENTIONALLY DELETED	0
3.404	3D DIRTY STUDIO - INTENTIONALLY DELETED	0
3.405	DIGITIZATION EQUIPMENT STORAGE (DES)	50
3.406	DIGITIZATION POST PRODUCTION	41
Sub-Department Total		307
3.500 BOTANY LAB		
3.501	BOTANY LAB	125
Sub-Department Total		125
3.600 ENTOMOLOGY LAB		
3.601	ENTOMOLOGY LAB	100

3 - LAB AREA

Net Area
(SM)

Sub-Department Total 100

3.700 VZIZ AND SHARED BIOLOGY LAB

3.701	VZ DIRTY PREP LAB	74
3.702	IZ DIRTY PREP LAB	84
3.703	VZ CLEAN LAB	56
3.704	IZ CLEAN LAB	42
3.705	BIOLOGY - SHARED INSTRUMENTATION	129
3.706A	BIOLOGY - SHARED ALCOVE #1	13
3.706B	BIOLOGY - SHARED ALCOVE #2	13
3.706C	BIOLOGY - SHARED ALCOVE #3 - INTENTIONALLY DELETED	0
3.707	BIOLOGY - SHARED ULTRACOLD FREEZER ROOM	37
3.708	BIOLOGY - SHARED BIOFREEZER	22

Sub-Department Total 470

3.800 PALEONTOLOGY LAB

3.801	PALEO DIRTY PREP LAB	139
3.802	CAST AND MOLD LAB	33
3.803	SECTIONING LAB	19
3.804	PALEO CLEAN LAB	48

Sub-Department Total 239

3 - LAB AREA

Department Total 2,645

4 - COLLECTIONS STORAGE AREA

		Net Area (SM)
4.100	HISTORY COLLECTIONS	
4.101	HISTORY COLLECTIONS STORAGE	1,529
4.102	HISTORY VEHICLES STORAGE	84
Sub-Department Total		1,669
4.200	ARCHIVES COLLECTIONS	
4.201	ARCHIVES COLLECTIONS STORAGE	703*
4.202A	ARCHIVES COOL VAULT - ERC-3	68
4.202B	ARCHIVES COLD VAULT - ERC-4	79
4.203	SISTER'S OF ST. ANN'S COLLECTIONS	56*
Sub-Department Total		931
* 4.201 and 4.203 may be combined into one room for a total net area of 759 SM		
4.300	BOTANY COLLECTIONS	
4.301	BOTANY COLLECTIONS	163
Sub-Department Total		163
4.400	ENTOMOLOGY COLLECTIONS	
4.401	ENTOMOLOGY - DRY COLLECTIONS	90
4.402	ENTOMOLOGY - FLUID PRESERVED COLLECTIONS	50
Sub-Department Total		140
4.500	VZIZ AND SHARED BIOLOGY COLLECTIONS	
4.501	VZ - DRY COLLECTIONS	407
4.502	FUR AND FEATHER	387
4.503	IZ - DRY COLLECTIONS	90
4.504	IZ/VZ FLUID PRESERVED	506
Sub-Department Total		1,390
4.600	PALEONTOLOGY & MINERAL COLLECTIONS	
4.601	PALEONTOLOGY & MINERAL COLLECTIONS	581
Sub-Department Total		581
4.700	CHINESE CANADIAN COLLECTIONS - INTENTIONALLY DELETED	
4.701	CHINESE CANADIAN COLLECTIONS - INTENTIONALLY DELETED	0

4 - COLLECTIONS STORAGE AREA

		Net Area (SM)
		Sub-Department Total 0
4.800	BC ARCHAEOLOGY COLLECTIONS	
4.801	BC ARCHAEOLOGY COLLECTIONS	177
		Sub-Department Total 177
4.900	PDP COLLECTIONS	
4.901	PDP VAULT	465
		Sub-Department Total 465
4 - COLLECTIONS STORAGE AREA		Department Total 5,516

5 - OFFICE AREA

		Net Area (SM)
5.100 OFFICES		
5.101	OPEN OFFICE AREA	488
5.102A	PRIVATE OFFICE 1 (3)	39
5.102B	PRIVATE OFFICE 2 (11)	102
5.103	FOI/CORP OFFICE	9
5.104	FOI/GOV. RECORDS OFFICE	9
5.105	HR & VOLUNTEER OFFICE	11
Sub-Department Total		658
5.200 WORK ROOMS		
5.201	LEARNING WORKROOM	33
5.202	IT WORKROOM/STORAGE	37
5.203	REGISTRAR WORKROOM	37
5.204	FACILITIES PLAN ROOM	42
Sub-Department Total		149
5.300 SHARED FACILITIES		
5.301	STAFF LUNCH	45
5.302	COPY AREA (2)	14
5.303	SHARED DEPARTMENTAL LIBRARY	140
5.304	MOBILE LOCKER AREA	15
5.305	CONFERENCE ROOM	37
5.306	COLLABORATION SPACE	16
5.307	CORPORATE RECORDS HOLDING	9
5.308	FOI RECORDS	7
Sub-Department Total		283
5 - OFFICE AREA		Department Total 1,090

6 - LOADING AND RECEIVING

		Net Area (SM)
6.100 CENTRAL SHARED SERVICES		
6.101	SHIPPING OFFICE	6
6.102	SHIPPING SUPPLIES	14
6.103	MAIL/COPY	9
6.104	OFFICE SUPPLIES	14
6.105	SECURITY COMMAND CENTRE	28
6.106	SECURITY SUPERVISOR OFFICE	14
6.107	SECURITY PATCH	5
6.108	SECURITY SERVER	5
6.109	GUARD/SUPPLY	14
6.110	BUILDING MAINTENANCE	23
6.111	SITE MAINTENANCE EQUIPMENT	37
6.112	STAFF LOCKERS	6
6.113	STAFF FIRST AID	7
6.114	CUSTODIAL CENTRAL SUPPLY	41
6.115	FACILITIES STORAGE	46
Sub-Department Total		269
6.200 SHARED BUILDING LOADING/RECEIVING		
6.201	BUILDING - STAGING/RECEIVING	46
6.202	OUTSIDE LOADING ZONE	24
Sub-Department Total		70
6.300 SHARED COLLECTIONS, LEARNING, EXHIBITS		
6.301	COLLECTIONS LOADING - DIRTY ENCLOSED	44
6.302	COLLECTIONS STAGING RECEIVING - DIRTY	63
6.303	COLLECTIONS LOADING - CLEAN ENCLOSED	44
6.304	COLLECTIONS STAGING RECEIVING - CLEAN	63
6.305	REGISTRAR HOLDING	11
6.306	CRATE STORAGE + INSPECTION	93
6.307	QUARANTINE - BOTANY & ENTOMOLOGY	23
6.308	QUARANTINE - HISTORY & ARCHIVES	42
6.309	QUARANTINE - NATURAL HISTORY	56
6.310	FIELD GEAR	46
6.311	DERMESTID COLONY	11
6.312	EtOH SUPPLY + HAZMAT	11
6.313	SITE SUPPLY - GARDENS	15
6.314	EXHIBIT SHOP 1	39
6.315	EXHIBIT SHOP 2	38
Sub-Department Total		599
6 - LOADING AND RECEIVING		Department Total 938

7 - SERVICE SPACES

		Net Area (SM)
7.100	MEP SUPPORT	
7.101A	MEP TOOL SHOP	46
7.101B	MEP FILTERS	14
7.101C	MEP/P/E/FP SUPPLIES	37
Sub-Department Total		97
7.200	RESTROOMS AND SHOWERS	
7.201	PUBLIC SHARED RESTROOM	0
7.202	PUBLIC SINGLE-OCCUPANT RESTROOM	0
7.203	PUBLIC CHILD RESTROOM	0
7.204	STAFF RESTROOMS (7)	0
7.205	STAFF RESTROOMS WITH SHOWERS (2)	0
7.206	JANITOR (5)	0
Sub-Department Total		0
7.300	BUILDING SERVICES	
7.301	BUILDING SERVICE SPACES (AS REQUIRED)	0
Sub-Department Total		0
7 - SERVICE SPACES	Department Total	97

8 - OUTDOOR AREAS

		Net Area (SM)
8.100	OUTDOOR AREAS	
8.101	ENTRANCE WALK	0
8.102A	OUTDOOR COVERED GATHERING	87
8.102B	OUTDOOR CLOSET	6
8.103	LEARNING ACCESS #4B - EXTERIOR SPACE	139
8.104	LEARNING ACCESS #4C - ALCOVE	8
8.105	WETLAND AND OBSERVATION DECK	50
8.106	GARRY OAK GATHERING CIRCLE	0
8.107	DEMONSTRATION LANDSCAPES	0
8.108	OPEN PLAY MEADOW	0
8.109	SITE AND NATURE PLAY	0

Sub-Department Total 290

8 - OUTDOOR AREAS

Department Total 290

Royal BC Museum – Collections and Research Building
Colwood, BC

APPENDIX 1B-1 – Room Data Sheets

Design-Build Agreement

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1.1 Appendix Intent

1.1.1 Contents

1.1.1.1 This Appendix sets out room-specific details for the Project that are not otherwise captured in the overarching information in APPENDIX 1A-1 – Functional Program Narratives and Schedule 1 – Statement of Requirements.

1.1.2 General

1.1.2.1 APPENDIX 1B-2 – Item Schedule sets out item-specific details for the Project that are not otherwise captured in the simplified item list on the Room Data Sheets.

1.1.2.2 The Design-Builder will provide connections, services and space for all items specified in this Appendix and Appendix 1B-2.

1.2 Definitions

1.2.1 Definitions

“Commissioning” means testing and commissioning the items in accordance with any commissioning requirements set out in this Agreement.

“Delivery” means delivery to the Facility.

“Installation” means, as applicable, to put in place or attach to the Facility, including making connections to necessary building services (including plumbing, heating, cooling, ventilation and electricity, as well as support structures, seismic restraints, or other infrastructure required by or supplied by the supplier), and connection to necessary communication or network interfaces or devices by qualified tradespeople where necessary, and according to manufacturer requirements so that the item is fully functional and ready for acceptance testing, and includes the carrying out of acceptance testing to demonstrate that such item has been Installed in accordance with the relevant requirements in this Agreement.

“Procurement” means the management and completion of procurement processes, including preparation of procurement documentation, and management and completion of procurement processes and contracting.

“Purchasing” means the process of purchasing items, including preparation of purchase orders, and payment to the supplier, including the costs of standard Delivery and training to the extent included in the relevant purchase order.

“Setup” includes:

- (a) transportation and movement of the item within the Facility from the point of delivery to the final location, including the provision of adequate devices, equipment, or other materials to safely move such items;
- (b) placement of item in the final location within the Facility;
- (c) attachment of any required accessories to the items;
- (d) any necessary unwrapping, unpacking, labelling, and assembling, including the correct

disposal of all dunnage, packing, or other waste materials (except where the removal of waste is addressed elsewhere); and

(e) cleaning of the item as per infection control requirements for its final location.

“**Storage**” means the provision of a secure space or spaces with an appropriate environment to allow the item to be set, placed, loaded, unloaded, or otherwise warehoused without damage while awaiting Setup.

1.3 Item Classifications

1.3.1 Category 1 - Design-Builder Supplied and Installed

- 1.3.1.1 The Design-Builder will, at its cost, be responsible for the Procurement, Purchasing, Delivery, Storage, Setup, Installation, and Commissioning of all Category 1 items and furniture.
- 1.3.1.2 The manufacturer, model and cut sheet info provided is intended as a basis of design to guide the Design-Builder. Final equipment selection is to be coordinated with the Owner.”
- 1.3.1.3 Where a basis of design has been provided for any Category 1 item or furniture, the Design-Builder may request that the Owner accept an Equivalent in accordance with the process set forth in Section 1.1.3 of Schedule 1 – Statement of Requirements.
- 1.3.1.4 Where a basis of design has not been provided for a Category 1 item or furniture, such item or furniture will be selected by the Design-Builder to ensure the applicable performance and quality criteria set forth in Schedule 1 – Statement of Requirements are met, and cut sheets of such selected materials will be submitted to the Owner for review and approval pursuant to Schedule 2 – Review Procedure.

1.3.2 Category 2 - Owner-Supplied, Design-Builder Installed

- 1.3.2.1 The Owner will, at its cost, be responsible for the Procurement, Purchasing and Delivery of all Category 2 items.
- 1.3.2.2 The Design-Builder will, at its cost, be responsible for the Storage (if required), Setup, Installation, and Commissioning of all Category 2 items.
- 1.3.2.3 Notwithstanding Section 1.3.2.1, the Design-Builder will cooperate with the Owner to coordinate Delivery scheduling and receipt at the Facility for all Category 2 items.

1.3.3 Category 3 – Owner Supplied and Installed

- 1.3.3.1 The Owner will, at its cost, be responsible for the Procurement, Purchasing, Delivery, Storage, Setup, Installation, and Commissioning of all Category 3 items.
- 1.3.3.2 Notwithstanding Section 1.3.3.1, the Design-Builder will cooperate with the Owner to coordinate Delivery scheduling and receipt at the Facility for all Category 3 items.

1.3.4 Category 4 – Owner Supplied and Installed post Total Completion

- 1.3.4.1 The Owner will, at its cost, be responsible for the Procurement, Purchasing, Delivery, Storage, Setup, Installation, and Commissioning of all Category 4 items after the Building has reached Total Completion.
- 1.3.4.2 The Design-Builder will ensure the Facility can accommodate all Category 4 items.

1.101 VESTIBULE

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Glazed curtain wall						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Feature ceiling element. Example: wood slats						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note: Match Lobby
	Sheet Linoleum	No Preference					
Other:	Walk off mats - recessed - required						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note: Match Lobby
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-FLT.02	Door - Double Sliding - Full Lite	1	Category 1
08.10.DBL-FLT.03	Door - Double Sliding - Full Lite	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.02	Lighting - Feature	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	**°C +/- 0°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	** Winter: min 15.5°C, Summer: max N/A	
BSL Category:						

1.102 LOBBY

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: Provide 4 points for hanging up to 230kg load per point.
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note: If Wood: End Grain Wood Block; If Sealed Concrete: Polished concrete finish
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Coved						Note: Match floor finish

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.TBL-ITV.01	Table - Interactive - Multi-Touch - Portable	1	Category 3
01.64.STG-CBL.01	Stage - Collapsible	1	Category 3

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.35.GRI-SUS.04	Grid System - Suspended	1	Category 1
05.35.GRI-SUS.07	Grid System - Suspended	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.22.INT-LBY.01	Partition - Glazed - Lobby	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.PRJ-SCR.02	Projection Screen	1	Category 1
11.52.PRJ-LSR.04	High Lumen Laser Projector	1	Category 1
11.52.ROU-VDO.01	Rough-In for Future Interactive Multi-touch Display	1	Category 1
11.14.BRR-BLT.01	Belt Barrier - Retractable	1	Category 1

1.102 LOBBY

ENTRANCE AREA

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.05	Seating Group - Casual - Lobby	3	Category 1
12.52.CHR-LBY.01	Chair - Lobby	12	Category 1
12.56.STL-LAB.03	Stool - Lab - Arms	16	Category 1
12.51.TBL-LBY.01	Table - Lobby - Type 1	4	Category 1
12.51.TBL-LBY.02	Table - Lobby - Type 2	3	Category 1
12.52.CHR-STK.03	Chair - Stacking - Lobby	120	Category 1
12.51.TBL-LBY.03	Table - Folding - Lobby - Rectangle	4	Category 1
12.51.TBL-LBY.04	Table - Folding - Lobby - Round	20	Category 1
12.51.PDM-SPK.01	Podium - Speaker	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-BOX.01	Power - Flush Ceiling Box	1	Category 1
26.27.POW-BOX.04	Power - Flush Floor Box	1	Category 1
26.51.INT-LIT.04	Lighting - LED	40	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.103 RECEPTION

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	If Wood: End Grain Wood Block						
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note: Match floor finish
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-TAL.02	Cabinet - Tall	1	Category 1
06.40.DSK-CTM.01	Desk - Custom - Reception	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.30.FLD-PCK.01	Door - Folding Pocket	1	Category 1
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1
08.80.EXT-FXD.06	Glazing - Interior - Fixed	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.21.POS-TER.01	P.O.S. Terminal	1	Category 3
11.52.RCK-ADV.02	AV Rack - Rolling	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.01	Allocated Data Port	2	Category 1
27.20.DAT-POR.02	Allocated Data Port	1	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

1.104 SERVERY

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note: To match Lobby
Other:							
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note: To match Lobby
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.15	Equip - General - Refrigerator - Counter Height	1	Category 3
01.64.EQP-GEN.16	Equip - General - Urn	1	Category 3
01.64.EQP-GEN.17	Equip - General - Urn	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.05	Cabinet - Base	1	Category 1
06.40.WWK-CTP.06	Counter Top	1	Category 1
06.40.CAB-UPP.09	Cabinet - Upper	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.30.FLD-PCK.03	Door - Folding Pocket	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.41.EQP-RFG.01	Equip - General - Refrigerator - Display Case	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SLD.01	Sink - Solid Surface	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.105 LOBBY STORAGE

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Painted plywood to 1220 AFF						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.09	Equip - AV - Charging Station	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.SHV-FOL.03	Shelving - Fold-up	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.02	Door - Double - Solid	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WIR.04	Shelving - Wire	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.46.CRT-TBL.01	Cart - Folding Tables	1	Category 1
12.46.CRT-TBL.03	Cart - Folding Tables	1	Category 1
12.46.CRT-CHR.01	Cart - Stacking Chairs	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	2	Category 1
26.27.POW-RCP.11	Power - Receptacle - Duplex	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category:			

1.106 COAT ROOM

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Impact resistant GWB to protect from wheelchairs						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. 305mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	To protect from wheelchairs						Note:
						Coved	

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.51.LKR-SNG.01	Locker - Single Tier	3	Category 1
10.51.LKR-TRI.01	Locker - Three Tier	15	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.107 FIRST AID

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Blocking for wall mount equipment						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Seamless						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Seamless covered base						

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.03	Cabinet - Base	1	Category 1
06.40.WWK-CTP.03	Counter Top	1	Category 1
06.40.CAB-UPP.07	Cabinet - Upper	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.43.CBT-AID.01	Cabinet - First Aid	1	Category 1
10.28.SHA-CON.01	Sharps Container	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.97.SEC-TEL.01	Security - Telephone - Al	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-GST.02	Chair - Guest	1	Category 1
12.56.BED-RCV.01	Bed - Recovery	1	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.01	Sink - Hand Wash - Drop-in	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	2	Category 1

1.107 FIRST AID

ENTRANCE AREA

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.108 MULTI-PURPOSE SUPPORT

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	To match Multi-Purpose						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	To match Multi-Purpose						

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.02	Cabinet - Base	1	Category 1
06.40.WWK-CTP.02	Counter Top	1	Category 1
06.40.CAB-UPP.05	Cabinet - Upper	2	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-DLT.01	Door - Single - Double Lite	1	Category 1
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.46.TRK-BSK.01	Truck - Basket - Collapsible	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.02	Sink - Hand Wash - Drop-in	1	Category 1
22.42.SNK-HND.01	Sink - Hand Wash - Drop-in	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	***°C +/- ** °C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	** Temp: Winter: min 15.5°C, Summer: max N/A
BSL Category:					

1.109 MULTI-PURPOSE

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Refer to Schedule 1, Part 6.9 for blocking requirements.	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Impact resistant gypsum to 1220H AFF, Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	wood						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.TBL-SCH.01	Table - School - Tilt Top	6	Category 1
12.52.CHR-STK.02	Chair - Stacking - Armless	12	Category 1
12.52.CHR-STK.01	Chair - Stacking - Arms	12	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

1.110 VOLUNTEER LOUNGE

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	1	Category 1
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.51.LKR-DBL.01	Locker - Double Tier	6	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.08	Seating Group - Casual - Volunteer Lounge	1	Category 1
12.52.CHR-LCH.01	Chair - Lunch	4	Category 1
12.51.TBL-LBY.02	Table - Lobby - Type 2	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.111 FAMILY ROOM

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.12	Equip - General - Microwave	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.WWK-CTP.01	Counter Top	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.CHG-BBY.01	Changing Station - Baby	1	Category 1
10.28.CHK-DBL.02	Coat Hook - Double	2	Category 1
10.28.PAP-WAS.01	Paper Towel and Waste	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.97.SEC-TEL.01	Security - Telephone - Al	1	Category 1
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.04	Seating Group - Casual - Family Room	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.01	Sink - Hand Wash - Drop-in	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

1.112 ADULT CHANGE ROOM

ENTRANCE AREA

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Provide ceramic tile to min 2135 AFF						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.TBL-CHG.01	Table - Adult Change	1	Category 1
10.28.CHK-DBL.02	Coat Hook - Double	2	Category 1
10.28.RST-ACC.01	Restroom Accessories	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.97.SEC-TEL.01	Security - Telephone - AI	1	Category 1
11.73.LFT-PTN.01	Lift - Patient	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-GST.01	Chair - Guest	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.FIX-FIT.03	Restroom Fixtures and Fittings	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS				
Pressurization:	Positive	Negative			Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust				
BSL Category:								

2.101 CIRCULATION SPINE

CIRCULATION SPINE

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	■ Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: Provide 10 points of attachment on ceiling/structure for 230kg loads.
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note: If Wood: End Grain Wood Block;
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.02	Equip - Telephone	4	Category 3
01.64.CRT-EMG.02	Cart - Emergency	1	Category 3
01.64.CAB-VIT.01	Cabinet - Collections - Vitrine	16	Category 3

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.35.GRI-SUS.06	Grid System - Suspended	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-FLT.02	Door - Double Sliding - Full Lite	1	Category 1
08.10.DBL-FLT.03	Door - Double Sliding - Full Lite	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1
08.10.SNG-HSL.06	Door - Single - Half Strip Lite	1	Category 1
08.10.DBL-HSL.08	Door - Double - Half Strip Lite	1	Category 1
08.10.DBL-HSL.09	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.KSK-INF.01	Kiosk - Collections Information	4	Category 3
10.56.RAL-ART.01	Rail - Art - Collections	21	Category 1
10.56.PFM-COL.03	Platform - Collections	3	Category 3
10.11.MON-LED.04	Monitor - LED LCD	5	Category 2

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.14.BRR-BLT.01	Belt Barrier - Retractable	7	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.02	Seating Group - Casual	5	Category 1

2.101 CIRCULATION SPINE

CIRCULATION SPINE

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.47.DRI-FTN.01	Drinking Fountain - Public	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.01	Power - Receptacle - Duplex	42	Category 1
26.27.POW-BOX.01	Power - Flush Ceiling Box	1	Category 1
26.27.POW-BOX.03	Power - Flush Floor Box	40	Category 1
26.51.INT-LIT.04	Lighting - LED	76	Category 1
26.51.INT-LIT.05	Lighting - Niche	5	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.03	Allocated Data Port	10	Category 1
27.20.DAT-POR.04	Allocated Data Port	32	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.02	Intercom	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

2.201 PALEO ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-EMG.02	Cart - Emergency	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.10.DBL-HSL.04	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.26	Cabinet - Collections	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.35.TBL-LAB.20	Table - Lab - Adjustable Height	5	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

2.201 PALEO ACCESS ZONE

COLLECTIONS ACCESS ZONES

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

2.202 VZ ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Coved Epoxy						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.10.DBL-HSL.04	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.48	Cabinet - Collections - Vertebrate Zoology	2	Category 1
10.56.SHV-WSP.25	Shelving - Collections - Wide Span	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

2.203 PDP ACCESS ZONE

**COLLECTIONS
 ACCESS ZONES**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note: Extend the Unistrut support structure for 10.56.RCK – Art.10 over ceiling of this space as additional area on top of area allocated in Items Schedule to allow owner to locate art screens with different (wider) spacings during design phase	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.DIS-LDG.02	Display Ledge	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.00.OPN-FRA.02	Opening - Framed	1	Category 1
08.10.DBL-HSL.06	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.35.TBL-LAB.10	Table - Lab - Adjustable Height	2	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

2.203 PDP ACCESS ZONE

COLLECTIONS ACCESS ZONES

HVAC		ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive Negative	Temp: 18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive Explosive Odour	Dust	
BSL Category:			

2.204 ARCHIVES ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-EMG.02	Cart - Emergency	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.10.DBL-HSL.04	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	3	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	3	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C		RH: 50% +/- 5%		
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.205 HISTORY ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-EMG.01	Cart - Emergency	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.10.DBL-HSL.06	Door - Double - Half Strip Lite	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.29	Cabinet - Collections	2	Category 1
10.56.CAB-COL.06	Cabinet - Collections - Flat File	4	Category 2
10.56.SHV-COL.04	Shelving - Collections - 4-Post	4	Category 1
10.56.SHV-WSP.20	Shelving - Collections - Wide Span	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	4	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	8	Category 1
12.51.CAB-LFL.02	Cabinet - Lateral File	3	Category 1
12.51.CAB-LFL.02.01	Cabinet - Lateral File	3	Category 3

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	4	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

2.205 HISTORY ACCESS ZONE

**COLLECTIONS
 ACCESS ZONES**

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

2.206 BOTANY ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.00.OPN-FRA.01	Opening - Framed	1	Category 1
08.10.SNG-HSL.07	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.03	Cabinet - Collections - Botany	1	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	1	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	2	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.04	Sink - Hand Wash - Rough-in	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

2.206 BOTANY ACCESS ZONE

**COLLECTIONS
 ACCESS ZONES**

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

2.207 ENTOMOLOGY ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.00.OPN-FRA.01	Opening - Framed	1	Category 1
08.10.SNG-HSL.07	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.22	Cabinet - Collections	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative			Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.208 BC ARCHAEOLOGY ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.05	Door - Double - Solid	1	Category 1
08.00.OPN-FRA.01	Opening - Framed	1	Category 1
08.10.SNG-HSL.07	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.42	Cabinet - Collections - Paleontology	1	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

2.209 IZ ACCESS ZONE

COLLECTIONS ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.08	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.53	Cabinet - Collections - Zoology	1	Category 1
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	4	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.35.SHV-LAB.01	Shelving - Lab	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	2	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.10	Lighting - Task	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
			Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%		
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.301 LEARNING ACCESS #1 - HISTORY AND ARCHIVES

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Install track lighting to highlight the walls for future installation of graphics. Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.DIS-LDG.01	Display Ledge	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.39	Cabinet - Collections - Multi-Depth	4	Category 1
10.11.BRD-WHT.01	Whiteboard - Magnetic	1	Category 1
10.56.CAB-COL.19	Cabinet - Collections - Flat File with Light Table	1	Category 1
10.22.LRN-ACS.03	Partition - Glazed - Learning Access	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.PRJ-SCR.01	Projection Screen	1	Category 1
11.52.PRJ-LSR.03	High Lumen Laser Projector	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.STL-WBL.01	Stool - Wobble	5	Category 1
12.51.TBL-FLD.01	Table - Folding - Classroom	8	Category 1
12.52.CHR-STK.02	Chair - Stacking - Armless	12	Category 1
12.52.CHR-STK.01	Chair - Stacking - Arms	12	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.08	Lighting - Track - Suspended - Flexible	1	Category 1
26.27.POW-BOX.02	Power - Flush Floor Box	6	Category 1

2.301 LEARNING ACCESS #1 - HISTORY AND ARCHIVES

**LEARNING ACCESS
 ZONES**

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	4	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category:			

2.302 LEARNING ACCESS #2 - MEDIA LAB

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Refer to Schedule 1, Part 6.9 for blocking requirements.	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.35.GRI-SUS.03	Grid System - Suspended	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.21.CRN-SYS.02	Curtains - Photography - System with Track	1	Category 1
10.11.BRD-WHT.01	Whiteboard - Magnetic	1	Category 1
10.11.DIS-ITV.03	Interactive Display Panel	1	Category 3
10.11.SCR-GRN.01	Screen - Green	1	Category 3
10.11.MON-LED.01	Monitor - LED LCD	1	Category 3
10.22.LRN-ACS.02	Partition - Glazed - Learning Access	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.PRJ-LSR.01	High Lumen Laser Projector	1	Category 1
11.52.PRJ-SCR.01	Projection Screen	1	Category 1
11.61.BDT-EQP.01	Broadcast Centre Equipment	1	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-GST.02	Chair - Guest	8	Category 1
12.51.TBL-FLD.01	Table - Folding - Classroom	6	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	5	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.303 LEARNING ACCESS #2 - ORAL HISTORY ROOM

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Acoustic Panels; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.09	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	4	Category 1
12.51.TBL-MTG.01	Table - Meeting - Rectangle	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-BOX.02	Power - Flush Floor Box	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.304 LEARNING ACCESS #2 - CONTROL BOOTH

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.09	Glazing - Interior - Fixed	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.59.DSK-SYS.09	Desk System - Worksurface	1	Category 1
12.51.SHV-OPN.07	Shelving - Open	2	Category 1
12.59.DSK-ADJ.01	Work desk - Adjustable Height	2	Category 1
12.35.CAB-LAB.15	Cabinet - Lab - Tall	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

2.305 LEARNING ACCESS #3 - NATURAL HISTORY - INTENTIONALLY DELETED

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

2.306 LEARNING ACCESS #4A - MAKER SPACE

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference			Note: Install track lighting to highlight the walls for future installation of graphics. Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:	If exposed wood structure is used, paint will be clear epoxy. Rammed Earth							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference			Note:
Finish:	Paint	No Preference						
Other:	If exposed wood structure is used, paint will be clear epoxy. Rammed Earth							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile		Note:
	Sheet Linoleum	No Preference						
Other:								
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:
	Linoleum	No Preference						
Other:								

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.39	Cabinet - Collections - Multi-Depth	6	Category 1
10.11.BRD-WHT.01	Whiteboard - Magnetic	1	Category 1
10.22.LRN-ACS.01	Partition - Glazed - Learning Access	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.PRJ-SCR.01	Projection Screen	1	Category 1
11.52.PRJ-LSR.03	High Lumen Laser Projector	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	8	Category 1
12.35.CAB-LAB.03	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.09	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.20	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	7	Category 1
12.35.TBL-LAB.12	Table - Lab - Adjustable Height	1	Category 1
12.52.CHR-STK.02	Chair - Stacking - Armless	20	Category 1
12.52.CHR-STK.01	Chair - Stacking - Arms	20	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.42.SNK-LAB.01	Sink - Lab	1	Category 1

2.306 LEARNING ACCESS #4A - MAKER SPACE

LEARNING ACCESS ZONES

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.08	Lighting - Track - Suspended - Flexible	1	Category 1
26.27.POW-BOX.02	Power - Flush Floor Box	6	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

2.307 LEARNING ACCESS #5 - COMMUNITY DIGITIZATION

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Refer to Schedule 1, Part 6.9 for blocking requirements.		
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:	If exposed wood structure is used, paint will be clear epoxy.							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:		
Finish:	Paint	No Preference						
Other:	If exposed wood structure is used, paint will be clear epoxy.							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
	Sheet Linoleum	No Preference						
Other:								
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:
Other:	Linoleum	No Preference						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.24	Equip - Lab - Scanner - Book	2	Category 3
01.64.EQP-LAB.30	Equip - Lab - Scanner - Flatbed	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.TBL-LBR.01	Table - Library - Rolling	4	Category 1
12.52.CHR-STK.02	Chair - Stacking - Armless	2	Category 1
12.52.CHR-STK.01	Chair - Stacking - Arms	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

2.308 LEARNING ACCESS CLOSET (3)

LEARNING ACCESS ZONES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Refer to Schedule 1, Part 6.9 for blocking requirements.	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.02	Door - Double - Solid	3	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WIR.04	Shelving - Wire	3	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.46.CRT-TBL.03	Cart - Folding Tables	3	Category 1
12.46.CRT-CHR.01	Cart - Stacking Chairs	3	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.101 HISTORY DIRTY LAB

HISTORY LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	2	Category 1
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	1	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.CAB-HOL.02	Cabinet - Holding	3	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	1	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	1	Category 1
12.35.WKB-LAB.01	Workbench - Lab - Backdraft	1	Category 1
12.35.CAB-LAB.05	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.10	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.24	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1
12.35.TBL-LAB.18	Table - Lab - Lift	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.05	Sink - Lab - Rough-in	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	1	Category 1

3.101 HISTORY DIRTY LAB

HISTORY LAB

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-OVH.01	Power - Reel - Overhead	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	3	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.102 HISTORY CLEAN LAB

HISTORY LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Coved Linoleum						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-LAB.07	Equip - Lab - Cutter - Multi-Material	1	Category 2
01.64.RCK-STO.01	Rack - Roll Storage	3	Category 2
01.64.RCK-STO.02	Rack - Rolling - Roll Storage	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.04	Rack - Art - Collections - Hanging Panels	1	Category 1
10.56.CAB-COL.31	Cabinet - Collections	3	Category 1
10.56.CAB-COL.13	Cabinet - Collections - Flat File	2	Category 1
10.56.CAB-COL.40	Cabinet - Collections - Open Case	1	Category 1
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	2	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.13	Shelving - Collections - Wide Span	5	Category 1
10.56.SHV-WSP.20	Shelving - Collections - Wide Span	1	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

3.102 HISTORY CLEAN LAB

HISTORY LAB

Division 12: Furnishings			
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Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	4	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.09	Cabinet - Lab - Base - Mobile	5	Category 1
12.35.CAB-LAB.22	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	8	Category 1
12.35.TBL-LAB.03	Table - Lab - Adjustable Height	1	Category 1
12.35.TBL-LAB.10	Table - Lab - Adjustable Height	2	Category 1
12.51.CAB-LFL.02	Cabinet - Lateral File	1	Category 1
12.56.STL-LAB.01	Stool - Lab - Arms	2	Category 1
12.59.SYS-WKS.04	Workstation - Large	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning			
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	2	Category 1

Division 26: Electrical			
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Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	3	Category 1

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category:			

3.201 READING AND ACCESS ROOM

ARCHIVES LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 4							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note: End grain wood block, solid or engineered pre-finished wood.
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.63	Equip - Lab - Catalogue Access Station	4	Category 3
01.64.CRT-LIB.01	Cart - Library	10	Category 3
01.64.EQP-LAB.03	Equip - Lab - Cassette Reader	2	Category 3
01.64.EQP-LAB.34	Equip - Lab - Scanner - Microfilm	3	Category 3
01.64.EQP-LAB.35	Equip - Lab - Scanner - Microfilm	4	Category 3
01.64.EQP-LAB.37	Equip - Lab - Scanner - Microfilm	2	Category 3
01.64.EQP-LAB.52	Equip - Lab - VHS Reader	2	Category 3
01.64.EQP-LAB.54	Equip - Lab - Kiosk - AV	1	Category 3
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3
01.64.CAB-CRD.01	Cabinet - Card Catalogue	2	Category 3
01.64.CBT-CRD.02	Cabinet - Card Catalogue	1	Category 3
01.64.CBT-CRD.03	Cabinet - Card Catalogue	1	Category 3
01.64.CRT-BTK.01	Cart - Book Trucks	15	Category 3
01.64.CAB-MCF.01	Cabinet - Collections - Microfiche	44	Category 2
01.64.CAB-STO.01	Cabinet - Collections - Storage Locker	10	Category 1

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.DSK-CTM.02	Desk - Custom - Reference Archivist	1	Category 1
06.40.WWK-CTP.04	Counter Top	1	Category 1
06.40.DSK-CTM.03	Desk - Custom - Retrievals Desk	1	Category 1
06.40.CAB-TAL.01	Cabinet - Tall	3	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

3.201 READING AND ACCESS ROOM

ARCHIVES LAB

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.16	Cabinet - Collections - Flat File	2	Category 1
10.56.HDM-COL.03	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.01	Ladder - Rolling	1	Category 1
10.56.CAB-COL.05	Cabinet - Collections - Flat File	1	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.OFF-BKC.01	Bookcase	1	Category 1
12.52.CHR-DSK.02	Chair - Desk - Office	3	Category 1
12.52.CHR-DSK.03	Chair - Desk - Public	28	Category 1
12.51.TBL-LBR.01	Table - Library - Rolling	18	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.07	Lighting - Track - Suspended - Flexible	1	Category 1
26.27.POW-BOX.05	Power - Flush Floor Box	18	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category:			

3.202 SECURE PRIVATE READING ROOMS (2)

ARCHIVES LAB

General Notes: Two Rooms @ 27.9 sq.m. each. separated by operable partition.

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 4							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Wood Chair Rail						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.36	Equip - Lab - Scanner - Microfilm	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	2	Category 1
08.80.EXT-FXD.09	Glazing - Interior - Fixed	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.22.PAR-OPR.01	Partition - Operable	1	Category 1
10.11.MON-LED.02	Monitor - LED LCD	2	Category 2
10.11.VDO-EQP.01	Video Conference Equipment	2	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.03	Chair - Desk - Public	8	Category 1
12.51.TBL-MTG.01	Table - Meeting - Rectangle	2	Category 1
12.59.SYS-WKS.06	Workstation - Single	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-BOX.05	Power - Flush Floor Box	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

3.203 ARCHIVIST WORKROOM

ARCHIVES LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.12	Equip - Lab - Guillotine	1	Category 3
01.64.EQP-LAB.05	Equip - Lab - Crimper	1	Category 3
01.64.EQP-GEN.14	Equip - General - Printer-Copier	2	Category 3
01.64.EQP-LAB.14	Equip - Lab - Microfilm Reader	3	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.HDM-COL.03	HDMSS - Collections	1	Category 1
10.56.SHV-COL.03	Shelving - Collections - 4-Post	48	Category 1
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	2	Category 1
10.56.LDR-ROL.01	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.14	Shelving - Collections - Wide Span	3	Category 1
10.56.SHV-WSP.21	Shelving - Collections - Wide Span	1	Category 1
10.11.MON-LED.02	Monitor - LED LCD	2	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	6	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	23	Category 1
12.59.SYS-WKS.01	Workstation - Archivist - Large	11	Category 1
12.59.SYS-WKS.02	Workstation - Archivist - Small	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

3.203 ARCHIVIST WORKROOM

ARCHIVES LAB

Division 26: Electrical			
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Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	1	Category 1

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.08	Allocated Data Port	8	Category 1
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category:			

3.204 PROJECT PROCESSING ROOM

ARCHIVES LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products			
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Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 8: Openings			
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Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings			
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Type Mark	Item Name	Quantity	Responsibility
12.51.TBL-MTG.01.01	Table - Meeting - Rectangle	6	Category 3

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.08	Allocated Data Port	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.205 LOCKED STORAGE

ARCHIVES LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.07	Shelving - Collections - Wide Span	4	Category 1

HVAC	ENVIRONMENTAL CONDITIONS
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C RH: 50% +/- 5%
Hazards: Flammable/Corrosive Explosive Odour Dust	
BSL Category:	

3.301 CONSERVATION PAPER LAB

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.TBL-LIT.01	Table - Light	1	Category 3
01.64.TBL-PAP.01	Table - Paper Conservation	1	Category 3
01.64.TBL-PAP.02	Table - Paper Conservation - Control Console	1	Category 3
01.64.RCK-STO.01	Rack - Roll Storage	4	Category 2

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1
08.80.INTT-FXD.03	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1
10.56.CAB-COL.38.01	Cabinet - Collections - Map	4	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.OFF-BKC.02	Bookcase	1	Category 1
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	2	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.13	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.11	Cabinet - Lab - Base - Mobile	3	Category 1
12.35.CAB-LAB.22	Cabinet - Lab - Wall	1	Category 1
12.35.CAB-LAB.30	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	4	Category 1
12.35.TBL-LAB.03	Table - Lab - Adjustable Height	4	Category 1
12.56.CAB-SFY.05	Cabinet - Safety - Flammable	1	Category 1
12.56.CAB-SFY.01	Cabinet - Safety - Corrosive	1	Category 1

3.301 CONSERVATION PAPER LAB

CONSERVATION LAB

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.42.SNK-SCU.09	Sink - Scullery - One Basin	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	2	Category 1
23.35.FUM-HOD.01	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-OVH.01	Power - Reel - Overhead	3	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category: CL-2			

3.302 PDP/MATT FRAME LAB

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CBT-TLS.01	Cabinet - Tools	1	Category 3
01.64.EQP-LAB.61	Equip - Lab - Table - Lift - Electric	1	Category 3
01.64.RCK-STO.01	Rack - Roll Storage	4	Category 2
01.64.CRT-PNT.01	Cart - Painting Transport - A-Frame	1	Category 3
01.64.RCK-ART.01	Rack - Art - Mobile	1	Category 3
01.64.EQP-LAB.06	Equip - Lab - Cutter - Mat - Computerized	1	Category 2

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INTT-FXD.03	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.05	Rack - Art - Collections - Hanging Panels	1	Category 1
10.56.CAB-COL.38	Cabinet - Collections - Map	2	Category 1
10.56.SHV-FRM.01	Shelving - Collections - Frames	2	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	3	Category 1
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	3	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	1	Category 1
12.35.CAB-LAB.06	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.07	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.12	Cabinet - Lab - Base - Mobile	3	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	1	Category 1
12.35.TBL-LAB.03	Table - Lab - Adjustable Height	6	Category 1
12.35.CAB-LAB.27	Cabinet - Lab - Wall	1	Category 1

3.302 PDP/MATT FRAME LAB

CONSERVATION LAB

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.61.AIR-VAL.03	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.EQP-VEN.01	Equip - Lab - Ventilated Enclosure - Mobile	1	Category 3

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	2	Category 1
26.27.POW-BOX.02	Power - Flush Floor Box	2	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category: CL-2			

3.303 CONSERVATION SHARED LAB - INTENTIONALLY DELETED

CONSERVATION LAB

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

3.304 CONSERVATION TEXTILE LAB

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.RCK-STO.01	Rack - Roll Storage	8	Category 2
01.64.SNK-TOP.01	Sink - Removable Top	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-STO.01	Cabinet - Sheet Storage	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INTT-FXD.03	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.CAB-COL.20	Cabinet - Collections	2	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.EQP-LAB.09	Equip - Lab - Dryer - Industrial	1	Category 2
11.53.EQP-LAB.53	Equip - Lab - Washer - Industrial	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	8	Category 1
12.35.CTP-LAB.08	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.08	Cabinet - Lab - Base	1	Category 1
12.35.CAB-LAB.27	Cabinet - Lab - Wall	2	Category 1

3.304 CONSERVATION TEXTILE LAB

CONSERVATION LAB

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.42.SNK-LAB.03	Sink - Lab	1	Category 1
22.11.WAT-REL.02	Water - Hose Reel	1	Category 1
22.42.SNK-TXL.01	Sink - One Basin - Textiles	1	Category 3

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC		ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive Explosive Odour	Dust	
BSL Category: CL-2			

3.305 CONSERVATION OBJECT LAB

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-GEN.15	Equip - General - Refrigerator - Counter Height	1	Category 3
01.64.CBT-TLS.01	Cabinet - Tools	1	Category 3
01.64.EQP-LAB.64	Equip - Lab - Microscope - Floor Standing - Mobile	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.DBL-SLD.04	Door - Double - Solid	1	Category 1
08.80.INTT-FXD.03	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	2	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.CAB-COL.20	Cabinet - Collections	3	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.OVN-DRY.01	Oven - Drying - Industrial	1	Category 2

3.305 CONSERVATION OBJECT LAB

CONSERVATION LAB

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.OFF-BKC.02	Bookcase	1	Category 1
12.52.CHR-DSK.02	Chair - Desk - Office	3	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	2	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.11	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.CAB-LAB.22	Cabinet - Lab - Wall	1	Category 1
12.35.CAB-LAB.29	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	12	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	6	Category 1
12.56.CAB-SFY.04	Cabinet - Safety - Corrosive	1	Category 1
12.56.CAB-SFY.06	Cabinet - Safety - Flammable	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.42.SNK-SCU.04	Sink - Scullery - One Basin	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	3	Category 1
23.35.FUM-HOD.02	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-OVH.01	Power - Reel - Overhead	3	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category: CL-2			

3.306 CONSERVATION SUPPLY STORAGE

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-EMG.01	Cart - Emergency	1	Category 3
01.64.RCK-STO.01	Rack - Roll Storage	4	Category 2
01.64.RCK-STO.02	Rack - Rolling - Roll Storage	2	Category 3
01.64.CRT-ROL.01	Cart - Roll Storage	2	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.03	Shelving - Open	2	Category 1
12.51.SHV-OPN.02	Shelving - Open	2	Category 1
12.51.SHV-OPN.01	Shelving - Open	1	Category 1
12.51.SHV-VTL.01	Shelving - Vertical Storage	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.307 COLLECTIONS STORAGE #1

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.05	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.14	Shelving - Collections - Wide Span	2	Category 1
10.56.SHV-WSP.22	Shelving - Collections - Wide Span	2	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category:			

3.308 COLLECTIONS STORAGE #2

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.05	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.14	Shelving - Collections - Wide Span	2	Category 1
10.56.SHV-WSP.22	Shelving - Collections - Wide Span	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.309 ARCHAEOLOGY WET LAB

CONSERVATION LAB

General Notes: Provide a wet alcove 10 SM for washing work. Alcove to be waterproofed to a height of 2440mm

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 150mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference		Coved			Note:
Other:	Coved Epoxy						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.TUB-PEG.01	Tub - PEG - Treatment	1	Category 3
01.64.CRT-UTL.01	Cart - Utility - Lightweight	3	Category 3
01.64.EQP-LAB.64	Equip - Lab - Microscope - Floor Standing - Mobile	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.42	Cabinet - Collections - Paleontology	1	Category 1
10.56.CAB-COL.38	Cabinet - Collections - Map	2	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	1	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.TNK-PEG.01	Tank - PEG	4	Category 3
11.53.EQP-LAB.08	Equip - Lab - Desiccation Chamber	1	Category 3

3.309 ARCHAEOLOGY WET LAB

CONSERVATION LAB

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	2	Category 1
12.35.WKB-LAB.01	Workbench - Lab - Backdraft	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	6	Category 1
12.35.CAB-LAB.17	Cabinet - Lab - Tall	1	Category 1
12.35.PBD-LAB.01	Pegboard - Lab	1	Category 1
12.56.CAB-SFY.02	Cabinet - Safety - Corrosive	1	Category 1
12.56.CAB-SFY.07	Cabinet - Safety - Flammable	1	Category 1
12.35.CAB-LAB.27	Cabinet - Lab - Wall	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.42.SNK-SCU.05	Sink - Scullery - One Basin	1	Category 1
22.13.SAN-DRN.02	Drain - Trench	2	Category 1
22.11.WAT-REL.01	Water - Hose Reel	1	Category 1
22.13.SAN-DRN.01	Drain - Trench	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1
22.42.SNK-PRO.01	Sink - Lab - Processing	1	Category 1
22.42.SNK-PRO.02	Sink - Lab - Processing	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.03	Fume Extractor - Snorkel	2	Category 1
23.35.FUM-HOD.02	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	3	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category: CL-2			

3.310 WET LAB ALCOVE

CONSERVATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 150mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference		Coved		Note:	
Other:	Coved Epoxy						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.03	Door - Double - Half Strip Lite	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.VAC-DRY.01	Vacuum Freeze Dryer	1	Category 1
11.53.RCK-CAN.01	Rack - CO2 Canisters	1	Category 1
11.53.FRZ-LAB.04	Equip - Lab - Freezer - Upright - Cold	1	Category 3
11.53.FRZ-LAB.06	Equip - Lab - Freezer - Upright - Moderate Cold	1	Category 3
11.53.FRZ-LAB.06.01	Equip - Lab - Freezer - Upright - Moderate Cold	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.401 DIGITIZATION IMAGE STUDIOS (DIS)

DIGITIZATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.23	Equip - Lab - Scanner - Book	1	Category 3
01.64.EQP-LAB.25	Equip - Lab - Scanner - Book - Cradle	1	Category 3
01.64.EQP-LAB.27	Equip - Lab - Scanner - Conveyor Belt	1	Category 2
01.64.EQP-LAB.29	Equip - Lab - Scanner - Flatbed	2	Category 3
01.64.EQP-LAB.30	Equip - Lab - Scanner - Flatbed	3	Category 3
01.64.EQP-LAB.31	Equip - Lab - Scanner - Laser	1	Category 3
01.64.EQP-LAB.32	Equip - Lab - Scanner - Map	1	Category 3
01.64.EQP-LAB.33	Equip - Lab - Scanner - Micro CT	1	Category 3
01.64.EQP-LAB.39	Equip - Lab - Scanner - Stand	1	Category 3
01.64.EQP-LAB.40	Equip - Lab - Scanner - Tabletop - 3D Tripod	1	Category 3
01.64.EQP-LAB.41	Equip - Lab - Scanner System - Microfilm and Microfiche	1	Category 3
01.64.EQP-LAB.46	Equip - Lab - Tilt Wall	1	Category 3
01.64.TBL-SCN.01	Table - Scanner - 3D Tripod	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-TAL.04	Cabinet - Tall	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.04	Door - Double - Solid	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.21.CRN-SYS.01	Curtains - Photography - System with Track	2	Category 1
10.28.HOK-STR.01	Hook Strip	2	Category 1

3.401 DIGITIZATION IMAGE STUDIOS (DIS)

DIGITIZATION LAB

Division 12: Furnishings			
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Type Mark	Item Name	Quantity	Responsibility
12.35.TBL-LAB.07	Table - Lab - Adjustable Height	1	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	12	Category 1
12.35.TBL-LAB.06	Table - Lab - Adjustable Height	3	Category 1
12.35.TBL-LAB.05	Table - Lab - Adjustable Height	1	Category 1

Division 22: Plumbing			
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Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

Division 26: Electrical			
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Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	6	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category:			

3.402 CORPORATE PHOTOGRAPHERS STUDIO

DIGITIZATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference		Coved		Note:	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.62	Equip - Lab - Suction Wall	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-TAL.03	Cabinet - Tall	2	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.04	Door - Double - Solid	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.403 3D PRINTING STUDIO - INTENTIONALLY DELETED

DIGITIZATION LAB

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

3.404 3D DIRTY STUDIO - INTENTIONALLY DELETED

DIGITIZATION LAB

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

3.405 DIGITIZATION EQUIPMENT STORAGE (DES)

DIGITIZATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.01	Equip - Lab - AV Machine	10	Category 3
01.64.EQP-LAB.02	Equip - Lab - AV Machine - 1 inch TYPE C	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.32	Cabinet - Collections	1	Category 1
10.56.CAB-COL.14	Cabinet - Collections - Flat File	2	Category 2
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	4	Category 1
10.56.SHV-WSP.14	Shelving - Collections - Wide Span	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.RCK-ADV.01	Rack - AV	1	Category 3

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.09	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.08	Power - Receptacle - Duplex	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	4	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.406 DIGITIZATION POST PRODUCTION

DIGITIZATION LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference					Note:
						Coved	

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.08	Allocated Data Port	6	Category 1
27.20.DAT-POR.09	Allocated Data Port	6	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

3.501 BOTANY LAB

BOTANY LAB

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	No Preference							
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:		
	Sheet Linoleum	No Preference							
Other:	Sheet Vinyl Only								
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other:	Coved Vinyl								

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CAB-BOT.01	Cabinet - Collections - Botany	7	Category 2
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-TEL.02	Equip - Telephone	1	Category 3
01.64.CRT-SHV.01	Cart - Shelving - Mobile	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.22.DEM-PAR.02	Demountable Partition	1	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	3	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	2	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.FRZ-LAB.06	Equip - Lab - Freezer - Upright - Moderate Cold	1	Category 3

3.501 BOTANY LAB

BOTANY LAB

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	4	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	3	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	11	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	3	Category 1
12.56.STL-LAB.01	Stool - Lab - Arms	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	3	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category: CL-2			

3.601 ENTOMOLOGY LAB

ENTOMOLOGY LAB

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	No Preference							
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:		
	Sheet Linoleum	No Preference							
Other:	Sheet Vinyl Only								
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other:	Coved Vinyl								

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	4	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.56.CAB-COL.10	Cabinet - Collections - Entomology	2	Category 1
10.56.CAB-COL.43	Cabinet - Collections - Entomology	2	Category 1
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.OFF-BKC.02	Bookcase	4	Category 1
12.52.CHR-DSK.01	Chair - Desk - Office	7	Category 1
12.35.WKB-LAB.01	Workbench - Lab - Backdraft	2	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.04	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	7	Category 1
12.35.CAB-LAB.22	Cabinet - Lab - Wall	1	Category 1
12.35.CAB-LAB.23	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	4	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

3.601 ENTOMOLOGY LAB

ENTOMOLOGY LAB

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	3	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category: CL-2			

3.701 VZ DIRTY PREP LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 150mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference	Coved Epoxy				

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-DUS.02	Equip - Lab - Dust Extractor - Rolling	1	Category 3
01.64.EQP-LAB.04	Equip - Lab - Cooktop	1	Category 3
01.64.CRT-WKT.01	Cart - Worktable	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-FLT.02	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.05	Glazing - Interior - Fixed	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.56.SHV-WSP.35	Shelving - Collections - Wide Span	2	Category 1
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.CAB-BIO.01	Cabinet - Biological Safety	1	Category 1
11.53.CAB-HOL.01	Cabinet - Holding	1	Category 1
11.53.CAB-AIR.02	Cabinet - Compressed Air	1	Category 3
11.53.EQP-KET.01	Equip - Lab - Kettle - Steam - Commercial	1	Category 3
11.53.EQP-LAB.22	Equip - Lab - Sawdust Tumbler	1	Category 3
11.53.FRZ-LAB.02	Equip - Lab - Freezer - Chest - Moderate Cold	1	Category 3

3.701 VZ DIRTY PREP LAB

VZIZ AND SHARED BIOLOGY LAB

Division 12: Furnishings			
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Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	3	Category 1
12.35.CAB-LAB.02	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.02	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.13	Cabinet - Lab - Drying - Louvered	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	3	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	2	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	2	Category 1
12.56.STL-LAB.02	Stool - Lab - Arms	2	Category 1
12.35.TBL-LAB.01	Table - Lab - Lift - Large Animal Necropsy	1	Category 1

Division 22: Plumbing			
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Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.05	Drain - Floor	1	Category 1
22.11.WAT-BIB.03	Water - Hose Bibb	1	Category 1
22.61.AIR-VAL.01	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	2	Category 1
22.42.SNK-SCU.10	Sink - Scullery - One Basin	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning			
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Type Mark	Item Name	Quantity	Responsibility
23.38.EXH-HOD.01	Exhaust Canopy Hood	1	Category 1

Division 26: Electrical			
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Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.13	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.15	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	1	Category 1
26.51.LIG-EXA.01	Lighting - Exam	1	Category 1

Division 27: Communications			
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Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	1	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC		ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive Explosive Odour	Dust	
BSL Category: CL-2			

3.702 IZ DIRTY PREP LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 150mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference	Coved Epoxy				

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-AQU.01	Cart - Aquarium	1	Category 3
01.64.CRT-SST.01	Cart - Stainless Steel	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	6	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.WSH-GLA.01	Washer - Laboratory Glass	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	4	Category 1
12.35.WKB-LAB.01	Workbench - Lab - Backdraft	2	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.06	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	2	Category 1
12.56.STL-LAB.02	Stool - Lab - Arms	3	Category 1
12.56.CAB-SFY.02	Cabinet - Safety - Corrosive	1	Category 1
12.56.CAB-SFY.07	Cabinet - Safety - Flammable	1	Category 1
12.35.TBL-LAB.21	Table - Lab - Adjustable Height	1	Category 1

3.702 IZ DIRTY PREP LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.42.SNK-LAB.04	Sink - Lab	1	Category 1
22.42.SNK-SCU.07	Sink - Scullery - One Basin	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.38.EXH-HOD.04	Exhaust Canopy Hood	1	Category 1
23.35.FUM-EXR.01	Fume Extractor - Snorkel	1	Category 1
23.35.FUM-HOD.02	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	1	Category 1
26.51.LIG-EXA.01	Lighting - Exam	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.703 VZ CLEAN LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	No Preference							
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:		
	Sheet Linoleum	No Preference							
Other:	Sheet Vinyl Only								
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other:	Coved Vinyl								

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.04	Door - Double - Solid	1	Category 1
08.80.INTT-FXD.03	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.48	Cabinet - Collections - Vertebrate Zoology	3	Category 1
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	1	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.VEN-ENC.01	Ventilated Enclosure	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	6	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	6	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

3.703 VZ CLEAN LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.ROU-VEN.01	Rough-in for Ventilated Enclosure	2	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	5	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category: CL-2							

3.704 IZ CLEAN LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:									
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:			
Finish:	Paint	No Preference							
Other:	If exposed wood structure is used, paint will be clear epoxy.								
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:		
	Sheet Linoleum	No Preference							
Other:	Sheet Vinyl Only								
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other:	Coved Vinyl								

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.09	Rack - Art - Collections - Hanging Panels	1	Category 1
10.56.CAB-COL.52	Cabinet - Collections - Zoology	1	Category 1
10.22.DEM-PAR.02	Demountable Partition	1	Category 1
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	2	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.VEN-ENC.01	Ventilated Enclosure	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	4	Category 1
12.35.CAB-LAB.01	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.01	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.SHV-LAB.01	Shelving - Lab	3	Category 1
12.35.CAB-LAB.18	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.15	Table - Lab - Adaptable - Microscope Station	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	6	Category 1
12.35.CAB-LAB.16	Cabinet - Lab - Tall	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

3.704 IZ CLEAN LAB

**VZIZ AND SHARED
 BIOLOGY LAB**

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	2	Category 1
23.35.ROU-VEN.01	Rough-in for Ventilated Enclosure	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

HVAC		ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive Explosive Odour	Dust	
BSL Category: CL-2			

3.705 BIOLOGY - SHARED INSTRUMENTATION

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:									
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	No Preference							
Other: If exposed wood structure is used, paint will be clear epoxy.									
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile		Note:	
	Sheet Linoleum	No Preference							
Other: Sheet Vinyl Only									
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other: Coved Vinyl									

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-EMG.02	Cart - Emergency	1	Category 3
01.64.CRT-ROL.02	Cart - Rolling	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	2	Category 1
10.56.SHV-WSP.27	Shelving - Collections - Wide Span	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.CAB-BIO.01	Cabinet - Biological Safety	1	Category 1
11.53.VEN-ENC.01	Ventilated Enclosure	2	Category 1
11.52.PRJ-SCR.01	Projection Screen	1	Category 1

3.705 BIOLOGY - SHARED INSTRUMENTATION

VZIZ AND SHARED BIOLOGY LAB

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	10	Category 1
12.52.CHR-LAB.05	Chair - Lab - Standard	1	Category 1
12.35.CAB-LAB.04	Cabinet - Lab - Base	2	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	2	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	14	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	2	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	3	Category 1
12.35.TBL-LAB.15	Table - Lab - Adaptable - Microscope Station	2	Category 1
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	6	Category 1
12.35.TBL-LAB.04	Table - Lab - Adjustable Height	2	Category 1
12.35.TBL-LAB.05	Table - Lab - Adjustable Height	3	Category 1
12.35.TBL-MSP.01	Table - Lab - Microscope Station	4	Category 1
12.56.CAB-SFY.02	Cabinet - Safety - Corrosive	1	Category 1
12.56.CAB-SFY.07	Cabinet - Safety - Flammable	1	Category 1
12.35.TBL-MSP.01.01	Table - Lab - Microscope Station	2	Category 4

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.42.SNK-LAB.04	Sink - Lab	2	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-HOD.02	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	4	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category: CL-2			

3.706A BIOLOGY - SHARED ALCOVE #1

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Finishes to match adjoining room						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Finishes to match adjoining room; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Finishes to match adjoining room						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Finishes to match adjoining room						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.09	Equip - Lab - Desktop SEM	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.01	Chair - Desk - Office	3	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	2	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.706B BIOLOGY - SHARED ALCOVE #2

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Finishes to match adjoining room						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Finishes to match adjoining room; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Finishes to match adjoining room						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Finishes to match adjoining room						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.20	Equip - Lab - Raman Device	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.RCK-CAN.01	Rack - CO2 Canisters	1	Category 1
11.53.ROU-GCM.01	Rough-in for Future GC-MS	1	Category 1
11.53.EQP-LAB.10	Equip - Lab - Dryer - Critical Point	1	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	3	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.706C BIOLOGY - SHARED ALCOVE #3 - INTENTIONALLY DELETED

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

3.707 BIOLOGY - SHARED ULTRACOLD FREEZER ROOM

VZIZ AND SHARED BIOLOGY LAB

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:									
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	No Preference							
Other: If exposed wood structure is used, paint will be clear epoxy.									
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile		Note:	
	Sheet Linoleum	No Preference							
Other: Sheet Vinyl Only									
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:	
	Linoleum	No Preference							
Other: Coved Vinyl									

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.22.DEM-PAR.02	Demountable Partition	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.STE-MED.01	Sterilizer - Medium	1	Category 2
11.53.ROU-FRE.01	Rough-in - Freezer - Lab - Upright - Ultra Cold	4	Category 1
11.53.FRZ-LAB.05	Equip - Lab - Freezer - Upright -Ultra Cold	2	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.03	Drain - Floor	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category: CL-2							

3.708 BIOLOGY - SHARED BIOFREEZER

**VZIZ AND SHARED
 BIOLOGY LAB**

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:		
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:	Abuse resistant gypsum							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:		
Finish:	Paint	No Preference						
Other:	If exposed wood structure is used, paint will be clear epoxy.							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
	Sheet Linoleum	No Preference						
Other:	Match BOH Corridor Flooring							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:
	Linoleum	No Preference						
Other:	Match BOH corridor							

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.15	Shelving - Collections - Wide Span	3	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.FRZ-LAB.02	Equip - Lab - Freezer - Chest - Moderate Cold	2	Category 3
11.53.FRZ-LAB.03	Equip - Lab - Freezer - Chest - Moderate Cold	2	Category 3
11.53.FRZ-LAB.06	Equip - Lab - Freezer - Upright - Moderate Cold	5	Category 3

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.10	Power - Receptacle - Duplex	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: 50%	+/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.801 PALEO DIRTY PREP LAB

PALEONTOLOGY LAB

General Notes: Provide a wet alcove 10 SM for washing work. Alcove to be waterproofed to a height of 2440mm

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Apply protective film to paleo room side of glazing to prevent pitting of glass from rock chips.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	No ceiling; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 150mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference					Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-DUS.01	Equip - Lab - Dust Extractor - Rolling	1	Category 3
01.64.EQP-DUS.03	Equip - Lab - Dust Extractor - Rolling	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-FLT.02	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.05	Glazing - Interior - Fixed	1	Category 1
08.80.INT-FXD.04	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.42	Cabinet - Collections - Paleontology	3	Category 1
10.28.HOK-STR.01	Hook Strip	2	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	4	Category 1
10.11.MON-LED.03	Monitor - LED LCD	1	Category 2
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.CAB-AIR.01	Cabinet - Compressed Air	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-LAB.01	Chair - Lab - Acetone Resistant	10	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.TBL-LAB.14	Table - Lab - Adjustable Height	12	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	1	Category 1
12.35.TBL-LAB.19	Table - Lab - Lift	1	Category 1

3.801 PALEO DIRTY PREP LAB

PALEONTOLOGY LAB

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.61.AIR-REL.01	Lab Air - Reel - Overhead	3	Category 1
22.61.AIR-VAL.01	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	6	Category 1
22.42.SNK-SCU.08	Sink - Scullery - One Basin	1	Category 1
22.11.WAT-REL.01	Water - Hose Reel	1	Category 1
22.45.EMG-EYE.03	Emergency Eye Wash - Recessed	1	Category 1
22.13.SAN-DRN.01	Drain - Trench	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning
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Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	4	Category 1
23.35.ROU-SNO.01	Rough in for future snorkel	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.13	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.14	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	1	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour	Dust		
BSL Category: CL-2			

3.802 CAST AND MOLD LAB

PALEONTOLOGY LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	No ceiling; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference	Coved Epoxy				

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.04	Door - Double - Solid	1	Category 1
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.CAB-LAB.19	Cabinet - Lab - Wall	1	Category 1
12.56.CAB-SFY.05	Cabinet - Safety - Flammable	1	Category 1
12.51.SHV-OPN.07	Shelving - Open	1	Category 1
12.35.TBL-LAB.16	Table - Lab - Adaptable	3	Category 1
12.56.CAB-SFY.01	Cabinet - Safety - Corrosive	1	Category 1
12.35.CTP-LAB.05	Counter Top - Lab	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.42.SNK-LAB.04	Sink - Lab	1	Category 1
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	1	Category 1
23.35.FUM-HOD.01	Fume Hood	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

3.802 CAST AND MOLD LAB

PALEONTOLOGY LAB

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.05	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

3.803 SECTIONING LAB

PALEONTOLOGY LAB

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Apply protective film to glazing topaleo room side of glazing to prevent pitting of glass from rock chips.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.43	Equip - Lab - Sectioning - Thin - Machine	1	Category 3
01.64.EQP-LAB.44	Equip - Lab - Sectioning - Trim Saw	1	Category 3
01.64.EQP-LAB.45	Equip - Lab - Sectioning - Wafer Saw	1	Category 3
01.64.EQP-LAB.42	Equip - Lab - Sectioning - Rotary Lap	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.04	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.03	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	1	Category 1
12.35.CAB-LAB.18	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-LAB.04	Sink - Lab	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category: CL-2							

3.804 PALEO CLEAN LAB

PALEONTOLOGY LAB

General Notes:

ARCHITECTURAL									
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B									
Daylight: Direct Indirect					Forklift Access Required				
FINISHES									
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference					
Other:									
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference			Note:	
Finish:	Paint	No Preference							
Other:									
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile			Note:
	Sheet Linoleum	No Preference							
Other: Sheet vinyl									
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved		Note:
	Linoleum	No Preference							
Other: Coved Vinyl									

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.RCK-STO.01	Rack - Roll Storage	1	Category 2

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.HOK-STR.01	Hook Strip	1	Category 1
10.56.SHV-WSP.06.01	Shelving - Collections - Wide Span	4	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-LAB.01	Chair - Lab - Acetone Resistant	3	Category 1
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	4	Category 1
12.35.SHV-LAB.01	Shelving - Lab	5	Category 1
12.35.TBL-LAB.17	Table - Lab - Adaptable	1	Category 1
12.35.TBL-LAB.15	Table - Lab - Adaptable - Microscope Station	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	1	Category 1
22.45.EMG-EYE.03	Emergency Eye Wash - Recessed	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1

3.804 PALEO CLEAN LAB

PALEONTOLOGY LAB

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.08	Allocated Data Port	1	Category 1
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category: CL-2					

4.101 HISTORY COLLECTIONS STORAGE

HISTORY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1
08.10.DBL-HSL.06	Door - Double - Half Strip Lite	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.06	Rack - Art - Collections - Hanging Panels	1	Category 1
10.56.RCK-ART.08	Rack - Art - Collections - Hanging Panels	1	Category 1
10.56.CAB-COL.29	Cabinet - Collections	228	Category 1
10.56.CAB-COL.30	Cabinet - Collections	60	Category 1
10.56.CAB-COL.36	Cabinet - Collections	7	Category 1
10.56.HDM-COL.11	HDMSS - Collections	1	Category 1
10.56.SHV-COL.05	Shelving - Collections - 4-Post	1	Category 1
10.56.SHV-PLT.03	Shelving - Collections - Pallet Rack	40	Category 1
10.56.SHV-PLT.04	Shelving - Collections - Pallet Rack	167	Category 1
10.56.CAB-COL.44	Cabinet - Collections - Rolled Textile	30	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	3	Category 1
10.56.CAB-COL.21	Cabinet - Collections - Flat File with Shelves	12	Category 1
10.56.CAB-COL.44.01	Cabinet - Collections - Rolled Textile	30	Category 4
10.56.CAB-COL.56	Cabinet - Collections	180	Category 1
10.56.CAB-COL.56.01	Cabinet - Collections	56	Category 4

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	18°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

4.102 HISTORY VEHICLES STORAGE

HISTORY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.03	Door - Double - Solid	2	Category 1
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1
08.30.SEC-GRL.04	Door - Security Grille	2	Category 1
08.30.CRN-INS.01	Door - Curtain - Insulated	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-PLT.07	Shelving - Collections - Pallet Rack	2	Category 1

Division 14: Conveying Equipment

Type Mark	Item Name	Quantity	Responsibility
14.45.LFT-VEH.01	Lift - Car - History Collections - Vehicles	2	Category 3

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.201 ARCHIVES COLLECTIONS STORAGE

ARCHIVES COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note: If exposed wood structure is used, paint will be clear epoxy	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CRT-BTK.02	Cart - Book Trucks	25	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1
08.10.DBL-HSL.10	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.HDM-COL.02	HDMSS - Collections	1	Category 1
10.56.SHV-COL.06	Shelving - Collections - 4-Post	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.04	Shelving - Collections - Wide Span	1	Category 1
10.56.CAB-COL.18	Cabinet - Collections - Flat File with Shelves	40	Category 1
10.56.CAB-COL.17	Cabinet - Collections - Flat File with Shelves	4	Category 1
10.56.SHV-WSP.34	Shelving - Collections - Wide Span	16	Category 1
10.56.SHV-COL.06.01	Shelving - Collections - 4-Post	1	Category 4
10.56.SHV-WSP.04.01	Shelving - Collections - Wide Span	1	Category 4

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	18°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

4.202A ARCHIVES COOL VAULT - ERC-3

**ARCHIVES
 COLLECTIONS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Environmental Control Chamber Walls						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note: Environmental chamber	
Finish:	Paint	No Preference					
Other:	No ceiling; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.37	Cabinet - Collections	12	Category 1
10.56.HDM-COL.06	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.32	Shelving - Collections - Wide Span	4	Category 1
10.56.SHV-WSP.30	Shelving - Collections - Wide Span	1	Category 1
10.56.CAB-COL.37.01	Cabinet - Collections	4	Category 4
10.56.SHV-WSP.32.01	Shelving - Collections - Wide Span	12	Category 4

Division 13: Special Construction

Type Mark	Item Name	Quantity	Responsibility
13.21.ENV-CTR.03	Environmental Control Chamber	1	Category 1
13.21.ENV-DOR.03	Door - Single - Solid	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	10°C +/- 2°C	RH: 40% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.202B ARCHIVES COLD VAULT - ERC-4

ARCHIVES COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Environmental Control Chamber Walls						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: Environmental chamber
Finish:	Paint	No Preference					
Other:	No ceiling; If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CAB-EXS.01	Cabinet - Collections - Existing	41	Category 2
01.64.CAB-EXS.03	Cabinet - Collections - Existing	3	Category 2

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.HDM-COL.05	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.CAB-COL.54	Cabinet - Collections	41	Category 4
10.56.SHV-WSP.33	Shelving - Collections - Wide Span	4	Category 1
10.56.SHV-WSP.31	Shelving - Collections - Wide Span	1	Category 1
10.56.SHV-WSP.33.01	Shelving - Collections - Wide Span	4	Category 4

Division 13: Special Construction

Type Mark	Item Name	Quantity	Responsibility
13.21.ENV-CTR.04	Environmental Control Chamber	1	Category 1
13.21.ENV-DOR.03	Door - Single - Solid	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	-20°C +/- 2°C	RH:	40% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

4.203 SISTER'S OF ST. ANN'S COLLECTIONS

**ARCHIVES
 COLLECTIONS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference		Coved			
Other:							

Division 10: Specialties			
Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.08	Shelving - Collections - Wide Span	1	Category 1
10.56.SHV-WSP.16	Shelving - Collections - Wide Span	10	Category 1
10.56.HDM-COL.19	HDMSS - Collections	1	Category 1
10.56.SHV-WSP.36	Shelving - Collections - Wide Span	8	Category 1
10.56.SHV-FRM.02	Shelving - Collections - Frames	3	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.301 BOTANY COLLECTIONS

BOTANY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.01	Cabinet - Collections - Botany	75	Category 1
10.56.CAB-COL.02	Cabinet - Collections - Botany	35	Category 1
10.56.HDM-COL.04	HDMSS - Collections	1	Category 1
10.56.CAB-COL.01.01	Cabinet - Collections - Botany	150	Category 4
10.56.CAB-COL.57	Cabinet - Collections - Botany	150	Category 3

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 18°C +/- 2°C	RH: 50% +/- 5%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category:			

4.401 ENTOMOLOGY - DRY COLLECTIONS

ENTOMOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Linoleum	No Preference					

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.11	Cabinet - Collections - Entomology	80	Category 1
10.56.CAB-COL.12	Cabinet - Collections - Entomology	26	Category 1
10.56.HDM-COL.07	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.04	Ladder - Rolling	1	Category 1
10.56.CAB-COL.10	Cabinet - Collections - Entomology	3	Category 1
10.56.CAB-COL.11.01	Cabinet - Collections - Entomology	116	Category 4

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.402 ENTOMOLOGY - FLUID PRESERVED COLLECTIONS

ENTOMOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint, Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					
Other:	Coved Epoxy						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.04	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.35	Cabinet - Collections - Entomology	3	Category 1
10.56.HDM-COL.08	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.CAB-COL.43	Cabinet - Collections - Entomology	30	Category 1
10.56.CAB-COL.43.01	Cabinet - Collections - Entomology	30	Category 4

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

4.501 VZ - DRY COLLECTIONS

VZ AND SHARED BIOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint, Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.04	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.03	Rack - Art - Collections	50	Category 1
10.56.CAB-COL.34	Cabinet - Collections	4	Category 1
10.56.CAB-COL.46	Cabinet - Collections - Vertebrate Zoology	130	Category 1
10.56.HDM-COL.17	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.26	Shelving - Collections - Wide Span	8	Category 1
10.56.CAB-COL.04	Cabinet - Collections - Vertebrate Zoology	130	Category 4
10.56.SHV-WSP.28	Shelving - Collections - Wide Span	2	Category 1
10.56.SHV-WSP.26.01	Shelving - Collections - Wide Span	16	Category 4

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	18°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

4.502 FUR AND FEATHER

VZIZ AND SHARED BIOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	No ceiling						
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	No Preference						

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.47	Cabinet - Collections - Vertebrate Zoology	40	Category 1
10.56.CAB-COL.49	Cabinet - Collections - Vertebrate Zoology	40	Category 4
10.56.HDM-COL.09	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.23	Shelving - Collections - Wide Span	24	Category 1
10.56.SHV-WSP.24	Shelving - Collections - Wide Span	5	Category 1
10.56.RCK-ART.01	Rack - Art - Collections	30	Category 1
10.56.SHV-WSP.23.01	Shelving - Collections - Wide Span	16	Category 4
10.56.SHV-WSP.24.01	Shelving - Collections - Wide Span	3	Category 4

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.503 IZ - DRY COLLECTIONS

VZIZ AND SHARED BIOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint, Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.00.OPN-FRA.01	Opening - Framed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.50	Cabinet - Collections - Zoology	1	Category 1
10.56.CAB-COL.51	Cabinet - Collections - Zoology	70	Category 1
10.56.HDM-COL.12	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.09	Shelving - Collections - Wide Span	6	Category 1
10.56.CAB-COL.51.01	Cabinet - Collections - Zoology	26	Category 4

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

4.504 IZ/VZ FLUID PRESERVED

VZIZ AND SHARED BIOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint, Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference	Coved Epoxy				

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1
08.10.SNG-HSL.10	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.07	Cabinet - Collections - Base	2	Category 1
10.56.HDM-COL.13	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.TNK-SST.01	Tank - Collections - Stainless Steel	3	Category 1
10.56.TNK-SST.02	Tank - Collections - Stainless Steel	12	Category 1
10.56.TNK-SST.03	Tank - Collections - Stainless Steel	20	Category 1
10.56.TNK-SST.04	Tank - Collections - Stainless Steel	60	Category 1
10.56.TNK-SST.05	Tank - Collections - Stainless Steel	4	Category 1
10.56.TNK-SST.06	Tank - Collections - Stainless Steel	4	Category 1
10.56.TNK-SST.07	Tank - Collections - Stainless Steel	1	Category 1
10.56.TNK-SST.08	Tank - Collections - Stainless Steel	1	Category 1
10.56.PFM-COL.01	Platform - Collections	1	Category 1
10.56.PFM-COL.02	Platform - Collections	4	Category 1
10.56.SHV-PFD.01	Shelving - Collections - Perforated	240	Category 1
10.56.SHV-WSP.02	Shelving - Collections - Wide Span	5	Category 1
10.56.SHV-WSP.11	Shelving - Collections - Wide Span	20	Category 1
10.56.TNK-SST.01.01	Tank - Collections - Stainless Steel	2	Category 4
10.56.TNK-SST.02.01	Tank - Collections - Stainless Steel	8	Category 4
10.56.TNK-SST.03.01	Tank - Collections - Stainless Steel	6	Category 4
10.56.TNK-SST.04.01	Tank - Collections - Stainless Steel	18	Category 4
10.56.SHV-PFD.01.01	Shelving - Collections - Perforated	220	Category 4
10.56.SHV-WSP.02.01	Shelving - Collections - Wide Span	1	Category 4
10.56.SHV-WSP.11.01	Shelving - Collections - Wide Span	6	Category 4

4.504 IZ/VZ FLUID PRESERVED

VZIZ AND SHARED BIOLOGY COLLECTIONS

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.601 PALEONTOLOGY & MINERAL COLLECTIONS

PALEONTOLOGY & MINERAL COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.03	Door - Single - Solid	1	Category 1
08.10.DBL-HSL.10	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.42	Cabinet - Collections - Paleontology	80	Category 1
10.56.HDM-COL.14	HDMSS - Collections	1	Category 1
10.56.SHV-PLT.01	Shelving - Collections - Pallet Rack	4	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.19	Shelving - Collections - Wide Span	18	Category 1
10.56.SHV-PLT.05	Shelving - Collections - Pallet Rack	12	Category 1
10.56.CAB-COL.08	Cabinet - Collections - Paleontology	6	Category 1
10.56.SHV-WSP.18	Shelving - Collections - Wide Span	6	Category 1
10.56.CAB-COL.42.01	Cabinet - Collections - Paleontology	190	Category 4
10.56.SHV-PLT.01.01	Shelving - Collections - Pallet Rack	8	Category 4
10.56.SHV-PLT.05.01	Shelving - Collections - Pallet Rack	36	Category 4
10.56.SHV-WSP.18.01	Shelving - Collections - Wide Span	12	Category 4
10.56.CAB-COL.58	Cabinet - Collections - Paleontology	114	Category 3

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.701 CHINESE CANADIAN COLLECTIONS - INTENTIONALLY DELETED

**CHINESE CANADIAN
 COLLECTIONS -
 INTENTIONALLY
 DELETED**

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	°C +/- °C	RH: %	+/- %
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

4.801 BC ARCHAEOLOGY COLLECTIONS

BC ARCHAEOLOGY COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.HDM-COL.01	HDMSS - Collections	1	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.03	Shelving - Collections - Wide Span	161	Category 1
10.56.SHV-PLT.06	Shelving - Collections - Pallet Rack	6	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

4.901 PDP VAULT

PDP COLLECTIONS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Pre-cast Concrete						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-ART.02	Rack - Art - Collections	1	Category 1
10.56.RCK-ART.10	Rack - Art - Collections - Pull-out	1	Category 1
10.56.HDM-COL.15	HDMSS - Collections	1	Category 1
10.56.CAB-COL.40	Cabinet - Collections - Open Case	10	Category 1
10.56.CAB-COL.41	Cabinet - Collections - Open Case	5	Category 1
10.56.CAB-COL.45	Cabinet - Collections - Rolled Textile	2	Category 1
10.56.LDR-ROL.02	Ladder - Rolling	1	Category 1
10.56.SHV-WSP.10	Shelving - Collections - Wide Span	5	Category 1
10.56.CAB-COL.15	Cabinet - Collections - Open Case	12	Category 1
10.56.RCK-ART.10.01	Rack - Art - Collections - Pull-out	1	Category 4
10.56.CAB-COL.40.01	Cabinet - Collections - Open Case	12	Category 4
10.56.CAB-COL.41.01	Cabinet - Collections - Open Case	3	Category 4
10.56.SHV-WSP.10.01	Shelving - Collections - Wide Span	10	Category 4
10.56.CAB-COL.15.01	Cabinet - Collections - Open Case	10	Category 4

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.101 OPEN OFFICE AREA

OFFICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Acoustic Panels						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-CBN.01	Chair - Collaboration	5	Category 1
12.52.CHR-CBN.2	Chair - Collaboration	5	Category 1
12.51.TBL-CBN.02	Table - Collaboration - Seated Height	1	Category 1
12.51.TBL-CBN.04	Table - Collaboration - Seated Height	1	Category 1
12.51.TBL-CBN.01	Table - Collaboration - Seated Height	1	Category 1
12.59.SYS-WKS.04	Workstation - Large	34	Category 1
12.59.SYS-WKS.03	Workstation - Hot Spot	21	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.102A PRIVATE OFFICE 1 (3)

OFFICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	3	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	3	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-GST.02	Chair - Guest	1	Category 1
12.59.SYS-WKS.05	Workstation - Large Office	3	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.102B PRIVATE OFFICE 2 (11)

OFFICES

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	No Preference						
Other:								
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
Other:								
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	
Other:	No Preference							Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	11	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	11	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.59.SYS-WKS.08	Workstation - Small Office	11	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative			Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.103 FOI/CORP OFFICE

OFFICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.CAB-LFL.02	Cabinet - Lateral File	1	Category 1
12.59.SYS-WKS.04	Workstation - Large	1	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.104 FOI/GOV. RECORDS OFFICE

OFFICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	1	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.CAB-LFL.02	Cabinet - Lateral File	1	Category 1
12.59.SYS-WKS.04	Workstation - Large	1	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%	
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.105 HR & VOLUNTEER OFFICE

OFFICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.CAB-LFL.02	Cabinet - Lateral File	6	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative			Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.201 LEARNING WORKROOM

WORK ROOMS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-DSH.01	Equip - General - Dishwasher	1	Category 2

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.06	Cabinet - Base	1	Category 1
06.40.WWK-CTP.11	Counter Top	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.11.BRD-CRK.01	Corkboard	1	Category 1
10.11.BRD-WHT.01	Whiteboard - Magnetic	1	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	4	Category 1
12.51.SHV-OPN.05	Shelving - Open	3	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.06	Sink - Scullery - One Basin	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.202 IT WORKROOM/STORAGE

WORK ROOMS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: If exposed wood structure is used, paint will be clear epoxy
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CBT-TLS.02	Cabinet - Tools	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.05	Shelving - Open	4	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

5.203 REGISTRAR WORKROOM

WORK ROOMS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.RCK-STO.01	Rack - Roll Storage	1	Category 2

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.CAB-LFL.02	Cabinet - Lateral File	3	Category 1
12.51.SHV-OPN.07	Shelving - Open	1	Category 1
12.51.TBL-FLD.01	Table - Folding - Classroom	1	Category 1
12.59.SYS-WKS.04	Workstation - Large	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.204 FACILITIES PLAN ROOM

WORK ROOMS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: If exposed wood structure is used, paint will be clear epoxy
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.RCK-PLA.01	Rack - Plans	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-GST.02	Chair - Guest	1	Category 1
12.51.CAB-LFL.02	Cabinet - Lateral File	1	Category 1
12.51.SHV-OPN.05	Shelving - Open	1	Category 1
12.51.TBL-MTG.01	Table - Meeting - Rectangle	1	Category 1
12.51.TBL-MTG.02	Table - Meeting - Rectangle	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.04	Workstation - Large	2	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22-24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.301 STAFF LUNCH

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-DSH.01	Equip - General - Dishwasher	2	Category 2
01.64.EQP-GEN.10	Equip - General - Coffee Machine	1	Category 3
01.64.EQP-GEN.12	Equip - General - Microwave	2	Category 3
01.64.EQP-GEN.16	Equip - General - Urn	1	Category 3
01.64.EQP-GEN.17	Equip - General - Urn	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.04	Cabinet - Base	1	Category 1
06.40.WWK-CTP.07	Counter Top - Lunch	1	Category 1
06.40.CAB-UPP.02	Cabinet - Upper	1	Category 1
06.40.WWK-CTP.05	Counter Top	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.02	Door - Single - Half Strip Lite	1	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.21.VEN-MCH.01	Vending Machine	1	Category 3
11.21.VEN-MCH.02	Vending Machine	1	Category 3
11.41.EQP-RFG.02	Equip - General - Refrigerator	2	Category 1

5.301 STAFF LUNCH

SHARED FACILITIES

Division 12: Furnishings			
Type Mark	Item Name	Quantity	Responsibility
12.52.BCH-LCH.01	Bench - Lunchroom	1	Category 1
12.52.STG-CSL.06	Seating Group - Casual - Lunch Room	1	Category 1
12.52.CHR-EXT.02	Chair - Exterior - Lunchroom	8	Category 1
12.52.CHR-LCH.01	Chair - Lunch	6	Category 1
12.52.CHR-LCH.02	Chair - Lunch	6	Category 1
12.56.STL-LAB.04	Stool - Lab - Arms	8	Category 1
12.51.TBL-LCH.02	Table - Exterior - Lunchroom	2	Category 1
12.51.TBL-LCH.01	Table - Lunchroom	4	Category 1

Division 22: Plumbing			
Type Mark	Item Name	Quantity	Responsibility
22.47.DRI-FTN.02	Drinking Fountain - Staff	1	Category 1
22.42.SNK-KIT.02	Sink - Kitchen - Two Basin	1	Category 1

HVAC		ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive Explosive Odour	Dust	
BSL Category:			

5.302 COPY AREA (2)

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.13	Equip - General - Printer-Copier	2	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.WWK-CTP.01	Counter Top	2	Category 1
06.40.CAB-UPP.04	Cabinet - Upper	2	Category 1
06.40.CAB-BAS.01	Cabinet - Base	2	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	2	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.303 SHARED DEPARTMENTAL LIBRARY

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: If exposed wood structure is used, paint will be clear epoxy
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1
08.10.SNG-FLT.03	Door - Single - Full Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.HDM-COL.16	HDMSS - Collections	1	Category 1
10.56.SHV-COL.01	Shelving - Collections - 4-Post	130	Category 1
10.56.SHV-COL.02	Shelving - Collections - 4-Post	50	Category 1
10.56.LDR-ROL.03	Ladder - Rolling	1	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.01	Seating Group - Casual	1	Category 1
12.52.STG-CSL.07	Seating Group - Casual - Reference Library	2	Category 1
12.52.CHR-DSK.02	Chair - Desk - Office	4	Category 1
12.51.TBL-LBR.01	Table - Library - Rolling	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.304 MOBILE LOCKER AREA

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Match adjacent finishes						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Match adjacent finishes						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Match open office finishes						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Match open office finishes						

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.59.LKR-MBL.01	Locker - Mobile	16	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.305 CONFERENCE ROOM

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64-WLS-CLK.01	Wireless Wall Clock	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-FLT.01	Door - Single - Full Lite	2	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.22.PAR-OPR.01	Partition - Operable	1	Category 1
10.11.MON-LED.02	Monitor - LED LCD	2	Category 2
10.11.VDO-EQP.01	Video Conference Equipment	2	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-CNF.01	Chair - Conference	16	Category 1
12.51.CAB-CDZ.01	Cabinet - Credenza	2	Category 1
12.51.TBL-CNF.01	Table - Conference	2	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-BOX.02	Power - Flush Floor Box	3	Category 1

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

5.306 COLLABORATION SPACE

SHARED FACILITIES

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	No Preference						
Other:								
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
Other:								
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	
Other:	No Preference							Note:

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.STG-CSL.03	Seating Group - Casual - Collaboration Area	1	Category 1
12.51.STL-CBN.01	Stool - High - Collaboration	3	Category 1
12.51.TBL-CBN.03	Table - Collaboration - Standing	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

5.307 CORPORATE RECORDS HOLDING

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1
08.80.EXT-FXD.08	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.01	Shelving - Collections - Wide Span	5	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

5.308 FOI RECORDS

SHARED FACILITIES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.01	Shelving - Collections - Wide Span	4	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.101 SHIPPING OFFICE

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.80.INT-OPR.01	Glazing - Interior - Operable	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.CAB-LFL.02	Cabinet - Lateral File	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.01	Intercom	1	Category 1
28.15.ICM.04	Intercom	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.102 SHIPPING SUPPLIES

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.WWK-CTP.09	Counter Top - Transaction	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.59.DSK-SYS.09	Desk System - Worksurface	2	Category 1
12.51.SHV-MBL.01	Shelving - Mobile - Manual	5	Category 1

HVAC				ENVIRONMENTAL CONDITIONS				
Pressurization:	Positive	Negative			Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust				
BSL Category:								

6.103 MAIL/COPY

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.13	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.03	Cabinet - Base	1	Category 1
06.40.WWK-CTP.01	Counter Top	1	Category 1
06.40.WWK-CTP.03	Counter Top	1	Category 1
06.40.CAB-UPP.04	Cabinet - Upper	1	Category 1
06.40.CAB-BAS.01	Cabinet - Base	1	Category 1
06.40.CAB-UPP.06	Cabinet - Upper	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.09	Allocated Data Port	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.104 OFFICE SUPPLIES

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.59.DSK-SYS.09	Desk System - Worksurface	1	Category 1
12.51.SHV-MBL.01	Shelving - Mobile - Manual	6	Category 1
12.51.SHV-OPN.07	Shelving - Open	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.105 SECURITY COMMAND CENTRE

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Refer to Schedule 1, Part 6.9 for blocking requirements.
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-TEL.01	Equip - Telephone	2	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.WWK-CTP.08	Counter Top - Transaction	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HLT.01	Door - Single - Half Lite	1	Category 1
08.80.EXT-FXD.07	Glazing - Interior - Fixed	1	Category 1
08.80.INT-OPR.02	Glazing - Interior - Operable	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.11.MON-LED.05	Monitor - LED LCD	3	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	2	Category 1
12.51.CAB-TAL.01	Cabinet - Tall - Secure	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.03	Lighting - Housekeeping	1	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.06	Allocated Data Port	1	Category 1
27.20.DAT-POR.07	Allocated Data Port	1	Category 1
27.20.DAT-POR.09	Allocated Data Port	2	Category 1

6.105 SECURITY COMMAND CENTRE

CENTRAL SHARED SERVICES

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.CBT-KEY.01	Cabinet - Key - Intelligent - Secure Access	1	Category 1
28.15.CBT-KEY.02	Cabinet - Key - Intelligent - Self Serve	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.106 SECURITY SUPERVISOR OFFICE

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.14	Equip - General - Printer-Copier	1	Category 3
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HLT.01	Door - Single - Half Lite	1	Category 1
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1
08.80.EXT-FXD.07	Glazing - Interior - Fixed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.CHK-DBL.01	Coat Hook - Double	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.52.CHR-GST.02	Chair - Guest	1	Category 1
12.59.DSK-SYS.07	Desk System - Storage Tower	2	Category 1
12.51.CAB-LFL.02	Cabinet - Lateral File	2	Category 1
12.59.SYS-WKS.04	Workstation - Large	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.107 SECURITY PATCH

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Anti-static Flooring						
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.SHV-FOL.03	Shelving - Fold-up	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HLT.01	Door - Single - Half Lite	1	Category 1
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%	
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.108 SECURITY SERVER

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Anti-static Flooring						
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.SHV-FOL.03	Shelving - Fold-up	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	18°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.109 GUARD/SUPPLY

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.15	Equip - General - Refrigerator - Counter Height	1	Category 3
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-BAS.03	Cabinet - Base	1	Category 1
06.40.WWK-CTP.03	Counter Top	1	Category 1
06.40.CAB-UPP.08	Cabinet - Upper	1	Category 1
06.40.CAB-TAL.05	Cabinet - Tall	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HLT.01	Door - Single - Half Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.51.LKR-DBL.01	Locker - Double Tier	6	Category 1
10.11.MON-LED.02	Monitor - LED LCD	1	Category 2
10.11.MON-LED.05	Monitor - LED LCD	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.OFF-BKC.02	Bookcase	2	Category 1
12.52.CHR-LCH.01	Chair - Lunch	2	Category 1
12.51.SHV-OPN.07	Shelving - Open	1	Category 1
12.51.TBL-LBY.02	Table - Lobby - Type 2	1	Category 1
12.51.CAB-TAL.01	Cabinet - Tall - Secure	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-KIT.01	Sink - Kitchen - One Basin	1	Category 1

6.109 GUARD/SUPPLY

CENTRAL SHARED SERVICES

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.110 BUILDING MAINTENANCE

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.01	Equip - Telephone	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.03	Door - Double - Half Strip Lite	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.07	Shelving - Open	1	Category 1
12.51.SHV-OPN.04	Shelving - Open	1	Category 1
12.51.SHV-OPN.06	Shelving - Open - Pallet Rack	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	3	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.111 SITE MAINTENANCE EQUIPMENT

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A								
Daylight: Direct Indirect				Forklift Access Required				
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:								
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	No Preference						
Other:								
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
Other:	Linoleum	No Preference						
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile		Coved
Other:								

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.50.PBD-SHP.01	Pegboard - Shop	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.56.CAB-SFY.08	Cabinet - Safety - Flammable	1	Category 1
12.51.SHV-OPN.08	Shelving - Open	3	Category 1
12.51.SHV-OPN.09	Shelving - Open	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.11.WAT-BIB.02	Water - Hose Bibb	1	Category 1
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.04	Power - Receptacle - Duplex	1	Category 1
26.27.POW-RCP.05	Power - Receptacle - Duplex	2	Category 1
26.27.POW-RCP.03	Power - Receptacle - Duplex	4	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.112 STAFF LOCKERS

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Match adjacent finishes						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Match adjacent finishes						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Match adjacent finishes						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Match adjacent finishes						

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.BCH-CHG.01	Bench - Changeroom	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.51.LKR-SNG.01	Locker - Single Tier	10	Category 1
10.51.LKR-DBL.01	Locker - Double Tier	20	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.47.DRI-FTN.01	Drinking Fountain - Public	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

6.113 STAFF FIRST AID

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-TEL.02	Equip - Telephone	1	Category 3

Division 6: Woods, Plastics, and Composites

Type Mark	Item Name	Quantity	Responsibility
06.40.CAB-UPP.01	Cabinet - Upper	1	Category 1
06.40.WWK-CTP.10	Counter Top - Vanity	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HLT.01	Door - Single - Half Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.43.CBT-AID.01	Cabinet - First Aid	1	Category 1
10.28.SHA-CON.01	Sharps Container	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.56.BED-RCV.01	Bed - Recovery	1	Category 1
12.52.CHR-GST.01	Chair - Guest	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-RST.01	Sink - Restroom	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	2	Category 1

Division 27: Communications

Type Mark	Item Name	Quantity	Responsibility
27.20.DAT-POR.01	Allocated Data Port	2	Category 1

6.113 STAFF FIRST AID

CENTRAL SHARED SERVICES

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.114 CUSTODIAL CENTRAL SUPPLY

CENTRAL SHARED SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							Note:
		No Preference				Coved	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.18	Equip - General - Washer and Dryer	1	Category 2
01.64.EQP-GEN.11	Equip - General - Detergent Dispensing System	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.51.LKR-SNG.01	Locker - Single Tier	3	Category 1
10.28.MOP-HDR.01	Mop and Broom Holder	1	Category 1
10.28.SHV-UTL.01	Shelving - Utility	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.51.SHV-OPN.04	Shelving - Open	4	Category 1
12.51.SHV-OPN.06	Shelving - Open - Pallet Rack	1	Category 1
12.59.SYS-WKS.07	Workstation - Small	1	Category 1
12.51.SHV-OPN.10	Shelving - Open	8	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1
22.42.SNK-UTL.01	Sink - Utility	1	Category 1

HVAC	ENVIRONMENTAL CONDITIONS		
Pressurization: Positive Negative	Temp: 22 -24°C +/- 2°C	RH: N/A% +/- N/A%	
Hazards: Flammable/Corrosive Explosive Odour Dust			
BSL Category:			

6.115 FACILITIES STORAGE

CENTRAL SHARED SERVICES

General Notes: May be split into (2) equal sized rooms

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.01	Door - Double - Solid	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.04	Shelving - Open	3	Category 1
12.51.SHV-OPN.09	Shelving - Open	3	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22 -24°C +/- 2°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.201 BUILDING - STAGING/RECEIVING

SHARED BUILDING LOADING/RECEIVING

General Notes:

ARCHITECTURAL								
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A								
Daylight: Direct Indirect						Forklift Access Required		
FINISHES								
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Provide crash rail and bumper rail continuous around perimeter of room	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference				
Other:	Abuse resistant gypsum							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:	
Finish:	Paint	No Preference						
Other:								
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:	
Other:	No Preference							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile		
Other:							Note:	

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.LFT-LLV.01	Lift - Low-level - Non-powered	1	Category 3
01.64.LFT-SSR.02	Lift - Scissor - Mobile - Electric	1	Category 3
01.64.TRU-PLT.01	Truck - Pallet - Manual - Narrow	1	Category 3
01.64.TRU-PLT.02	Truck - Pallet - Manual - Narrow - Scale	1	Category 3
01.64.TRU-PLT.03	Truck - Pallet - Manual - Wide	1	Category 3
01.64.TRU-PLT.04	Truck - Pallet - Manual - Wide - Hand Break	1	Category 3
01.64.TRU-PLT.05	Truck - Pallet - Manual - Wide - Scale	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HLT.01	Door - Double - Half Lite	1	Category 1
08.10.DBL-HSL.02	Door - Double - Half Strip Lite	1	Category 1
08.30.CRN-STR.01	Door - Curtain - Strip	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.06	Shelving - Open - Pallet Rack	3	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22-24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.202 OUTSIDE LOADING ZONE

SHARED BUILDING LOADING/RECEIVING

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Exterior wall protection/crash and bumper rails						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
		No Preference					
Other:							
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
Other:		No Preference					

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.02	Door - Single - Half Strip Lite	1	Category 1

Division 14: Conveying Equipment

Type Mark	Item Name	Quantity	Responsibility
14.83.LFT-SSR.01	Lift - Scissor - Loading Dock	1	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.02	Intercom	1	Category 1
28.15.ICM.03	Intercom	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.301 COLLECTIONS LOADING - DIRTY ENCLOSED

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 5						
Daylight: Direct Indirect				Forklift Access Required		
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		Note: Environmental Separation, provide metal corner guards, Provide crash and bumper rails continuous around perimeter of room
Other:	Abuse resistant gypsum; If exposed wood structure is used, paint will be clear epoxy.					
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	
Finish:	Paint	No Preference		Note:		
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
Other:	Sheet Linoleum	No Preference		Note:		
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
Other:	Linoleum	No Preference		Note:		

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.OVH-ROL.02	Door - Overhead Rolling	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.13.SAN-DRN.02	Drain - Trench	1	Category 1
22.11.WAT-BIB.01	Water - Hose Bibb	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.02	Power - Receptacle - Duplex	1	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.02	Intercom	1	Category 1
28.15.ICM.03	Intercom	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.302 COLLECTIONS STAGING RECEIVING - DIRTY

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 5							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Environmental Separation, provide crash and bumper rails with metal corner guards
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum; If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Coved						Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.05	Door - Double - Half Strip Lite	1	Category 1
08.30.CRN-STR.01	Door - Curtain - Strip	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	2	Category 1

Division 14: Conveying Equipment

Type Mark	Item Name	Quantity	Responsibility
14.83.LFT-SSR.01	Lift - Scissor - Loading Dock	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.45.EMG-SHW.01	Emergency Shower and Eyewash	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-RCH.01	Lift - Forklift - Reach - Electric - Narrow	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22-24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.303 COLLECTIONS LOADING - CLEAN ENCLOSED

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 5							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Environmental Separation
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum; If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.OVH-ROL.02	Door - Overhead Rolling	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.13.SAN-DRN.04	Drain - Floor	1	Category 1
22.13.SAN-DRN.02	Drain - Trench	1	Category 1
22.11.WAT-BIB.01	Water - Hose Bibb	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.02	Power - Receptacle - Duplex	1	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.02	Intercom	1	Category 1
28.15.ICM.03	Intercom	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22-24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.304 COLLECTIONS STAGING RECEIVING - CLEAN

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 5							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Environmental Separation, provide crash and bumper rails with metal corner guards
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum; If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.05	Door - Double - Half Strip Lite	1	Category 1
08.30.CRN-STR.01	Door - Curtain - Strip	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	2	Category 1

Division 14: Conveying Equipment

Type Mark	Item Name	Quantity	Responsibility
14.83.LFT-SSR.01	Lift - Scissor - Loading Dock	1	Category 1

Division 41: Material Processing and Handling Equipment

Type Mark	Item Name	Quantity	Responsibility
41.23.LFT-RCH.01	Lift - Forklift - Reach - Electric - Narrow	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.305 REGISTRAR HOLDING

SHARED COLLECTIONS, LEARNING, EXHIBITS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Linoleum	No Preference					
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:							

Division 8: Openings			
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Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties			
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Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	3	Category 1

Division 12: Furnishings			
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Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.35.TBL-LAB.09	Table - Lab - Adjustable Height	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.306 CRATE STORAGE + INSPECTION

**SHARED
COLLECTIONS,
LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide crash and bumper rails with metal corner guards	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse Resistant GWB; If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	No Preference						Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.RCK-LIT.01	Rack - Lighting - Rolling	1	Category 3
01.64.LFT-SSR.02	Lift - Scissor - Mobile - Electric	1	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.03	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.CAB-COL.42	Cabinet - Collections - Paleontology	1	Category 1
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	6	Category 1
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	4	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	2	Category 1
12.35.TBL-LAB.09	Table - Lab - Adjustable Height	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.09	Lighting - Task	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.307 QUARANTINE - BOTANY & ENTOMOLOGY

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CAB-HRB.01	Cabinet - Collections - Herbarium	2	Category 2

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.35.GRI-SUS.05	Grid System - Suspended - Berlese Extractors	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.09	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.CBT-DRY.01	Cabinet - Drying	1	Category 2
11.53.EQP-LAB.11	Equip - Lab - Funnel Trap - Berlese - Collapsible	20	Category 3
11.53.FRZ-LAB.02	Equip - Lab - Freezer - Chest - Moderate Cold	1	Category 3
11.53.FRZ-LAB.06	Equip - Lab - Freezer - Upright - Moderate Cold	1	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-LAB.05	Chair - Lab - Standard	1	Category 1
12.35.TBL-LAB.09	Table - Lab - Adjustable Height	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.07	Power - Receptacle - Duplex	10	Category 1
26.27.POW-RCP.03	Power - Receptacle - Duplex	2	Category 1

6.307 QUARANTINE - BOTANY & ENTOMOLOGY

**SHARED
COLLECTIONS,
LEARNING, EXHIBITS**

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.308 QUARANTINE - HISTORY & ARCHIVES

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.07	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	5	Category 1
10.56.SHV-WSP.07	Shelving - Collections - Wide Span	5	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	2	Category 1

Division 13: Special Construction

Type Mark	Item Name	Quantity	Responsibility
13.21.ENV-CTR.01	Environmental Control Chamber	1	Category 1
13.21.ENV-DOR.03	Door - Single - Solid	1	Category 1
13.21.ENV-DOR.03	Door - Single - Solid	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

6.309 QUARANTINE - NATURAL HISTORY

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Environmental Separation	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	If exposed wood structure is used, paint will be clear epoxy.						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:							
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.07	Door - Double - Half Strip Lite	1	Category 1
08.10.SNG-HSL.09	Door - Single - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	9	Category 1
10.56.LDR-ROL.01	Ladder - Rolling	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.TBL-LAB.13	Table - Lab - Adjustable Height	3	Category 1

Division 13: Special Construction

Type Mark	Item Name	Quantity	Responsibility
13.21.ENV-CTR.02	Environmental Control Chamber	1	Category 1
13.21.ENV-DOR.04	Door - Double - Solid	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp: 22-24°C +/- 2°C		RH: 50% +/- 5%		
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.310 FIELD GEAR

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile Coved	
Other:							Note:

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WIR.01	Shelving - Wire	4	Category 1
10.56.SHV-WIR.03	Shelving - Wire	5	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.11.WAT-BIB.02	Water - Hose Bibb	1	Category 1
22.42.SNK-SCU.01	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.03	Power - Receptacle - Duplex	4	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.311 DERMESTID COLONY

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note: Environmental Separation and pest enclosure
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note: Environmental Separation and pest enclosure
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Coved Epoxy						Note:

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.PFM-DMD.01	Platform - Dermestid Colony	1	Category 3
01.64.STO-DMD.01	Storage Box - Dermestid Colony	2	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-HSL.09	Door - Single - Half Strip Lite	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.VEN-ENC.01	Ventilated Enclosure	1	Category 1
11.53.FRZ-LAB.02	Equip - Lab - Freezer - Chest - Moderate Cold	1	Category 3

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.26	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.03	Sink - Scullery - One Basin	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	25°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category: CL-2							

6.312 EtOH SUPPLY + HAZMAT

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Epoxy Paint						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Coved Epoxy						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.04	Equip - Drum - Ethanol	6	Category 3

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.SPI-CON.01	Spill Containment	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.56.CAB-SFY.03	Cabinet - Safety - Corrosive	1	Category 1
12.56.CAB-SFY.08	Cabinet - Safety - Flammable	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	Temp: **°C +/- 0°C	RH: N/A% +/- N/A%	
BSL Category:				** Winter: min 18°C, Summer: max 24°C			

6.313 SITE SUPPLY - GARDENS

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum, Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. 100mm Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	No Preference						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.BCH-POT.01	Bench - Potting	4	Category 3

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.50.PBD-SHP.01	Pegboard - Shop	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WIR.01	Shelving - Wire	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.11.WAT-BIB.02	Water - Hose Bibb	1	Category 1
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.06	Power - Receptacle - Duplex	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.314 EXHIBIT SHOP 1

SHARED COLLECTIONS, LEARNING, EXHIBITS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Impact resistant gypsum or wall protection; finish will be scratch and chemical resistant. Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-LAB.47	Equip - Lab - Tools - Band Saw	1	Category 3
01.64.EQP-LAB.50	Equip - Lab - Tools - Plexiglass Bending Rig	1	Category 3
01.64.CBT-TLS.02	Cabinet - Tools	2	Category 3
01.64.CRT-SHV.01	Cart - Shelving - Mobile	3	Category 3
01.64.RCK-STO.03	Rack - Rolling - Sheet Storage	1	Category 3
01.64.EQP-LAB.49	Equip - Lab - Tools - Drill Press	1	Category 3

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.50.SHV-OPN.01	Shelving - Open - Wall Mount	3	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.EQP-LAB.03	Equip - Lab - Downdraught Bench	1	Category 2

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-LAB.03	Chair - Lab - High - Dust Proof	2	Category 1
12.35.CAB-LAB.10	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.CAB-LAB.20	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.11	Table - Lab - Adjustable Height	4	Category 1
12.56.CAB-SFY.06	Cabinet - Safety - Flammable	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.61.AIR-REL.01	Lab Air - Reel - Overhead	1	Category 1
22.42.SNK-SCU.04	Sink - Scullery - One Basin	1	Category 1

6.314 EXHIBIT SHOP 1

**SHARED
 COLLECTIONS,
 LEARNING, EXHIBITS**

Division 23: Heating, Ventilating, and Air Conditioning

Type Mark	Item Name	Quantity	Responsibility
23.35.FUM-EXR.01	Fume Extractor - Snorkel	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	1	Category 1
26.51.INT-LIT.09	Lighting - Task	2	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	22-24°C +/- 2°C	RH:	50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

6.315 EXHIBIT SHOP 2

SHARED COLLECTIONS, LEARNING, EXHIBITS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: 2B							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Impact resistant gypsum or wall protection; finish will be scratch and chemical resistant. Rammed Earth						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Acoustic Panels						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht. 100mm	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:	Coved						

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.CBT-TLS.02	Cabinet - Tools	2	Category 3
01.64.RCK-STO.01	Rack - Roll Storage	2	Category 2

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	2	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-DSK.02	Chair - Desk - Office	1	Category 1
12.52.CHR-LAB.02	Chair - Lab - Dust Proof	2	Category 1
12.52.CHR-LAB.03	Chair - Lab - High - Dust Proof	1	Category 1
12.35.CAB-LAB.03	Cabinet - Lab - Base	1	Category 1
12.35.CAB-LAB.10	Cabinet - Lab - Base - Mobile	2	Category 1
12.35.CAB-LAB.20	Cabinet - Lab - Wall	1	Category 1
12.35.CAB-LAB.28	Cabinet - Lab - Wall	1	Category 1
12.35.TBL-LAB.11	Table - Lab - Adjustable Height	4	Category 1
12.35.CTP-LAB.12	Counter Top - Lab	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-SCU.02	Sink - Scullery - One Basin	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.12	Power - Receptacle - Duplex	1	Category 1
26.27.POW-OVH.01	Power - Reel - Overhead	2	Category 1

6.315 EXHIBIT SHOP 2

**SHARED
COLLECTIONS,
LEARNING, EXHIBITS**

HVAC				ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative		Temp: 22-24°C +/- 2°C	RH: 50% +/- 5%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

7.101A MEP TOOL SHOP

MEP SUPPORT

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet Linoleum	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Coved					Note:	

Division 5: Metals

Type Mark	Item Name	Quantity	Responsibility
05.50.PBD-SHP.01	Pegboard - Shop	1	Category 1

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.09	Shelving - Open	8	Category 1

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

7.101B MEP FILTERS

MEP SUPPORT

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	Coved						Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.08	Shelving - Open	5	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

7.101C MEP/P/E/FP SUPPLIES

MEP SUPPORT

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Abuse resistant gypsum						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	
Other:	No Preference					Coved	Note:

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.09	Shelving - Open	8	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

7.201 PUBLIC SHARED RESTROOM

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide ceramic tile to min height 2.135m	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.00.OPN-FRA.01	Opening - Framed	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.CHG-BBY.01	Changing Station - Baby	1	Category 1
10.28.RST-ACC.01	Restroom Accessories	4	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.47.DRI-FTN.01	Drinking Fountain - Public	1	Category 1
22.42.FIX-FIT.01	Restroom Fixtures and Fittings	4	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
BSL Category:							

7.202 PUBLIC SINGLE-OCCUPANT RESTROOM

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide ceramic tile to min 2135H	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.CHK-DBL.02	Coat Hook - Double	2	Category 1
10.28.RST-ACC.01	Restroom Accessories	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.FIX-FIT.01	Restroom Fixtures and Fittings	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
BSL Category:							

7.203 PUBLIC CHILD RESTROOM

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide ceramic tile to min 2135H	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum	No Preference					
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum	No Preference					

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	1	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.RST-ACC.01	Restroom Accessories	1	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.FIX-FIT.02	Restroom Fixtures and Fittings	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
BSL Category:							

7.204 STAFF RESTROOMS (7)

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	Sheet Linoleum No Preference						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	Linoleum No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	7	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.RST-ACC.01	Restroom Accessories	7	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	7	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.FIX-FIT.01	Restroom Fixtures and Fittings	7	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative					
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
BSL Category:							

7.205 STAFF RESTROOMS WITH SHOWERS (2)

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide ceramic tile to min height 2.135m in showers	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy Sheet	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
Other:	No Preference						
Base:	Ht. Linoleum	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved
Other:	No Preference						

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.02	Door - Single - Solid	2	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.TBL-CHG.01	Table - Adult Change	2	Category 1
10.28.CHK-DBL.03	Coat Hook - Double	4	Category 1
10.28.SHW-ROD.01	Shower Curtain Rod	2	Category 1
10.28.RST-ACC.01	Restroom Accessories	2	Category 1
10.28.SHW-ACC.01	Shower Accessories	2	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	2	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.FIX-FIT.04	Shower Fixtures and Fittings	2	Category 1
22.42.FIX-FIT.01	Restroom Fixtures and Fittings	2	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS	
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust
BSL Category:				

7.206 JANITOR (5)

RESTROOMS AND SHOWERS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Moisture Resistant Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Moisture Resistant Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 1: Owner-Furnished Products

Type Mark	Item Name	Quantity	Responsibility
01.64.EQP-GEN.11	Equip - General - Detergent Dispensing System	5	Category 3

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.SNG-SLD.01	Door - Single - Solid	5	Category 1

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.28.MOP-HDR.01	Mop and Broom Holder	5	Category 1
10.28.SHV-UTL.01	Shelving - Utility	5	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.51.SHV-OPN.07	Shelving - Open	5	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-UTL.01	Sink - Utility	5	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

7.301 BUILDING SERVICE SPACES (AS REQUIRED)

BUILDING SERVICES

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note: Provide ceramic tile to min 2135H	
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:	
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.101 ENTRANCE WALK

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Concrete or Unit Pavers						
Base:	Ht. Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:
	Linoleum	No Preference					
Other:							

Division 10: Specialties

Type Mark	Item Name	Quantity	Responsibility
10.14.LIT-SGN.01	Lighting - Signage - LED - Double-sided	4	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.12	Lighting - In Ground	10	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.102A OUTDOOR COVERED GATHERING

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Concrete or Unit Pavers						
Base:	Ht. Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Coved	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.10.DBL-SLD.01	Door - Double - Solid	2	Category 1

Division 11: Equipment

Type Mark	Item Name	Quantity	Responsibility
11.52.PRJ-LSR.03	High Lumen Laser Projector	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.52.CHR-EXT.01	Chair - Exterior	24	Category 1
12.51.TBL-FLD.01	Table - Folding - Classroom	6	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.09.LIT-SNS.01	Sensors - Daylight	1	Category 1
26.51.INT-LIT.06	Lighting - Overhead	1	Category 1

Division 28: Electronic Safety and Security

Type Mark	Item Name	Quantity	Responsibility
28.15.ICM.02	Intercom	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.102B OUTDOOR CLOSET

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Exterior Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Exterior Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Not Applicable						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.46.CRT-TBL.02	Cart - Folding Tables	1	Category 1
12.46.CRT-CHR.02	Cart - Stacking Chairs	1	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	1	Category 1

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

8.103 LEARNING ACCESS #4B - EXTERIOR SPACE

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Concrete or Unit Pavers						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.11.WAT-BIB.02	Water - Hose Bibb	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.09.LIT-SNS.01	Sensors - Daylight	1	Category 1
26.09.LIT-SNS.02	Sensors - Occupancy	1	Category 1
26.51.INT-LIT.06	Lighting - Overhead	1	Category 1

Division 32: Exterior Improvements

Type Mark	Item Name	Quantity	Responsibility
32.33.BCH-EXT.01	Bench - Exterior	8	Category 1

HVAC			ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust		
BSL Category:						

8.104 LEARNING ACCESS #4C - ALCOVE

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities: N/A							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:	Exterior Glass Matt Gypsum Board						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:	Exterior Glass Matt Gypsum Board						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:	Not Applicable						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

Division 8: Openings

Type Mark	Item Name	Quantity	Responsibility
08.30.FLD-PCK.02	Door - Folding Pocket	1	Category 1

Division 12: Furnishings

Type Mark	Item Name	Quantity	Responsibility
12.35.CAB-LAB.03	Cabinet - Lab - Base	1	Category 1
12.35.CTP-LAB.09	Counter Top - Lab	1	Category 1
12.35.CAB-LAB.21	Cabinet - Lab - Wall	1	Category 1
12.51.CAB-EXT.01	Cabinet - Exterior	3	Category 1

Division 22: Plumbing

Type Mark	Item Name	Quantity	Responsibility
22.42.SNK-EXT.01	Sink - Exterior	1	Category 1

Division 26: Electrical

Type Mark	Item Name	Quantity	Responsibility
26.51.INT-LIT.11	Lighting - Task	1	Category 1

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%	
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust			
BSL Category:							

8.105 WETLAND AND OBSERVATION DECK

OUTDOOR AREAS

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.106 GARRY OAK GATHERING CIRCLE

OUTDOOR AREAS

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						Note:

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.107 DEMONSTRATION LANDSCAPES

OUTDOOR AREAS

General Notes:

ARCHITECTURAL							
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:							
Daylight: Direct Indirect				Forklift Access Required			
FINISHES							
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference			
Other:							
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference		Note:
Finish:	Paint	No Preference					
Other:							
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile	Note:
	Sheet Linoleum	No Preference					
Other:							
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile	Note:
	Linoleum	No Preference					
Other:							

HVAC				ENVIRONMENTAL CONDITIONS			
Pressurization:	Positive	Negative		Temp:	N/A°C +/- N/A°C	RH:	N/A% +/- N/A%
Hazards:	Flammable/Corrosive		Explosive	Odour	Dust		
BSL Category:							

8.108 OPEN PLAY MEADOW

OUTDOOR AREAS

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				
Other:						

Division 32: Exterior Improvements

Type Mark	Item Name	Quantity	Responsibility
32.33.BCH-EXT.01	Bench - Exterior	4	Category 1

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

8.109 SITE AND NATURE PLAY

OUTDOOR AREAS

General Notes:

ARCHITECTURAL						
Location Category Per Appendix A of the CCI Design Guidelines for New Heritage Collection Facilities:						
Daylight:	Direct	Indirect	Forklift Access Required			
FINISHES						
Wall:	GWB	CMU	OSB Backup	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	Ceramic Tile	Wall Protection	No Preference		
Other:						
Ceiling:	GWB	ACT	Specialty ACT	Exposed Wood Structure	No Preference	Note:
Finish:	Paint	No Preference				
Other:						
Floor:	Epoxy	Sealed Concrete	Carpet	VCT	Wood	Ceramic Tile
	Sheet Linoleum	No Preference				
Other:						
Base:	Ht.	Terrazzo	Rubber	Metal	Wood	Ceramic Tile
	Linoleum	No Preference				Coved
Other:						Note:

HVAC			ENVIRONMENTAL CONDITIONS		
Pressurization:	Positive	Negative	Temp:	N/A°C +/- N/A°C	RH: N/A% +/- N/A%
Hazards:	Flammable/Corrosive	Explosive	Odour	Dust	
BSL Category:					

Royal BC Museum – Collections and Research Building
Colwood, BC

APPENDIX 1B-2 – Item Schedule

Design-Build Agreement

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1.1 Appendix Intent

1.1.1 Contents

- 1.1.1.1 This Appendix sets out item-specific details for the Project that are not otherwise captured in the overarching information in APPENDIX 1B-1 – Room Data Sheets.

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
01.64.BCH-POT.01	Bench - Potting	DIV 01	01 64 00 - Owner-Furnished Products	4	New	Category 3	610D x 865H x 1525L								FALSE
01.64.CAB-BOT.01	Cabinet - Collections - Botany	DIV 01	01 64 00 - Owner-Furnished Products	7	Existing	Category 2	485D x 2135H x 740W								FALSE
01.64.CAB-CRD.01	Cabinet - Card Catalogue	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	435D x 1450H x 840W								FALSE
01.64.CAB-EXS.01	Cabinet - Collections - Existing	DIV 01	01 64 00 - Owner-Furnished Products	41	Existing	Category 2	430D x 2135H x 1015W								FALSE
01.64.CAB-EXS.03	Cabinet - Collections - Existing	DIV 01	01 64 00 - Owner-Furnished Products	3	Existing	Category 2	585D x 2135H x 1015W								FALSE
01.64.CAB-HRB.01	Cabinet - Collections - Herbarium	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 2	535D x 1985H x 790W								FALSE
01.64.CAB-MCF.01	Cabinet - Collections - Microfiche	DIV 01	01 64 00 - Owner-Furnished Products	44	Existing	Category 2	760D x 1090H x 610W								FALSE
01.64.CAB-STO.01	Cabinet - Collections - Storage Locker	DIV 01	01 64 00 - Owner-Furnished Products	10	New	Category 1	760D x 1090H x 610W								FALSE
01.64.CAB-VIT.01	Cabinet - Collections - Vitrine	DIV 01	01 64 00 - Owner-Furnished Products	16	New	Category 3	Provide niche to suit 1220D x 2440H x 2440W Vitrites								FALSE
01.64.CBT-CRD.02	Cabinet - Card Catalogue	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	435D x 1525H x 1045W								TRUE
01.64.CBT-CRD.03	Cabinet - Card Catalogue	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	435D x 1680H x 840W								TRUE
01.64.CBT-TLS.01	Cabinet - Tools	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	485D x 1020H x 1070W								FALSE
01.64.CBT-TLS.02	Cabinet - Tools	DIV 01	01 64 00 - Owner-Furnished Products	6	New	Category 3	460D x 1145H x 1370W								FALSE
01.64.CRT-AQU.01	Cart - Aquarium	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	760D x 915H x 1525W								FALSE
01.64.CRT-BTK.01	Cart - Book Trucks	DIV 01	01 64 00 - Owner-Furnished Products	15	Existing	Category 3	435D x 1070H x 815W	Rolling book cart							TRUE
01.64.CRT-BTK.02	Cart - Book Trucks	DIV 01	01 64 00 - Owner-Furnished Products	25	Existing	Category 3	435D x 1070H x 815W	Rolling book cart							TRUE
01.64.CRT-EMG.01	Cart - Emergency	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	815D x 1985H x 1425W	Cart with supplies for emergency response.							TRUE
01.64.CRT-EMG.02	Cart - Emergency	DIV 01	01 64 00 - Owner-Furnished Products	4	New	Category 3	815D x 1985H x 1425W	Cart with supplies for emergency response.							TRUE
01.64.CRT-LIB.01	Cart - Library	DIV 01	01 64 00 - Owner-Furnished Products	10	New	Category 3	435D x 1130H x 965W								TRUE
01.64.CRT-PNT.01	Cart - Painting Transport - A-Frame	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	625D x 1780H x 840W								TRUE
01.64.CRT-ROL.01	Cart - Roll Storage	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	625D x 1780H x 840W	For supply storage							TRUE
01.64.CRT-ROL.02	Cart - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.CRT-SHV.01	Cart - Shelving - Mobile	DIV 01	01 64 00 - Owner-Furnished Products	5	New	Category 3	670D x 1000H x 1030W								TRUE
01.64.CRT-SST.01	Cart - Stainless Steel	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	610D x 915H x 1830W								FALSE
01.64.CRT-UTL.01	Cart - Utility - Lightweight	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	635D x 840H x 1145W								TRUE
01.64.CRT-WKT.01	Cart - Worktable	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	610D x 865H x 915W								TRUE
01.64.EQP-DSH.01	Equip - General - Dishwasher	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 2									FALSE
01.64.EQP-DUS.01	Equip - Lab - Dust Extractor - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									TRUE
01.64.EQP-DUS.02	Equip - Lab - Dust Extractor - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3		For sawdust tumbler and compressed air booth							TRUE
01.64.EQP-DUS.03	Equip - Lab - Dust Extractor - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	635D x 1070H x 610W	For dust collection in the air abrasive closet							TRUE
01.64.EQP-GEN.04	Equip - Drum - Ethanol	DIV 01	01 64 00 - Owner-Furnished Products	6	New	Category 3	208 Liters	For the storage of clean and waste ethanol							FALSE
01.64.EQP-GEN.09	Equip - AV - Charging Station	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-GEN.10	Equip - General - Coffee Machine	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-GEN.11	Equip - General - Detergent Dispensing System	DIV 01	01 64 00 - Owner-Furnished Products	6	New	Category 3									FALSE
01.64.EQP-GEN.12	Equip - General - Microwave	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3									FALSE
01.64.EQP-GEN.13	Equip - General - Printer-Copier	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	675D x 840H x 630W								FALSE
01.64.EQP-GEN.14	Equip - General - Printer-Copier	DIV 01	01 64 00 - Owner-Furnished Products	10	New	Category 3									FALSE
01.64.EQP-GEN.15	Equip - General - Refrigerator - Counter Height	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	665D x 860H x 525W								TRUE
01.64.EQP-GEN.16	Equip - General - Urn	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3		For Coffee							FALSE
01.64.EQP-GEN.17	Equip - General - Urn	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3		For Tea							FALSE
01.64.EQP-GEN.18	Equip - General - Washer and Dryer	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 2									FALSE
01.64.EQP-LAB.01	Equip - Lab - AV Machine	DIV 01	01 64 00 - Owner-Furnished Products	10	Existing	Category 3	Varies								FALSE
01.64.EQP-LAB.02	Equip - Lab - AV Machine - 1 inch TYPE C	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	1220D x 1220W								FALSE
01.64.EQP-LAB.03	Equip - Lab - Cassette Reader	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	690W Max.								FALSE
01.64.EQP-LAB.04	Equip - Lab - Cooktop	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	750D x 130H x 360W								TRUE
01.64.EQP-LAB.05	Equip - Lab - Crimper	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	765D x 1120H x 1375W								TRUE
01.64.EQP-LAB.06	Equip - Lab - Cutter - Mat - Computerized	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 2	1300D x 1220H x 1600W								TRUE
01.64.EQP-LAB.07	Equip - Lab - Cutter - Multi-Material	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 2									FALSE
01.64.EQP-LAB.09	Equip - Lab - Desktop SEM	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.12	Equip - Lab - Guillotine	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	1070D x 1375H x 1525W	Manual cutting machine							TRUE
01.64.EQP-LAB.14	Equip - Lab - Microfilm Reader	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	420D x 190H x 420W								FALSE
01.64.EQP-LAB.15	Equip - Lab - Printer - 3D	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	705D x 1355H x 680W	For UV curable plastics							FALSE
01.64.EQP-LAB.16	Equip - Lab - Printer - 3D - Curing and Washing	DIV 01	01 64 00 - Owner-Furnished Products	0	Existing	Category 3	220D x 345H x 235W	Pre and Post-processing for Resin 3D printing							FALSE
01.64.EQP-LAB.17	Equip - Lab - Printer - 3D - Filament	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	550D x 400H (without spool) x 500W								FALSE
01.64.EQP-LAB.18	Equip - Lab - Printer - 3D - Resin	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	280D x 450H x 240W								FALSE
01.64.EQP-LAB.19	Equip - Lab - Printer - Large Format	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	1145D x 975H x 2415L								FALSE
01.64.EQP-LAB.20	Equip - Lab - Raman Device	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.23	Equip - Lab - Scanner - Book	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	860D x 900H x 880W								TRUE
01.64.EQP-LAB.24	Equip - Lab - Scanner - Book	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	860D x 900H x 880W								TRUE
01.64.EQP-LAB.25	Equip - Lab - Scanner - Book - Cradle	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1525D x 2135H x 1985W								TRUE
01.64.EQP-LAB.27	Equip - Lab - Scanner - Conveyor Belt	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 2	1220D x 5180W								TRUE
01.64.EQP-LAB.29	Equip - Lab - Scanner - Flatbed	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	310D x 155H x 505W								TRUE
01.64.EQP-LAB.30	Equip - Lab - Scanner - Flatbed	DIV 01	01 64 00 - Owner-Furnished Products	5	New	Category 3	460D x 215H x 655W								TRUE
01.64.EQP-LAB.31	Equip - Lab - Scanner - Laser	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.32	Equip - Lab - Scanner - Map	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	540D x 975H x 1810W								TRUE
01.64.EQP-LAB.33	Equip - Lab - Scanner - Micro CT	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
01.64.EQP-LAB.34	Equip - Lab - Scanner - Microfilm	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	585D x 715H x 385W		sits on counter, provide additional space and power beside for laptop				Cannon	Older Model	FALSE
01.64.EQP-LAB.35	Equip - Lab - Scanner - Microfilm	DIV 01	01 64 00 - Owner-Furnished Products	4	New	Category 3	485D x 165H x 420W		sits on counter, provide additional space and power beside for laptop				Indus	4601-SL	FALSE
01.64.EQP-LAB.36	Equip - Lab - Scanner - Microfilm	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3							Konica Minolta	?	FALSE
01.64.EQP-LAB.37	Equip - Lab - Scanner - Microfilm	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	410D x 165H x 420W Base: 790D x 1665H x 650W, with light arms extended: 1995W		sits on counter, provide additional space and power beside for laptop				Scanpro	2000	FALSE
01.64.EQP-LAB.39	Equip - Lab - Scanner - Stand	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3				DT Atom copy stand includes: Autocolumn, LED Dimmable Lights, Hoods			Digital Transitions	DT Atom	TRUE
01.64.EQP-LAB.40	Equip - Lab - Scanner - Tabletop - 3D Tripod	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.41	Equip - Lab - Scanner System - Microfilm and Microfiche	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3			sits on a table				nextScan	FlexScan	TRUE
01.64.EQP-LAB.42	Equip - Lab - Sectioning - Rotary Lap	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.43	Equip - Lab - Sectioning - Thin - Machine	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.44	Equip - Lab - Sectioning - Trim Saw	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.45	Equip - Lab - Sectioning - Wafer Saw	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.46	Equip - Lab - Tilt Wall	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	Varies x 3660H x 3660W		Allow space for it along the wall	An angled wall, that can be lowered or raised to display collections items for photographing.			Custom	-	TRUE
01.64.EQP-LAB.47	Equip - Lab - Tools - Band Saw	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	635D x 3885H x 510W		requires floor area				Magnum	92-100	TRUE
01.64.EQP-LAB.49	Equip - Lab - Tools - Drill Press	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	495D x 955H x 535W		attaches to a table				King Canada	KC-12HS-VS	TRUE
01.64.EQP-LAB.50	Equip - Lab - Tools - Plexiglass Bending Rig	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3									FALSE
01.64.EQP-LAB.52	Equip - Lab - VHS Reader	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	690W Max.		sits on counter, allow area beside for 610mm diagonal TV						FALSE
01.64.EQP-LAB.54	Equip - Lab - Kiosk - AV	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	435W		sits on counter	includes a computer tower, monitor and keyboard.					FALSE
01.64.EQP-LAB.60	Equip - Lab - FT-IR Device	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	915D x 980H x 1220W						ThermoFisher	iN-10MX	FALSE
01.64.EQP-LAB.61	Equip - Lab - Table - Lift - Electric	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	915D x 980H x 1220W						Uline Canada	H-3935	TRUE
01.64.EQP-LAB.62	Equip - Lab - Suction Wall	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	105D x 1335H x 1905W		Wall mounted @ 915 AFF	Wall mounted board with a vacuum attached to it that will sit on the floor nearby.			Existing	-	FALSE
01.64.EQP-LAB.63	Equip - Lab - Catalogue Access Station	DIV 01	01 64 00 - Owner-Furnished Products	4	New	Category 3		to suit monitor and tower	sits on counter	Includes a 560 diagonal monitor and a computer tower					FALSE
01.64.EQP-LAB.64	Equip - Lab - Microscope - Floor Standing - Mobile	DIV 01	1 64 00 - Owner-Furnished Products	2	New	Category 3									FALSE
01.64.EQP-TEL.01	Equip - Telephone	DIV 01	01 64 00 - Owner-Furnished Products	11	New	Category 3	-								FALSE
01.64.EQP-TEL.02	Equip - Telephone	DIV 01	01 64 00 - Owner-Furnished Products	6	New	Category 3	-		Wall mount						FALSE
01.64.LFT-LLV.01	Lift - Low-level - Non-powered	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1280D x 1930H to 4030H x 700W		Provide floorspace for storage				JIG	Ecolift 70	TRUE
01.64.LFT-SSR.02	Lift - Scissor - Mobile - Electric	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	1750D x 990H-5790H x 815W		Provide floorspace for storage and charging.				JIG	AE1932	TRUE
01.64.PFM-DMD.01	Platform - Dermestid Colony	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	700D x 500H x 2600W	Support for the Storage Boxes - Dermestid Colony							TRUE
01.64.RCK-ART.01	Rack - Art - Mobile	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	610D x 1680H x 1220W						Store Supply Warehouse	SKU: 60255	TRUE
01.64.RCK-LIT.01	Rack - Lighting - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	915D x 1252H x 1830W								FALSE
01.64.RCK-STO.01	Rack - Roll Storage	DIV 01	01 64 00 - Owner-Furnished Products	27	New	Category 2	145D x 590H x 1490W		locate on one wall stacked one above the other.						TRUE
01.64.RCK-STO.02	Rack - Rolling - Roll Storage	DIV 01	01 64 00 - Owner-Furnished Products	3	New	Category 3	1020D x 1400H x 1450W						Encore Packaging	EP-6450-48	TRUE
01.64.RCK-STO.03	Rack - Rolling - Sheet Storage	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	765D x 915H x 1525W		ensure min clearance above and to the sides to suit 2440H or 2440L sheet goods				Global Industrial	652215	TRUE
01.64.SNK-TOP.01	Sink - Removable Top	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1220D x 50H x 2440W			(4) piece custom lab casework countertop, removable, lightweight, load capacity: 226kg			Custom	-	FALSE
01.64.STG-CBL.01	Stage - Collapsible	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	6100L x 3655D x 45H								FALSE
01.64.STO-DMD.01	Storage Box - Dermestid Colony	DIV 01	01 64 00 - Owner-Furnished Products	2	Existing	Category 3	600D x 700H x 1220W	Where the flesh eating beetles live	Boxes will sit on Platform - Dermestid Colony. Ensure minimum 750H clear above boxes. Ensure there is space around the ends of the boxes for conditioned room air to circulate through.	a 200mm long pipe sticks out from one end of the box for conditioned air to enter. WIFI connectivity, laptop connection and connection to projector controls					TRUE
01.64.TBL-ITV.01	Table - Interactive - Multi-Touch - Portable	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3			To be stored in Lobby Storage						FALSE
01.64.TBL-LIT.01	Table - Light	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	1375D x 1680W		locate centrally in room						FALSE
01.64.TBL-PAP.01	Table - Paper Conservation	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	740D x 1245W		Adjacent to Fume Hood for ventilation during use	Height and tilt adjustable, rolling			Museum Services Corporation	210-004 MSC (PCT-E)	TRUE
01.64.TBL-PAP.02	Table - Paper Conservation - Control Console	DIV 01	01 64 00 - Owner-Furnished Products	1	Existing	Category 3	450D x 810H x 510W		Sits on floor next to Paper Conservation Table	Dual motor vacuum control console			Museum Services Corporation	210-004 MSC (PCT-E)	TRUE
01.64.TBL-PEG.01	Table - PEG - Rolling	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	915D x 760H x 1830W			Locking casters, Integrated chiller, Plug-in, Indirect drain.					FALSE
01.64.TBL-SCN.01	Table - Scanner - 3D Tripod	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	915D x 2440W								FALSE
01.64.TRU-PLT.01	Truck - Pallet - Manual - Narrow	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1525D x 1200H x 520W		Provide floor space for storage				Eoslift USA Corporation	M25N	TRUE
01.64.TRU-PLT.02	Truck - Pallet - Manual - Narrow - Scale	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1220D x 1220H x 570W		Provide floorspace for storage and charging.	Weight capacity: 2267kg, Digital scale			Eoslift USA Corporation	M30	TRUE
01.64.TRU-PLT.03	Truck - Pallet - Manual - Wide	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1650D x 1200H x 685W		Provide floor space for storage						TRUE
01.64.TRU-PLT.04	Truck - Pallet - Manual - Wide - Hand Break	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1650D x 1200H x 685W		Provide floor space for storage	Load capacity:2495kg			Grainger	PN5-2748HB	TRUE
01.64.TRU-PLT.05	Truck - Pallet - Manual - Wide - Scale	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	1550D x 690W		Provide floorspace for storage and charging.	5000lb capacity			Uline Canada	H-1679	TRUE
01.64.TUB-PEG.01	Tub - PEG - Treatment	DIV 01	01 64 00 - Owner-Furnished Products	1	New	Category 3	765D x 865H x 1100W			Straight wall poly box truck, 400L, 275kg capacity, white polyethylene, casters			Kleton	MN996	TRUE
01.64.TUB-PEG.02	Tub - PEG - Treatment	DIV 01	01 64 00 - Owner-Furnished Products	0	New	Category 3	765D x 865H x 1100W			Tapered wall poly box truck, 400L, 455kg capacity, white polyethylene, casters, steel chassis			Kleton	MN991	FALSE
01.64.WLS-CLK.01	Wireless Wall Clock	DIV 01	01 64 00 - Owner-Furnished Products	2	New	Category 3	-								FALSE
05.35.GRI-SUS.03	Grid System - Suspended	DIV 05	05 45 00 - Metal Support Assemblies	1	New	Category 1		Edges offset from wall maximum 1220mm.	For use with lighting, recording equipment, curtain tracks and scenery			owner @ 3050o.c. -			FALSE
05.35.GRI-SUS.04	Grid System - Suspended	DIV 05	05 45 00 - Metal Support Assemblies	1	New	Category 1		Edges offset from wall maximum 1525mm.	For use with lighting and suspended banners			power @ 3050o.c. -		To suit engineers requirements	FALSE
05.35.GRI-SUS.05	Grid System - Suspended - Berlese Extractors	DIV 05	05 45 00 - Metal Support Assemblies	1	New	Category 1		Length to suit	To support (20) Collapsible Berlese Funnel Traps.	Locate along walls over top of lab tables and/or chest freezer.				Refer to Schedule 1 - Statement of Requirements	FALSE
05.35.GRI-SUS.06	Grid System - Suspended	DIV 05	05 45 00 - Metal Support Assemblies	1	New	Category 1		For full extent of Circulation Spine. Edges offset from wall maximum 1220mm.	For use with lighting and suspended banners			power @ 3050o.c. -		To suit engineers requirements	FALSE
05.35.GRI-SUS.07	Grid System - Suspended	DIV 05	05 45 00 - Metal Support Assemblies	1	New	Category 1		For extent of stage	For use with lighting, stage equipment, curtain tracks and scenery			Power @ 2440o.c. -			FALSE
05.50.PBD-SHP.01	Pegboard - Shop	DIV 05	05 45 00 - Metal Support Assemblies	5	New	Category 1	1220H x 6500L		Mount @ 915H AFF	Include 95Pc Zinc Plated Hook and Bin Assortment for Durabond				Refer to Schedule 1 - Statement of Requirements	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
05.50.SHV-OPN.01	Shelving - Open - Wall Mount	DIV 05	05 45 00 - Metal Support Assemblies	3	New	Category 1	460D x 1525H x 1220W	For lumber and bar stock	Wall mount at 1525 AFF	Pair of supports with adjustable 460D arms. 455kg load capacity			Refer to Schedule 1 - Statement of Requirements	-	TRUE
06.40.BCH-CHG.01	Bench - Changeroom	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	460D x 1830W		mount in front of lockers. Floor mount not permitted.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.01	Cabinet - Base	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	610D x 840H x 1830L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.02	Cabinet - Base	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 840H x 2440L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.03	Cabinet - Base	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	610D x 840H x 3050L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.04	Cabinet - Base	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 840H x Length to suit						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.05	Cabinet - Base	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 840H x 7 maximum length to suit program area			Integrated waste, glass, metals (cans), paper recycling, and compost bins			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-BAS.06	Cabinet - Base	DIV 06	6 40 00 - Architectural Woodwork	1	New	Category 1	610D x 840H x 7 maximum length to suit program area								FALSE
06.40.CAB-STO.01	Cabinet - Sheet Storage	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	1220D x 2580H x 350W	for vertical storage of standard 4' x 8' sheet goods					Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-TAL.01	Cabinet - Tall	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	460D x 2135H x 915W	For reference guides and office supplies	-	(2) Locking doors, mix of drawers and shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-TAL.02	Cabinet - Tall	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	305D x 3660H x 3660L	Tall cabinet for storage of miscellaneous office supplies and coats and bags for those working in reception		(3) Locking doors, (8) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-TAL.03	Cabinet - Tall	DIV 06	06 40 00 - Architectural Woodwork	2	New	Category 1	380D x 2135H x 915W	For miscellaneous photography equipment and supplies	-	(2) Locking doors, (8) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-TAL.04	Cabinet - Tall	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	Size to suit server rack	For server rack	-	Vented, (2) Locking doors			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-TAL.05	Cabinet - Tall	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 2135H x 1220W		-	(2) Locking doors, coat bar, adjustable shelves above and below			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.01	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x 915L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.02	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x 3660L			solid doors, some locking, (2) adjustable shelves per			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.03	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	0	New	Category 1	350D x 760H x 3050L		-	no doors, (2) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.04	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	355D x 760H x 1830L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.05	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	2	New	Category 1	355D x 760H x 2440L		Mount at standard upper cabinet height for the collapsible to sit beneath	locking doors, adjustable shelving			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.06	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x 5030L			(30) mail slot cubbies			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.07	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x 3050L			solid doors, locking, (2) adjustable shelves per solid doors, locking, (2) adjustable shelves per, provide open shelf near end of counter for a charging station for 9 radio hand sets			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.08	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x 3050L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.CAB-UPP.09	Cabinet - Upper	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	350D x 760H x maximum length to suit program area			solid doors, locking, (2) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.DIS-LDG.01	Display Ledge	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	150D x 915H x Full length of one wall.		Mount at 765mm AFF, located on the opposite wall from the whiteboard	. Angled back wall.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.DIS-LDG.02	Display Ledge	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	150D x 915H x Full length of one wall.		Mount at 765mm AFF, located on the opposite wall from the whiteboard	. Angled back wall.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.DSK-CTM.01	Desk - Custom - Reception	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	3165 Long			Solid surface top. Transaction top. (2) 460W base cabinets w/ Locks drawers. (1) 610W base cabinet w/ shelves and cash drawer and door w/lock. (1) pull out shelf for printer. Pull out keyboard tray.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.DSK-CTM.02	Desk - Custom - Reference Archivist	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	3660 Long			Transaction top. (1) 610W base cabinets w/ locking drawers. (1) 610W base cabinet w/ shelves and door w/lock. (1) pull out shelf for printer. (2) workstations w/ pull out keyboard trays			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.DSK-CTM.03	Desk - Custom - Retrievals Desk	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	2440 Long		Provide area adjacent to desk for (15) Carts - Book Trucks	Transaction top. (1) 610W base cabinet w/ locking drawers. (1) 610W base cabinet w/ shelves and door w/lock. (1) workstation w/ pull out keyboard tray.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.SHV-FOL.03	Shelving - Fold-up	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	450D x 610W	For microphone charging	Mount at accessible height	Fold-up shelf			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.01	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	4	New	Category 1	610D x 865H x 1830L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.02	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 865H x 2440L			Include 915W section at 760 AFF for children			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
06.40.WWK-CTP.03	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	3	New	Category 1	610D x 865H x 3050L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.04	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	To suit all countertop equipment						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.05	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	To suit						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.06	Counter Top	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	760D x 865H x maximum length to suit program area			Solid surface top w/ backsplash and end splash.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.07	Counter Top - Lunch	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	9760L			Seats 16 at high stools			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.08	Counter Top - Transaction	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 2440L			Centered on wall between room and corridor			Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.09	Counter Top - Transaction	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x length of glazing		Locate at glazing directly in front of workstation				Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.10	Counter Top - Vanity	DIV 06	06 40 00 - Architectural Woodwork	1	New	Category 1	610D x 865H x 915L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
06.40.WWK-CTP.11	Counter Top	DIV 06	6 40 00 - Architectural Woodwork	1	New	Category 1	To suit						Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.00.OPN-FRA.01	Opening - Framed	DIV 08	08 00 00 - Openings	5	New	Category 1	Full width of Access Zone x clear height of room	Between Archaeology Access Zone and BC Archaeology Collections		Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.00.OPN-FRA.02	Opening - Framed	DIV 08	08 00 00 - Openings	1	New	Category 1	minimum 4575W x clear height of room	Opening between PDP Access Zone and PDP Vault		Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FLT.01	Door - Double - Full Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1830W x 2135H	Staff Entry Door		Exterior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FLT.02	Door - Double Sliding - Full Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	3660W x 2440H			Exterior, automatic			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FLT.03	Door - Double Sliding - Full Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	3660W x 2440H			Interior, automatic			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FSL.02	Door - Double - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	0	New	Category 1	1830W x 2135H	For all doors from the Circulation Spine to any corridors within the Collections Storage Area		Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FSL.03	Door - Double - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	0	New	Category 1	3050W x 3050H	To Central Services Corridor		Half height armoring on Central Service Corridor side of door, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-FSL.04	Door - Double - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	0	New	Category 1	3050W x 3050H	Typical Collections Storage Area door		Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HLT.01	Door - Double - Half Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1830W x 2135H			Interior, fiberglass, dual swing, crash door with half height armoring Interior, Side Lite, motor assist activated by card access, magnetic hold opens controlled by fire alarm system and security.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.01	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	19	New	Category 1	1830W x 2440H	Typical Double Lab Door		Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.02	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1830W x 2135H			Exterior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.03	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	3	New	Category 1	1830W x 2135H			Interior, card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.04	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	4	New	Category 1	2440W x 3050H	Typical Collections Storage Area door		Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.05	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	3050W x 3050H			Half height armoring, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.06	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	5	New	Category 1	3050W x 3050H			Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.07	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	2440W x 2440H			Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.08	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1830W x 2135H	For all doors from the Circulation Spine to any corridors within the Collections Storage Area		Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.09	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	3050W x 3050H	To Central Services Corridor		Half height armoring on Central Service Corridor side of door, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-HSL.10	Door - Double - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	2440W x 2440H			Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-SLD.01	Door - Double - Solid	DIV 08	08 10 00 - Doors and Frames	3	New	Category 1	1830W x 2440H			Exterior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-SLD.02	Door - Double - Solid	DIV 08	08 10 00 - Doors and Frames	5	New	Category 1	1830W x 2135H			Interior, Key Lock Exterior, provide lock protection for pry bars, do not provide entrance hardware on corridor/exterior side, mechanical hold opens			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-SLD.03	Door - Double - Solid	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	3050W x 3050H			Interior, motor assist with card access trigger, magnetic hold opens controlled by fire alarm system and security.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-SLD.04	Door - Double - Solid	DIV 08	08 10 00 - Doors and Frames	5	New	Category 1	3050W x 3050H			Interior, motor assist with card access trigger, magnetic hold opens controlled by fire alarm system and security.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.DBL-SLD.05	Door - Double - Solid	DIV 08	08 10 00 - Doors and Frames	8	New	Category 1	Size to suit	For Lift - Work Assist Vehicle charging closet		Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
08.10.OVH-ROL.01	Door - Overhead Rolling	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	3200W x 3505H			Exterior, Electric			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.OVH-ROL.02	Door - Overhead Rolling	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	3200W x 3505H			Interior, environmental separation, electric			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-DLT.01	Door - Single - Double Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	915W x 2135H			automatic w/ push button activation			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FLT.01	Door - Single - Full Lite	DIV 08	08 10 00 - Doors and Frames	25	New	Category 1	915W x 2135H			Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FLT.02	Door - Single - Full Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	915W x 2135H	For the air abrasive closet		air and acoustic seals			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FLT.03	Door - Single - Full Lite	DIV 08	08 10 00 - Doors and Frames	8	New	Category 1	1070W x 2440H			Interior, shades, card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FSL.01	Door - Single - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	7	New	Category 1	915W x 2135H	For securing lobby from night use of MP Room		Interior, Key Lock			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FSL.02	Door - Single - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	0	New	Category 1	915W x 2135H	For all doors from the Circulation Spine to the BOH Corridor. Unless noted otherwise.		Interior, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-FSL.03	Door - Single - Full Strip Lite	DIV 08	08 10 00 - Doors and Frames	0	New	Category 1	1070W x 3050H			Interior, environmental separation, motor assist activated by card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HLT.01	Door - Single - Half Lite	DIV 08	08 10 00 - Doors and Frames	5	New	Category 1	915W x 2135H			Interior, shades, card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.01	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	14	New	Category 1	1070W x 2440H			Interior, card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.02	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	2	New	Category 1	915W x 2135H			Exterior Interior, Side Lite, motor assist activated by card access, magnetic hold opens controlled by fire alarm system and security.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.03	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	8	New	Category 1	1070W x 2440H	Typical Single Lab Door					Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.04	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1070W x 2440H		-	Interior, environmental separation, delayed action closer Interior, environmental separation, motor assist activated by card access, magnetic hold opens controlled by fire alarm system and security.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.05	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	4	New	Category 1	1070W x 3050H						Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.06	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	915W x 2135H	For all doors from the Circulation Spine to the BOH Corridor. Unless noted otherwise	N/A	Interior, motor assist activated by card access	N/A	N/A	Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.07	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	3	New	Category 1	1070W x 3050H	N/A	N/A	Interior, environmental separation, motor assist activated by card access	N/A	N/A	Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.08	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1220W x 3050H	N/A	N/A	Interior, environmental separation, motor assist activated by card access	N/A	N/A	Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.09	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	4	New	Category 1	1220W x 2440H	N/A	N/A	Interior, environmental separation, motor assist activated by card access, magnetic hold opens controlled by fire alarm system and security.	N/A	N/A	Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-HSL.10	Door - Single - Half Strip Lite	DIV 08	08 10 00 - Doors and Frames	1	New	Category 1	1220W x 2440H			Interior, environmental separation, delayed action closer			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-SLD.01	Door - Single - Solid	DIV 08	08 10 00 - Doors and Frames	11	New	Category 1	1070W x 2440H			Interior, card access			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-SLD.02	Door - Single - Solid	DIV 08	08 10 00 - Doors and Frames	13	New	Category 1	915W x 2135H			Interior, push button motor assist, key lock with occupied thumb lock.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.10.SNG-SLD.03	Door - Single - Solid	DIV 08	08 10 00 - Doors and Frames	6	New	Category 1	915W x 2135H	Exit doors from the collections storage areas		Interior, When required, provide lock protection for pry bars, do not provide entrance hardware on corridor/exterior side.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.30.CRN-INS.01	Door - Curtain - Insulated	DIV 08	08 30 00 - Specialty Doors and Frames	2	New	Category 1	To suit door	To help maintain stable interior environment		side to side rolling, minimum R6, floor sweep, Velcro seal, weighted bottom, anchor straps, top valence Clear, ribbed strips, 67% overlap, scratch resistant, orange safety strips at ends, flame resistant and retardant, UV stabilized. stainless steel mounting brackets and hardware.			AKON Curtain and Divider	Custom Industrial Insulated Curtain	TRUE
08.30.CRN-STR.01	Door - Curtain - Strip	DIV 08	08 30 00 - Specialty Doors and Frames	3	New	Category 1	To suit door	To help maintain stable interior environment					Uline	H-3669	TRUE
08.30.FLD-PCK.01	Door - Folding Pocket	DIV 08	08 30 00 - Specialty Doors and Frames	1	New	Category 1	Size to suit, 2440H minimum			Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.30.FLD-PCK.02	Door - Folding Pocket	DIV 08	08 30 00 - Specialty Doors and Frames	1	New	Category 1	Size to suit			Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.30.FLD-PCK.03	Door - Folding Pocket	DIV 08	08 30 00 - Specialty Doors and Frames	1	New	Category 1	Size to suit, 2440H minimum			Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.30.SEC-GRL.04	Door - Security Grille	DIV 08	08 30 00 - Specialty Doors and Frames	2	New	Category 1	To cover full extent of exterior doors	Discrete interior security grille, operable from inside of building and not visible when exterior doors are open.	Locate on the inside of the exterior doors	Locking from inside of building			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.01	Glazing - Exterior - Fixed	DIV 08	08 80 00 - Glazing	5	New	Category 1	Refer to Schedule 1 - Statement of Requirements			Security film to 3660 A.F.F.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.02	Glazing - Exterior - Fixed	DIV 08	08 80 00 - Glazing	7	New	Category 1	Refer to Schedule 1 - Statement of Requirements			North facing, shades - Refer to Schedule 1, section 6.12			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.05	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	2	New	Category 1	Refer to Schedule 1 - Statement of Requirements	For the air abrasive closet		provide full visibility into air abrasive closet from the lab			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
08.80.EXT-FXD.06	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	1	New	Category 1	Refer to Schedule 1 - Statement of Requirements	To provide site lines into the vestibule		Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.07	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	2	New	Category 1	Refer to Schedule 1 - Statement of Requirements		line of sight for visibility into adjacent corridors.	Interior, shades			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.08	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	29	New	Category 1	Refer to Schedule 1 - Statement of Requirements	Office front glazing		Interior, shades			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.EXT-FXD.09	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	4	New	Category 1	Refer to Schedule 1 - Statement of Requirements			Interior, shades			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.INT-FXD.04	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	11	New	Category 1	Refer to Schedule 1 - Statement of Requirements	For lab fronts		Interior, shades			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.INT-OPR.01	Glazing - Interior - Operable	DIV 08	08 80 00 - Glazing	2	New	Category 1	Refer to Schedule 1 - Statement of Requirements	Transaction window	Install glazing at counter height in close proximity to the workstation.	Provide lock for operable portion, shades			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.INT-OPR.02	Glazing - Interior - Operable	DIV 08	08 80 00 - Glazing	1	New	Category 1	Refer to Schedule 1 - Statement of Requirements	Transaction window, first point of service for back of house operations.	Locate for clear visibility from staff entry and loading dock entry.	Manual shades, 915W minimum operable pane with lock, tinted glass.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
08.80.INTT-FXD.03	Glazing - Interior - Fixed	DIV 08	08 80 00 - Glazing	5	New	Category 1	Refer to Schedule 1 - Statement of Requirements						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.11.BRD-CRK.01	Corkboard	DIV 10	10 11 00 - Visual Display Units	1	New	Category 1	37 sq. m.						Forbo	bulletin board, pinboard linoleum	FALSE
10.11.BRD-WHT.01	Whiteboard - Magnetic	DIV 10	10 11 00 - Visual Display Units	4	New	Category 1	1070H x maximum possible length along one wall while accommodating all other items.			White surface, frameless			Quartet	InvisMount Magnetic Glass Dry-Erase Board 6000S (c) Series with iQ and Meetings Pro	FALSE
10.11.DIS-ITV.01	Display - Interactive	DIV 10	10 11 00 - Visual Display Units	0	New	Category 3	1905mm Diagonal						SMART Board	SMART Board	FALSE
10.11.DIS-ITV.02	Display - Interactive	DIV 10	10 11 00 - Visual Display Units	0	Existing	Category 3	1905mm Diagonal		Portable, laptop connectivity wireless	-			SMART Board	SBID-7572P	FALSE
10.11.DIS-ITV.03	Interactive Display Panel	DIV 10	10 11 00 - Visual Display Units	1	New	Category 3	1650mm Diagonal			provide backing and wall support to suit			SMART Board	6000S (c) Series with iQ and Meetings Pro	TRUE
10.11.MON-LED.01	Monitor - LED LCD	DIV 10	10 11 00 - Visual Display Units	1	New	Category 3	105D x 1220H x 2170W		Wall Mount						FALSE
10.11.MON-LED.02	Monitor - LED LCD	DIV 10	10 11 00 - Visual Display Units	15	New	Category 2	915mm Diagonal		Wall mount on adjustable bracket			Provide power and addressable data port	-	-	FALSE
10.11.MON-LED.03	Monitor - LED LCD	DIV 10	10 11 00 - Visual Display Units	9	New	Category 2	1525mm diagonal		Mount on fully articulated arm. Locate so monitor can swivel to face Circulation Spine or Lab space.	Used for work activities as well as public presentations and as a digital signage monitor		Provide power and addressable data port. connect to high-directionality speaker in Circulation Spine			FALSE
10.11.MON-LED.04	Monitor - LED LCD	DIV 10	10 11 00 - Visual Display Units	5	New	Category 2	1220mm diagonal		Wall Mounted. Locate one w/ each Casual Seating Group	w/ adjustable bracket articulated adjustable wall mount brackets with vertical movement			LG		FALSE
10.11.MON-LED.05	Monitor - LED LCD	DIV 10	10 11 00 - Visual Display Units	4	New	Category 2	1220mm diagonal		Wall mount						FALSE
10.11.SCR-GRN.01	Screen - Green	DIV 10	10 11 00 - Visual Display Units	1	New	Category 3	3050H x 3660L	Background for photography and video							FALSE
10.11.VDO-EQP.01	Video Conference Equipment	DIV 10	10 11 00 - Visual Display Units	4	New	Category 3									FALSE
10.14.LIT-SGN.01	Lighting - Signage - LED - Double-sided	DIV 10	10 14 00 - Signage	4	New	Category 1	1220W x 1830H		Stanchion Mount. Connect to museum server	Provide software interface.					FALSE
10.21.CRN-SYS.01	Curtains - Photography - System with Track	DIV 10	10 21 00 - Compartments and Cubicles	2	New	Category 1	As required to fully enclose each of (5) studios	To prevent all light spillage		Blackout curtain, ceiling track, valence			Akon Curtain and Divider		FALSE
10.21.CRN-SYS.02	Curtains - Photography - System with Track	DIV 10	10 21 00 - Compartments and Cubicles	1	New	Category 1	To suit room		Line all walls of room and provide down the middle of the room to create (2) equal sized spaces. Provide method of concealing curtains when open.	Blackout curtain, ceiling track, valence, Integral double door					FALSE
10.22.DEM-PAR.02	Demountable Partition	DIV 10	10 22 00 - Partitions	3	New	Category 1	To suit room width						Steelcase	Privacy Wall, Glass Fronts	FALSE
10.22.INT-LBY.01	Partition - Glazed - Lobby	DIV 10	10 22 00 - Partitions	1	New	Category 1	Room Width x 3050H	For separating the rest of the building during events in the Lobby or Learning Access #4A - Maker Space	Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open	Interior Interior, environmental			NanaWall	PrivaSEE	TRUE
10.22.LAB-FRT.01	Partition - Glazed - Lab Fronts	DIV 10	10 22 00 - Partitions	11	New	Category 1	3050W x 3050H								FALSE
10.22.LRN-ACS.01	Partition - Glazed - Learning Access	DIV 10	10 22 00 - Partitions	1	New	Category 1	Room Width x 3050H		Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open	STC: 51, Interior, blinds, Integral man door min 2440H x 1070W			Modernfold	Acoustic-Clear	TRUE
10.22.LRN-ACS.02	Partition - Glazed - Learning Access	DIV 10	10 22 00 - Partitions	1	New	Category 1	Room Width x 3050H		Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open	STC: 51, Interior, blinds, Integral man door min 2440H x 1070W			Modernfold	Acoustic-Clear	TRUE
10.22.LRN-ACS.03	Partition - Glazed - Learning Access	DIV 10	10 22 00 - Partitions	1	New	Category 1	Room Width x 3050H		Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open	STC: 51, Interior, blinds, Integral man door min 2440H x 1070W			Modernfold	Acoustic-Clear	TRUE
10.22.PAR-OPR.01	Partition - Operable	DIV 10	10 22 00 - Partitions	2	New	Category 1	size to suit room depth and ceiling height		Overhead mounted, panels to be concealed in a closet w/ a lockable door when wall is open	STC: 50			Moderco	EXCEL 700	FALSE
10.28.CHG-BBY.01	Changing Station - Baby	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	2	New	Category 1	445D x 670H x 1055W						Koala Kare	KB310-SSWM	TRUE
10.28.CHK-DBL.01	Coat Hook - Double	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	1	New	Category 1	-		Door mount	Includes Bumper, commercial grade			Bobrick	B-212	FALSE
10.28.CHK-DBL.02	Coat Hook - Double	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	6	New	Category 1	-		Wall mount	commercial grade			Bobrick	B-682	FALSE
10.28.CHK-DBL.03	Coat Hook - Double	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	4	New	Category 1	-		Wall mount adjacent to change table						FALSE
10.28.HOK-STR.01	Hook Strip	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	22	New	Category 1	60D x 165H x 610W	For lab coats		(3) hat and coat hooks, commercial grade			Bobrick	B-232 x 24	FALSE
10.28.MOP-HDR.01	Mop and Broom Holder	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	6	New	Category 1	-			Stainless steel, (5) holders, commercial grade			Asi	8215-5	FALSE
10.28.PAP-WAS.01	Paper Towel and Waste	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	1	New	Category 1	-			Touchless Activation			Bobrick	B-39747	FALSE
10.28.RST-ACC.01	Restroom Accessories	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	16	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.28.SHA-CON.01	Sharps Container	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	2	New	Category 1	-								FALSE
10.28.SHV-UTL.01	Shelving - Utility	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	6	New	Category 1	205D x 1220W			Stainless steel, (4) utility hooks, commercial grade			Asi	ASI 1307	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.28.SHW-ACC.01	Shower Accessories	DIV 10	10 28 00 - Toilet, Bath, and Laundry Accessories	2	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.28.SHW-ROD.01	Shower Curtain Rod	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	2	New	Category 1	-			commercial grade, concealed mounting, stainless steel, mount on concealed wall brackets			ASI	1224 - Shower Curtain with concealed mounting flanges	FALSE
10.28.TBL-CHG.01	Table - Adult Change	DIV 10	10 28 00 - Toilet, Bath and Laundry Accessories	3	New	Category 1	1057D x 1910W			Height Adjustable, max 385lbs, ability to fold against wall, commercial grade				Pressalit Care 2000 Adult Changing Table	FALSE
10.43.CBT-AID.01	Cabinet - First Aid	DIV 10	10 43 00 - Emergency Aid Specialties	2	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.51.LKR-DBL.01	Locker - Double Tier	DIV 10	10 51 00 - Lockers	32	New	Category 1				Metal Lockers, Solid base, sloped top			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.51.LKR-SNG.01	Locker - Single Tier	DIV 10	10 51 00 - Lockers	16	New	Category 1	455D x 305W			steel, solid base, sloped top, coat bar, shelf					FALSE
10.51.LKR-TRI.01	Locker - Three Tier	DIV 10	10 51 00 - Lockers	15	New	Category 1				45 lockers total, steel, solid base, sloped top					FALSE
10.56.CAB-COL.01	Cabinet - Collections - Botany	DIV 10	10 56 00 - Storage Assemblies	75	New	Category 1	485D x 1830H x 1400W		Fill carriages with 10.56.CAB-COL.57 first, then fill with the rest and stack 2 high.	Herbarium Sheets: Lock; w/ (1) pull out shelf in each cabinet			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.01.01	Cabinet - Collections - Botany	DIV 10	10 56 00 - Storage Assemblies	150	New	Category 4	485D x 1830H x 1400W		Fill carriages with 10.56.CAB-COL.57 first, then fill with the rest and stack 2 high.	Herbarium Sheets: Lock; w/ (1) pull out shelf in each cabinet			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.02	Cabinet - Collections - Botany	DIV 10	10 56 00 - Storage Assemblies	35	New	Category 1	485D x 1830H x 1400W		Stack 2 high	Cones & Bryophytes: Locks; w/ (1) pull out shelf + (28) pull out trays with stops in each cabinet			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.03	Cabinet - Collections - Botany	DIV 10	10 56 00 - Storage Assemblies	1	Existing	Category 3	480D x 2135H x 760W	Botany Cabinet		Locks, (2) Door, (1) pull-out shelf			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.04	Cabinet - Collections - Vertebrate Zoology	DIV 10	10 56 00 - Storage Assemblies	130	New	Category 4	990D x 1524H x 1425W		Stack over 10.56.CAB-COL.46	Locks, center dividers, (40) 45H pull-out trays with stops			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.05	Cabinet - Collections - Flat File	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	1220D x 915H x 2440W			1 drawer beneath top and 1 shelf.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.06	Cabinet - Collections - Flat File	DIV 10	10 56 00 - Storage Assemblies	4	Existing	Category 2	1070D x 430H x 1370W		Stack 4 high	(5) trays per unit			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.07	Cabinet - Collections - Base	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	To suit			Fireproof, locking casters; for use with (2) existing fireproof zoology cabinets 765D x 2135H x 1220W			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.08	Cabinet - Collections - Paleontology	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 1	740D x 1070H x 635W			For use in transporting collections. Do not require dedicated floorspace and are not in HDMS. Fit out interior with 25mm o.c. liner to fit (6) - 45mm high trays (with stops). Lock, half width/half height on casters. Top to match Paleontology lab tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.09	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	1220D x 3660H x 1220W			(15) adjustable shelves at bottom; closed sides, backs and tops Cornell tray interior liner. Lock, locking casters. Provide tops to match counter top specified in Entomology Clean Lab.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.10	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	510D x 1070H x 560W	For dry collections		All cabinets with locks and pull out shelf with stop. Interior fit out with center divider for Cornell trays. Of total required, (67) to be filled with existing trays. For balance of cabinets, supply Cornell (42) trays/cabinet. Factory seal tray bottoms with silicone or approved sealant.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.11	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	80	New	Category 1	510D x 1830H x 1095W			All cabinets with locks and pull out shelf with stop. Interior fit out with center divider for Cornell trays. Of total required, (67) to be filled with existing trays. For balance of cabinets, supply Cornell (42) trays/cabinet. Factory seal tray bottoms with silicone or approved sealant.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.11.01	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	116	New	Category 4	510D x 1830H x 1095W		Stack over 10.56.CAB-COL.11 or 10.56.CAB-COL.12	All cabinets with locks and pull out shelf with stop. Interior fit out with center divider for Bioquipt trays. Of total required, (18) to be filled with existing trays. For balance of cabinets, supply Bioquipt (42) trays/cabinet. Factory seal tray bottoms with silicone or approved sealant.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.12	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	26	New	Category 1	510D x 1830H x 1095W			Factory seal tray bottoms with silicone or approved sealant.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.13	Cabinet - Collections - Flat File	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	1070D x 430H x 1370W		Stack 2 high	(5) trays per unit. Provide base and top to match Labe Casework - Counter Top's within room.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.14	Cabinet - Collections - Flat File	DIV 10	10 56 00 - Storage Assemblies	2	Existing	Category 2	1220D x 405H x 1525W		Stack 2 high	(5) Drawers. Provide base and top to match Lab Casework - Counter Top within room. Heavy-duty, 25mm liner, (6) each 50D, 100D, 150D drawers, (4) adjustable shelves above; closed sides, backs and tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.15	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 1	1070D x 3660H x 1375W			Heavy-duty, 25mm liner, (6) each 50D, 100D, 150D drawers, (4) adjustable shelves above; closed sides, backs and tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.15.01	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	10	New	Category 4	1070D x 3660H x 1375W			Heavy-duty, 25mm liner, (6) each 50D, 100D, 150D drawers, (4) adjustable shelves above; closed sides, backs and tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.16	Cabinet - Collections - Flat File	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	1070D x 430H x 1370W		Stack 2 high				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.17	Cabinet - Collections - Flat File with Shelves	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	1220D x 3660H x 2440W			Provide (23) 76H flatfile drawers with stops and (8) adjustable shelves in open case above.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.18	Cabinet - Collections - Flat File with Shelves	DIV 10	10 56 00 - Storage Assemblies	40	New	Category 1	1070D x 3660H x 1375W			Provide (23) 76H flatfile drawers with stops and (8) adjustable shelves in open case above.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.19	Cabinet - Collections - Flat File with Light Table	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	1370D X 915H X 2745W			Locking drawers, Locking casters, Integral custom light table top.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL.20	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	760D x 3050H x 1525W			(5) 150D drawers, (4) adjustable shelves, solid back, sides and top.			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.CAB-COL21	Cabinet - Collections - Flat File with Shelves	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 1	1070D x 3660H x 1375W			(20) drawers at 76H each with (6) adjustable shelves above to 3660H			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL22	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	510D x 2135H x 1090W			locks, (20) pullout trays w/ Bioquipt liner			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL23	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	815D x 2135H x 1475W	For high value items		High-security locks, 25mm corrugated liner, (7) adjustable shelves.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL24	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	585D x 1525H x 1015W		Stack on Item 01.64.CAB-EXS.03	25mm corrugated liner, (4) shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL25	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	14	New	Category 1	815D x 2135H x 1475W	For high value items		High-security locks, 25mm corrugated liner, (6) pull-out trays with stops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL26	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	735D x 2135H x 1220W			Center divider, 1/2 capacity of trays, (7) adjustable trays			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL28	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	813D x 2135H x 1370W			Locks, (5) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL29	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	230	New	Category 1	815D x 1830H x 1475W		Stack 2 high	25mm corrugated liner, (7) adjustable shelves Optional: replace half the quantity of cabinets as 3660H open case units with doors and (15) adjustable shelves.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL30	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	60	New	Category 1	815D x 1830H x 1475W	For hanging textiles	Stack 2 high	25mm corrugated liner, (2) adjustable shelves, (1) hanging rod			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL31	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	815D x 2005H x 1475W			(10) pull-out trays per unit			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL32	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	813D x 2135H x 1475W			(5) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL33	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 1	815D x 2440H x 1475W	For weapons storage		Padlock and hasp, (2) tiers storage for 26 long-guns, (2) 95H drawers; (2) doors per cabinet on 65H base			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL34	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	990D x 1070H x 735W			(10) pull-out trays with stops, locking casters, top to match VZ Clean Lab counter top.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL35	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	510D x 1070H x 560W	For wet collections		Bioquipt tray interior liner. Lock, locking casters. Top to match Entomology Lab tops. Heavy duty with 25mm corrugated liner full height unit size to suit 1375D x 2440W trays with stops. Open case style cabinets with (12) 100H drawers with stops and (12) 50H drawers with stops. (5) adjustable shelves above.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL36	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	7	New	Category 1	To Suit x 3660H x To Suit						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL37	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 1	610D x 1830H x 1220W		Stack 2 high	25mm corrugated liner, (8) shelves, Owner prefers location in static condition along end/side wall			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL37.01	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 4	610D x 1830H x 1220W		Stack 2 high	25mm corrugated liner, (8) shelves, Owner prefers location in static condition along end/side wall			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL38	Cabinet - Collections - Map	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	1220D x 1370W			(5) Drawers. Provide base and top to match Lab Casework - Counter Top within room.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL38.01	Cabinet - Collections - Map	DIV 10	10 56 00 - Storage Assemblies	4	Existing	Category 2	1370D x 3660H x 2745W			(5) Drawers. Provide base and top to match Lab Casework - Counter Top within room.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL39	Cabinet - Collections - Multi-Depth	DIV 10	10 56 00 - Storage Assemblies	10	New	Category 1	760D x 2440H x 1220W			915H base cabinet w/ shelves and doors. 305D cabinets w/ shelves and glass doors above to total height of 2440H. Locks on all doors and drawers			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL40	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	11	New	Category 1	740D x 1830H x 1220W			1830H Art bin with (3) intermediate partitions, (3) adjustable shelves above; closed sides, backs and tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL40.01	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 4	740D x 1830H x 1220W		Stack over 10.56.CAB-COL40 as quantities permit	1830H Art bin with (3) intermediate partitions, (3) adjustable shelves above; closed sides, backs and tops.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL41	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	1370D x 3660H x 2745W		Place in static locations	Heavy-duty, (8) 150D drawers, (6) adjustable shelves above; closed sides, backs and tops			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL41.01	Cabinet - Collections - Open Case	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 4	1370D x 3660H x 2745W		Place in static locations	Heavy-duty, (8) 150D drawers, (6) adjustable shelves above; closed sides, backs and tops			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL42	Cabinet - Collections - Paleontology	DIV 10	10 56 00 - Storage Assemblies	86	New	Category 1	740D x 1830H x 1220W		Stack 2 high	Locking with Center divider, 25mm o.c. liner with qty (40) 45mm high trays (with stops).			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL42.01	Cabinet - Collections - Paleontology	DIV 10	10 56 00 - Storage Assemblies	190	New	Category 4	740D x 1830H x 1220W		Stack 2 high	Locking with Center divider, 25mm o.c. liner with qty (40) 45mm high trays (with stops).			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL43	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	32	New	Category 1	510D x 1830H x 1095W		Stack 2 high	All cabinets with locks, 25mm corrugated liner, (1) and pull out shelf with stop. Interior fit out fill each cabinet with 58mm high pull out trays (with stops) sized to fit (8) Bioquipt unit trays 117.5x210x46mm. Alternate Option: Provide 3660H open case style with (2) doors with locks, 25mm corrugated liner, (1) and pull out shelf with stop. Interior fit out fill each cabinet with 58mm high pull out trays (with stops) sized to fit (8) Bioquipt unit trays 117.5x210x46mm.			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet	
10.56.CAB-COL43.01	Cabinet - Collections - Entomology	DIV 10	10 56 00 - Storage Assemblies	30	New	Category 4	510D x 1830H x 1095W		Stack 2 high	All cabinets with locks, 25mm corrugated liner, (1) and pull out shelf with stop. Interior fit out fill each cabinet with 58mm high pull out trays (with stops) sized to fit (8) Bioquipt unit trays 117.5x210x46mm. Alternate Option: Provide 3660H open case style with (2) doors with locks, 25mm corrugated liner, (1) and pull out shelf with stop. Interior fit out fill each cabinet with 58mm high pull out trays (with stops) sized to fit (8) Bioquipt unit trays 117.5x210x46mm. (3) pole brackets; poles to fill entire face. Exact pole lengths to be confirmed by Owner. Canopy, closed back and sides. (3) pole brackets; poles to fill entire face. Exact pole lengths to be confirmed by Owner. Canopy, closed back and sides. (3) pole brackets; poles to fill entire face. Exact pole lengths to be confirmed by Owner. Canopy, closed back and sides.			Refer to Schedule 1 - Statement of Requirements	-	FALSE	
10.56.CAB-COL44	Cabinet - Collections - Rolled Textile	DIV 10	10 56 00 - Storage Assemblies	30	New	Category 1	810D x 3505H x 915W							Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL44.01	Cabinet - Collections - Rolled Textile	DIV 10	10 56 00 - Storage Assemblies	30	New	Category 4	810D x 3505H x 915W							Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL45	Cabinet - Collections - Rolled Textile	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	760D x 3505H x 7925W							Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL46	Cabinet - Collections - Vertebrate Zoology	DIV 10	10 56 00 - Storage Assemblies	130	New	Category 1	990D x 2135H x 1425W	for antlers/horns/articulated skeletons.	Stack 2 high	Locks, center dividers, (56) pull-out trays with stops. Design cabinets for future addition of 1525H cabinets stacked on top.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL47	Cabinet - Collections - Vertebrate Zoology	DIV 10	10 56 00 - Storage Assemblies	40	New	Category 1	990D x 2135H x 1425W	For taxidermy	Stack 2 high	Locks, center dividers, (56) pull-out trays with stops. Design cabinets for future addition of 1525H cabinets stacked on top.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL48	Cabinet - Collections - Vertebrate Zoology	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	990D x 2135H x 1420W	Vertebrate Zoology	Stack 2 high	(18) trays, Center divider, w/ stops, 1/3 capacity of trays				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL49	Cabinet - Collections - Vertebrate Zoology	DIV 10	10 56 00 - Storage Assemblies	40	New	Category 4	990D x 1525H x 1425W		Stack on top of 10.56.CAB-COL47	Locks, center dividers, (40) 45H pull-out trays with stops				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL50	Cabinet - Collections - Zoology	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	765D x 1095H x 610W			Locking casters, top to match IZ Clean Lab counter tops				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL51	Cabinet - Collections - Zoology	DIV 10	10 56 00 - Storage Assemblies	70	New	Category 1	765D x 1830H x 1220W		Stack 2 high	Center divider, (54) aluminum trays per cabinet				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL51.01	Cabinet - Collections - Zoology	DIV 10	10 56 00 - Storage Assemblies	26	New	Category 4	765D x 1830H x 1220W		Stack 2 high	Center divider, (54) aluminum trays per cabinet				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL52	Cabinet - Collections - Zoology	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	760D x 1830H x 1220W	Zoology	Stack 2 high	Center divider, 1/3 capacity of trays				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL53	Cabinet - Collections - Zoology	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	815D x 2135H x 1370W	Zoology	Stack 2 high	(7) adjustable shelves, Center divider, 1/3 capacity of trays				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL54	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	41	New	Category 4	435D x 1525H x 1020W		Stack on Item 01.64.CAB-EXS.01	25mm corrugated liner, (4) shelves				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL55	Cabinet - Collections - Map	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	1220D x 915H x 1370W			(4) Shelves. Provide base and top to match Lab Casework in Archives Lab. Option 1: Provide full quantity of units @1830H, stacked 2 high, 25mm liners, 10 trays with stops. Option 2: provide 1/2 quantity 3660H open case units with 21 trays with stops and full height doors. Option 1: Stack 2 high, 1830H cabinets, with 25mm liners, 10 trays with stops. Option 2: provide 1/2 quantity 3660H open case units with 21 trays with stops and full height doors.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL56	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	180	New	Category 1	815D x 1830H x 1475W		Stack 2 high					Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL56.01	Cabinet - Collections	DIV 10	10 56 00 - Storage Assemblies	56	New	Category 4	815D x 1830H x 1475W		Stack 2 high					Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL57	Cabinet - Collections - Botany	DIV 10	10 56 00 - Storage Assemblies	150	Existing	Category 3	485D x 2135H x 760W							Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.CAB-COL58	Cabinet - Collections - Paleontology	DIV 10	10 56 00 - Storage Assemblies	114	Existing	Category 3	815D x 940H x 670W		Stack 3 high, do not place on HDMSS carriages					Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL01	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area			Static aisle is the BC Archaeology Access Zone, HDMSS with 2135W moving aisle for 100% of program area Provide minimum 2440W static aisle. Static aisle may be shared by more than one HDMSS. Minimum moving aisle width = 4000W for first 32,800L of HDMSS. Provide additional 305W to moving aisle for every 2440L increment of HDMSS beyond 32,800L.			Refer to Schedule 1 - Statement of Requirements	-	FALSE	
10.56.HDM-COL02	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle							Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL03	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	To suit equipment			Area includes 1220 moving aisle				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL04	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area			Static aisle is Botany Access Zone. Provide compactor rails for 100% of program area. 2440W moving aisle required.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL05	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			2440W static aisle, HDMSS with 1830W moving aisle for remaining program area.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL06	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			2440W static aisle, HDMSS with 1830W moving aisle for remaining program area.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL07	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area			Static aisle is Entomology Access Zone; HDMSS with 2440W moving aisle for 100% of program area				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL08	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			Minimum 2440W static aisle; HDMSS with 1830W moving aisle for remainder of program area				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL09	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			2440W static aisle; HDMSS with 3660W moving aisle for balance of program area				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL10	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			1525W static aisle; HDMSS with 1525W moving aisle for balance of program area				Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.HDM-COL.11	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			minimum 2440W static aisle. Static aisle may be shared by two systems. If aisle is shared provide min 3050W. HDMSS for remainder of program area; 3965W minimum moving aisle for 14% of HDMSS area			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.12	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area			Static area is the IZ Access Zone, HDMSS with 2135W moving aisle for 100% of program area			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.13	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			2440W static aisle, HDMSS with 3660W moving aisle for balance of program area			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.14	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			Double loaded 2440W static aisle; HDMSS with 5185W moving aisle for remainder of program area.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.15	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus art rack area and static aisle			PDP Access Zone is the static aisle. HDMSS with 2745W moving aisle for balance of program area excluding area for the art screens.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.16	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus seating area and static aisle			1220W static aisle. Provide compactor rails w/ 1220W moving aisle for remainder of area minus area required for seating			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.17	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Room Area minus static aisle			2440W static aisle; HDMSS with 3660W moving aisle for balance of program area			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.18	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Area to suit			1525W moving aisle			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.HDM-COL.19	HDMSS - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	Area to suit			Merge into Archives Collections Storage HDMSS. Fit Sister's of St. Anne's storage assembly requirements.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.KSK-INF.01	Kiosk - Collections Information	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 3				Located in portal niche. 2 portals per niche. 1 niche per section. Provide power and ethernet. [what are the sections? do we have more info on the size of the niches? Are these at the entries to the collection access areas?]			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.LDR-ROL.01	Ladder - Rolling	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	1220H			610D x 610W Platform. Handrails, spring loaded casters, metal, powder coat finish.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.LDR-ROL.02	Ladder - Rolling	DIV 10	10 56 00 - Storage Assemblies	14	New	Category 1	2750H			610D x 610W Platform, handrails, spring loaded casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.LDR-ROL.03	Ladder - Rolling	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	2135H			610D x 610W Platform, handrails, spring loaded casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.LDR-ROL.04	Ladder - Rolling	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	1830H			610D x 610W Platform, handrails, spring loaded casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.PFM-COL.01	Platform - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	815D x 3660H x 1830W			Welded steel, powder coated, (1) platform for (1) 770L stainless steel tank on sled base with (8) adjustable shelves above; leave space at bottom of shelving unit for (1) 770L stainless steel tank on locking casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.PFM-COL.02	Platform - Collections	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	1220D x 3660H x 2135W			Welded steel, powder coated, (1) platform for (1) 2450L stainless steel tank on sled base with (6) adjustable shelves above; leave space at bottom of shelving unit for (1) 2450L stainless steel tank on locking casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.PFM-COL.03	Platform - Collections	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 3	1220D x 1220H x 2440L			Open face. Install on 1220D plinth. On concealed casters, welded steel			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RAL-ART.01	Rail - Art - Collections	DIV 10	10 56 00 - Storage Assemblies	21	New	Category 1	2440 Long		Mount above vitrine and casual seating niches.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.01	Rack - Art - Collections	DIV 10	10 56 00 - Storage Assemblies	30	New	Category 1	Varies			Provide total area of 785M. Mount racks on walls and provide 1220W clear space in front of face of rack which may not include the static aisle. Mount bottom of rack at a minimum of 1220H AFF.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.02	Rack - Art - Collections	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	2440H x 7320W		Wall Mount	Logistical space, provide hooks for artwork Provide total area of 130sm. Mount racks on the end walls of the HDMSS provide 915W clear aisle in front. If additional rack area is required, mount on room walls at 2440H AFF, 1220W clear space in front of rack may be space above cabinet on HDMSS or static aisle. Quantity of racks may vary to suit varying sizes of racks as long as overall required area is met.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.03	Rack - Art - Collections	DIV 10	10 56 00 - Storage Assemblies	50	New	Category 1	Varies						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.04	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	2135H x 3050W		Mount @ 915H AFF				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.05	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	2440H x 7315W		Wall Mounted @ 1220H AFF				Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.06	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	36575L x 2440H	For odd shaped large objects		Mount @ 1220AFF. Provide 1370W clear space in front for entire length. Place racks in recess behind HDMSS with access through moving aisle.	May be split into multiple pieces to accommodate columns. Panels may be 1220 x 1220 unistrut grid or art rack.		Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.07	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	36575L x 3660H	For odd shaped, medium depth objects		Mount @ 1220AFF. Provide 1070W clear space in front for entire length. Place racks in recess behind HDMSS with access through moving aisle.	May be split into multiple pieces to accommodate columns		Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.08	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	36575L x 2440H	For flat odd shaped objects		Mount @ 1220AFF. Provide 460W clear space in front for entire length. Place racks in recess behind HDMSS with access through moving aisle.	May be split into multiple pieces to accommodate columns		Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.09	Rack - Art - Collections - Hanging Panels	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	3350 Long						Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.RCK-ART.10	Rack - Art - Collections - Pull-out	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	3000 sm		Space 2/3 of art rack area at 305w on centre and remaining 1/3 at 254w on centre.	Overhead mounted, Pull-out screens, two sides accessible Floor supported or floor tracks not permitted; Provide hooks for artwork. Provide full extent of overhead grid structure to suit both 10.56.RCK-ART.10 AND 10.56.RCK-ART.10.01. Extend overhead grid structure for full extent of PDP Access Zone 2.203.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-ART.10.01	Rack - Art - Collections - Pull-out	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 4	1282 sm		Space 2/3 of art rack area at 305w on centre and remaining 1/3 at 254w on centre.	Overhead mounted, Pull-out screens, two sides accessible Floor supported or floor tracks not permitted; Provide hooks for artwork.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.RCK-PLA.01	Rack - Plans	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1			Wall mounted	Wall mounted, holds up to 36" sheet size			Refer to Schedule 1 - Statement of Requirements	WRWH – Pivot Wall Rack	FALSE
10.56.SHV-COL.01	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	130	New	Category 1	380D x 2440H x 915W			(7) Adjustable Shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.02	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	50	New	Category 1	460D x 2440H x To Suit			(2) lateral file drawers at bottom, (6) shelves above			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.03	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	48	New	Category 1	380D x 2890H x 915W	For use with high density mobile storage system		(8) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.04	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	405D x 3660H x 915W	Box storage		(15) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.05	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	460D x 3660H x To Suit			Heavy-duty, provide 350 linear metres of shelving to accommodate books of size 267H x 394D.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.06	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	To Suit x 3660H x To Suit	Box storage		Heavy-duty, quantity of shelving to suit (24,000) total archive boxes 318W x 267H x 394D. Shelf width to accommodate (3) to (4) boxes per length of shelf. Shelf depth to accommodate no more than (2) boxes.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-COL.06.01	Shelving - Collections - 4-Post	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 4	To Suit x 3660H x To Suit			Heavy-duty, quantity of shelving to suit (5,000) total archive boxes 318W x 267H x 394D. Shelf width to accommodate (3) to (4) boxes per length of shelf. Shelf depth to accommodate no more than (2) boxes.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-FRM.01	Shelving - Collections - Frames	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	1220D x 3660H x 1220W			4 Slots, 3 Shelves per Slot (3) vertical intermediate dividers with (5) adjustable shelves each. Closed sides, back and top.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-FRM.02	Shelving - Collections - Frames	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	1220D x 3660H x 1220W	For framed art		Provide (12) adjustable perforated shelves at code openness. Supply with a total quantity of 6,500 - 460D x 155H x 165W perforated unit trays; all trays to have full height sides and integral (not rivet attached) front curved brake metal finger lift and full-size index card holder. Minimum loading requirement: 13.3 psf (0.64 kPa).			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PFD.01	Shelving - Collections - Perforated	DIV 10	10 56 00 - Storage Assemblies	240	New	Category 1	460D x 3660H x 915W			Matching 10.56.SHV-PFD.01			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PFD.01.01	Shelving - Collections - Perforated	DIV 10	10 56 00 - Storage Assemblies	220	New	Category 4	460D x 3660H x 915W			Cantilever, heavy-duty, 4-post, 10 adjustable plank type shelves. Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.01	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	1220D x 3660H x 2440W		Fixed along end walls of compartment	Cantilever, heavy-duty, 4-post, 10 adjustable plank type shelves. Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.01.01	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	8	New	Category 4	1220D x 3660H x 2440W		Fixed along end walls of compartment	Cantilever, heavy-duty, 4-post, 10 adjustable plank type shelves. Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.02	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	15	New	Category 1	1220D x 3050H x 2440W			Cantilever. Provide (4) adjustable shelves. Minimum loading requirement: 9.4 psf (0.45 kPa).			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.03	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	40	New	Category 1	1220D x 3660H x 2440W			Heavy-duty, cantilever, (4) plank shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.04	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	167	New	Category 1	1220D x 3660H x 2440W			Cantilever, (7) plank shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.05	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 1	1220D x 3660H x 2440W			Heavy-duty, 4-post, 12 adjustable plank type shelves. Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.05.01	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	36	New	Category 4	1220D x 3660H x 2440W			Heavy-duty, 4-post, 12 adjustable plank type shelves. Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.06	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 1	1220D x 3660H x 2440W			Cantilever, (7) plank shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.07	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	1220D x 3050H x 2440W			Heavy-duty, cantilever, (4) plank shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-PLT.08	Shelving - Collections - Pallet Rack	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	815D x 1830H x 1475W		Stack 2 high	25mm corrugated liner, (10) trays with stops			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WIR.01	Shelving - Wire	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	610D x 3050H x 1830W			(7) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WIR.02	Shelving - Wire	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	915D x 3050H x 2440W			(5) adjustable shelves, commercial grade			Refer to Schedule 1 - Statement of Requirements	BU-9636120WS	FALSE
10.56.SHV-WIR.03	Shelving - Wire	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	1220D x 3050H x 2440W			(6) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WIR.04	Shelving - Wire	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	455D x Room Length			(2) shelves with space beneath for carts			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.SHV-WSP.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	9	New	Category 1	455D x 2440H x 1525W			(8) adjustable shelves Heavy-duty, (4) adjustable pull-out shelves for (4) 135L stainless steel tanks on sled bases, (6) adjustable shelves above; leave space at bottom of shelving units for (1) 135L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.02	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	460D x 3660H x 1120W			Heavy-duty, (4) adjustable pull-out shelves for (4) 135L stainless steel tanks on sled bases, (6) adjustable shelves above; leave space at bottom of shelving units for (1) 135L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.02.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 4	460D x 3660H x 1120W			Heavy-duty, (4) adjustable pull-out shelves for (4) 135L stainless steel tanks on sled bases, (6) adjustable shelves above; leave space at bottom of shelving units for (1) 135L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.03	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	161	New	Category 1	460D x 3660H x 1375W			Heavy-duty, (12) shelves Heavy-duty, quantity as required to provide 3,400 linear metres of shelving to accommodate books of size 267H x 394D			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.04	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	To suit x 3660H x To Suit	For books		Heavy-duty, quantity as required to provide 660 linear metres of shelving to accommodate books of size 267H x 394D			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.04.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 4	To suit x 3660H x To Suit	For books		Heavy-duty, quantity as required to provide 660 linear metres of shelving to accommodate books of size 267H x 394D			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.05	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	32	New	Category 1	610D x 3050H x 1220W			(10) Adjustable Shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.06	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	16	New	Category 1	610D x 3050H x 1525W			(6) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.06.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	610D x 3050H x 1525W			(6) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.07	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	9	New	Category 1	610D x 3050H x 1830W			Provide (5) adjustable shelves. Minimum loading requirement: 20 psf (0.95 kPa). Heavy-duty. Quantity of shelving to accommodate easy shelving and removal of 100 lineal metres of archive boxes 318W x 305H x 394D on shelving with 3 or 4 boxes per shelf with no more than 2 boxes deep. Provide open shelving units to accommodate easy shelving and removal of 37 LM of books on shelving of same size. Solid tops and end panels			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.08	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	To suit x 3660H x To suit						Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.09	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 1	610D x 3660H x 1220W			(10) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.10	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	610D x 3660H x 1525W			Heavy-duty, (10) adjustable shelves; closed sides, backs and tops			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.10.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	10	New	Category 4	610D x 3660H x 1525W			Heavy-duty, (10) adjustable shelves; closed sides, backs and tops Heavy-duty, (3) adjustable pull-out shelves for (3) 264L stainless steel tanks on sled bases, (6) adjustable shelves above. Leave space at bottom of shelving units for (1) 264L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.11	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	20	New	Category 1	685D x 3660H x 940W		Locate against static wall, provide minimum clear space in front equal to static aisle width.	Heavy-duty, (3) adjustable pull-out shelves for (3) 264L stainless steel tanks on sled bases, (6) adjustable shelves above. Leave space at bottom of shelving units for (1) 264L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.11.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 4	685D x 3660H x 940W		Locate against static wall, provide minimum clear space in front equal to static aisle width.	Heavy-duty, (3) adjustable pull-out shelves for (3) 264L stainless steel tanks on sled bases, (6) adjustable shelves above. Leave space at bottom of shelving units for (1) 264L stainless steel tank on locking casters.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.12	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	21	New	Category 1	760D x 3050H x 1525W			(6) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.13	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	915D x 3050H x 1830W			(15) shelves per unit			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.14	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	8	New	Category 1	915D x 3050H x 2440W			Heavy duty 4 post (10 adjustable shelves). Provide solid top and solid end panels on carriage rows			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.15	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	915D x 3050H x 2440W			(5) adjustable shelves above, space below for rolling cart			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.16	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	10	New	Category 1	762D x 3660H x 1220W	Boxed small objects		Heavy duty, (10) 76mm high pull-out trays with stops. Solid canopy, sides and back			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.17	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	0	New	Category 1	915D x 3660H x 1830W			Heavy duty 4 post (10 adjustable shelves). Provide solid top and solid end panels on carriage rows Heavy-duty, 4-post, 20 adjustable, pull-out, plank type shelves. Provide solid top and backs and solid end panels on carriage rows			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.18	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 1	915D x 3660H x 2440W			Heavy-duty, 4-post, 20 adjustable, pull-out, plank type shelves. Provide solid top and backs and solid end panels on carriage rows			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.18.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 4	915D x 3660H x 2440W			Heavy-duty, 4-post, 20 adjustable, pull-out, plank type shelves. Provide solid top and backs and solid end panels on carriage rows			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.19	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	18	New	Category 1	915D x 3660H x 2440W		Locate against static wall	Pull out shelves (plank); Heavy duty, 4 post (16 pull-out shelves). Provide solid top and solid end panels on carriage rows.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.20	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	1070D x 865H x 1370W			Mounted at 1725 AFF. above Flat Files. 5 adjustable shelves.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.21	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	1220D x 3050H x 1830W			10 Adjustable Shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE
10.56.SHV-WSP.22	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	1220D x 3050H x 2440W			(5) adjustable shelves			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.SHV-WSP.23	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	24	New	Category 1	1220D x 3660H x 2440W	For furs		Heavy-duty, (10) 205H pull-out trays at 250H on center, (2) adjustable shelves above. Optional: These could be WSP or Open Case with sides/back/top.			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.23.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	16	New	Category 4	1220D x 3660H x 2440W	For furs		Heavy-duty, (10) 205H pull-out trays at 250H on center, (6) adjustable shelves above; solid top, back and sides. Optional: replace all shelving with pallet racks with same fit-out.			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.24	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	5	New	Category 1	1220D x 3660H x 1525W			Heavy-duty, (12) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.24.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 4	1220D x 3660H x 1525W			Heavy-duty, (12) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.25	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	1525W x 1220D x 3660H			12 adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.26	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	8	New	Category 1	1220D x 3660H x 1525W			Heavy-duty, (8) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.26.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	16	New	Category 4	1220D x 3660H x 1525W			Heavy-duty, (8) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.27	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	450D x 3660H x 1830W						Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.28	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	1220D x 3660H x 2440W	For whales		Heavy-duty, (8) adjustable plank style shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.29	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	21	New	Category 1	385D x 3050H x 1220W	Book storage		(10) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.30	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	To suit x 3660H x To suit	Book storage		(12) adjustable shelves, quantity of shelving to suit (1,200) total archive boxes 318W x 305H x 394D. Shelf width to accommodate (3) to (4) boxes per length of shelf. Shelf depth to accommodate no more than (2) boxes.			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.31	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	To suit x 3660H x To Suit			(11) adjustable shelves, Actual archive boxes dimensions are 305W x 305H x 458D. Quantity of shelves to accommodate easy reshelving and removal of 1,060 boxes on shelving with 3 or 4 boxes per length of shelf and no more than 2 boxes deep.			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.32	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	610D x 3660H x 1220W			(16) pull-out trays with stops			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.32.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 4	610D x 3660H x 1220W			(16) pull-out trays with stops			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.33	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	610D x 3660H x 1220W			(16) pull-out trays with stops			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.33.01	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 4	610D x 3660H x 1220W			(16) pull-out trays with stops			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.34	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	16	New	Category 1	610D x 3660H x 1220W	for glass slides in wooden boxes		Heavy-duty, (16) 152H pull-out trays with stops and (2) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.35	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 1	610D x 2135H x 1220W			Locking casters, (6) adjustable shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.SHV-WSP.36	Shelving - Collections - Wide Span	DIV 10	10 56 00 - Storage Assemblies	8	New	Category 1	915D x 3660H x 2440W	For Furniture		Heavy duty, (4) plank type shelves			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.01	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	3	New	Category 1	135L			On caster base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.01.01	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	2	New	Category 4	135L			On caster base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.02	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	12	New	Category 1	135L			On sled base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.02.01	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	8	New	Category 4	135L			On sled base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.03	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	20	New	Category 1	265L			On caster base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.03.01	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	6	New	Category 4	265L			On caster base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.04	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	60	New	Category 1	265L			On sled base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.04.01	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	18	New	Category 4	265L			On sled base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.05	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	2450L			Custom, On caster base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.06	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	4	New	Category 1	2450L			Custom, On sled base			Refer to Schedule 1 - Statement of Requirements -		FALSE
10.56.TNK-SST.07	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	770L			On casters			Refer to Schedule 1 - Statement of Requirements -		FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
10.56.TNK-SST.08	Tank - Collections - Stainless Steel	DIV 10	10 56 00 - Storage Assemblies	1	New	Category 1	770L						Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.14.BRR-BLT.01	Belt Barrier - Retractable	DIV 11	11 14 00 - Pedestrian Control Equipment	8	New	Category 1	24 person queueing line						-	-	FALSE
11.21.POS-TER.01	P.O.S. Terminal	DIV 11	11 21 00 - Retail and Service Equipment	1	Existing	Category 3	-						Merchant Provider: TD	-	FALSE
11.21.VEN-MCH.01	Vending Machine	DIV 11	11 21 00 - Retail and Service Equipment	1	New	Category 3	950D x 1830H x 750W	For snacks and beverages	provide floor space	Variable temperature			Wittern Group	EVOKE 3 VT	TRUE
11.21.VEN-MCH.02	Vending Machine	DIV 11	11 21 00 - Retail and Service Equipment	1	New	Category 3	950D x 1830H x 750W	For fresh foods	Provide floor space	Variable temperature			Wittern Group	EVOKE 3 VT	TRUE
11.41.EQP-RFG.01	Equip - General - Refrigerator - Display Case	DIV 11	11 41 00 - Foodservice Storage Equipment	1	New	Category 1	760D x 1985H x 780W			Flat shelves			QBD	CD26-HC	TRUE
11.41.EQP-RFG.02	Equip - General - Refrigerator	DIV 11	11 41 00 - Foodservice Storage Equipment	2	New	Category 1	735D x 1795H x 940W						LG	LRMNC1803	TRUE
11.52.PRI-LSR.01	High Lumen Laser Projector	DIV 11	11 52 00 - Audio-Visual Equipment	1	New	Category 1	-		Space evenly along Circulation Spine				Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.52.PRI-LSR.02	High Lumen Laser Projector	DIV 11	11 52 00 - Audio-Visual Equipment	0	New	Category 1	-	For public art	Refer to Schedule 1 - Statement of Requirements				Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.52.PRI-LSR.03	High Lumen Laser Projector	DIV 11	11 52 00 - Audio-Visual Equipment	3	New	Category 1	-		on movable cart	Exterior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.52.PRI-LSR.04	High Lumen Laser Projector	DIV 11	11 52 00 - Audio-Visual Equipment	1	New	Category 1	-		ceiling mount				Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.52.PRI-SCR.01	Projection Screen	DIV 11	11 52 00 - Audio-Visual Equipment	4	New	Category 1	1475H x 2640W 3025 Diagonal		Wall mount	Motorized, remote control, 16:9			Draper	Access V	TRUE
11.52.PRI-SCR.02	Projection Screen	DIV 11	11 52 00 - Audio-Visual Equipment	1	New	Category 1	3740H x 6220W 6300 Diagonal		Mount behind Stage, wall or ceiling mount, tab-tensioned	Motorized, remote and manual control at , 16:9 ratio			Draper	Access XL V	TRUE
11.52.RCK-ADV.01	Rack - AV	DIV 11	11 52 00 - Audio-Visual Equipment	1	Existing	Category 3	1220D x 2440W		Provide 610D clearance around all sides.	Used for charging AV equipment from DES when not in use. Refer to cut sheet for list of equipment.			-	-	FALSE
11.52.RCK-ADV.02	AV Rack - Rolling	DIV 11	11 52 00 - Audio-Visual Equipment	1	New	Category 1	610D x 1220H x 610W	For lobby equipment					Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.52.ROU-VDO.01	Rough-In for Future Interactive Multi-touch Display	DIV 11	11 52 00 - Audio-Visual Equipment	1	New	Category 1	-	For future Interactive Multi-Touch Display.	rough in for services and provide plywood backing for full extent of wall where the display will be located to accommodate future installation	Display size: 12,000 Diagonal			-	-	FALSE
11.53.CAB-AIR.01	Cabinet - Compressed Air	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	800D x 850H x 940W		sits on a table within the air abrasive closet				custom existing	-	TRUE
11.53.CAB-AIR.02	Cabinet - Compressed Air	DIV 11	11 53 00 - Laboratory Equipment	1	Existing	Category 3	830D x 2750H x 940W		locate within the air abrasive closet				-	-	TRUE
11.53.CAB-BIO.01	Cabinet - Biological Safety	DIV 11	11 53 00 - Laboratory Equipment	2	New	Category 1	840D x 1575H x 1975W						NUAIRE	Refer to Schedule 1 - Statement of Requirements	TRUE
11.53.CAB-HOL.01	Cabinet - Holding	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	810D x 2135H x 1370W	For holding specimens after they've been removed from the dermestid colony			Must be air tight			-	FALSE
11.53.CAB-HOL.02	Cabinet - Holding	DIV 11	11 53 00 - Laboratory Equipment	3	New	Category 1	810D x 2135H x 1370W						-	FALSE	
11.53.CBT-DRY.01	Cabinet - Drying	DIV 11	11 53 00 - Laboratory Equipment	1	Existing	Category 2	730D x 1920H x 1220W						new England lab	3404001	TRUE
11.53.EQP-KET.01	Equip - Lab - Kettle - Steam - Commercial	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 3	1490D x 1985H x 1220W	For boiling specimen's after they've been removed from the dermestid colony	Locate next to sink, away from doors				Vulcan	GT150E	TRUE
11.53.EQP-LAB.02	Equip - Lab - Downdraft Booth	DIV 11	11 53 00 - Laboratory Equipment	0	Existing	Category 3	990D x 1880H x 765W						Diversified Air Systems, Inc	Maxflo-DB	FALSE
11.53.EQP-LAB.03	Equip - Lab - Downdraft Bench	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 2	985D x 840H x 2000W	For grinding dust and welding fume extraction	Co-ordinate delivery and installation with owner.				AirBench	FPW209084	TRUE
11.53.EQP-LAB.08	Equip - Lab - Desiccation Chamber	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 3	585D x 575H x 420W						-	-	FALSE
11.53.EQP-LAB.09	Equip - Lab - Dryer - Industrial	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 2	820D x 1220H x 760W						Miele	PT 7186 Vario	TRUE
11.53.EQP-LAB.10	Equip - Lab - Dryer - Critical Point	DIV 11	11 53 00 - Laboratory Equipment	1	Existing	Category 3	-						-	-	FALSE
11.53.EQP-LAB.11	Equip - Lab - Funnel Trap - Berlese - Collapsible	DIV 11	11 53 00 - Laboratory Equipment	20	Existing	Category 3	915H x 310 diameter	For drying samples. Up to 20 can be running at the same time for 24 hours over 14 consecutive days				High heat load	Bioquip Products	2832	TRUE
11.53.EQP-LAB.22	Equip - Lab - Sawdust Tumbler	DIV 11	11 53 00 - Laboratory Equipment	1	Existing	Category 3	700D x 850H x 1250W		Sits on a lab table, locate within the air abrasive closet				Existing	-	TRUE
11.53.EQP-LAB.53	Equip - Lab - Washer - Industrial	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 2	955D x 1455H x 930W						Miele	PW 818	TRUE
11.53.FRZ-LAB.01	Freezer - Lab - Upright - Super Cold	DIV 11	11 53 00 - Laboratory Equipment	0	New	Category 1	975D x 1985H x 965W						VWR	76307-990	FALSE
11.53.FRZ-LAB.02	Equip - Lab - Freezer - Chest - Moderate Cold	DIV 11	11 53 00 - Laboratory Equipment	5	New	Category 3	760D x 890H x 1575W						ScienTemp	34-20	TRUE
11.53.FRZ-LAB.03	Equip - Lab - Freezer - Chest - Moderate Cold	DIV 11	11 53 00 - Laboratory Equipment	2	New	Category 3	800D x 870H x 2115W						ScienTemp	34-25	TRUE
11.53.FRZ-LAB.04	Equip - Lab - Freezer - Upright - Cold	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 3	910D x 2115H x 1370W						LABRepCo,	Futura, LHP-49-FASS	FALSE
11.53.FRZ-LAB.05	Equip - Lab - Freezer - Upright - Ultra Cold	DIV 11	11 53 00 - Laboratory Equipment	2	New	Category 3	975D x 1980H x 720W	For 305D x 205H x 455W items					VWR	76307-948	FALSE
11.53.FRZ-LAB.06	Equip - Lab - Freezer - Upright - Moderate Cold	DIV 11	11 53 00 - Laboratory Equipment	8	New	Category 3	705D x 2060H x 815W	For 305D x 205H x 455W items					Thermo Fisher Scientific	TSG25FSSA	TRUE
11.53.FRZ-LAB.06.01	Equip - Lab - Freezer - Upright - Moderate Cold	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	705D x 2060H x 815W	For 305D x 205H x 455W items					Thermo Fisher Scientific	TSG25FSSA	FALSE
11.53.OVN-DRY.01	Oven - Drying - Industrial	DIV 11	11 53 00 - Laboratory Equipment	1	Existing	Category 2	600D x 835H x 805W						Thermal Product Solutions	ESP400-A-RKC RF100	TRUE
11.53.RCK-CAN.01	Rack - CO2 Canisters	DIV 11	11 53 00 - Laboratory Equipment	2	New	Category 1	-		Wall mount				-	-	FALSE
11.53.ROU-DRY.01	Rough-in for Future Hand Dryer	DIV 11	11 53 00 - Laboratory Equipment	14	New	Category 1	-	For future hand dryers					Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.53.ROU-FRE.01	Rough-in - Freezer - Lab - Upright - Ultra Cold	DIV 11	11 53 00 - Laboratory Equipment	4	New	Category 1	975D x 1980H x 719W	For future -86°C Ultra Cold Freezers	Provide floor area for future freezers with required clearances Refer to cut sheet for item 01.64.EQP-LAB. Ensure the room meets the acoustic and thermal requirements and all service connections are roughed-in to suit a future GC-MS system				VWR	76307-948	FALSE
11.53.ROU-GCM.01	Rough-in for Future GC-MS	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	-						Agilent	7890 Series GC, MS TBD	TRUE
11.53.SPI-CON.01	Spill Containment	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	to suit code requirements	For (8) 210L Drums of ethanol8					-	-	FALSE
11.53.STE-MED.01	Sterilizer - Medium	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 2	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.53.TBL-DOW.01	Table - Downdraft Necropsy	DIV 11	11 53 00 - Laboratory Equipment	0	New	Category 1	915D x 940H T/O Worksurface x 2135W						TBJ	36-84-S DD	FALSE
11.53.TNK-PEG.01	Tank - PEG	DIV 11	11 53 00 - Laboratory Equipment	4	New	Category 3	-						-	-	FALSE
11.53.VAC-DRY.01	Vacuum Freeze Dryer	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
11.53.VEN-ENC.01	Ventilated Enclosure	DIV 11	11 53 00 - Laboratory Equipment	6	New	Category 1	-						Flow Sciences	FS2015	TRUE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
11.53.WSH-GLA.01	Washer - Laboratory Glass	DIV 11	11 53 00 - Laboratory Equipment	1	New	Category 1	705D x 820H x 905W						Miele	G 7883CD	TRUE
11.61.BDT-EQP.01	Broadcast Centre Equipment	DIV 11	11 61 00 - Broadcast, Theater, and Stage Equipment	1	New	Category 3	-		Provide backing throughout room. Provide rough-in for wall mounted speakers and microphones. Provide power to ceiling grid.				Electrosonic Inc.	-	FALSE
11.73.LFT-PTN.01	Lift - Patient	DIV 11	11 73 00 - Patient Care Equipment	1	New	Category 1	-						Guldmann	GH3+	TRUE
11.97.SEC-TEL.01	Security - Telephone - AI	DIV 11	11 97 00 - Security Equipment	3	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements		
12.35.CAB-LAB.01	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	555D x 840H x 1830L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.02	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	555D x 840H x 2135L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.03	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	555D x 840H x 2440L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.04	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	12	New	Category 1	555D x 840H x 3050L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.05	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	555D x 840H x 3660L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.06	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	555D x 840H x 3660L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.07	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	0	New	Category 1	555D x 840H x 4570L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.08	Cabinet - Lab - Base	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	555D x 840H x 6100L				Metal		Mott Manufacturing	-	FALSE
12.35.CAB-LAB.09	Cabinet - Lab - Base - Mobile	DIV 12	12 35 00 - Specialty Casework	5	New	Category 1	610D x 710H x 450W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.10	Cabinet - Lab - Base - Mobile	DIV 12	12 35 00 - Specialty Casework	4	New	Category 1	610D x 710H x 450W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.11	Cabinet - Lab - Base - Mobile	DIV 12	12 35 00 - Specialty Casework	7	New	Category 1	760D x 710H x 450W		Will be stored under Lab Tables				Mott Manufacturing	-	FALSE
12.35.CAB-LAB.12	Cabinet - Lab - Base - Mobile	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	760D x 710H x 450W		Will be stored under Lab Tables				Mott Manufacturing	-	FALSE
12.35.CAB-LAB.13	Cabinet - Lab - Drying - Louvered	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1220D x 3050H x 3050W						Labconco	3404001	TRUE
12.35.CAB-LAB.14	Cabinet - Lab - Tall	DIV 12	12 35 00 - Specialty Casework	0	New	Category 1	380D x 2135H x 915W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.15	Cabinet - Lab - Tall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 2440H x 1220W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.16	Cabinet - Lab - Tall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 3050H x 1220W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.17	Cabinet - Lab - Tall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 3050H x 1220W						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.18	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	2	New	Category 1	610D x 915H x 1830L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.19	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	8	New	Category 1	610D x 915H x 2100L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.20	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	610D x 915H x 2440L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.21	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 2440L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.22	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	4	New	Category 1	610D x 915H x 3050L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.23	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 3050L		Locate above the half height collections cabinets	(2) adjustable shelves			Mott Manufacturing	-	FALSE
12.35.CAB-LAB.24	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 3660L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.25	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	0	New	Category 1	610D x 915H x 4570L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.26	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 4570L		Mount above Chest Freezer and/or Storage Boxes	Solid doors, (2) adjustable shelves			Mott Manufacturing	-	FALSE
12.35.CAB-LAB.27	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	4	New	Category 1	610D x 915H x 6100L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.28	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 8535L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.29	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 9150L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.30	Cabinet - Lab - Wall	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	610D x 915H x 9755L						Mott Manufacturing	-	FALSE
12.35.CAB-LAB.31	Cabinet - Lab - Base - Mobile	DIV 12	12 35 00 - Specialty Casework	63	New	Category 1	610D x 660H x 450W						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.01	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 1830L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.02	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 2100L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.03	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	8	New	Category 1	760D x 865H x 3050L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.04	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 3050L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.05	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 3050L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.06	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 3050L		locate adjacent to sculler sink with 1830W clear countertop space beside the sink.				Mott Manufacturing	-	FALSE
12.35.CTP-LAB.07	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 3660L		Will be stored under Lab Tables				Mott Manufacturing	-	FALSE
12.35.CTP-LAB.08	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 865H x 6100L		Will be stored under Lab Tables				Mott Manufacturing	-	FALSE
12.35.CTP-LAB.09	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	2	New	Category 1	760D x 915H x 2440L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.10	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 915H x 3660L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.11	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	0	New	Category 1	760D x 915H x 4570L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.12	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 915H x 2440L						Mott Manufacturing	-	FALSE
12.35.CTP-LAB.13	Counter Top - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 915H x 3050L						Mott Manufacturing	-	FALSE
12.35.PBD-LAB.01	Pegboard - Lab	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	130D x 915H x 610W		Mount above drainboard				Durcon	2436	TRUE
12.35.SHV-LAB.01	Shelving - Lab	DIV 12	12 35 00 - Specialty Casework	10	New	Category 1	380D x 3050H x 915W						Mott Manufacturing	-	FALSE
12.35.TBL-LAB.01	Table - Lab - Lift - Large Animal Necropsy	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1220D x Varies x 2998W		Locate in center of room				TBJ	48-118 HT-M	TRUE
12.35.TBL-LAB.02	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	95	New	Category 1	760D x Varies x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.03	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	11	New	Category 1	1220D x 915H x 2440W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.04	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	2	New	Category 1	915D x Varies x 1830W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.05	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	4	New	Category 1	1220D x Varies x 1830W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.06	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	915D x Varies x 2440W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.07	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1065D x Varies x 1525W	Workstation for book scanner					Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.08	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	69	New	Category 1	760D x 915H x 1525W	Workstation for map scanner					Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.09	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	6	New	Category 1	760D x 915H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.10	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	4	New	Category 1	1220D x 915H x 2440W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.11	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	8	New	Category 1	760D x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.12	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	760D x 915H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.13	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	760D x 915H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.14	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	12	New	Category 1	760D x Varies x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.15	Table - Lab - Adaptable - Microscope Station	DIV 12	12 35 00 - Specialty Casework	5	New	Category 1	760D x 760H x 1525W						Mott Manufacturing	Optima 2500	TRUE
12.35.TBL-LAB.16	Table - Lab - Adaptable	DIV 12	12 35 00 - Specialty Casework	3	New	Category 1	760D x 735H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.17	Table - Lab - Adaptable	DIV 12	12 35 00 - Specialty Casework	22	New	Category 1	760D x 735H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-LAB.18	Table - Lab - Lift	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1220D x Varies x 2440W						TBJ Inc	-	TRUE
12.35.TBL-LAB.19	Table - Lab - Lift	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1220D x Varies x 2440W						TBJ Inc	-	TRUE
12.35.TBL-LAB.20	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	5	New	Category 1	760D x 915H x 1525W						Mott Manufacturing	Optima (OTF)	FALSE
12.35.TBL-LAB.21	Table - Lab - Adjustable Height	DIV 12	12 35 00 - Specialty Casework	1	New	Category 1	1220D x 915H x 2440W						Mott Manufacturing	Optima (OTF)	FALSE
12.35.TBL-MSP.01	Table - Lab - Microscope Station	DIV 12	12 35 00 - Specialty Casework	18	New	Category 1	760D x 760H x 1525W						Mott Manufacturing	Optima (OTF)	TRUE
12.35.TBL-MSP.01.01	Table - Lab - Microscope Station	DIV 12	12 35 00 - Specialty Casework	2	New	Category 4	760D x 760H x 1525W						Mott Manufacturing	Optima (OTF)	FALSE
12.35.WKB-LAB.01	Workbench - Lab - Backdraft	DIV 12	12 35 00 - Specialty Casework	6	New	Category 1	760D x 760H worksurface x 1525W						TBJ Inc	31-60 BD-WB	TRUE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
12.46.CRT-CHR.01	Cart - Stacking Chairs	DIV 12	12 46 00 - Furnishings Accessories	4	New	Category 1	-	For (120) Stacking Chairs from the Lobby					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.46.CRT-CHR.02	Cart - Stacking Chairs	DIV 12	12 46 00 - Furnishings Accessories	1	New	Category 1	-	For (24) stacking chairs from Outdoor Covered Gathering/Exterior Public Queuing					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.46.CRT-TBL.01	Cart - Folding Tables	DIV 12	12 46 00 - Furnishings Accessories	1	New	Category 1	-	For (20) 1525 diameter folding round tables					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.46.CRT-TBL.02	Cart - Folding Tables	DIV 12	12 46 00 - Furnishings Accessories	1	New	Category 1	-	For (6) folding rectangular tables @ 915D x 760H x 1525W from Outdoor Covered Gathering/ Exterior Public Queuing					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.46.CRT-TBL.03	Cart - Folding Tables	DIV 12	12 46 00 - Furnishings Accessories	4	New	Category 1	-	For (4) folding rectangular tables @ 915D x 790H x 2440L					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.46.TRK-BSK.01	Truck - Basket - Collapsible	DIV 12	12 46 00 - Furnishings Accessories	3	New	Category 1	610D x 865H x 915W			Casters w/ bumper guards. Removable, washable vinyl liner. Folds to 180W for storage, commercial grade			Uline Rubbermaid	H-5038	TRUE
12.51.CAB-CDZ.01	Cabinet - Credenza	DIV 12	12 51 00 - Office Furniture	2	New	Category 1	610D x 915H x 2440W			Combination drawers, doors, shelves.			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.CAB-CDZ.02	Cabinet - Credenza	DIV 12	12 51 00 - Office Furniture	0	New	Category 1	610D x 700H x 2440W			Combination drawers, doors, shelves, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.CAB-EXT.01	Cabinet - Exterior	DIV 12	12 51 00 - Office Furniture	3	New	Category 1	760D x 2440H x 1220W			locking doors, adjustable shelves, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.CAB-LAT.01	Cabinet - Lateral File - Under Worksurface	DIV 12	12 51 00 - Office Furniture	42	New	Category 1	465D x 715H x 765W			(2) drawers, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.CAB-LFL.01	Cabinet - Lateral File	DIV 12	12 51 00 - Office Furniture	11	New	Category 1	610D x 1665H x 915W			Selection of doors and drawers from manufacturers full line of standard features, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.CAB-LFL.02	Cabinet - Lateral File	DIV 12	12 51 00 - Office Furniture	22	New	Category 1	455D x 1665H x 1070W			Locks, selection of doors and drawers from manufacturers full line of standard features, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.CAB-LFL.02.01	Cabinet - Lateral File	DIV 12	12 51 00 - Office Furniture	3	New	Category 3	455D x 1665H x 1070W			Locks, selection of doors and drawers from manufacturers full line of standard features, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.CAB-TAL.01	Cabinet - Tall - Secure	DIV 12	12 51 00 - Office Furniture	2	New	Category 1	380D x 2135H x 915W			Metal, 2 doors, Locks, shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.OFF-BKC.01	Bookcase	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	380D X 2135H X 15240L						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.OFF-BKC.02	Bookcase	DIV 12	12 51 00 - Office Furniture	22	New	Category 1	380D x 1830H x 915W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.OFF-BKC.03	Bookcase	DIV 12	12 51 00 - Office Furniture	109	New	Category 1	380D x 1220H x 915W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.PDM-SPK.01	Podium - Speaker	DIV 12	12 51 00 - Office Furniture	1	New	Category 1				WiFi connectivity, Software to connect to projector in Lobby, integrated wire management, integrated pencil stop, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-MBL.01	Shelving - Mobile - Manual	DIV 12	12 51 00 - Office Furniture	11	New	Category 1	450D x 2440H x 1220W			(6) adjustable shelves each			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.01	Shelving - Open	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	1220D x 3050H x 2440W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.02	Shelving - Open	DIV 12	12 51 00 - Office Furniture	2	New	Category 1	1220D x 3050H x 2440W			5 adjustable shelves above, space below for rolling carts and Rack - Rolling - Roll Storage			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.03	Shelving - Open	DIV 12	12 51 00 - Office Furniture	2	New	Category 1	915D x 3050H x 2440W			(5) adjustable shelves above, space below for carts and Cart - Roll Storage			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.04	Shelving - Open	DIV 12	12 51 00 - Office Furniture	8	New	Category 1	1220D x 3050H x 2440W			(5) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.05	Shelving - Open	DIV 12	12 51 00 - Office Furniture	8	New	Category 1	610D x 2440H x 1830W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
12.51.SHV-OPN.06	Shelving - Open - Pallet Rack	DIV 12	12 51 00 - Office Furniture	5	New	Category 1	1220D x 3050H x 2440W			Cantilever, 1525H space at bottom w/(4) adjustable shelves above, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.SHV-OPN.07	Shelving - Open	DIV 12	12 51 00 - Office Furniture	12	New	Category 1	610D x 2440H x 1220W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.SHV-OPN.08	Shelving - Open	DIV 12	12 51 00 - Office Furniture	8	New	Category 1	915D x 3050H x 2440W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.SHV-OPN.09	Shelving - Open	DIV 12	12 51 00 - Office Furniture	21	New	Category 1	610D x 3050H x 1220W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.SHV-OPN.10	Shelving - Open	DIV 12	12 51 00 - Office Furniture	8	New	Category 1	610D x 3050H x 1220W			(7) adjustable shelves			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.SHV-VTL.01	Shelving - Vertical Storage	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	1525D x 2590H x 2440W	For storage of sheet goods		vertical dividers @ 610 o.c.			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.STL-CBN.01	Stool - High - Collaboration	DIV 12	12 51 00 - Office Furniture	3	New	Category 1	-			commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.STL-WBL.01	Stool - Wobble	DIV 12	12 51 00 - Office Furniture	5	New	Category 1	Varies			Lobby stool w/ back			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-CBN.01	Table - Collaboration - Seated Height	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	915D x 725H x 1830W			Seats (6)			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-CBN.02	Table - Collaboration - Seated Height	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	915D x 725H x 915D			Seats (2)			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-CBN.03	Table - Collaboration - Standing	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	1070 Square x 725H			For (3) people			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-CBN.04	Table - Collaboration - Seated Height	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	915D x 725H x 1220W			Seats (4)			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-CNF.01	Table - Conference	DIV 12	12 51 00 - Office Furniture	2	New	Category 1	1220D x 725H x 2440W			Seats 8			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-FLD.01	Table - Folding - Classroom	DIV 12	12 51 00 - Office Furniture	21	New	Category 1							Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LBR.01	Table - Library - Rolling	DIV 12	12 51 00 - Office Furniture	24	New	Category 1	760D x 725H x 1525W			Locking Casters			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LBY.01	Table - Lobby - Type 1	DIV 12	12 51 00 - Office Furniture	4	New	Category 1	915 Round x 1070H						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LBY.02	Table - Lobby - Type 2	DIV 12	12 51 00 - Office Furniture	5	New	Category 1	1070 Square x 725H						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LBY.03	Table - Folding - Lobby - Rectangle	DIV 12	12 51 00 - Office Furniture	4	New	Category 1	915D x 760H x 2440W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LBY.04	Table - Folding - Lobby - Round	DIV 12	12 51 00 - Office Furniture	20	New	Category 1	915D x 760H x 2440W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LCH.01	Table - Lunchroom	DIV 12	12 51 00 - Office Furniture	4	New	Category 1							Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-LCH.02	Table - Exterior - Lunchroom	DIV 12	12 51 00 - Office Furniture	2	New	Category 1				Table will be heavy enough to deter theft			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-MTG.01	Table - Meeting - Rectangle	DIV 12	12 51 00 - Office Furniture	4	New	Category 1	915D x 725H x 1830L						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-MTG.01.01	Table - Meeting - Rectangle	DIV 12	12 51 00 - Office Furniture	6	New	Category 3	915D x 725H x 1830L						Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.51.TBL-MTG.02	Table - Meeting - Rectangle	DIV 12	12 51 00 - Office Furniture	1	New	Category 1	1220D x 1015H x 1525W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
12.51.TBL-MTG.03	Table - Meeting - Round	DIV 12	12 51 00 - Office Furniture	3	New	Category 1	1220 Diameter						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-MTG.04	Table - Meeting - Round	DIV 12	12 51 00 - Office Furniture	11	New	Category 1	915 Diameter						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.51.TBL-SCH.01	Table - School - Tilt Top	DIV 12	12 51 00 - Office Furniture	6	New	Category 1	735D x 735H x 1525W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.BCH-LCH.01	Bench - Lunchroom	DIV 12	12 52 00 - Seating	1	New	Category 1	5100L			Seats (6) at (3) tables, provide back rest			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-CBN.01	Chair - Collaboration	DIV 12	12 52 00 - Seating	5	New	Category 1	-			Guest chair, upholstered, no arms, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-CBN.2	Chair - Collaboration	DIV 12	12 52 00 - Seating	5	New	Category 1	-			Guest chair, upholstered, arms, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-CNF.01	Chair - Conference	DIV 12	12 52 00 - Seating	16	New	Category 1	-			Adjustable height, arms, casters, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-DSK.01	Chair - Desk - Office	DIV 12	12 52 00 - Seating	46	New	Category 1	-			Lab desk chair, height adjustable, arms, casters, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-DSK.02	Chair - Desk - Office	DIV 12	12 52 00 - Seating	175	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-DSK.03	Chair - Desk - Public	DIV 12	12 52 00 - Seating	36	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-EXT.01	Chair - Exterior	DIV 12	12 52 00 - Seating	24	New	Category 1	-			Exterior, stacking, no arms, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-EXT.02	Chair - Exterior - Lunchroom	DIV 12	12 52 00 - Seating	8	New	Category 1	-			Chairs will be heavy enough to deter theft			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-GST.01	Chair - Guest	DIV 12	12 52 00 - Seating	10	New	Category 1	-			Guest chair, upholstered, no arms, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-GST.02	Chair - Guest	DIV 12	12 52 00 - Seating	26	New	Category 1	-			Guest chair, upholstered, arms, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-LAB.01	Chair - Lab - Acetone Resistant	DIV 12	12 52 00 - Seating	13	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Biofit Laboratory Seating	-	FALSE
12.52.CHR-LAB.02	Chair - Lab - Dust Proof	DIV 12	12 52 00 - Seating	2	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Biofit Laboratory Seating	-	FALSE
12.52.CHR-LAB.03	Chair - Lab - High - Dust Proof	DIV 12	12 52 00 - Seating	3	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Biofit Laboratory Seating	-	FALSE
12.52.CHR-LAB.04	Chair - Lab - High - Saddle Seat	DIV 12	12 52 00 - Seating	9	New	Category 1	-			commercial grade			HAG	HAG Capisco 8105-3 Musician Saddle Seat Stool	FALSE
12.52.CHR-LAB.05	Chair - Lab - Standard	DIV 12	12 52 00 - Seating	2	New	Category 1	-			Standard desk chair, height adjustable, arms, casters, commercial grade			Biofit Laboratory Seating	-	FALSE
12.52.CHR-LBY.01	Chair - Lobby	DIV 12	12 52 00 - Seating	12	New	Category 1	-			Stacking, cafe style, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-LCH.01	Chair - Lunch	DIV 12	12 52 00 - Seating	12	New	Category 1	-			Stacking Chair, arms, lunchroom, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-LCH.02	Chair - Lunch	DIV 12	12 52 00 - Seating	6	New	Category 1	-			Stacking Chair, no arms, lunchroom, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-STK.01	Chair - Stacking - Arms	DIV 12	12 52 00 - Seating	46	New	Category 1	-			Commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-STK.02	Chair - Stacking - Armless	DIV 12	12 52 00 - Seating	46	New	Category 1	-			Commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.CHR-STK.03	Chair - Stacking - Lobby	DIV 12	12 52 00 - Seating	120	New	Category 1	-			arms, Ergonomic seat flexors, poly shell, upholstery seat, 4 legs with glides, weight capacity 300 lbs, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.01	Seating Group - Casual	DIV 12	12 52 00 - Seating	1	New	Category 1	-			Seats 4, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE

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Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
12.52.STG-CSL.02	Seating Group - Casual	DIV 12	12 52 00 - Seating	5	New	Category 1	-			Seats 5. Locate in niche off main circulation. One niche per seating group. Furniture to be on casters. Commercial Grade.			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.03	Seating Group - Casual - Collaboration Area	DIV 12	12 52 00 - Seating	1	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.04	Seating Group - Casual - Family Room	DIV 12	12 52 00 - Seating	1	New	Category 1	-			Delete			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.05	Seating Group - Casual - Lobby	DIV 12	12 52 00 - Seating	3	New	Category 1	-			Seats 6. Items to be easily movable for events			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.06	Seating Group - Casual - Lunch Room	DIV 12	12 52 00 - Seating	1	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.07	Seating Group - Casual - Reference Library	DIV 12	12 52 00 - Seating	2	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.52.STG-CSL.08	Seating Group - Casual - Volunteer Lounge	DIV 12	12 52 00 - Seating	1	New	Category 1	-			Seats 5. Locate in niche off main circulation. One niche per seating group. Furniture to be on casters.			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.56.BED-RCV.01	Bed - Recovery	DIV 12	12 56 70 - Healthcare Furniture	2	New	Category 1	685W x 1830L			w/ adjustable head rest, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.56.CAB-SFY.01	Cabinet - Safety - Corrosive	DIV 12	12 56 53 - Laboratory Furniture	2	New	Category 1	549D x 908H x 1220W	Fume hood base. To meet local fire code requirements					Justrite	8849022	TRUE
12.56.CAB-SFY.02	Cabinet - Safety - Corrosive	DIV 12	12 56 53 - Laboratory Furniture	3	New	Category 1	549D x 908H x 915W	Fume hood base. To meet local fire code requirements					Justrite	8837022	TRUE
12.56.CAB-SFY.03	Cabinet - Safety - Corrosive	DIV 12	12 56 53 - Laboratory Furniture	1	New	Category 1	864D x 1650H x 864W	To meet local fire code requirements					Justrite	8960022	TRUE
12.56.CAB-SFY.04	Cabinet - Safety - Corrosive	DIV 12	12 56 53 - Laboratory Furniture	1	New	Category 1	549D x 908H x 765W	Fume hood base. To meet local fire code requirements					Justrite	8831022	TRUE
12.56.CAB-SFY.05	Cabinet - Safety - Flammable	DIV 12	12 56 53 - Laboratory Furniture	2	New	Category 1	549D x 908H x 1220W	Fume hood base. To meet local fire code requirements					Justrite	884800	TRUE
12.56.CAB-SFY.06	Cabinet - Safety - Flammable	DIV 12	12 56 53 - Laboratory Furniture	2	New	Category 1	549D x 908H x 765W	Fume hood base. To meet local fire code requirements					Justrite	883000	TRUE
12.56.CAB-SFY.07	Cabinet - Safety - Flammable	DIV 12	12 56 53 - Laboratory Furniture	3	New	Category 1	549D x 908H x 915W	Fume hood base. To meet local fire code requirements					Justrite	883600	TRUE
12.56.CAB-SFY.08	Cabinet - Safety - Flammable	DIV 12	12 56 53 - Laboratory Furniture	2	New	Category 1	864D x 1650H x 864W	To meet local fire code requirements					Justrite	896000	TRUE
12.56.STL-LAB.01	Stool - Lab - Arms	DIV 12	12 56 53 - Laboratory Furniture	4	New	Category 1	-			Lobby stool w/ back, commercial grade			Biofit Laboratory Seating	-	FALSE
12.56.STL-LAB.02	Stool - Lab - Arms	DIV 12	12 56 53 - Laboratory Furniture	5	New	Category 1	-			Lab stool w/ back and arms, Pneumatic seat adjustment 21"-31", arms, backrest tilt, integral lumbar support and ventilating ribs, adjustable foot ring, weight capacity 300 lbs, commercial grade			Biofit Laboratory Seating	-	FALSE
12.56.STL-LAB.03	Stool - Lab - Arms	DIV 12	12 56 53 - Laboratory Furniture	16	New	Category 1	-			Lab stool w/ back, no arms, Pneumatic seat adjustment 21"-31", backrest tilt, integral lumbar support and ventilating ribs, adjustable foot ring, weight capacity 300 lbs, commercial grade			Biofit Laboratory Seating	-	FALSE
12.56.STL-LAB.04	Stool - Lab - Arms	DIV 12	12 56 53 - Laboratory Furniture	8	New	Category 1	-			Lunchroom stool w/ back			Biofit Laboratory Seating	-	FALSE
12.59.CAB-LFL.01	Cabinet - Lateral File	DIV 12	12 59 00 - Systems Furniture	3	New	Category 1	455D x 1220H x 915W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.CAB-MOB.01	Cabinet - Pedestal - Mobile	DIV 12	12 59 00 - Systems Furniture	90	New	Category 1	610D x 710H x 450W			with cushion top			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-ADJ.01	Work desk - Adjustable Height	DIV 12	12 59 00 - Systems Furniture	92	New	Category 1	760D x Varies x 1830W			Adjustable height, motorized, 737D x 1526L, commercial grade. Telescopic Base, Push Button Motorized Adjustable Height, Cable Management System, Max Weight Capacity 220lbs, Height Range: 571 - 1220mm			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.01	Desk System - Monitor Support - Double	DIV 12	12 59 00 - Systems Furniture	87	New	Category 1	-			commercial grade, 360 degree rotation, ability to display portrait or landscape			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.02	Desk System - Privacy Screen - Desk Mounted	DIV 12	12 59 00 - Systems Furniture	111	New	Category 1	-			Hidden clamps and brackets, compatible with adjustable height desks, takeable surface material, commercial grade convection airflow head for heat distribution, no PVC in wiring in lamp head, replaceable light head after 50,000 hours or when new technology becomes available, 360 rotation, occupancy sensor			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.03	Desk System - Task Light - Rail Mounted	DIV 12	12 59 00 - Systems Furniture	109	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.04	Desk System - Privacy Support Panel	DIV 12	12 59 00 - Systems Furniture	84	New	Category 1	1070H x Length of Worksurface			Wheels, commercial grade, white board panel, acoustic panel, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.05	Desk System - Monitor Support - Single	DIV 12	12 59 00 - Systems Furniture	0	New	Category 1	-			commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	FALSE
12.59.DSK-SYS.06	Desk System - Overhead Storage	DIV 12	12 59 00 - Systems Furniture	11	New	Category 1	400D x 410H x 1525W			Commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.07	Desk System - Storage Tower	DIV 12	12 59 00 - Systems Furniture	5	New	Category 1	760D x 1665H x 610W	Selection of doors and drawers from manufacturers full line of standard features		Selection of doors and drawers from manufacturers full line of standard features, commercial grade			Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
12.59.DSK-SYS.08	Desk System - Worksurface	DIV 12	12 59 00 - Systems Furniture	134	New	Category 1	610D x 725H x 1220W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.09	Desk System - Worksurface	DIV 12	12 59 00 - Systems Furniture	36	New	Category 1	610D x 725H x 1525W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.10	Desk System - Worksurface	DIV 12	12 59 00 - Systems Furniture	3	New	Category 1	610D x 725H x 1830W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.11	Desk System - Worksurface	DIV 12	12 59 00 - Systems Furniture	1	New	Category 1	610D x 725H x 915W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.DSK-SYS.12	Desk System - Overhead Storage	DIV 12	12 59 00 - Systems Furniture	56	New	Category 1	400D x 410H x 1830W	commercial grade					Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.LKR-MBL.01	Locker - Mobile	DIV 12	12 59 00 - Systems Furniture	37	New	Category 1	610D x 915H x 610W						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.01	Workstation - Archivist - Large	DIV 12	12 59 00 - Systems Furniture	11	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.02	Workstation - Archivist - Small	DIV 12	12 59 00 - Systems Furniture	3	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.03	Workstation - Hot Spot	DIV 12	12 59 00 - Systems Furniture	21	New	Category 1	-		-				Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.04	Workstation - Large	DIV 12	12 59 00 - Systems Furniture	42	New	Category 1	-		-				Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.05	Workstation - Large Office	DIV 12	12 59 00 - Systems Furniture	3	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.06	Workstation - Single	DIV 12	12 59 00 - Systems Furniture	1	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.07	Workstation - Small	DIV 12	12 59 00 - Systems Furniture	20	New	Category 1	-		-				Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
12.59.SYS-WKS.08	Workstation - Small Office	DIV 12	12 59 00 - Systems Furniture	11	New	Category 1	-						Refer to BC government Corporate Supply Arrangement for office furniture.	-	TRUE
13.21.ENV-CTR.01	Environmental Control Chamber	DIV 13	13 21 00 - Controlled Environment Rooms	1	New	Category 1	2590D x 4680W clear inside, Height to suit storage requirements			Panic Button, recess insulated floor of environmental control chamber to accommodate a concrete floor within the chamber with recessed rails for the HDMSS. Ensure smooth transition at sill for collections movement. Controls and finishes to be selected by Owner from full line of standard options.			Conviron	-	TRUE
13.21.ENV-CTR.02	Environmental Control Chamber	DIV 13	13 21 00 - Controlled Environment Rooms	1	New	Category 1	4630D x 2365W clear inside, Height to suit storage requirements			Panic Button, recess insulated floor of environmental control chamber to accommodate a concrete floor within the chamber with recessed rails for the HDMSS. Ensure smooth transition at sill for collections movement. Controls and finishes to be selected by Owner from full line of standard options.			Conviron	-	TRUE
13.21.ENV-CTR.03	Environmental Control Chamber	DIV 13	13 21 00 - Controlled Environment Rooms	1	New	Category 1	To suit room area and storage requirements			Panic Button, recess insulated floor of environmental control chamber to accommodate a concrete floor within the chamber with recessed rails for the HDMSS. Ensure smooth transition at sill for collections movement. Controls and finishes to be selected by Owner from full line of standard options.			Conviron	-	TRUE
13.21.ENV-CTR.04	Environmental Control Chamber	DIV 13	13 21 00 - Controlled Environment Rooms	1	New	Category 1	To suit room area and storage requirements			Panic Button, recess insulated floor of environmental control chamber to accommodate a concrete floor within the chamber with recessed rails for the HDMSS. Ensure smooth transition at sill for collections movement. Controls and finishes to be selected by Owner from full line of standard options.			Conviron	-	TRUE
13.21.ENV-CTR.05	Environmental Control Chamber	DIV 13	13 21 00 - Controlled Environment Rooms	0	New	Category 1	To suit room area and storage requirements			Panic Button, recess insulated floor of environmental control chamber to accommodate a concrete floor within the chamber with recessed rails for the HDMSS. Ensure smooth transition at sill for collections movement. Controls and finishes to be selected by Owner from full line of standard options.			Conviron	-	FALSE
13.21.ENV-DOR.03	Door - Single - Solid	DIV 13	13 21 00 - Controlled Environment Rooms	4	New	Category 1	1220W x 2440H	Environmental Control Chamber Door		Insulated, double gaskets, swing, powered operation, door protections, emergency release, door ajar alarms			Conviron	-	TRUE
13.21.ENV-DOR.04	Door - Double - Solid	DIV 13	13 21 00 - Controlled Environment Rooms	1	New	Category 1	2440W x 2440H	Environmental Control Chamber Door		Insulated, double gaskets, swing, powered operation, door protections, emergency release, door ajar alarms			Conviron	-	TRUE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
14.45.LFT-VEH.01	Lift - Car - History Collections - Vehicles	DIV 14	14 45 00 - Vehicle Lifts	2	New	Category 3	5235D x 2235H x 2975W		provide 1220W clear aisle around lift	Solid Platform			Lifting	Pro King 8XXL	TRUE
14.83.LFT-SSR.01	Lift - Scissor - Loading Dock	DIV 14	14 83 00 - Elevating Platforms	3	New	Category 1	2440D x 2440H			5000 lb capacity, permanently installed, electric, mounted in a pit to be flush with floor when lowered					TRUE
22.11.WAT-BIB.01	Water - Hose Bibb	DIV 22	22 11 00 - Facility Water Distribution	2	New	Category 1	-		-	Interior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.11.WAT-BIB.02	Water - Hose Bibb	DIV 22	22 11 00 - Facility Water Distribution	4	New	Category 1	-		Locate near the door	Exterior			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.11.WAT-BIB.03	Water - Hose Bibb	DIV 22	22 11 00 - Facility Water Distribution	1	New	Category 1	-		Locate above the kettle	Water supply and fitting for Kettle			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.11.WAT-REL.01	Water - Hose Reel	DIV 22	22 11 00 - Facility Water Distribution	2	New	Category 1	-		Located in the Wet Alcove				Strahman	High Sanitary	TRUE
22.11.WAT-REL.02	Water - Hose Reel	DIV 22	22 11 00 - Facility Water Distribution	1	New	Category 1	-		Wall mounted				Strahman	High Sanitary	TRUE
22.13.SAN-DRN.01	Drain - Trench	DIV 22	22 13 00 - Facility Sanitary Sewerage	2	New	Category 1	to suit width of alcove		Locate in wet alcove	Sediment trap			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.13.SAN-DRN.02	Drain - Trench	DIV 22	22 13 00 - Facility Sanitary Sewerage	4	New	Category 1	Full length of door			Ensure smooth passage of carts over drain			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.13.SAN-DRN.03	Drain - Floor	DIV 22	22 13 00 - Facility Sanitary Sewerage	1	New	Category 1	-	Requirement for sterilizer					Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.13.SAN-DRN.04	Drain - Floor	DIV 22	22 13 00 - Facility Sanitary Sewerage	6	New	Category 1	-		-	Minimum 2% slope to drain			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.13.SAN-DRN.05	Drain - Floor	DIV 22	22 13 00 - Facility Sanitary Sewerage	1	New	Category 1	-			Minimum 2% slope to drain, grease trap			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.FAU-MIX.01	Faucet - Mixing	DIV 22	22 42 00 - Commercial Plumbing Fixtures	19	New	Category 1	-			Panel Mount, 105L Blade Handles			WaterSaver Faucet Co.	CT1714VB-WSA	TRUE
22.42.FAU-MIX.02	Faucet - Mixing	DIV 22	22 42 00 - Commercial Plumbing Fixtures	28	New	Category 1	-			Deck Mount, 105L Blade Handles			WaterSaver Faucet Co.	CT2224VB	TRUE
22.42.FAU-PUR.01	Faucet - Pure Water	DIV 22	22 42 00 - Commercial Plumbing Fixtures	13	New	Category 1	-			Deck Mount, 105L Blade Handles			WaterSaver Faucet Co.	CT7834-MSC	TRUE
22.42.FAU-PUR.02	Faucet - Pure Water	DIV 22	22 42 00 - Commercial Plumbing Fixtures	10	New	Category 1	-			Panel Mount, 105L Blade Handles			WaterSaver Faucet Co.	CT7834-MSC	TRUE
22.42.FIX-FIT.01	Restroom Fixtures and Fittings	DIV 22	22 42 00 - Commercial Plumbing Fixtures	14	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.FIX-FIT.02	Restroom Fixtures and Fittings	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-			Child Size			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.FIX-FIT.03	Restroom Fixtures and Fittings	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-			Bariatric			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.FIX-FIT.04	Shower Fixtures and Fittings	DIV 22	22 42 00 - Commercial Plumbing Fixtures	2	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.GBG-DSP.01	Disposer	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.GRS-TRP.01	Grease Trap	DIV 22	22 42 00 - Commercial Plumbing Fixtures	0	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.PRE-RIN.01	Pre-Rinse Unit	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-			Deck Mount, 105L Blade Handles			WaterSaver Faucet Co.	CTPR411-BH	TRUE
22.42.PRE-RIN.02	Pre-Rinse Unit	DIV 22	22 42 00 - Commercial Plumbing Fixtures	14	New	Category 1	-			Panel Mount, 105L Blade Handles			WaterSaver Faucet Co.	CTPR1711WSA-BH	TRUE
22.42.SED-TRP.01	Sediment Trap	DIV 22	22 42 00 - Commercial Plumbing Fixtures	4	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-EXT.01	Sink - Exterior	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	450W x 450L x 205D			heat trace			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-HND.01	Sink - Hand Wash - Drop-in	DIV 22	22 42 00 - Commercial Plumbing Fixtures	3	New	Category 1	560W x 485L x 125D						Elkay	LRAD191950	TRUE
22.42.SNK-HND.02	Sink - Hand Wash - Drop-in	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	560W x 485L x 125D		Mount at child height				Elkay	LRAD191950	TRUE
22.42.SNK-HND.03	Sink - Hand Wash - Wall Mount	DIV 22	22 42 00 - Commercial Plumbing Fixtures	14	New	Category 1	560W x 485L x 140D						Elkay	ELVWO22191	TRUE
22.42.SNK-HND.04	Sink - Hand Wash - Rough-in	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-								FALSE
22.42.SNK-KIT.01	Sink - Kitchen - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	560W x 635L x 205D			Stainless steel, drop-in			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-KIT.02	Sink - Kitchen - Two Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	450W x 450L x 205D			Stainless steel, drop-in			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-LAB.01	Sink - Lab	DIV 22	23 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	450W x 760L x 250D			610L Drainboard both sides			Durcon	Drop in or Undermount	TRUE
22.42.SNK-LAB.02	Sink - Lab	DIV 22	24 42 00 - Commercial Plumbing Fixtures	0	New	Category 1	425W x 525L x 250D			455L Drainboard both sides			Durcon	Drop in or Undermount	FALSE
22.42.SNK-LAB.03	Sink - Lab	DIV 22	25 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	550W x 915W x 355D			610L Drainboard each side			Durcon	Drop in or Undermount	TRUE
22.42.SNK-LAB.04	Sink - Lab	DIV 22	26 42 00 - Commercial Plumbing Fixtures	10	New	Category 1	425W x 525L x 250D			455L Drainboard both sides			Durcon	Drop in or Undermount	TRUE
22.42.SNK-LAB.05	Sink - Lab - Rough-in	DIV 22	27 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-								FALSE
22.42.SNK-PRO.01	Sink - Lab - Processing	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	711D x 915H x 1524L x 165 Deep		Ensure a snorkel is within reach and can cover the full length of the sink workstation	Stainless steel treatment sink. Room for knees to sit beneath. Lip around sink edge for stainless steel grid to span length and width of basin. top of grid at working height. 610L Drainboard (1) each Pre-Rinse Unit, Pure Water Faucet, Sediment Trap, Mixing Faucet			Arkay	Custom	TRUE

Type List

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22.42.SNK-PRO.02	Sink - Lab - Processing	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	711D x Height to Suit x 1524L x 165 Deep		Ensure a snorkel is within reach and can cover the full length of the sink workstation	Stainless steel treatment sink. Room for knees to sit beneath. Lip around sink edge for stainless steel grid to span length and width of basin. top of grid at working height. 610L Drainboard both sides. (1) each Pre-Rinse Unit, Pure Water Faucet, Pure Water Faucet, Sediment Trap, (2) Mixing Faucets, (1) faucet to have a standard garden hose attachment			Arkay	Custom	TRUE
22.42.SNK-RST.01	Sink - Restroom	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-SCU.01	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	610W x 915L x 355D			915L Drainboard			Elkay	WCNSF8100R or L	TRUE
22.42.SNK-SCU.02	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	7	New	Category 1	610W x 915L x 355D						Elkay	WNSF8136	TRUE
22.42.SNK-SCU.03	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	610W x 765L x 355D						Elkay	WNSF8130	TRUE
22.42.SNK-SCU.04	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	2	New	Category 1	610W x 915L x 355D			610L Drainboard both sides			Elkay	WNSF8136LR	TRUE
22.42.SNK-SCU.05	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	585D x 915H x 740W x 330D			Stainless steel, 610L Drainboards one side, (1) each Pre-Rinse Unit, Mixing Faucet, Eye Wash			Elkay	Custom	TRUE
22.42.SNK-SCU.06	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	610W x 915L x 355D			915L drainboard each side			Elkay	WCNSF8136RL	TRUE
22.42.SNK-SCU.07	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	2440L x 760W x 610D		locate next to countertop with exhaust canopy hood above	610L Drainboards one side, (1) each Pre-Rinse Unit, Mixing Faucet, Eye Wash			Elkay	WCNSF8100	TRUE
22.42.SNK-SCU.08	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	1220W			1220W drainboard both sides			Elkay	WCNSF8100RL	TRUE
22.42.SNK-SCU.09	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	915W x 1220L x 460D			610L Drainboard one side			Elkay	WCNSF8100R or L	TRUE
22.42.SNK-SCU.10	Sink - Scullery - One Basin	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	610W x 915L x 355D			610L drainboard each side, provide grease trap			Elkay	WCNSF8100RL	TRUE
22.42.SNK-SLD.01	Sink - Solid Surface	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	205D x 535W x 760L			Undercounter mount, standard tap			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.SNK-TXL.01	Sink - One Basin - Textiles	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	Existing	Category 3	1220D x 890H x 2440W x 305Deep			On casters			Existing	-	TRUE
22.42.SNK-UTL.01	Sink - Utility	DIV 22	22 42 00 - Commercial Plumbing Fixtures	6	New	Category 1	915L x 915W	Floor mop sink					Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.42.TAP-GSN.01	Tap - Gooseneck	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1		Refer to Schedule 1 - Statement of Requirements		Panel Mount, 105L Blade Handles, Foot Operated			WaterSaver Faucet Co.	BT074WSA	TRUE
22.42.TAP-MIX.01	Tap - Mixer - Foot Operated	DIV 22	22 42 00 - Commercial Plumbing Fixtures	1	New	Category 1	-			Floor Mount			WaterSaver Faucet Co.	BT3010	TRUE
22.42.TAP-MIX.02	Tap - Mixer	DIV 22	22 42 00 - Commercial Plumbing Fixtures	4	New	Category 1	-			Deck Mount, 105L Blade Handles			WaterSaver Faucet Co.	BT414BH-55	TRUE
22.45.EMG-EYE.01	Emergency Eye Wash	DIV 22	22 45 00 - Emergency Plumbing Fixtures	13	New	Category 1	-			Deck Mount with Backflow Preventer			WaterSaver Faucet Co.	EW1022BP	TRUE
22.45.EMG-EYE.02	Emergency Eye Wash	DIV 22	22 45 00 - Emergency Plumbing Fixtures	16	New	Category 1	-			Panel Mount with Backflow Preventer			WaterSaver Faucet Co.	EW1041BP	TRUE
22.45.EMG-EYE.03	Emergency Eye Wash - Recessed	DIV 22	22 45 00 - Emergency Plumbing Fixtures	2	New	Category 1	-			Recessed			Guardian	GBF1735FDP	TRUE
22.45.EMG-SHW.01	Emergency Shower and Eyewash	DIV 22	22 45 00 - Emergency Plumbing Fixtures	9	New	Category 1	-			Recessed			WaterSaver Faucet Co.	SSBF2152 or SSB2172	TRUE
22.47.DRI-FTN.01	Drinking Fountain - Public	DIV 22	22 47 00 - Drinking Fountains and Water Coolers	3	New	Category 1	-		Mounted in corridor outside the restrooms/showers.	Bi-level, Bottle filling station			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.47.DRI-FTN.02	Drinking Fountain - Staff	DIV 22	22 47 00 - Drinking Fountains and Water Coolers	1	New	Category 1	-		Locate in hallway outside Lunchroom	Bi-level, Bottle filling station			Refer to Schedule 1 - Statement of Requirements	-	FALSE
22.61.AIR-REL.01	Lab Air - Reel - Overhead	DIV 22	22 61 00 - Compressed Air Systems for Laboratory and Healthcare Facilities	4	New	Category 1	-		-				Strahman	Standard	TRUE
22.61.AIR-VAL.01	Lab Air - Low Pressure Panel or Wall Valve	DIV 22	22 61 00 - Compressed Air Systems for Laboratory and Healthcare Facilities	2	New	Category 1	-		locate within the compressed air closet	For compressed air cabinet			WaterSaver Faucet Co.	CT4880F-225WSA	TRUE
22.61.AIR-VAL.02	Lab Air - Low Pressure Panel or Wall Valve	DIV 22	22 61 00 - Compressed Air Systems for Laboratory and Healthcare Facilities	14	New	Category 1	-						WaterSaver Faucet Co.	CT4880F-225WSA	TRUE
22.61.AIR-VAL.03	Lab Air - Low Pressure Panel or Wall Valve	DIV 22	22 61 00 - Compressed Air Systems for Laboratory and Healthcare Facilities	1	New	Category 1	-	For Computerized Mat Cutter	Locate within reach of computerized mat cutter. Refer to specification sheet				WaterSaver Faucet Co.	CT4880F-225WSA	TRUE
23.35.EQP-VEN.01	Equip - Lab - Ventilated Enclosure - Mobile	DIV 23	23 35 00 - Special Exhaust Systems	1	Existing	Category 3	740D x 2250H x 1220W						Nuaire	NU-813-400 Series 20	TRUE
23.35.FUM-EXR.01	Fume Extractor - Snorkel	DIV 23	23 35 00 - Special Exhaust Systems	18	New	Category 1	-			Integral lights, 3050 Boom			Nederman	FX75-70540244	TRUE
23.35.FUM-EXR.02	Fume Extractor - Snorkel	DIV 23	23 35 00 - Special Exhaust Systems	0	New	Category 1	-		Locate for full coverage of processing sinks	Integral lights, 3050 Boom			Nederman	FX75-70540244	FALSE
23.35.FUM-EXR.03	Fume Extractor - Snorkel	DIV 23	23 35 00 - Special Exhaust Systems	2	New	Category 1	-		Locate above centrally grouped lab tables for full coverage of work area	Integral lights, 3050 Boom			Nederman	FX75-70540244	TRUE
23.35.FUM-HOD.01	Fume Hood	DIV 23	23 35 00 - Special Exhaust Systems	2	New	Category 1	2440W						Refer to Schedule 1 - Statement of Requirements	-	FALSE
23.35.FUM-HOD.02	Fume Hood	DIV 23	23 35 00 - Special Exhaust Systems	4	New	Category 1	1830W						Refer to Schedule 1 - Statement of Requirements	-	FALSE
23.35.ROU-SNO.01	Rough in for future snorkel	DIV 23	23 35 00 - Special Exhaust Systems	1	New	Category 1	-			Integral lights, 3050 Boom			Nederman	FX75-70540244	TRUE
23.35.ROU-VEN.01	Rough-in for Ventilated Enclosure	DIV 23	23 35 00 - Special Exhaust Systems	3	New	Category 1	-		Provide rough-in for future Ventilated Enclosure				Flow Sciences	FS2015	TRUE
23.38.EXH-HOD.01	Exhaust Canopy Hood	DIV 23	23 35 00 - Special Exhaust Systems	1	New	Category 1	To suit	For Equip - Lab - Kettle - Steam - Commercial and Cabinet - Lab - Drying - Louvered		include lighting in canopy hood.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
23.38.EXH-HOD.02	Exhaust Canopy Hood	DIV 23	23 35 00 - Special Exhaust Systems	0	New	Category 1	To suit	For Sterilizer - Medium		include lighting in canopy hood.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
23.38.EXH-HOD.03	Exhaust Canopy Hood	DIV 23	23 35 00 - Special Exhaust Systems	0	New	Category 1	To suit	For Table - Downdraft Necropsy		include lighting in canopy hood.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
23.38.EXH-HOD.04	Exhaust Canopy Hood	DIV 23	23 35 00 - Special Exhaust Systems	1	New	Category 1	To suit	For filling 510 diameter x 765H Carboys on counter top.	Cover the full extent of the Scullery Sink - One Basin plus an additional 1830W along the countertop beside the sink.	include lighting in canopy hood.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.09.LIT-SNS.01	Sensors - Daylight	DIV 26	26 09 23 - Lighting Control Devices	2	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
26.09.LIT-SNS.02	Sensors - Occupancy	DIV 26	26 09 23 - Lighting Control Devices	1	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements		FALSE
26.27.POW-BOX.01	Power - Flush Ceiling Box	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-		@ 3050o.c. x 3050o.c.	Power			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-BOX.02	Power - Flush Floor Box	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	18	New	Category 1	-			Power			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-BOX.03	Power - Flush Floor Box	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	40	New	Category 1	-		@ 3050 o.c. (1) row each side of spine for entire length. Offset 1525 from walls max	Power and Ethernet			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-BOX.04	Power - Flush Floor Box	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-		Spaced at 3050 x 3050 o.c.	Power			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-BOX.05	Power - Flush Floor Box	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	20	New	Category 1	-		Locate to suit table layout	Power			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-OVH.01	Power - Reel - Overhead	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	29	New	Category 1	-			Power, 3050L track			Hubbell	HBLI25123	TRUE
26.27.POW-RCP.01	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	42	New	Category 1	-	For miscellaneous equipment.	(2) per Casual Seating Group along Circulation Spine				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.02	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-	For steam generator	-				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.03	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	10	New	Category 1	-	For miscellaneous equipment.	space equally around room				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.04	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For miscellaneous equipment	Locate behind 2440W shelving @ 455 AFF				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.05	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-	For miscellaneous equipment.	Locate behind each 2440W shelf @ 1070 AFF				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.06	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-	For miscellaneous equipment	Locate below Peg-board @ 455 AFF				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.07	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	10	New	Category 1	-	For Berlese Extractors and small tools.	Mount @ 1220 AFF, equally spaced above the Lab Tables and Chest Freezer. Coordinate with location of overhead suspension system.				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.08	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-	For AV 1inch TYPE C Machines					Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.09	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For 10 AV Machines that will be plugged in all the time.	Locate at Rack-AV at various heights to suit				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.10	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For future refrigerators and freezers	space @1000mm o.c. for the length of the alcove				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.11	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For Lobby interactive touch table charging when stored.					Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.12	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	19	New	Category 1	-	For miscellaneous equipment.	space @ 1525 o.c. around the perimeter of the room				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.13	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	2	New	Category 1	-	For rolling dust extractor	locate in air abrasive closet				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.14	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For sandblaster in the air abrasive closet	locate in air abrasive closet				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.15	Power - Receptacle - Duplex	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	1	New	Category 1	-	For sawdust tumbler	locate within the air abrasive closet				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.27.POW-RCP.16	Power - Receptacle - Duplex - GFCI	DIV 26	26 27 00 - Low-Voltage Distribution Equipment	13	New	Category 1	-	For miscellaneous equipment.	Locate above counter top				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.02	Lighting - Feature	DIV 26	26 51 00 - Interior Lighting	1	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.03	Lighting - Housekeeping	DIV 26	26 51 00 - Interior Lighting	1	New	Category 1	-			Provide 2 zones, connected to emergency generator circuit, local dimming			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.04	Lighting - LED	DIV 26	26 51 00 - Interior Lighting	116	New	Category 1	-	For use w/ Flexible Lighting Track		Dimmable			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.05	Lighting - Niche	DIV 26	26 51 00 - Interior Lighting	5	New	Category 1	-		Locate one per Casual Seating Group				Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.06	Lighting - Overhead	DIV 26	26 51 00 - Interior Lighting	2	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.07	Lighting - Track - Suspended - Flexible	DIV 26	26 51 00 - Interior Lighting	1	New	Category 1	-	To highlight display objects along the walls around the main area where all of the Library Tables are					Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.08	Lighting - Track - Suspended - Flexible	DIV 26	26 51 00 - Interior Lighting	2	New	Category 1	-	To highlight display objects on all walls around room					Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.09	Lighting - Task	DIV 26	26 51 00 - Interior Lighting	3	New	Category 1	-			Stand mounted, locking casters			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.10	Lighting - Task	DIV 26	26 51 00 - Interior Lighting	12	New	Category 1	6000L		Wall mount	Linear			Refer to Schedule 1 - Statement of Requirements	-	FALSE

Type List

Type Mark	Item Name	Responsibility	Masterformat Section	Quantity	Status	Category	Size	Description	Instructions	Type Comments	Mechanical	Electrical	Manufacturer	Model	Cut Sheet
26.51.INT-LIT.11	Lighting - Task	DIV 26	26 51 00 - Interior Lighting	1	New	Category 1	To suit length of Learning Access # 4 - Alcove			Linear			Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.INT-LIT.12	Lighting - In Ground	DIV 26	26 56 00 - Exterior Lighting	10	New	Category 1	-						Refer to Schedule 1 - Statement of Requirements	-	FALSE
26.51.LIG-EXA.01	Lighting - Exam	DIV 26	26 51 00 - Interior Lighting	2	New	Category 1	-	Examination/Treatment Lights	Ceiling Mounted				Berchtold	Chromophare F300	TRUE
27.20.DAT-POR.01	Allocated Data Port	DIV 27	27 20 00 - Data Communications	4	New	Category 1	-		Locate @ 1070 AFF along countertop				Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.02	Allocated Data Port	DIV 27	27 20 00 - Data Communications	1	New	Category 1	-		Locate in reception desk	Additional beyond requirements for specified equipment			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.03	Allocated Data Port	DIV 27	27 20 00 - Data Communications	10	New	Category 1	-		Locate in line with power outlets	Two per Casual Seating Group			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.04	Allocated Data Port	DIV 27	27 20 00 - Data Communications	32	New	Category 1	-		Locate in line with power outlets	Two per future vitrine niche			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.05	Allocated Data Port	DIV 27	27 20 00 - Data Communications	42	New	Category 1	-	For miscellaneous lab equipment	Locate @ wall mount standard height	Wall port			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.06	Allocated Data Port	DIV 27	27 20 00 - Data Communications	1	New	Category 1	-		Locate @ security operations desk	Wall port			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.07	Allocated Data Port	DIV 27	27 20 00 - Data Communications	1	New	Category 1	-		Locate @ security service desk	Wall port			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.08	Allocated Data Port	DIV 27	27 20 00 - Data Communications	16	New	Category 1	-		Locate in line with power outlets	One per workstation			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.DAT-POR.09	Allocated Data Port	DIV 27	27 20 00 - Data Communications	50	New	Category 1	-			Wall port for printer			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.SND-SYS.01	Public Address System	DIV 27	27 20 00 - Data Communications	0	New	Category 1	-			Exterior, extension of lobby sound system, additional zone			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.SND-SYS.02	Public Address System	DIV 27	27 20 00 - Data Communications	0	New	Category 1	-	Extension of Lobby sound system.		Provide one local zone control for every 32sq m. of area.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.SND-SYS.03	Public Address System	DIV 27	27 20 00 - Data Communications	0	New	Category 1	-	for use with microphone, playing music	speakers mounted on ceiling grid	include sound mixer board, amplifier, wireless receiver, interface with video system			Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.SND-SYS.04	Public Address System	DIV 27	27 20 00 - Data Communications	0	New	Category 1	-	Control point					Refer to Schedule 1 - Statement of Requirements	-	FALSE
27.20.SND-SYS.05	Public Address System	DIV 27	27 20 00 - Data Communications	0	New	Category 1	-			Extension of lobby sound system, additional zone			Refer to Schedule 1 - Statement of Requirements	-	FALSE
28.15.CBT-KEY.01	Cabinet - Key - Intelligent - Secure Access	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	1	New	Category 1	140D x 675H x 865W	For contractors, volunteers, visiting researchers	Mounted within the Security Command Centre within the vicinity of the Transaction Window.				Asa Abloy	Traka S-Touch	TRUE
28.15.CBT-KEY.02	Cabinet - Key - Intelligent - Self Serve	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	2	New	Category 1	140D x 675H x 865W	For staff use	Position outside Security Command Centre within line of sight from security service desk				Asa Abloy	Traka L-Touch	TRUE
28.15.ICM.01	Intercom	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	1	New	Category 1	-	To Outside Loading Zone					Refer to Schedule 1 - Statement of Requirements	-	FALSE
28.15.ICM.02	Intercom	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	5	New	Category 1	-	To Security Command Center					Refer to Schedule 1 - Statement of Requirements	-	FALSE
28.15.ICM.03	Intercom	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	3	New	Category 1	-	To Shipping Office					Refer to Schedule 1 - Statement of Requirements	-	FALSE
28.15.ICM.04	Intercom	DIV 28	28 15 00 - Integrated Access Control Hardware Devices	1	New	Category 1	-	To exterior at Staff Entry					Refer to Schedule 1 - Statement of Requirements	-	FALSE
32.33.BCH-EXT.01	Bench - Exterior	DIV 32	32 33 00 - Site Furnishings	12	New	Category 1	-			Permanent, commercial grade, Metal hardware shall be hot-dipped galvanized or an approved nonferrous type. All connecting steel shall be medium structural steel conforming to CSA-G40.4. All connecting steel shall be hot-dipped galvanized after fabrication.			Refer to Schedule 1 - Statement of Requirements	-	FALSE
32.33.BIK-RCK.01	Bike Racks - Public	DIV 32	32 33 00 - Site Furnishings	1	New	Category 1	-		Floor mounted				Refer to Schedule 1 - Statement of Requirements	-	FALSE
32.33.BIK-RCK.02	Bike Racks - Staff	DIV 32	32 33 00 - Site Furnishings	1	New	Category 1	-		Floor or wall mounted or combination of both, Locate in secured area, no visibility through enclosure, quantity to meeting City of Colwood standards.		Provide 10% of stalls with electric bike charging stations.		Refer to Schedule 1 - Statement of Requirements	-	FALSE
41.23.LFT-RCH.01	Lift - Forklift - Reach - Electric - Narrow	DIV 41	41 23 00 - Lifting Devices	2	New	Category 1	1850D x 2415H x 815W						Doosan	BR18SP-7 PLUS	TRUE
41.23.LFT-WRK.01	Lift - Work Assist Vehicle	DIV 41	41 23 00 - Lifting Devices	7	New	Category 1	1525D x 1385H x 890W	For HDMS access in Collections Storage Area	Provide a 2HR fire rated closet for storage of the lift while it is charging.				Crown	WAV	TRUE

SubItem List

Parent Type Mark	Parent Name	Room	Room Name	Sub-Item Type Mark	Sub-Item Name	Quantity
22.425NK-SQL10	Snk - Scullery - One Basin	3.701	VZ DIRTY PREP LAB	22.425.G8G-DSP.01	Dispenser	1
22.425NK-SQL10	Snk - Scullery - One Basin	3.701	VZ DIRTY PREP LAB	22.425.EWGEPE.02	Emergency Eye Wash	1

Royal BC Museum – Collections and Research Building
Colwood, BC

APPENDIX 1C – Technical Acoustical Appendix

Design-Build Agreement

Part 1 Sound Isolation Systems

- a) Overview and Design Intent
 - i) Sound isolation is important to manage the intrusion of noise from spaces that generate high noise levels into spaces that are acoustically sensitive, and to promote privacy.
- b) Design Principles
 - i) Provide sound rated interior walls, glazing, doors and ceiling systems in acoustically sensitive spaces
 - ii) Sound isolation systems shall be considered in the design of the building envelope to control exterior noise intrusion into the building.
 - iii) Sound rated assemblies will be full-height from the floor to the underside of the structure above for all walls and partitions. If such a wall or partition cannot extend full height, provide an alternate system and provide an acoustic consultant's report verifying that the required level of sound isolation will be achieved together with submission of the applicable designs.
- c) Performance Criteria
 - i) All wall and floor/ceiling assemblies will comply with the minimum Sound Transmission Class (STC) ratings in Table 1 below.
 - ii) The values in Table 1 represent the minimum sound isolation requirements based on adjacency. For areas with mechanical equipment the sound isolation performance of walls must also provide sufficient sound isolation to maintain the room noise levels in Table 2.
 - iii) Operable Partitions
 - (1) Where moveable partitions are incorporated, movable partitions will have an STC rating that meets the minimum requirements in Table 1.
 - (2) STC rated movable partitions will be provided with a sound barrier in the ceiling plenum that extends to the structural deck. The STC of the above ceiling sound barriers will meet or exceed the STC performance of the moveable partition.
 - (3) STC rated movable partitions will be provided with accompanying seals and thresholds as required to maintain STC performance in-field.
 - iv) Glazing
 - (1) Folding glass partitions and fixed glazing will have an STC of 45 for space types 1 and 3 of Table 1.
 - (2) Glazing will have an STC rating of 40 for Space types 4, 5 and 6 and can be reduced by an additional 5 STC to 35 STC if a sound masking system is utilized.
 - v) Doors
 - (1) Solid core doors will have a minimum STC rating of 20 when located in offices and conference rooms.

- (2) All other solid doors and door assemblies that require an STC rating will have a minimum rating of (the wall STC) – (10 STC) = required min door STC rating.

Table 1: Minimum requirements for STC wall assembly ratings between spaces

Space Type	1	2	3	4	5	6	7	8
1 Learning Access #1 – History and Archives, Learning Access #2 – Oral History Room	60							
2 Mechanical and Electrical Rooms	60							
3 Exhibit Shop 1 and 2, Sectioning Lab, Paleo Dirty Prep Lab, Reading and Access Room	60	50						
4 Conference rooms	50	50	60	50				
5 Open Office Area and workspaces*	50	50	50	50				
6 Private office	50	50	50	50	45	45		
7 Restrooms and Shower Rooms	60		40	50	45	45	35	
8 Circulation Spine	50	45	45	42	42	42	42	
9 Non-Circulation Spine hallways	50	35	35	35	35	35	35	

*Workspaces include Maker Space, Cast and Mold Lab, Collections Access Zones, Learning Access Zones, rooms with a work desk or work surface, all Lab Area rooms, and Collaboration Space.

For private offices and conference rooms adjacent to open office space, entry walls to office and conference rooms will be rated at a minimum STC of 35.

Part 2 Room Noise

a. Overview and Design Intent

- i) Background noise is defined as the ambient noise level within a space and is a total of the contribution from various noise sources. These include noise from HVAC systems, exterior noise intrusion, noise generated from activities within a space.
- ii) High room noise levels can impede communication, focus, and increase stress levels. Thus, in spaces like the Lobby, Learning Labs, Conference Rooms, Archives Reading Rooms, Office Area and Shared Library, where activities like learning, studies, and work occur, room noise from building systems will be controlled.

b. Design Principles

- i) Locate roof mounted equipment above spaces with Noise Criterion (NC) 50 or greater or spaces without a NC requirement per Table 2: Minimum requirements for Noise Criterion (NC) ratings for various spaces. No roof mounted equipment

will be located on roofs spanning above any portion of the Collections Storage Area or Collection Loading/Receiving Area.

- ii) For spaces with an NC rating listed in Table 2: Minimum requirements for Noise Criterion (NC) ratings for various spaces that are adjacent to the building shell, use sound isolating building shell elements with STC ratings recommended by the acoustics consultant to maintain the requirements of Table 2.
- iii) Isolate plumbing and mechanical equipment and piping from the structure. Refer also to Section 5.7.7.Noise and Vibration in Schedule 1: Statement of Requirements
- iv) Refer to ASHRAE Handbook - HVAC Applications, Noise and Vibration Control Chapter

c. Performance Criteria

- i) Building systems noise and noise intrusion outside the Building and/or in adjacent rooms within the Building will be designed to meet the noise criteria (NC) in Table 2 below. These limits are inclusive of sound masking systems.
- ii) Maximum allowable noise is determined based on space type and function

Table 2: Minimum requirements for Noise Criterion (NC) ratings for various spaces

Department	Room	NC
Lobby	Lobby, Multi-purpose	40
Public Access Area	Collections Access Zones and Learning Access Zones except as noted below	35
Public Access Area	Circulation Spine	40
Lab Area	Reading and Access Room	35
Lab Area	All other lab areas	45
Office Area	Open office, Collaboration Space	30
All Departments	Private offices	40
Office Area	IT, Registrar and Learning Workrooms, Facility Plan Room	40
Office Area	Shared Departmental Library and Conference Rooms	30
Public Access Area	Learning Access #2 – Media Lab & Oral History Room	25
Lab Area	Sectioning Lab, Cast and Mold Lab, Paleo Dirty Prep Lab	55
Loading and Receiving	Exhibit Shop 1 and 2	55
Learning Access Area	Learning Access #4A - Maker Space	55

Part 3 Room Acoustics and Reverberation

a. Overview and Intent

- i) Reverberation of noise within spaces is necessary to control for good acoustical design. Uncontrolled reverberation can cause challenges with intelligibility, unwanted noise build-up, and a higher background noise level. All of these have an impact on occupant comfort and quality of communication.
- ii) Room acoustics including room shaping, room finish selections and placement of audio reinforcement devices will consider reverberation and speech intelligibility.
- iii) Speech intelligibility is a measure that's crucial to control for spaces in which communication occurs. Examples include office spaces, conference rooms and classrooms. Speech intelligibility is typically measured in Speech Transmission Index (STI).
- iv) Low speech intelligibility can result in impeded learning and communication.

b. Design Principles

- i) Provide speech reinforcement for spaces where communication to large groups is a function.
- ii) When feasible, provide carpeted flooring for spaces with lower reverberation time requirements.

c. Performance Criteria

- i) Reverberation Time targets depend on space type and room volume. Maximum reverberation time for the spaces within the Building will comply with the higher of the two targets listed in Table 3a and Table 3b for each space.
- ii) In all normally occupied spaces, reverberation times will be controlled to meet speech intelligibility targets listed in Table 4.
- iii) Speech intelligibility for audio reinforcement systems (non-emergency, presentation type) will comply with the minimum STI in Table 4 below.
- iv) For the Circulation Spine STI calculation must consider adjacent presentations as background noise.

Table 3a: Reverberation Time (RT) target by space type for various spaces

Department	Room	RT @ 500Hz, 1kHz and 2kHz (seconds)
Entrance Area & Public Access Areas	Main Lobby & Circulation Spine	1.2
Entrance Area	Volunteer lounge, multi-purpose room	1.0
Public Access Area	Learning Access Zones and Collections Access Zones	0.6

Department	Room	RT @ 500Hz, 1kHz and 2kHz (seconds)
Lab Area	All rooms	1.0
Lab Area	Reading and Access Room	0.6
Office Area	Open Office Area	0.8
Office Area	Private offices	0.6
Office Area	IT, Registrar and Learning Workrooms, Facilities Plan Room	1.0
Office Area	Shared Departmental Library	0.6
Office Area	Conference Rooms	0.6

Table 3b: Reverberation Time (RT) target by volume

Room Volume (m3)	RT @ 500Hz, 1kHz and 2kHz for Learning Spaces (seconds)
200 - 500	0.7
500 - 1000	0.9
1000 - 2000	1.0

Table 4: Minimum requirements for Speech Transmissibility Index (STI) for various spaces

Department	Room	Speech Transmissibility Index
Entrance Area	All rooms	0.6
Public Access Area	Collections Access Zones , Circulation Spine and Learning Access Zones (except as noted below)	0.6
Public Access Area	Learning Access #2 - Media Lab & Oral History Room	0.75
Lab Area	Reading and Access Room	0.6
Office Area	Open Office Area, Collaboration Space	0.6
Office Area	Conference Room	0.6
Public Access Area	Presentation zones along the Circulation Spine	0.6

Royal BC Museum – Collections and Research Building
Colwood, BC

APPENDIX 1D – IT Responsibility and Interface Matrix

Design-Build Agreement

TABLE 1: Systems Responsibility Matrix

SOR Ref	Administrative Network	Specified	Infrastructure				Equipment					Notes	
			Designed	Procured	Installed	Commissioned	Specified	Procured	Installed	Commissioned	License		
7.4	Building Management System	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.6.2	Structured cabling	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	N/A	N/A	N/A	N/A	CAT 6A white sheathed	
7.6.5	Fibre optic system	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	N/A	N/A	N/A	N/A	See SOR	
7.6.9	Storage, server and data retention (active equipment)	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Owner	Owner	Owner	Owner	Owner	Cisco and NetApp (7.6.9.1)	
7.6.9.2	Time Synchronization Server	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.6.10	Wireless	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Cisco (7.6.10.1 (e))	
7.6.4	Network and server cabinets	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	N/A	N/A	N/A	N/A		
7.6.12	Building Audiovisual System	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.6.12.7	Public Address system	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	
7.6.12.8	Projector system	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	
7.6.12.9	Microphone system	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	
7.6.12.11	Digital signage monitor	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.6.12.12	Interactive Multi-touch Panels	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.6.12.13	Interactive Multi-touch Tables	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
	Learning Access #2 - Media Lab	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	Refer to item schedule as the Owner is also Procuring some Equipment
7.6.12.14	Video wall	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Owner	Owner	Owner	Owner	Owner	N/A	Scope is Rough in only for DB.
7.7.27	Security Network	Specified	Designed	Procured	Installed	Commissioned	Specified	Procured	Installed	Commissioned	License		
7.6.2	Structured cabling	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	N/A	N/A	N/A	N/A	CAT 6A green sheathed	
7.6.5	Fibre optic system	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	N/A	N/A	N/A	N/A	See SOR	
7.7.29	Storage, server and data retention (active equipment)	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Cisco	
7.7.20	Access control	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
	Intercoms	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
	Alarm system	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
	Key management cabinets	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder		
7.7.25	Video Surveillance	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Avigilon
7.7.26	UHF System	Specified	Designed	Procured	Installed	Commissioned	Specified	Procured	Installed	Commissioned	License		
	UHF repeater	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	Motorola - Owner will expand current licensing to cover
	Handheld Radios	Owner	N/A	N/A	N/A	N/A	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	Motorola - Owner will expand current licensing to cover
	Base station	Owner	N/A	N/A	N/A	N/A	Owner	Design-Builder	Design-Builder	Design-Builder	Design-Builder	N/A	Motorola

TABLE 2: Interface Matrix

This matrix is provided to show the integration requirements between each system.

	Administrative Network	Structured cabling	Fibre optic system	Storage, server and data retention (active equipment)	Wireless	Network and server cabinets	Building Audiovisual System	Public Address system	Projector	Microphone	Digital signage	Interactive Multi-touch Tables	Interactive Multi-touch Panels	Learning Access #2 - Media Lab	Video wall	Building Management System	Security Network	Structured cabling	Fibre optic system	Storage, server and data retention (active equipment)	Access control	Intercoms	Alarm system	Key management cabinets	Video Surveillance	Cameras	Digital Video Management System	UHF System	UHF repeater	Handheld Radios	Base station	Electrical Requirements	Raceway/Conduit Separation & Grouping	System UPS + Generator Power Requirements	NOTES		
Administrative Network																																					
Structured cabling		X			X	X	X	X	X		X	X	X	X	X	X																					
Fibre optic system						X	X	X																													
Storage, server and data retention (active equipment)					X	X	X	X																													
Wireless					X							X	X	X																							
Network and server cabinets						X	X							X	X																						
Building Audiovisual System							X	X	X	X	X	X	X	X	X																						
Public Address system																							X														
Projector										X	X	X	X																								
Microphone											X	X	X																								
Digital signage																																					
Interactive Multi-touch Tables														X	X																						
Interactive Multi-touch Panels														X																							
Learning Access #2 - Media Lab																																					
Video wall																																					
Building Management System																																					
Security Network																																					
Structured cabling																				X	X	X	X	XX	X	X	X										
Fibre optic system																				X				X	X	X											
Storage, server and data retention (active equipment)																				X		X	X	X	X	X										Both	
Access control																							X	X	X	X											Both
Intercoms																								X	X	X											
Alarm system																								X	X	X											Both
Key management cabinets																																					Both
Video Surveillance																										X	X										Both
Cameras																										X											Both
Digital Video Management System																																					Both
UHF System																																					
UHF repeater																														X	X					Both	
Handheld Radios																																X					
Base station																																					Both